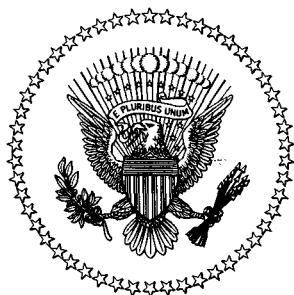


# Economic Report of the President

Transmitted to the Congress  
February 1990



# **Economic Report of the President**



**Transmitted to the Congress  
February 1990**

**TOGETHER WITH  
THE ANNUAL REPORT  
OF THE  
COUNCIL OF ECONOMIC ADVISERS**

**UNITED STATES GOVERNMENT PRINTING OFFICE**

**WASHINGTON : 1990**

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**For sale by the Superintendent of Documents, U.S. Government Printing Office  
Washington, D.C. 20402**



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**ECONOMIC REPORT  
OF THE PRESIDENT**





## ECONOMIC REPORT OF THE PRESIDENT

*To the Congress of the United States:*

The United States enters the 1990s as a prosperous nation with a healthy and dynamic economy. Our living standards remain well above those of other major industrialized nations, and our prosperity is spread widely. Since 1982, American firms and workers have produced the longest peacetime expansion on record and created more than 20 million jobs. The containment of inflation during this long economic expansion is a milestone in postwar U.S. history.

In 1989, we regained our position as the world's leading exporter and retained our position as the world's leading job creator, with the fraction of the population employed reaching its highest level ever. In all, 2½ million jobs were created in 1989. The unemployment rate fell to levels not seen since the early 1970s, as did jobless rates for blacks and teenagers. The unemployment rate for Hispanics was the lowest since 1980, when the United States began regularly reporting it.

We have proven to the world that economic and political freedom works. After years of economic decline, the people of Eastern Europe are turning toward free markets to revive economic growth and raise living standards. I remain strongly committed to aiding the efforts of these brave men and women to transform their societies—and thereby to change the world.

Despite our successes, we cannot be satisfied with simply sustaining the strong record of the 1980s. We must improve on that record, deal with inherited problems, and meet the new challenges and seize the new opportunities before us.

### GOALS AND PRINCIPLES

The primary economic goal of my Administration is to achieve the highest possible rate of sustainable economic growth. Achieving this goal will require action on many fronts—but it will permit progress on many more. Growth is the key to raising living standards, to leaving a legacy of prosperity for our children, to uplifting those most in need, and to maintaining America's leadership in the world.

To achieve this goal, we must both enhance our economy's ability to grow and ensure that its potential is more often fully utilized than in previous decades. To these ends, as explained in the *Report* that follows, my Administration will:

- Reduce government borrowing by slowing the growth of Federal spending while economic growth raises revenue until the budget is balanced, and reduce the national debt thereafter;
- Support a credible, systematic monetary policy program that sustains maximum economic growth while controlling and reducing inflation;
- Remove barriers to innovation, investment, work, and saving in the tax, legal, and regulatory systems;
- Avoid unnecessary regulation and design necessary regulatory programs to harness market forces effectively to serve the Nation's interest; and
- Continue to lead the world to freer trade and more open markets, and to support market-oriented reforms around the world.

In advancing these principles, we must be both ambitious and realistic. There is room to improve, and there is much to be done to prepare for the next century. We must not fear to dream great dreams. But we must not fail to do our homework; the American people are ill-served by promises that cannot be kept.

#### MACROECONOMIC PROSPECTS AND POLICIES

The economy's performance during 1989, the seventh year of economic expansion, has set the stage for healthy growth in the 1990s. Growth in national output was more moderate in 1989 than the very rapid pace in 1988 and 1987. But, in sharp contrast to most past periods of low unemployment and high capacity utilization, inflation was kept firmly in check. Measured broadly, the price level rose 4.1 percent during 1989, down from 4.5 percent during 1988.

If my budget proposals are adopted, and if the Federal Reserve maintains a credible policy program to support strong noninflationary growth, the economy is projected to expand in 1990 at a slightly faster pace than in 1989. Growth is projected to pick up in the second half of the year and to continue at a strong pace as the level of output rises to the economy's full potential.

Fiscal and monetary policies should establish credible commitments to policy plans aimed at maximizing sustainable growth over the long run. A steady hand at the helm is necessary to produce rapid and continuous increases in employment and living standards.

My budget proposals reflect a strong commitment to the principles of the Gramm-Rudman-Hollings law, which has helped reduce the Federal deficit from 5.3 percent of GNP in fiscal 1986 to 2.9 percent in fiscal 1989. That is why I insisted last fall that the Congress pass a clean reconciliation bill and stood by the sequestration order that resulted from my strict adherence to the Gramm-Rudman-Hollings law.

I have also proposed a fundamental new rule for fiscal policy that would ensure that projected future Social Security surpluses are

not spent for other purposes but are used to build the reserves necessary to guarantee the soundness of Social Security. Moreover, it would transform the Federal Government from a chronic borrower, draining savings away from private investment, to a saver, providing funds for capital formation and economic growth by reducing the national debt.

I remain strongly committed to the principles of low marginal tax rates and a broad tax base developed in the Economic Recovery Tax Act of 1981 and the Tax Reform Act of 1986. Steady adherence to these principles reduces government's distorting effect on the market forces that drive economic growth.

I strongly support the Federal Reserve's goal of noninflationary growth and share with them the conviction that inflation must be controlled and reduced in a predictable fashion. Accelerating inflation not only erodes the value of families' savings, it produces economic imbalances and policy responses that often lead to recessions.

The United States is part of an increasingly integrated global economy, in which domestic fiscal and monetary policies affect the economies of other nations, though the main impacts are on the domestic economy. My Administration remains committed to participating actively in the valuable process of coordinating macroeconomic policies internationally.

#### ENCOURAGING ECONOMIC GROWTH

As we begin the 1990s, a central focus of my economic policies will be to build on the successes of the 1980s by creating an environment in which the private sector can serve as the engine that powers strong, noninflationary economic growth.

America's continued economic progress depends on the innovation and entrepreneurship of our people. I will therefore continue to press for a permanent research and experimentation tax credit, for increased Federal support of research with widespread societal benefits and that private firms would not have adequate incentives to undertake, for removal of regulatory and legal barriers to innovation, and for a lower tax rate on capital gains.

We must remove impediments to saving and investment in order to enhance the economy's growth potential. The fiscal policy I described earlier will raise national saving. In addition, I have asked the Congress to enact the Savings and Economic Growth Act of 1990, which contains a comprehensive program to raise household saving across the entire income spectrum. This program would help American families plan for the future and, in the process, make more funds available to finance investment and spur productivity, thus raising living standards, enhancing competitiveness, and expanding employment opportunities.

One of my highest legislative priorities this year is to reduce the capital gains tax rate. This tax reform would promote risk-taking and entrepreneurship by lowering the cost of capital, thereby encouraging new business formation and creating new jobs. A capital gains tax cut would stimulate saving and investment throughout the economy.

Government can encourage economic growth but cannot manage it. I remain strongly opposed to any sort of industrial policy, in which the government, not the market, would pick winners and losers. Second-guessing the market is the way to raise government spending and taxes, not living standards.

The growth of our Nation's labor force is projected to slow in the 1990s, and demands for skilled workers are expected to continue to increase. These developments will shift attention away from worries about the supply of jobs that have haunted us since the 1930s and toward new concerns about the supply of workers and skills.

We cannot maintain our position of world leadership or sustain rapid economic growth if our workers lack the skills of their foreign competitors. As I demonstrated last fall at the Education Summit, the Federal Government can lead in improving the inadequate performance of our elementary and secondary schools. Because school systems must be held accountable for their students' performance, the Nation's Governors and I have developed ambitious national education goals. To meet these goals, we must give students and parents the freedom to choose their schools, and we must give schools the flexibility to meet their students' needs.

More disadvantaged Americans must be brought into the economic mainstream, not just to enhance our Nation's economic growth, but as a matter of simple decency. To this end, I have supported legislation to open new opportunities for the disabled, increased assistance to the homeless, helped implement welfare reform, proposed more effective job training programs, and introduced initiatives that will bring jobs and better housing to depressed inner cities. I have proposed substantial increases in spending for Head Start to prepare children from disadvantaged families for effective learning.

Those who cannot read and write cannot participate fully in the economy. Mrs. Bush and I will continue to support the difficult but important struggle to eliminate adult functional illiteracy.

#### REGULATORY REFORM

The improved performance of U.S. markets that were deregulated during the 1980s showed clearly that government interference with competitive private markets inflates prices, retards innovation, slows growth, and eliminates jobs. But in some cases, well-designed regulation can serve the public interest.

My proposals for reform of food safety regulation and the Clean Air Act follow the two key principles that apply in these cases: the goals of regulation must balance costs and benefits; and the methods of regulation must be flexible and cost-effective. One of my top legislative priorities is to improve the Clean Air Act in a way that preserves both a healthy environment and a sound economy.

When confronted with a threat to the solvency of our thrift institutions, my Administration moved swiftly to resolve the crisis. We must continue to reform the regulation of financial institutions and markets to preserve the soundness of the U.S. financial sector while encouraging innovation and competition.

#### THE GLOBAL ECONOMY

The 1980s have underscored the increased importance of global economic events in shaping our lives. We have all been touched by the movements toward political and economic freedom in Eastern Europe. We have been impressed by the rapid growth of market-oriented Asian economies. And we have great expectations for the movement in the European Community toward a single, open market by 1992.

Reductions in trade barriers between nations have raised living standards around the world. Investment has become more globally integrated, as citizens of other countries recognize the great strength and potential of our economy, and as Americans continue to invest abroad.

My Administration is strongly committed to supporting the historic efforts of the governments and people of Eastern Europe to move toward market-based economies. Similarly, under the Brady Plan, we will continue to support heavily indebted nations that adopt sound economic policies to revive economic growth. In both cases, reform must be comprehensive to succeed, but the rewards of success will be great.

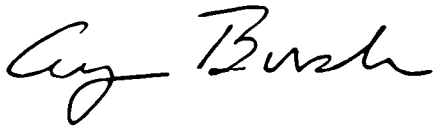
America will continue to lead the way to a world of free, competitive markets. Increased global competition is an opportunity for the United States and the world, not a threat. But we cannot remain competitive by avoiding competition. My Administration will therefore continue to resist calls for protection and managed trade. To serve the interests of all Americans, we must open markets here and abroad, not close them. I will strongly resist any attempts to hinder the free international flows of investment capital, which have benefited workers and consumers here and abroad. And my Administration will work to reduce existing barriers to international investment throughout the world.

My highest trade policy priority is the successful completion this year of the current Uruguay Round of negotiations, aimed at strengthening and broadening the General Agreement on Tariffs

and Trade (GATT). Successful completion of these negotiations will expand the world's gains from free and fair trade and raise living standards in all nations.

LOOKING AHEAD

When I look back on the 1980s, on what the American people have accomplished, it is with pride. And when I look forward to the 1990s, it is with hope and optimism. Our excellent economic health will allow us to build on the successes of the 1980s as we prepare for the next century. Clearly, there is much work to be done. But with the economic principles and policies that I have proposed, I am confident that the United States can enjoy strong, sustainable economic growth and use the fruits of that growth to raise living standards, solve longstanding problems, deal with new challenges, and make the most of new opportunities.

A handwritten signature in black ink, reading "George H. W. Bush". The signature is written in a cursive style with a large, prominent "G" and "B".

THE WHITE HOUSE,  
FEBRUARY 6, 1990

**THE ANNUAL REPORT  
OF THE  
COUNCIL OF ECONOMIC ADVISERS**





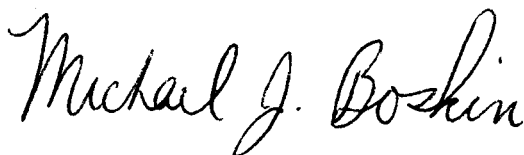
LETTER OF TRANSMITTAL

COUNCIL OF ECONOMIC ADVISERS,  
*Washington, D.C., February 1, 1990.*

MR. PRESIDENT:

The Council of Economic Advisers herewith submits its 1990 Annual Report in accordance with the provisions of the Employment Act of 1946 as amended by the Full Employment and Balanced Growth Act of 1978.

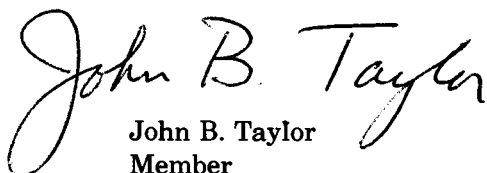
Sincerely,



Michael J. Boskin  
Chairman



Richard L. Schmalensee  
Member



John B. Taylor  
Member



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## CHAPTER 1

# Building on Success

IN 1989, THE U.S. ECONOMY marked its seventh consecutive year of economic growth, the longest peacetime expansion on record and the second longest expansion in U.S. history. The American economy has created more than 20 million new jobs since 1982. The average unemployment rate in 1989 was at its lowest level since 1973 and was lower than in any major European country. America's standard of living, as measured by per capita income, is the highest of any major industrialized country in the world, fully one-third higher than that of West Germany or Japan. In 1989, exports reached an all-time high, and the United States once again became the world's leading exporter. Moreover, unlike any other expansion since World War II, inflation has been contained, laying a solid foundation for continued strong growth in the 1990s.

The successes of the 1980s stand in sharp contrast to economic performance in the 1970s, when inflation soared and unemployment simultaneously increased. In that earlier decade, tax rates climbed for a growing segment of the population. Productivity growth collapsed. Government interference in private markets escalated. The result was an inefficient economy and stagnant living standards.

America's economic successes in the 1980s also stand in sharp contrast to the poor performance of countries that had severely restricted economic and political freedom. Indeed, this contrast, along with U.S. support for democracy in the 1980s, helped to spur the most historically significant events of 1989—the revolutionary transformation of the countries of Eastern Europe. Along with the rapid adoption of democratic principles has come a recognition that economic freedom is also essential to raising the quality of life. By the end of the year, bold economic reform programs were being developed to turn away from central planning and government ownership toward free markets and private ownership. It is significant that as the United States marked the seventh year of its economic expansion last November, the President signed legislation providing for U.S. support for economic reforms in Eastern Europe.

The Nation now has an opportunity to build on its recent economic successes. It can address problems from the past and con-

front current and likely future challenges. The Nation must save and invest a larger share of its income. The performance of U.S. elementary and secondary schools must be dramatically improved. Employment and housing opportunities available to disadvantaged Americans must be expanded. The quality of the Nation's environment must be preserved and enhanced. And at this crucial moment in history, U.S. support for democracy and market reform movements around the world cannot diminish. The success of these market reforms will be a significant determinant of political freedom and economic progress throughout the world in the 21st century.

Strong sustained economic growth is the key to providing rising real incomes and resources for the needs, desires, and aspirations of the American people. Sustained economic growth will also provide employment opportunities for American families and offer people the dignity and self-respect that come with participating fully in the economy.

Therefore, the Administration's primary economic goal for the 1990s is to achieve the highest possible rate of sustainable economic growth. Government policy must enhance the economy's potential for growth and ensure that its potential is more often fully utilized than in previous decades. Keeping inflation in check is essential to achieve this goal. In designing policies to meet this goal, it is important to be ambitious but realistic. Setting the Nation's sights too low guarantees mediocre performance. Setting hopelessly unrealistic goals guarantees disappointment.

Economic research and the policy experiences of the 1970s and 1980s have led to an improved understanding of the appropriate role for the Federal Government in achieving the Nation's goals. In general, government's role should be modest, with limited, targeted, and cost-effective policies aimed at augmenting the economic power of the private sector. The Federal Government's monetary and fiscal policies should be systematic and credible and should focus on the long run. The demonstrated success of free markets has brought a new appreciation of the power of economic incentives and has encouraged efforts to maintain maximum flexibility in markets. An increasingly integrated global economy has demonstrated the simple truth that a freer and more open trading system stimulates worldwide economic growth and rising living standards.

The Administration's economic policy principles are designed to achieve the maximum sustainable rate of economic growth, both by enhancing the economy's ability to grow and by ensuring that its potential is more fully utilized than in previous decades. The principles are as follows:

- Reduce government borrowing by slowing the growth of Federal spending while economic growth raises revenue until the budget is balanced, and reduce the national debt thereafter;

- Support a credible, systematic monetary policy program that sustains maximum economic growth while controlling and reducing inflation;
- Remove barriers to innovation, investment, work, and saving in the tax, legal, and regulatory systems;
- Avoid unnecessary regulation and design necessary regulatory programs to harness market forces effectively to serve the Nation's interest; and
- Continue to lead the world to freer trade and more open markets and to support market-oriented reforms around the world.

Specific programs and proposals to implement these policy principles in the evolving economy of the 1990s are summarized in the balance of this chapter and discussed in detail in the remainder of this *Report*.

## THE CURRENT EXPANSION AND FUTURE PROSPECTS

The economy's performance during 1989 has set the stage for a continuation of the expansion into the 1990s. Adjusting for the rebound in farm production from the 1988 drought, real (inflation-adjusted) gross national product (GNP) rose 1.9 percent during the year, well below the strong pace of 1987 and 1988. Significantly, pressures for increased inflation evident in 1988 were contained. The broadest measure of economy-wide inflation, the GNP fixed-weighted price index, rose by 4.1 percent during 1989, down from 4.5 percent in 1988 and about the same as in 1987.

Continued growth in employment and income in 1989 provided new economic opportunities. A substantially better balance between domestic spending and domestic production was achieved. Growth in government purchases slowed, while net exports and business investment grew more rapidly. Both government and household saving rates rose. These patterns have provided a foundation for sustained strong economic growth.

The Administration's outlook is contingent on implementation of the President's proposals to reduce the Federal budget deficit steadily to zero by fiscal 1993 and to reduce the national debt thereafter. It is also contingent on the Federal Reserve maintaining a credible monetary policy program to support strong noninflationary growth. With these policies, the Administration projects that the U.S. economy will enjoy sustained growth in 1990 at a slightly faster pace than in 1989. Real growth is expected to pick up in the second half of 1990 relative to the first half. In 1991, the economy's growth rate is expected to increase further, as the level of output rises to its full potential; the growth rate is then anticipated to return gradually to its longer run expected potential

pace of about 3 percent. Inflation is anticipated to remain close to its 1989 rate in 1990, and then to decline gradually in later years.

The remarkable length of the current expansion, by itself, does not increase the likelihood of an imminent recession. To be sure, occasional episodes of economic contraction will occur in the future. Adverse external events cannot be ruled out, even in the near term. But with the right economic policies in place, expansions in the future can be longer than expansions in the past. The success in containing inflation in this expansion offers an important protection against future recessions. Since World War II, sharp increases in inflation have usually caused policy responses or private-sector imbalances that have led to a recession.

## MACROECONOMIC POLICY

Economic research and the lessons of the past two decades suggest a macroeconomic strategy for meeting the challenges of the 1990s and beyond. If fiscal and monetary policies are systematic and credible, rather than characterized by the frequent exercise of short-sighted discretion, strong sustainable noninflationary growth can be achieved.

Popular accounts of economic ideas typically focus on controversies and areas of disagreement. This focus is particularly common in discussions of macroeconomics, where monetarists, supply-siders, Keynesians, new classical macroeconomists, and others are often paired off against each other. While such controversies exist and have been important in the development of economic thinking, they mask two key areas of consensus concerning macroeconomic policy.

First, agreement is now widespread on the detrimental effects of a short-sighted discretionary approach to macroeconomic policy that attempts neither to lay out policy plans nor to maintain a commitment to such plans. Because policymakers are regularly praised and criticized for short-run developments, they experience pressures to approach economic policy from a short-run viewpoint. Stating a plan or program as clearly as possible tends to counteract such pressures.

Second, research and experience have demonstrated the great advantages of establishing a credible commitment to a policy plan. Improved credibility, which is enhanced by achieving stated policy goals and consistently following stated policy principles, can favorably affect expectations. It can help resolve the uncertainty that arises when changes in the structure of the economy complicate the interpretation of policy actions. It also enables households and businesses to plan for the future, thereby promoting saving, investment, and economic growth.

## FISCAL POLICY

The Administration's commitment to the principles of the Gramm-Rudman-Hollings law, clearly demonstrated by the President's actions last fall, constitutes an important step toward a credible and systematic fiscal policy. Moreover, the Administration supports the principle that any supplemental spending increase in the current fiscal year must be offset by decreases in other parts of the budget.

The Administration has proposed *a new rule for fiscal policy* that would extend the Gramm-Rudman-Hollings law by requiring the Federal Government to maintain a balanced non-Social Security budget after 1993. The projected future surpluses in Social Security could not be spent for other purposes but would be devoted to building reserves through a proposed Social Security Integrity and Debt Reduction Fund. This rule would reduce the national debt, free up substantial funds for private capital formation, and increase economic growth. Higher growth would not only protect the integrity of Social Security by increasing the resources available to cope with the retirement of the baby-boom generation, but would also raise national output to meet other private and public needs and wants.

The Administration remains committed to the principles of low marginal tax rates and a broad tax base developed in the Economic Recovery Tax Act of 1981 and the Tax Reform Act of 1986. Steady adherence to these principles reduces tax-induced distortions of private incentives and increases the economy's growth potential.

## MONETARY POLICY

Monetary policy should be designed and credibly committed to sustaining strong economic growth and macroeconomic stability while predictably controlling inflation. Changes in the relationship between the monetary aggregates and the economy have made it difficult to be precise or mechanical in designing monetary policy.

Nevertheless, it is important both to state clearly the basic intentions of monetary policy and to recognize the long-run significance of the monetary aggregates as an anchor for price stability. The Federal Reserve generally increases interest rates when inflationary pressures appear to be rising and lowers interest rates when inflationary pressures are abating and recession appears to be more of a threat. Judgment about such factors as inflationary expectations is of course required to determine the degree of inflationary pressures and the size of the appropriate interest rate response. But, the demonstrated consistency of the Federal Reserve's behavior is evolving into a monetary policy procedure with a considerable degree of credibility. That credibility has been enhanced by the strong record of achievement built in the 1980s. The Administration firmly supports the Federal Reserve's goal of strong non-

inflationary growth and believes that continued vigilance in controlling inflation is necessary.

## INTERNATIONAL MACROECONOMIC ISSUES

Greater international trade and financial flows have fueled economic growth, both in the United States and abroad. This increased integration of the world economy has significant implications for macroeconomic policies. Both monetary and fiscal policies in the United States have fundamental effects on exchange rates and trade flows. These policies also affect the economic performance of other economies, although to a lesser extent than the U.S. economy itself.

The first priority of U.S. macroeconomic policy should be to maintain an environment conducive to strong noninflationary growth of the domestic economy. Pursuit of this goal will benefit the U.S. economy and contribute to economic growth and stability abroad. A sustainable trade balance and relatively stable exchange rates are part of such a policy environment.

International macroeconomic policy coordination can help governments to maximize sustainable growth worldwide, while taking into account the spillover effects of domestic policies and their implications for trade flows and exchange rates. The regular economic summits of the G-7 nations (United States, West Germany, Japan, United Kingdom, France, Canada, and Italy) provide a framework for the discussion of economic issues of mutual concern. This cooperation has been an evolving process, but it has achieved some important successes. Economic growth has been strong, inflation rates among countries have tended to converge, and trade imbalances have declined. These successes argue for continued efforts to improve the international macroeconomic policy coordination process.

## PROMOTING ECONOMIC GROWTH

In order to maximize sustainable growth, the Federal Government must remove obstacles to saving, investing, innovating, and working. Even the modest changes in growth rates that government policies can create would have a substantial impact on future living standards and on America's world leadership.

Over the long haul, growth in the Nation's capacity to produce goods and services depends on increases in the work force and in worker productivity. Productivity growth in turn depends mainly on investment in physical capital (new buildings and equipment), intellectual capital (advances in knowledge and technology), and human capital (increases in the skills and abilities of the work

force). Entrepreneurial activity plays a critical catalytic role in starting new businesses and bringing new technology to market.

Investments in plant, equipment, technology, and education are all more attractive the more robust is economic activity. A strong business climate not only spares people the short-run costs of unemployment and lower living standards, but is also conducive to the investment on which their long-run prosperity ultimately depends. Sound fiscal and monetary policies thus enhance economic growth.

## INVESTMENT AND TECHNOLOGY

In order to enhance the economy's long-run health, the Federal Government should aim for a prosperity marked by a high ratio of investment to GNP through policies that reduce obstacles to both saving and investment. U.S. investment in physical capital increased in the 1980s, but it remains low by international standards. Moreover, the United States invests a smaller fraction of its GNP in nondefense research and development, which builds intellectual capital, than some of its major competitors. If the Nation is to achieve robust economic growth, government policy must create a climate in which private firms find it attractive to make productive investments both in physical and intellectual capital. The government should also support research that is likely to have widespread societal benefits, but that no individual firm would have the incentive to undertake.

A key item on the Administration's economic agenda, reducing the tax rate on capital gains, will enhance all types of investment. Cutting the capital gains tax rate will lower the cost of investment funds and thus stimulate investment. Much of the reward to entrepreneurial activity, such as generating new technology and bringing it to market, comes in the form of an increase in the value of businesses. Reducing the capital gains tax rate will thus reward these efforts and encourage invention and innovation.

The Administration has recommended substantial increases in Federal investment in research that has broad relevance and that would be underfunded by the private sector alone. Basic research builds the knowledge base on which technological progress depends and augments the ability of U.S. universities to train the scientists and engineers in whose hands the Nation's technological future rests. In order to enhance incentives for private investment in the Nation's intellectual capital, the Administration also proposes to make permanent the research and experimentation tax credit and will work to remove unnecessary legal and regulatory barriers to innovation.

But the Administration remains strongly opposed to any sort of industrial policy, which would involve second-guessing private in-

vestment decisions by selecting particular firms, industries, or commercial technologies for favorable tax treatment or direct subsidies. History provides strong support for the view that private market participants, who have profits and jobs at stake, have sharper incentives and better information than government decisionmakers and, as a consequence, make sounder investment decisions.

Similarly, the Administration recognizes that participation in an efficient global capital market benefits all nations. Foreign capital inflows amounting to about one-sixth of U.S. domestic investment in recent years have strengthened investment and productivity in the United States. The Administration strongly opposes the erection of barriers to foreign investment in the United States and is continuing to work to reduce formal and informal barriers to investment throughout the world.

Foreign direct investment in the United States has grown rapidly in recent years, in large part because America has become a more attractive country in which to invest. Despite this growth, foreign-owned firms play a smaller role in the U.S. economy than in the economies of many other industrialized nations. Moreover, U.S. companies continue to make substantial investments abroad. Increases in direct investment by U.S. and foreign firms reflect the increasing integration of the global economy and benefit both host and investor nations.

## NATIONAL SAVING

Business, households, and governments all save at a lower rate in the United States than their counterparts in other advanced economies. Moreover, during the 1980s, the U.S. national saving rate—the sum of what households, businesses, and governments save—was substantially below its average over the previous three decades. A higher rate of national saving will reduce the cost of investment funds to U.S. firms. A lower cost of capital will, in turn, encourage investment, enhance productivity, and spur growth.

The most direct and important step that can be taken to increase U.S. national saving is to reduce the Federal budget deficit. The Administration's new rule for fiscal policy, discussed above, will eliminate the budget deficit and then reduce the national debt. The Administration's program for increasing national saving also includes policies to increase private saving by reducing the tax rate on capital gains and by establishing Family Savings Accounts to encourage saving for pre-retirement objectives.

## HUMAN RESOURCES

The new jobs created by the U.S. economy increasingly require high levels of skills and education, and the growth of the working-



age population is slowing. Together, these trends are creating a new set of labor market concerns. The future may well bring occasional episodes of cyclical unemployment associated with shortfalls in the demand for labor. But concerns about the availability of jobs that have dominated macroeconomic policy discussion since the Great Depression are giving way to new concerns about the availability of workers and skills.

The U.S. economy will continue to benefit significantly from the remarkable flexibility of its labor markets. Employers and workers have generally adapted well to labor market changes, including the entry of the baby-boom generation and the sharp increase in female labor force participation. However, the Federal Government can lead in promoting excellence in education and can help to bring less advantaged groups into the economic mainstream, thereby expanding the supply of workers and skills.

Increasing the skills of the Nation's work force—building human capital—requires improving the performance of the Nation's elementary and secondary schools. By international standards, U.S. outlays for education are high, but U.S. students regularly do less well than their peers abroad on tests of knowledge and achievement. The most pressing task, therefore, is not to invest more money in education, but to invest more effectively. Elementary and secondary education is primarily a State and local responsibility, but the Federal Government and the private sector can play important leadership roles.

Last fall, the President called together the Nation's Governors and the Cabinet to lay the foundation for a national performance-oriented education policy. This historic summit, only the third of its kind in U.S. history, has already led to an ambitious set of national education goals. The proposed Educational Excellence Act and other Administration initiatives seek to give students and their families more choice, to give local schools more flexibility, and to hold school systems accountable for the performance of their students. The Administration's 1991 budget calls for increased funding for education programs. Particularly large increases are targeted for Head Start to help prepare young children from disadvantaged families for effective learning.

In order to expand economic opportunity at both the individual and national levels, the Administration has supported a number of initiatives designed to bring the disadvantaged into the economic mainstream. These include the Americans with Disabilities Act, increased funding for assistance to the homeless, reforms of welfare and job training programs, and programs designed to increase homeownership and the supply of affordable housing and to bring jobs to depressed inner cities.

## REGULATORY POLICY

All levels of government engage in regulation that potentially serves the public interest. But too many regulatory programs have pursued unrealistic goals with excessively costly methods and offered society only meager benefits in exchange for slower growth, higher prices, and lower living standards.

### PRINCIPLES OF REGULATORY POLICY

A key function of government in a private enterprise economy is to construct a legal framework that enhances the health and vigor of the private sector. Sensible and vigorously enforced antitrust policies promote competition, which in turn reduces prices and spurs innovation. Innovation is also encouraged by policies that protect intellectual property from unauthorized use. Current product liability law often discourages innovation by imposing unrealistic safety standards on new products. The Administration has proposed reforms that would restore balance to this area of the law.

While it may seem obvious that governments should not try to do what the private sector can do better, this important principle is often ignored in practice. Government regulation can rarely improve on well-functioning private markets; it usually makes things much worse. The renewed vigor of industries that were deregulated during the 1980s—including telephone equipment, airlines, overnight delivery services, and trucking—has made clear how regulation hobbles competitive markets and thus inflates costs and prices, reduces consumer choice, discourages innovation, and, ultimately, eliminates jobs.

Government action may be called for where competitive private markets do not exist or cannot function. For example, even though many consumers may be willing to pay for cleaner air, no unregulated private economy has a market in which they can do so.

Imperfections in private markets do not suffice to justify regulation, however. It must be demonstrated that these imperfections can be addressed by a regulatory policy—itself inevitably imperfect—with benefits that exceed its costs. Regulatory targets should be chosen by careful cost-benefit analysis, and the methods of regulation should minimize the cost and disruption of reaching their targets. Cost-minimization often requires carefully structuring the incentives faced by the private sector as well as granting firms and their workers flexibility in meeting regulatory requirements. Government policies should generally be designed to strengthen, not weaken, market forces and, where appropriate, to harness them in the public interest.

## THE ENVIRONMENT AND THE ECONOMY

These principles underlie the Administration's policies toward the environment. The United States can and must have both a sound, growing economy and a healthy environment. Economic growth is critical to provide the resources necessary to protect the environment; the wealthiest nations are the most willing and able to devote substantial resources to environmental protection. But environmental policies that pursue unrealistic goals through inflexible regulation waste the Nation's valuable resources. Such poorly designed programs not only slow economic growth and eliminate jobs; their excessive costs also reduce support for the goal of environmental protection.

The economy and the environment both benefit if the goals of environmental programs are selected through careful cost-benefit analysis and are pursued through flexible programs that enhance the private sector's incentives to minimize costs. The Administration's proposed amendments to the Clean Air Act apply this approach. While the Administration plan calls for significant reductions in automobile emissions, it explicitly rejects the application of unreasonably stringent emissions standards whose costs would be far out of proportion to their benefits; other measures can achieve similar goals at much lower costs. The Administration's proposal for acid rain control employs tradable emissions allowances, a cost-minimizing approach advocated in this *Report* for more than a decade.

The Administration's proposals for reform of pesticide regulation also reflect its principles of regulatory policy. An unworkable zero-risk standard now applies to processed foods. The Administration proposes employing instead the standards that apply to unprocessed foods and that balance benefits and risks of pesticide use. The Administration proposal would also strengthen and simplify the pesticide regulation process. These proposals would benefit both the public health and the agricultural economy.

Discussions of many environmental concerns—including the possibility that human activity may lead to future changes in the Earth's climate—are dominated by scientific and economic uncertainty. In such areas, the Federal Government has an important role to play in supporting research to develop the knowledge base that is critical to intelligent decisionmaking. This Administration has proposed substantial increases in funding for scientific research on the processes that might lead to future climate change. Many feel the costs of substantial reductions in the emissions that might produce global warming are high; much better information on the corresponding benefits is necessary to decide if those costs should be incurred.

## FINANCIAL MARKETS

When financial markets and institutions work well, they encourage saving and channel it efficiently into the most productive investments, thus stimulating economic growth and contributing to rising living standards. The Federal Government must design its regulation of financial markets and institutions carefully to ensure the soundness of the U.S. financial system while encouraging competition and innovation. This Administration's prompt actions to resolve the savings and loan crisis have laid a solid foundation for further progress and reform.

## GROWTH AND MARKET REFORM IN THE GLOBAL ECONOMY

Political and economic events in the 1980s underscored the growing importance of free markets and an open trading system to economic growth and prosperity. Revolutionary political and economic change is occurring in Eastern Europe. Economic reforms in some of the severely indebted developing countries, aided by new initiatives to reduce debt burdens, hold the promise of reviving growth. The market-oriented economies of Asia have grown rapidly. The move in Western Europe toward a single market by 1992 can benefit producers and consumers worldwide.

## TOWARD FREE TRADE AND OPEN MARKETS

As global integration advances and competition intensifies, the United States must increase its efforts to lead the world toward a system of free trade and open markets. The Administration remains strongly committed to those efforts and staunchly opposed to managed trade. That commitment means actively removing trade barriers and resisting inevitable calls for protection—thereby opening markets, not closing them.

The President's highest priority in trade policy is to further the role of the General Agreement on Tariffs and Trade (GATT) as a rules-based system for liberalizing trade and settling trade disputes. Widening the scope of products and practices covered by GATT is especially important to move the world toward market-oriented trade. U.S. proposals in the current Uruguay Round negotiations include bold, workable plans for integrating agriculture and services into the GATT system, for establishing common rules governing intellectual property rights, and for reducing the barriers to trade-related investment.

The removal of barriers to the movement of goods, capital, and labor among the countries of the European Community (EC) by

1992 will increase the productive potential of the economies of those countries. The reduced barriers can also benefit Americans by creating a larger, more integrated market for U.S. goods and by lowering prices to consumers as European goods are produced more efficiently. While concerns that economic integration under the EC 92 initiatives will lead to a Fortress Europe are exaggerated, it is essential that the United States remain vigilant in monitoring the EC directives to ensure that new barriers are not raised to trade with the United States and other countries outside the EC.

## ENCOURAGING ECONOMIC CHANGE ABROAD

Market-oriented reforms are essential to improving living standards in the nations of Eastern Europe. These reforms will not only increase output, they will give families the freedom to choose the products they want rather than having to accept what central planners want them to have. Reforms underway in some countries demonstrate a recognition of this fact: Poland, in particular, has undertaken ambitious reforms. Along the way, such reforms may at times be difficult and painful, but they must be comprehensive to succeed.

In heavily indebted developing countries, only continued implementation of appropriate macroeconomic policies and reforms that strengthen market forces can produce strong economic growth. Negotiated reductions in debt burdens can encourage such reforms and help to ensure their success.

The Administration is deeply committed to supporting market-oriented reforms around the world. The major responsibility for their success rests with the peoples of these countries themselves and their ability and desire to implement the measures necessary to improve their economies. In Eastern Europe, the United States has taken an initiative in providing technical and financial assistance in order to increase the likelihood of success. For developing countries, the United States continues to lead in forming and implementing a strategy of debt restructuring and in supporting economic reforms that aim to revive economic growth and to restore access to world capital markets.

## CONCLUSION

The economic goal prescribed by the Employment Act of 1946, a goal that is echoed in this *Report*, was "maximum employment, production, and purchasing power." Sustained, robust growth will raise living standards, maintain the Nation's position of global leadership, bring greater opportunity to Americans, and provide the resources necessary to make progress toward satisfying an array of public and private needs and wants. But as this *Report*

endeavors to explain, the experience of four decades has led to a better understanding of how to achieve these goals.

In pursuing these goals, the United States will confront a host of economic challenges and opportunities in the next decade. The Federal Government must remove impediments to national saving, investment, and innovation to create an environment in which rapid growth can occur. Educational excellence—especially in the K-12 grades—must be promoted. The flexibility of U.S. labor markets must be preserved. Employment, income, housing, and education opportunities available to disadvantaged Americans must be enhanced. The Nation must confront persistent environmental problems and new global concerns. The continuing integration of the world economy has increased the importance of free markets and an open trading system and of resisting misguided calls for protectionism. Free people working, producing, innovating, investing, and consuming in free competitive markets—both domestic and international—are the engine driving economic growth.

It would be unrealistic to expect all of these issues to have been resolved by the end of the 1990s. The successes of the 1980s have left the Nation with the economic capability to make significant progress, but obstacles remain. The benefits to surmounting these obstacles will raise the quality of life in the United States for present and future generations. These benefits will spread worldwide if the United States is able to maintain its international economic and political leadership. As the 1980s, and 1989 in particular, have shown, America's response to these challenges can make a critical difference to the well-being of people all over the world.

## CHAPTER 2

# Developments in 1989 and Future Prospects

THE UNITED STATES STARTED the eighth consecutive year of economic expansion during 1989, adding another 12 months to what was already the longest peacetime expansion in U.S. history. The duration of this expansion has been remarkable, and steady fiscal and monetary policies aimed at strong noninflationary growth have been essential for this achievement.

The Administration forecasts that growth will continue in 1990. Historical and international evidence shows that economic expansions do not die of old age. Expansions end because of particular external shocks to the economy, policy errors, or widespread imbalances, such as an overaccumulation of inventories, developing throughout the economy. Such imbalances were not evident in 1989, and with a continuation of fiscal and monetary policies aimed at deficit reduction and strong noninflationary growth, the chances of policy errors are reduced. Moreover, containing inflation during 1989 has set the stage for both sustained economic growth and continued reductions in inflation in the 1990s.

### THE U.S. ECONOMY IN 1989

Adjusting for the effects of the 1988 drought, real gross national product (GNP) grew 1.9 percent during 1989, a more moderate pace than the very rapid rates of 5.4 percent in 1987 and 4.0 percent in 1988 (Chart 2-1). (Table 2-1 includes an explanation of the effects of the drought on GNP.) The civilian unemployment rate remained low throughout the year, ending the year at 5.3 percent. The average unemployment rate for 1989, also 5.3 percent, was at its lowest level since 1973. Moreover, inflation was contained: the fixed-weighted GNP price index increased 4.1 percent over the year, down from 4.5 percent in 1988.

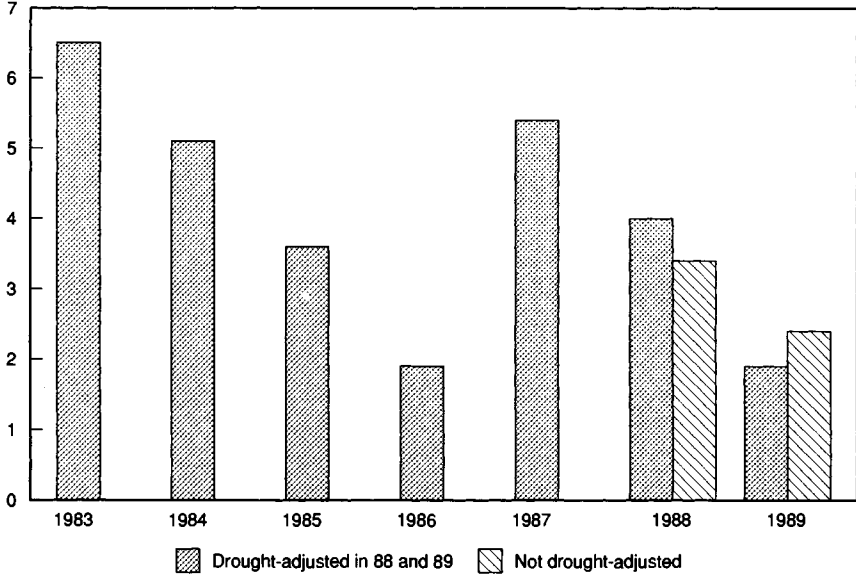
### FISCAL AND MONETARY POLICIES DURING 1989

Fiscal and monetary policies played important roles in the economic performance of 1989. The path of fiscal policy reflected the Administration's commitment to deficit reduction without new taxes. The near-term emphasis of monetary policy shifted in the

Chart 2-1

**GROWTH OF REAL GNP.** GNP growth moderated in 1989 following two years of rapid expansion.

Percent change (Q4/Q4)



Source: Department of Commerce.

**TABLE 2-1.—Growth of Real GNP and Components**

	1986	1987	1988	1989 <sup>1</sup>
	Percent change, fourth quarter to fourth quarter			
GNP.....	1.9	5.4	3.4	2.4
GNP, drought-adjusted.....			4.0	1.9
Personal consumption expenditures.....	3.8	2.2	3.8	2.3
Nonresidential fixed investment.....	-5.5	8.5	4.2	4.3
Residential investment.....	11.6	-4.2	3.2	-6.1
Government purchases of goods and services.....	3.1	2.1	1.8	2
	Annual level, billions of 1982 dollars			
Inventory investment.....	5.6	23.7	27.9	24.5
Net exports of goods and services.....	-129.7	-115.7	-74.9	-56.3

<sup>1</sup> Preliminary.

Note.—The loss of farm output from the drought lowered GNP in the last three quarters of 1988, reaching a loss of \$21.8 billion in the fourth quarter. The loss reduced real GNP growth in 1988 by 0.6 percentage point. The subsequent rebound of farm production to more normal levels added approximately the same amount to growth in 1989.

Source: Department of Commerce, Bureau of Economic Analysis.

spring of 1989. During 1988 and early 1989, monetary policy had aimed to keep inflation in check. By the spring of 1989, signs that economic growth was slowing and inflation was abating led to an easing of monetary policy.



## Fiscal Policy

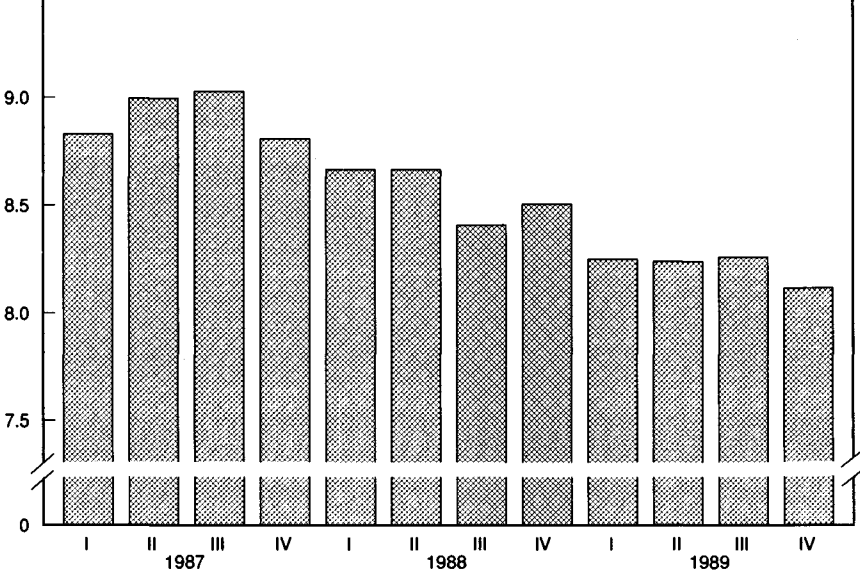
Real Federal purchases of goods and services as measured in the national income and product accounts (NIPA) fell as a fraction of real GNP in calendar 1989, continuing a trend that began in 1987 (Chart 2-2). Reducing the Federal deficit helps to raise national saving and economic growth and is part of the Administration's strategy to achieve better long-run economic performance. Hence, controlling Federal spending remained a priority throughout the year despite the moderate slowing of economic activity during the latter half of 1989.

Chart 2-2

**REAL FEDERAL PURCHASES.** Real Federal purchases of goods and services continued to fall as a percent of real GNP in 1989.

Percent

9.5



Note: Transactions of the Commodity Credit Corporation are excluded.  
Source: Department of Commerce.

An important aspect of fiscal policy during 1989 was the higher yield of the individual income tax system: personal income tax receipts as a percentage of personal income were above forecasts. This may partly reflect better compliance as a result of the tax rate reductions in the 1980s. Federal receipts, as measured in the NIPA, increased by \$74.4 billion in calendar 1989, reaching a total of \$1,046.8 billion. The increased revenues stemmed primarily from higher personal income tax and social insurance tax receipts.

During the last quarter of 1989, fiscal policy reflected the formulation of the budget for fiscal 1990. The President had submitted

initial proposals in February and reached agreement with the Congress in April on a budget plan of spending restraint that met the Gramm-Rudman-Hollings (GRH) deficit target for fiscal 1990. As the year progressed, however, the Congress did not implement the April agreement. Indeed, by the start of the fiscal year in October, the Congress had not passed most of the fiscal 1990 appropriations bills or budget reconciliation legislation.

In the absence of a completed budget, two successive continuing resolutions provided funds for Federal activities. The Administration estimated that the resulting deficit for fiscal 1990 exceeded the allowable GRH target by \$16.1 billion. Following the procedures in the GRH law, the President then ordered a sequester—a mandatory reduction in budget resources—designed to reduce outlays during the fiscal year by \$16.1 billion. (Box 3-1 in Chapter 3 of this *Report* contains a detailed discussion of the sequester in fiscal 1990.) Further, in the absence of a legislated budget containing genuine deficit reduction, the President announced his willingness to operate with a sequester for the entire fiscal year, if necessary. The Reconciliation Act passed by the Congress and signed by the President in December 1989 met the Administration's goals for deficit reduction. Importantly, the reduced outlays during the period were not restored: the President issued a revised sequester order intended to reduce outlays by \$5.7 billion, the equivalent of the \$16.1 billion sequester for roughly one-third of the fiscal year.

Federal purchases of goods and services, measured on a NIPA basis, totaled \$404.1 billion in calendar 1989, compared with about \$380 billion each in 1987 and 1988. Other expenditures by the Federal Government—transfer payments, grants to State and local governments, net interest paid, and so on—reached \$792.6 billion in 1989. Thus, expenditures by the Federal sector totaled \$1,196.7 billion for 1989, an increase of \$78.4 billion over 1988. The Federal Government budget deficit as measured by the NIPA was \$149.9 billion.

The Administration's goals for fiscal policy in 1989 included a reduction in the tax rate on capital gains. As a result of tax reform in 1986, the United States now taxes capital gains at a rate as high as that on other income. During its consideration of the 1990 budget, the Congress did not enact either the President's proposal for capital gains tax rate reductions or any of several congressional alternatives.

Much of the debate over a cut in the capital gains tax rate concerned its effect on the Federal budget. It is now generally agreed that these capital gains tax rate proposals would raise revenue in the short run, by encouraging the sale of previously "locked-in" assets. There is, however, debate over their long-run impact. A review of the available studies of this topic suggests that a careful-

ly designed capital gains tax rate reduction is not likely to lose revenue in the long run. Moreover, these studies do not include the beneficial effects of a capital gains tax rate cut on economic growth. By reducing the after-tax cost of capital, a cut in the capital gains tax rate will augment saving and investment and is likely to generate enough extra revenue to avoid long-run revenue losses. A reduction in the capital gains tax rate remains a priority for Administration fiscal policy in 1990.

### *Monetary Policy*

The increased levels of resource utilization associated with the vigorous economic expansion during 1987 and 1988 created a concern by many that inflation would accelerate. To reduce the threat of rising inflation, the Federal Reserve began to tighten monetary policy in the spring of 1988 and continued to tighten until the spring of 1989.

In February 1989, the Federal Reserve announced ranges of growth for monetary and credit aggregates for the year. The ranges were 3 to 7 percent for M2, 3½ to 7½ percent for M3, and 6½ to 10½ percent for the debt of domestic nonfinancial sectors. (Box 3-2 in Chapter 3 of this *Report* contains definitions of the monetary aggregates.) The 1989 range for M2 was 1 percentage point lower than that for 1988, and the range for M3 was one-half percentage point lower. In establishing the ranges, the Federal Reserve noted that slower growth of money and credit was consistent with its goal of reduced inflation. At the same time, the Federal Reserve viewed the ranges of money growth as being sufficient to accommodate continued economic growth during 1989. Over the early part of 1989, M2 and M3 were at or below the lower bounds of their ranges.

The Federal Reserve continued to tighten policy by reducing the availability of bank reserves in early 1989. This tightening raised short-term interest rates and damped growth of money and credit; it can be seen in the increase in the key Federal funds interest rate—the rate on overnight interbank credit (Chart 2-3). Between the spring of 1988 and the spring of 1989, the Federal funds rate and other short-term interest rates rose about 3 percentage points.

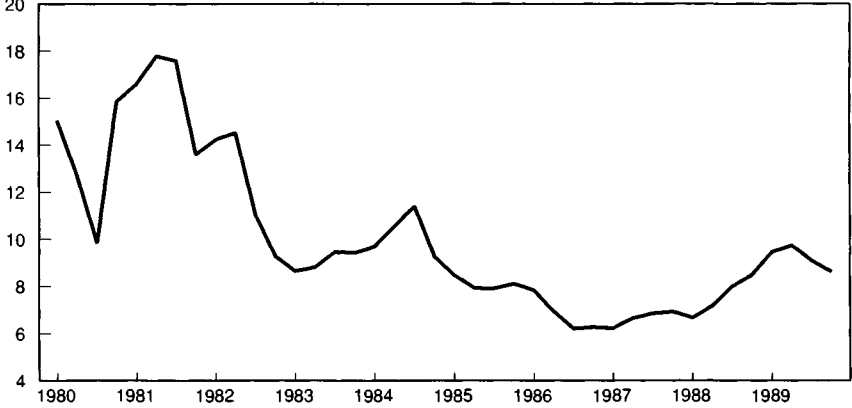
Interest rates on retail bank deposits also increased over this period but by considerably less than market rates, raising the “opportunity cost” of holding M2 deposits (Chart 2-4). The opportunity cost of M2 is defined as the difference between the return on an alternative asset—measured here as the interest rate on 3-month Treasury bills—and the average interest rate paid on the components of M2. That is, the opportunity cost is the interest forgone by holding funds in the form of M2 deposits rather than placing them in the market. The opportunity cost of M2 rose from about 1 percentage point in early 1988 to around 3 percentage points by early

1989 and was the major factor behind the slow growth of M2 over the first 3 months of 1989. During the following 2 months, households evidently drew down balances in order to meet unexpectedly large tax liabilities. As a result, M2 barely grew in April and actually contracted in May.

Chart 2-3

**FEDERAL FUNDS RATE.** Federal Reserve actions raised the Federal funds rate in 1988 and early 1989 but lowered it in the spring of 1989 as inflation pressures abated.

Percent per annum



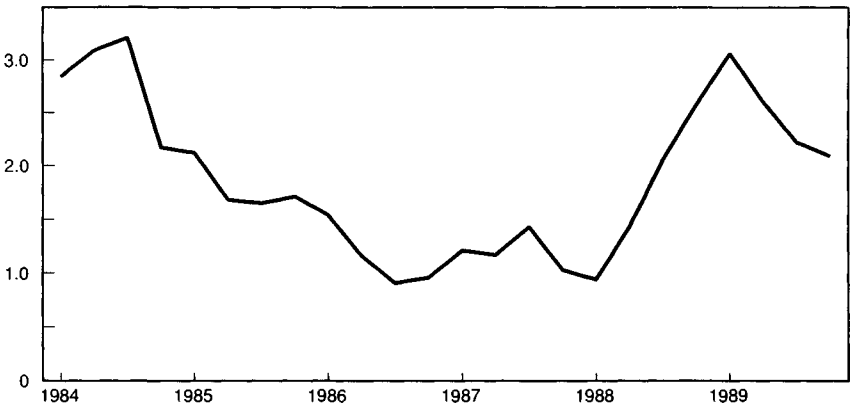
Note: Data are quarterly.

Source: Board of Governors of the Federal Reserve System.

Chart 2-4

**M2 OPPORTUNITY COST.** The opportunity cost of holding M2 deposits peaked in the first quarter of 1989 and declined over the rest of the year.

Percentage points



Note: Data are 2-quarter moving averages.

Source: Board of Governors of the Federal Reserve System.

By the spring, a number of factors suggested that the balance of risks was shifting from accelerating inflation to sluggish growth. These factors included the following: the slow growth of the mone-

tary aggregates, moderating demands for goods and services, the strength of the dollar on foreign exchange markets, a lack of acceleration in wages and total compensation rates, and a flattening of commodity prices. Low long-term interest rates relative to short-term interest rates added to the evidence. A low or negative spread between long-term and short-term interest rates is often viewed as an indicator that monetary policy is putting downward pressure on inflation. In the past, it has also frequently preceded recessions.

Accordingly, the Federal Reserve began to increase the availability of reserves to depository institutions. After remaining relatively flat from March through May, the Federal funds rate fell more than 1½ percentage points in the following months, bringing the rate to about 8¼ percent by early January of 1990. Other short-term market interest rates also declined substantially.

Lower market interest rates boosted the demand for monetary assets. Returns on M2 deposits fell less rapidly than did market interest rates, and the opportunity cost of M2 fell significantly. M2 was also increased by a rebuilding of tax-depleted balances. Over the May-to-December period, M2 growth averaged about 8 percent at an annual rate, a sharp pickup from the 0.2-percent average over the first 5 months of the year. For the year as a whole, M2 growth was about 4.5 percent—a little below the middle of its 3-percent to 7-percent target range (Chart 2-5).

M3 growth was also relatively weak over the first part of the year. In contrast to M2 growth, however, expansion of M3 remained sluggish following the easing of Federal Reserve policy over the second part of the year. A number of thrift institutions restrained growth in their balance sheets in order to comply with the more stringent capital requirements mandated by the Financial Institutions Reform, Recovery, and Enforcement Act of 1989. For the year as a whole, M3 expanded only 3.3 percent, slightly below the lower limit of its 3½ percent to 7½ percent target range (Chart 2-5).

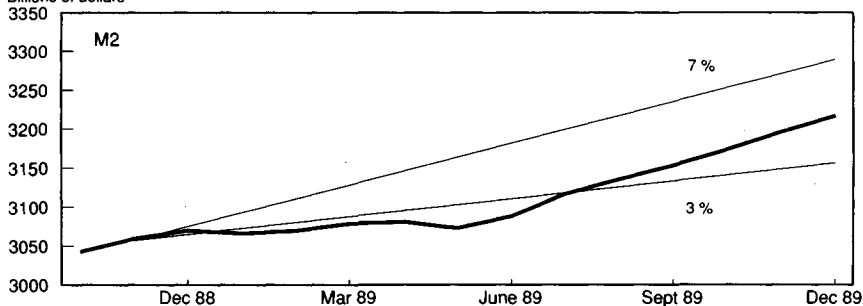
## GROWTH OF GNP AND COMPONENTS

The more moderate expansion of real GNP between the fourth quarter of 1988 and the fourth quarter of 1989 reflected slower growth of interest-sensitive sectors (consumption of durables and residential investment) and of government purchases. In addition, increased national saving contributed to further improvements in net exports and continued growth of business investment even in the face of higher interest rates. These tendencies represent continued progress toward increased national saving and investment, better balance between domestic spending and domestic production, and a foundation for improved performance in the 1990s.

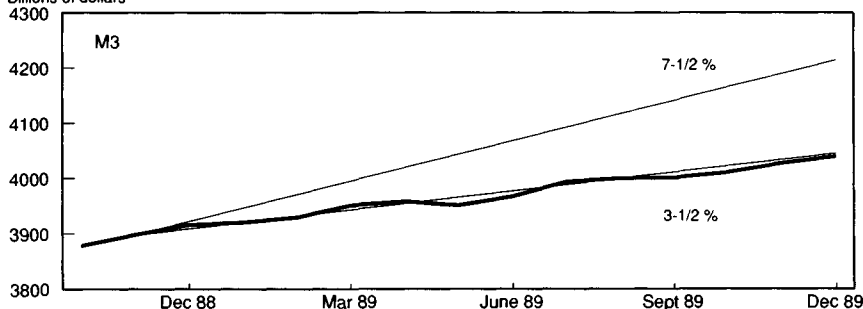
Chart 2-5

**M2 AND M3.** While M2 finished the year within its target range, M3 was slightly below at the end of 1989.

Billions of dollars



Billions of dollars



Source: Board of Governors of the Federal Reserve System.

### *Consumption and Saving*

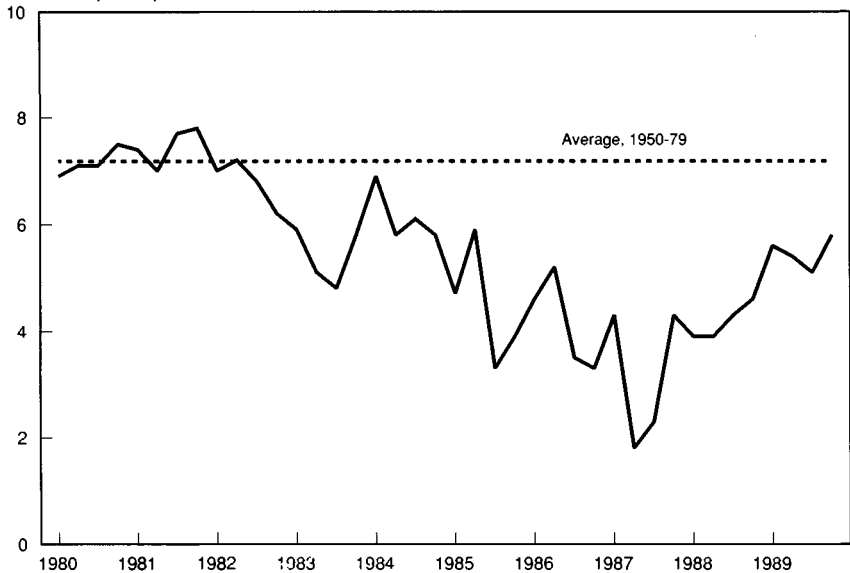
Because consumption expenditures constitute about two-thirds of GNP, changes in consumption are important influences on GNP growth. The growth of real personal consumption expenditures slowed to a 2.3-percent pace in 1989, down from 3.8 percent in 1988 (Table 2-1). Growth in real personal disposable income was 3.6 percent in 1989, close to the 4.0-percent pace of 1988. Consequently, the less rapid rise in personal outlays was reflected as an increase in the saving rate compared to 1988. As Chart 2-6 shows, the personal saving rate moved up to 5.5 percent in 1989, substantially above its 1987 low of 3.2 percent. Nevertheless, it remained considerably lower than its 7.2-percent average for the 1950-79 period.

The slower growth of overall consumption purchases reflected continued strength in expenditures on services but weaker growth in purchases of durable and nondurable goods. Among services, real purchases of medical care continued to increase at a particularly strong pace. The weakness in purchases of durables largely reflected sluggish automobile sales. Over the first two quarters of the year, real spending on motor vehicles and parts fell below the average pace for 1988. In the third quarter, auto sales jumped,

Chart 2-6

**PERSONAL SAVING RATE.** The personal saving rate rose above its 1987 low but remained below its historical average.

Percent of disposable personal income



Note: Data are quarterly.  
Source: Department of Commerce

owing to the sales incentive programs introduced toward the end of the 1989 model year. In the fourth quarter, auto sales slumped again. For the year as a whole, auto sales fell from about 10.6 million units in 1988 to about 9.9 million units in 1989—the slowest rate since 1983.

### *Residential Investment*

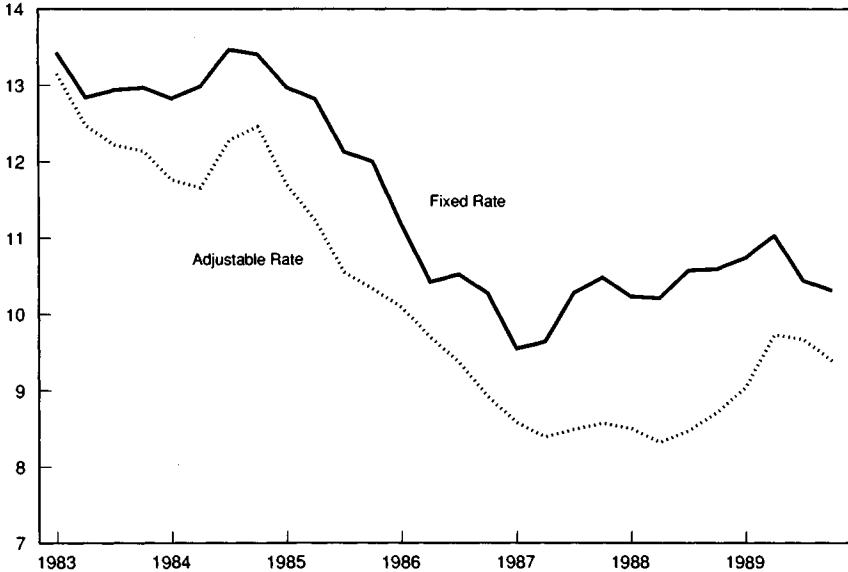
Housing investment declined in 1989 as higher mortgage interest rates reduced demand. As Chart 2-7 shows, rates on adjustable-rate mortgages rose from around 8.25 percent in April 1988 to about 10 percent by June 1989 before easing over the rest of the year. Yields on fixed-rate mortgages rose less, but nonetheless in 1989 averaged nearly 1 percentage point above their levels in 1987. Sales of existing single-family homes were 3.43 million units in 1989, compared with 3.59 million units the previous year. Likewise, sales of new single-family homes declined by 3.8 percent from 1988 to 1989. In response to lower sales, housing starts tumbled from a recent peak of 1.81 million units in 1986 to about 1.37 million units in 1989, the lowest rate since 1982. Similarly, expenditures on real residential

investment in the NIPA fell 6.1 percent from the fourth quarter of 1988 to the fourth quarter of 1989.

Chart 2-7

**MORTGAGE INTEREST RATES.** Mortgage interest rates rose in 1988 and early 1989, reducing housing demand; rates fell starting in the spring of 1989.

Percent per annum



Note: Data are quarterly effective rates.  
Source: Federal Housing Finance Board.

### *Nonresidential Fixed Investment*

Nonresidential fixed investment—investment by firms in structures and equipment—is an important determinant of economic performance. Over the business cycle, it is among the most volatile components of spending. Over longer periods, it is a critical input to economic growth. Real nonresidential fixed investment rose a solid 4.3 percent in 1989. The increase was spurred by the relatively high levels of capacity utilization and the need for firms to enhance their productivity in an increasingly competitive world economy. A Department of Commerce survey suggests that gains in investment spending during 1989 were widespread, with particularly strong gains occurring in nondurable goods manufacturing and in nonmanufacturing industries.

The rise in fixed investment was entirely in equipment rather than in structures. Computer purchases were particularly robust, rebounding from a lull late in 1988. Spending on most categories of structures was weak. Construction earlier in the 1980s may have been boosted by accelerated depreciation allowances, which were



reduced by the Tax Reform Act of 1986. In addition, while energy prices rose temporarily during late 1988 and early 1989, lower average energy prices since the mid-1980s have contributed to the sluggishness in oil and gas well drilling.

### *Inventory Investment*

Like nonresidential fixed investment, inventories are an important contributor to the cyclical behavior of the economy. Since the mid-1980s, inventory-sales ratios have declined, owing at least in part to improved inventory management techniques, and at the end of 1989 the inventory-sales ratio remained close to the level of the previous 2 years (Chart 2-8). From a macroeconomic perspective, these lower ratios are welcome because they reduce the risk of widespread inventory imbalances, which in the past have often been associated with recessions.

Chart 2-8

**REAL INVENTORY-SALES RATIO.** During most of the 1980s the inventory-sales ratio for the nonfarm business sector declined.

Ratio

3.2

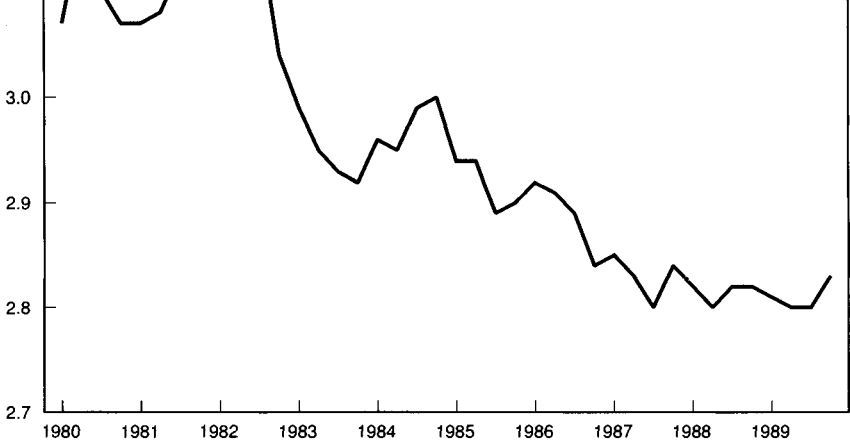
3.1

3.0

2.9

2.8

2.7



Note: Data are quarterly.

Source: Department of Commerce.

In 1989, increased real inventory investment contributed \$14.3 billion to growth in real GNP on a fourth-quarter-to-fourth-quarter basis. Inventories in the farm sector fell at an annual rate of \$13.6 billion in the fourth quarter of 1988, but rose \$1.3 billion in the fourth quarter of 1989. The swing in accumulation of farm inventories thus contributed \$14.9 billion to GNP growth.

The pace of nonfarm inventory investment in the fourth quarter was below the level in the fourth quarter of 1988, but picked up appreciably from the pace in the third quarter. Nonfarm inventories increased \$31.3 billion in the fourth quarter, up from \$16.2 billion in the third quarter. The swing in inventory accumulation largely reflected developments in the auto sector, which experienced sluggish demand in 1989.

### *Government Purchases*

Federal, State, and local government purchases of goods and services, which account for close to 20 percent of GNP, were essentially flat in real terms in 1989. A moderate, 2.5-percent increase in purchases by State and local units offset a 3.0-percent decline by the Federal Government. As discussed above, the reduction in real Federal purchases was a result of the effort to reduce the Federal budget deficit.

### *Exports and Imports*

The shortage of national saving relative to investment has been a fundamental source of the large trade deficit of the United States in recent years. (This topic is discussed in Chapter 4 of this *Report*.) The difference between U.S. imports and exports in real terms—the measure of the trade gap most relevant for explaining growth of real output—declined substantially in the first quarter of 1989 and remained roughly flat thereafter. In part, these improvements reflected the continued, lagged effects of the decline in the foreign exchange value of the dollar between 1985 and 1987. This dollar depreciation tended to reduce the price of U.S. exports on world markets and to increase the domestic price of imports. It thus boosted demand for exports and restrained demand for imports. In addition, U.S. firms had responded to difficult business conditions during the mid-1980s, when the dollar was quite strong, by taking steps to boost productivity and control costs. The cumulative effect of these measures by the end of the decade was to strengthen the competitive position of U.S. firms in world markets. Strong growth in production and incomes in foreign industrial countries also contributed to the demand for U.S. exports and the reduced trade deficit. (See Box 2-1 for a discussion of recent economic performance in other industrial economies.) In addition, slower growth of domestic demand in the United States probably restrained imports.

Real U.S. exports of merchandise and services reached an all-time high during 1989, and the United States regained its position as the world's leading exporter. The deficit on net exports in 1982 dollars totaled \$56.3 billion for the year—less than one-half the level of \$129.7 billion reached in 1986. In the second half of 1989, though, there were signs that the pace of improvement of the U.S. external balance was not continuing.

### Box 2-1.—International Comparisons of Economic Performance

U.S. economic performance compares favorably with that of other industrial countries. The table below presents an economic summary for the United States and six other industrialized countries (collectively known as the Group of Seven, or G-7). The United States has had relatively low consumer inflation rates (as measured by the CPI) and excellent growth of industrial production, gross domestic product (GDP), and employment. Indeed, during the current expansion, the United States has generated more new employment than Canada, Japan, and Western Europe combined.

Recently, U.S. unemployment and inflation rates were again low by international standards, and real GDP per capita remained the highest in the G-7.

*Economic Performance in the United States and other G-7 Nations*

	CPI	Industrial production	GDP	Employment	1989 unemployment rate <sup>1</sup>	1989 inflation rate <sup>2</sup>	1989 real GDP per capita <sup>3</sup>
	Average annual percent change, 1982-88				Percent		
Canada	4.4	5.9	4.3	2.4	7.6	5.1	16,551
France	5.2	1.4	1.9	—	10.1	3.8	12,490
West Germany	1.5	2.3	2.3	—	5.5	3.0	19,004
Italy	8.2	2.4	2.7	5	7.7	6.5	11,955
Japan	1.3	4.7	4.2	1.1	4.3	4.5	13,504
United Kingdom	4.7	3.1	3.3	1.8	5.9	7.7	12,717
United States	1.5	4.9	4.2	2.4	5.3	4.6	17,643

<sup>1</sup> Civilian unemployment rate, fourth quarter

<sup>2</sup> Percent change in CPI, December 1988 to December 1987

<sup>3</sup> 1985 U.S. dollars

<sup>4</sup> Third quarter data

<sup>5</sup> Percent change in GDP, November 1988 to November 1987

Sources: Department of Commerce (Bureau of Economic Analysis and International Trade Administration), Department of Labor (Bureau of Labor Statistics), Organization for Economic Cooperation and Development, and Council of Economic Advisors.

The nominal net export deficit fell to \$50.9 billion in 1989, down from deficits of \$112.6 billion in 1987 and \$73.7 billion in 1988. Another broad measure of external imbalances, known as the current account deficit, averaged \$113.5 billion at an annual rate over the first three quarters of 1989, compared with totals of \$143.7 billion in 1987 and \$126.5 billion in 1988.

### BUSINESS CONDITIONS

Production and employment increased at a good pace in 1989 and capacity utilization remained high. In addition, the farm sector recovered from the effects of the drought in 1988. Nevertheless, profitability softened somewhat and productivity growth slowed.

## *Profits*

Before-tax profits of nonfinancial corporations declined from \$233.4 billion in 1988 to \$225.8 billion at an annual rate over the first three quarters of 1989. The decline in profitability reflected a smaller rise in prices per unit of output than in costs per unit of output. Price increases may have been restrained in part by the strength in the foreign exchange value of the dollar, and costs were boosted as labor productivity rose somewhat less rapidly than in 1988. The manufacturing sector accounted for much of the weakness in nonfinancial corporate profitability. Profitability of auto manufacturers was particularly low, with losses in the second and third quarters. In the financial sector, profits in 1989 were hurt by the effects of natural disasters on insurance company balance sheets.

## *Productivity*

Productivity in the nonfarm private business sector continued to increase in 1989, likely reflecting continued capital investments by firms. The 0.8-percent annual rate of increase over the first three quarters, however, was somewhat lower than over the previous several years. To some extent this reflects the more moderate pace of output growth in 1989 compared with the previous 2 years. Many firms take a long-run view and are reluctant to release skilled workers as economic growth slows. This labor "hoarding" produces smaller increases in output per hour. Productivity increases in the manufacturing sector, at an average annual rate of 2.4 percent over the first three quarters, were stronger than in the overall non-farm sector, but also were somewhat weaker than in previous years.

## *Industrial Production and Capacity Utilization*

The industrial sector is a bellwether of the economy and accounts for roughly one-fifth of civilian employment. In 1987 and 1988, overall production of manufacturing, mining, and utility firms expanded at an average annual rate of 5.4 percent. Expansion of industrial production slowed to 1.7 percent in 1989, partly owing to the less rapid expansion of the overall economy. Another major factor influencing industrial production in the second half of the year was the slower rate of improvement of the U.S. external balance, since many U.S.-manufactured goods are sold on international markets.

The slower pace of industrial production combined with expansion of productive capacity to reduce rates of capacity utilization in 1989. Overall, the Federal Reserve's measure of capacity utilization declined from its peak of 84.3 percent in January 1989 to 83.3 percent by December. Some industries showed larger reductions. For example, operating rates for iron and steel mills, which reached a

peak of 92.8 percent in October 1988, had fallen 14.3 percentage points by November 1989—probably influenced in part by the slowdown in auto manufacturing. Production in many industries such as paper, chemicals, rubber, and nonelectrical machinery (which includes computers) held steady or increased. But in a number of these industries, firms added capacity even more rapidly, leading to reduced operating rates.

### *The Farm Economy*

While employing a relatively small fraction of the labor force, the agricultural sector plays a vital role in the economy. Early in the 1980s, the U.S. farm economy faced serious economic problems, but the resurgence of the farm sector since the mid-1980s is providing a sound foundation for the next decade.

The 1989 crop year was generally good, even though inadequate rainfall in some areas held crop yields somewhat below trend. Overall production of major commodities was up substantially from the low levels of the previous year, and net farm income reached a record \$48 billion, up 12 percent from 1988. Land values—the major component of the farm balance sheet—increased for the third consecutive year, up 7 percent from 1988.

Farm prices for major crops declined from the peak levels reached after the 1988 drought, but remained high relative to the previous several years. Livestock prices stayed firm during the year. Higher crop prices reduce government payments to farmers. These payments—boosted by drought-relief payments—remained high by historical standards, but fell by 24 percent from 1988. Direct payments to farmers were about \$11 billion, or about 6 percent of gross farm income.

Farm trade also improved. Agricultural exports in fiscal 1989 totaled about 148 million tons, were valued at \$40 billion, and contributed to an agricultural trade surplus of \$18 billion. In fiscal 1986, exports were only 110 million tons, with a value of \$26 billion. U.S. market shares of world agricultural trade in fiscal 1990 are projected at 36 percent for wheat and 64 percent for coarse grains, down slightly for wheat from the previous year and about the same for coarse grains. In both cases, shares are substantially higher than in the mid-1980s.

### *Employment*

Expanding production was accompanied by rising employment levels and a low unemployment rate. Between December 1988 and December 1989, nearly 2.5 million employees were added to non-agricultural payrolls. Most of this increase, 2.1 million workers, was on private payrolls.

As mentioned above, output of services grew strongly in 1989, and employment increases totaling about 1.2 million mirrored this

growth. Employment also rose in wholesale trade, retail trade, and construction. But manufacturing employment was stagnant, reflecting the weak growth of production.

As noted above, the civilian unemployment rate averaged 5.3 percent, its lowest since 1973. Unemployment rates improved for most major demographic groups, including blacks, women, and teenagers. The 1989 rate for blacks (11.4 percent) was the lowest since 1974, while that of Hispanics (8.0 percent) was the lowest since the series began in 1980. During the 1980s, the gap between adult male and adult female unemployment rates essentially vanished. In addition, the unemployment rate for teenagers was the lowest since 1973.

For those who became unemployed, the median duration of unemployment was 4.8 weeks compared to 10.1 weeks in 1983, when the demand for labor was relatively weak in the wake of the recession. The proportion of unemployed persons who lost their jobs rather than left voluntarily was 45.7 percent compared with 58.7 percent in 1982.

## WAGES AND PRICES

Relatively low unemployment rates implied firm labor market conditions in 1989. Wage increases were quite low in 1986 and 1987, partly because of the temporarily low level of inflation. Increases in labor compensation in 1988 and 1989 were above the lows of 1986 and 1987. Boosted by an increase in Social Security tax rates, the employment cost index of labor compensation rose 4.9 percent over 1988, and a slightly lower 4.8 percent over 1989.

Labor compensation costs consist of wages and salaries and benefits. Benefits include items such as employers' health, disability, and life insurance contributions; contributions to Social Security and retirement plans; and compensation paid during vacations. The increase in the wages and salaries component of the employment cost index rose moderately from 3.1 percent in 1986 to 4.2 percent in 1989. The increase in benefit costs rose more sharply, from 3.4 percent in 1986 to 6.8 percent in 1988, and declined slightly to 6.1 percent for 1989. Nearly all of the acceleration in benefit costs can be traced to rising health insurance premiums.

Inflation remained moderate in 1989. The "core" CPI—a measure that excludes volatile food and energy prices—rose 4.4 percent, compared with 4.7 percent in 1988. (The CPI is a broad measure of the cost of a market basket of goods and services purchased by a typical urban consumer.) Within the CPI, costs of medical care increased sharply. Prices for shelter—a major part of household budgets—rose more moderately, as did apparel prices.

Consumer food and energy prices rose sharply over the early part of the year, owing to the 1988 drought and to higher oil prices.

Over the first 6 months of 1989, consumer prices for gasoline rose at an annual rate of about 44 percent. Later in the year the situation in agricultural and energy markets improved considerably. From July to December, consumer gasoline prices fell 21 percent. Including food and energy prices, the CPI increased 4.6 percent, essentially the same as the pace in 1988.

Movements in the finished goods producer price index—a measure of the costs of domestic goods used as inputs by businesses—were also dominated by developments in food and energy markets. During the first quarter, prices of finished foods jumped 13.1 percent at an annual rate, following a 5.7-percent rise during 1988. These striking increases stemmed mainly from even larger 14.2-percent increases in food prices at the crude materials level during 1988 and 16.9-percent increases during the first quarter of 1989, as the severe drought during 1988 curtailed food supplies. Over the following two quarters, however, prices of crude food materials declined steeply as a rebound in farm production began to show through in market prices, and finished consumer food prices declined in response.

Producer prices for finished energy products rose 36.3 percent at an annual rate over the first half of 1989. This increase stemmed in part from a reduction in production by the Organization of Petroleum Exporting Countries; from disruptions of production and distribution caused by the oil spill in Alaska, a refinery fire in California, and an accident on a North Sea oil rig; and from rising world demand. These events led crude oil prices to rise at an annual rate of 33 percent between January and June. Between June and December, however, producers' finished energy prices declined 12.1 percent at an annual rate, reflecting a 13.9-percent fall in crude prices.

## SUMMARY OF 1989

The economy's continued expansion in 1989 set the stage for sound economic performance in the 1990s.

- Real GNP grew for the seventh straight year in 1989, and inflation remained under control.
- Nearly 2.5 million jobs were created, and the unemployment rate was at its lowest level since 1973.
- Fiscal policy during 1989 reflected efforts to reduce the Federal budget deficit. The trend toward slower growth of real Federal spending continued, and was bolstered by the sequester during the fourth quarter.
- After tightening early in 1989, monetary policy eased over the second half of the year in response to signs of sluggish growth and lower inflation.

- The composition of GNP growth was favorable, with less rapid increases in consumption and government spending, maintained growth of investment spending, and continued improvement in external balances.
- Economic conditions varied somewhat by sector. While the manufacturing sector experienced a slowdown, the farm economy maintained steady improvement and services continued to boom.

## THE ECONOMIC OUTLOOK

The U.S. economy is expected to grow at a sustainable pace through 1990, and over the long run the potential for solid growth remains excellent. Assessments of the future inevitably rely heavily on historical experience, and a casual reading of the postwar experience may suggest that the very length of the current expansion implies that it must come to a close. A closer look at the historical record, however, shows that an economic expansion does not come with an expiration date.

### WHY THE EXPANSION IS EXPECTED TO CONTINUE

Studies show that as an expansion continues, a recession does not automatically become more likely. Put differently, the probability of a recession starting during any given month does not rise as the period of expansion lengthens.

In the postwar period, rapidly accelerating inflation has often preceded economic downturns. When inflation becomes intolerable, politically or economically, there is little choice but to tighten monetary policy, which typically brings on a recession. Inflation accelerated in the years before the longest expansion in U.S. history ended in the 1970 recession. Inflation also accelerated before the 1974-75 recession. In the late 1970s, inflation rose to 14 percent over the 12 months immediately prior to the back-to-back recessions in the early 1980s. High inflation is not only bad *per se*, but can be very costly to reduce. Avoiding an acceleration of inflation, such as that which led to the recessions of 1981 and 1982, is an essential element of sound economic policy.

In marked contrast to all other expansions in postwar U.S. history, inflation in the current expansion has remained moderate and has not accelerated. The costs of relatively steady inflation around 4 percent are far below those imposed by the inflation of a decade ago, which averaged 9.6 percent, fluctuated widely, and reached a monthly peak of 18.6 percent. Nonetheless, the lower the inflation rate, the smaller is the risk of inflation rising to unacceptable levels. Hence, over the long run, further progress toward price sta-



bility is desirable. The containment of inflation is a key factor in the Administration forecast for continued expansion in the 1990s.

The economy is inevitably subjected to a variety of unanticipated events such as changes in foreign demand, rapid swings in financial markets, or abrupt movements in oil prices. However, these events may have less effect on economic activity today than in the past. The service industry is typically less susceptible to such shocks, and services have grown in importance in the U.S. economy. In addition, U.S. industry has moved to a lower inventory-sales ratio, a move that lessens the likelihood that a large inventory overhang will transform shocks into a sustained downturn. Finally, deregulation in areas such as energy markets has raised the potential to produce, but may also reduce the impact of shocks on the U.S. economy by permitting markets to reallocate economic activity more swiftly.

A final factor in ending expansions has been errors in economic policy. Because policy operates with a lag and the economy is hard to forecast, some misjudgments are unavoidable. The Administration's principle of systematic and credible fiscal and monetary policies is designed to minimize these policy mistakes by not changing policy frequently on the basis of the economic conditions of the moment or any short-run forecast. To do so would invite and perhaps guarantee costly errors. Instead, the goal of policy is to provide a stable environment that will foster strong economic performance over the long haul.

## THE OUTLOOK FOR FISCAL AND MONETARY POLICIES

The Administration's primary economic policy goal is to promote further growth. Containing and eventually reducing inflation is key to achieving this goal. It is not sufficient merely to avoid a recession. Administration policies seek to remove impediments to more rapid growth. Faster growth carries with it expanded employment opportunities, an improved atmosphere for the creation of new business, and the means for society both to meet its obligations in the present and to provide for future generations.

### *Fiscal Policy*

*The projections presented below are contingent upon the successful implementation of the President's proposed policies. Economic growth will continue to raise Federal receipts and lower the budget deficit. However, it is essential that continued restraint on the growth of Federal spending permit the deficit to decline, leading to a balanced budget in fiscal 1993 and to a reduction in the national debt thereafter. In the near term, the Administration expects real Federal purchases of goods and services to fall by 2.7 percent in calendar 1990 (Table 2-2). Purchases of both defense and nondefense goods and services are expected to drop by roughly the same percentage amount.*

conomic growth will continue to raise Federal receipts and narrow the budget deficit.

TABLE 2-2.—*Economic Outlook for 1990*

	1989 <sup>1</sup>	1990 Forecast
	Percent change, fourth quarter to fourth quarter	
Real gross national product.....	2.4	2.6
Personal consumption expenditures .....	2.3	2.4
Nonresidential fixed investment .....	4.3	4.2
Residential investment.....	-6.1	5.1
Federal purchases of goods and services.....	-3.0	-2.7
State and local purchases of goods and services.....	2.5	2.0
GNP implicit price deflator .....	3.8	4.2
Consumer price index <sup>2</sup> .....	4.5	4.1
Compensation per hour <sup>3</sup> .....	5.5	5.8
Output per hour <sup>3</sup> .....	0.7	1.6
	Fourth quarter level	
Unemployment rate (percent) <sup>4</sup> .....	5.3	5.4
Housing starts (millions of units, annual rate).....	1.3	1.5

<sup>1</sup> Preliminary

<sup>2</sup> For urban wage earners and clerical workers.

<sup>3</sup> Nonfarm business, all persons.

<sup>4</sup> Unemployed as percent of labor force including resident Armed Forces.

Note.— Based on seasonally adjusted data.

Sources: Council of Economic Advisers, Department of the Treasury, and Office of Management and Budget.

Recent developments in the Soviet Union and Eastern Europe have led some to conclude that it will be possible to spend far less on national defense. It is difficult to ascertain the potential size of such a “peace dividend” at this time. Real spending for national defense has already fallen 4.5 percent over the past 2 years. The Administration’s fiscal 1991 budget projects that real defense spending will decline by 12.5 percent between fiscal 1989 and fiscal 1993. The President has already proposed reductions of \$64 billion in budget authority and \$29 billion in outlays over the next 3 years, relative to previously approved levels. Any further reduction can come only after a careful evaluation of the impact of current political events on our national security. If world events, negotiations for troop reductions, and progress in limiting strategic weapons permit, the size of the peace dividend could become substantially larger over time. Regardless of its size, any such peace dividend should be used wisely and with careful consideration of the Nation’s domestic and foreign policy priorities. It should not be used to fuel large increases in entitlement programs, as occurred after the war in Vietnam. The President has made clear that the first priority use of any peace dividend is to reduce the Federal budget deficit.

In the longer term, it is desirable to do more than just reduce deficits. The Administration’s proposed Social Security Integrity and Debt Reduction Fund is designed to guarantee that future consolidated annual Federal budget surpluses will not be used to in-

crease government spending, but instead will be dedicated to reducing the national debt. Moving away from deficits toward Federal saving will raise the low rate of national saving, lower interest rates, and increase capital formation. A credible commitment to reduced Federal borrowing will hasten the reduction in interest rates and the increase in investment.

### *Monetary Policy*

The outlook for the economy depends in part on recent and projected monetary policy. Over the second half of 1989, the Federal Reserve eased the stance of monetary policy in view of signs of slower economic growth and reduced inflationary pressures. The lower interest rates that resulted from this easing should help to cushion the slowing in spending that became evident in 1989.

In July, the Federal Reserve announced provisional target ranges for growth during 1990 of 3 to 7 percent for M2, 3½ to 7½ percent for M3, and 6½ to 10½ percent for domestic nonfinancial sector debt. These provisional ranges are identical to the ranges for 1989. The Federal Reserve noted that, in view of various economic and financial uncertainties, it was unsure whether the velocities of M2 and M3—the ratios of GNP to these aggregates—were more likely to rise or fall in 1990. The Federal Open Market Committee (FOMC) will review these provisional ranges, and is expected to announce its decisions on the 1990 ranges in February 1990.

The FOMC will need to consider several factors. First, the Federal Reserve regards reasonably stable prices as a prerequisite to achieving its goal of maximum sustainable economic growth. Long-run price stability will require that the targets for money growth be gradually reduced in future years.

Second, short-run velocity developments are likely to differ considerably from the longer run trends. Given the substantial declines in market interest rates over 1989 and the associated fall in the opportunity cost of holding money balances, M2 velocity is likely to decline substantially into 1990. If, as the Administration is forecasting, interest rates drop further this year the decline in velocity may be accentuated, thereby requiring higher M2 growth to achieve the expected growth in nominal GNP. For M3 velocity, these interest rate effects could be offset somewhat by a reduction in managed liabilities in the thrift sector, as insolvent institutions are closed by regulators, and if other thrifts continue to expand their balance sheets slowly in order to comply with new capital requirements.

The forecast of expected nominal GNP growth of about 7.0 percent, expected lower interest rates, and any such decline in M2 velocity implies that M2 could exceed its provisional target range in 1990. If developments since July suggest that a significant decline in M2 velocity is likely in 1990, the FOMC could choose to raise its

target range. It may be reluctant to do this, however, because it may lead to misperceptions of the Federal Reserve's long-run intentions with regard to money growth and price stability. If the FOMC leaves the range unchanged, but economic and financial conditions develop according to the Administration's forecast, the higher demand for money could lead the FOMC to allow M2 to exceed its target range during 1990; if so, growth in the money stock should be slower in succeeding years as velocity returns to its long-run average. The Federal Reserve Act does not require the Federal Reserve to keep money growth within a year's target ranges if changing circumstances lead it to conclude that doing so is undesirable. In such a case, the Federal Reserve would be required to explain the reasons for its determination.

In any event, the Administration anticipates that monetary policy will continue to support economic growth with progress toward reduced inflation. The Administration's program to reduce deficits and raise government saving will complement the Federal Reserve's efforts by fostering lower real interest rates, which will help maintain economic growth while progress is made toward price stability.

## THE PROSPECTS FOR GROWTH

The Administration's projections call for continued healthy economic growth and high levels of resource utilization, with inflation low and declining in later years. Economic policies and developments during 1989, particularly the containment of inflation, have set the stage for continued strong growth.

### *The Outlook for 1990*

The Administration anticipates a 2.6-percent increase in real GNP from the fourth quarter of 1989 to the fourth quarter of 1990, somewhat faster than the drought-adjusted 1.9-percent increase in 1989 (Table 2-2). The transition from 1989 to 1990 has been affected by a number of disruptive events. During September, Hurricane Hugo battered South Carolina and in October the Loma Prieta earthquake struck northern California. In addition, the second longest strike in the history of The Boeing Company halted work from October 4 to November 22. Exceptionally cold weather in December may also have reduced economic activity.

On balance, these events temporarily slowed growth, with estimates indicating that the Boeing strike alone subtracted nearly one-half percentage point from fourth-quarter growth in real GNP. The return of production to normal levels will temporarily raise GNP growth in the first quarter of 1990. In addition, the rebuilding of both government and private structures in the aftermath of the disasters may spill over into 1990 and increase the level of GNP.

These effects notwithstanding, growth is expected to be relatively slow early in 1990 and then is expected to gain momentum later in the year. In the past, there have been several times when the economy slowed, then picked up and continued to grow for a substantial time; examples include 1966-67 and 1985-86.

The lagged effects of tight monetary policy early in 1989 are expected to spill over into the first half of 1990. But interest rates have been declining since the spring of 1989 and are anticipated to decline further. This decline is expected to contribute to the pickup in economic growth in 1990. As a result, the consumer durables and residential construction sectors are projected to rebound from weak patterns at the end of 1989. Fiscal restraint, in response to the need for deficit reduction, and a slowing in the increase of real net exports will tend to moderate growth in 1990.

The projected rate of increase of real consumer purchases from the fourth quarter of 1989 to the fourth quarter of 1990 is 2.4 percent (Table 2-2). Inflation for consumer purchases was lower in the second half of 1989, and increases in personal income have been strong. These factors are expected to support growth in consumer demand in 1990.

The projection calls for a 5.1-percent increase in residential investment in 1990, following a 6.1-percent decline in 1989. The decline of mortgage interest rates in the second half of 1989 has increased housing affordability. Further declines in interest rates and a rebound from slow housing production in 1989 are expected to stimulate housing construction in 1990. Housing starts are projected to average 1.5 million units at an annual rate by the fourth quarter of 1990.

The growth of nonresidential fixed investment spending in 1990 is expected to be about the same as the pace of 1989. Capacity utilization rates are anticipated to remain relatively high and the need for further capacity will continue to stimulate growth in investment, particularly for equipment. While still high, however, utilization rates fell during 1989. This fall, coupled with weak corporate profits in 1989, is expected to have a damping effect on the demand for capital goods. As Table 2-2 shows, real nonresidential fixed investment is expected to grow 4.2 percent in 1990, compared with 4.3 percent in 1989.

Inventory investment, after contributing to real GNP growth in 1989, is not expected to add to growth in 1990. The contribution in 1989 was driven mainly by a replenishment of farm stocks following the drought and partly by accumulation of inventories in the fourth quarter, particularly for motor vehicles. Farm inventory investment is expected to be much more modest in 1990. Furthermore, slower production aimed at reducing a fourth-quarter nonfarm inventory buildup is expected to contribute to modest growth in

early 1990. By year end, nonfarm inventory accumulation may still be below levels at the end of 1989.

State and local government purchases of goods and services are projected to increase 2.0 percent in 1990, somewhat slower than the pace of 1989. As discussed above, real Federal purchases of goods and services are projected to decline in 1990, reflecting a continued commitment to deficit reduction.

As in 1989, improvements in real net exports are expected to be smaller and more gradual over the near term, relative to the strong gains in 1987 and 1988. After falling for several years, the foreign exchange value of the dollar has increased slightly over the last year, and the growth rate of economies abroad is expected to decline modestly over the near term. Nevertheless, as the result of improved U.S. competitiveness in world markets since 1985, net exports are expected to continue to contribute to real GNP growth.

The CPI is projected to increase 4.1 percent between the fourth quarter of 1989 and the fourth quarter of 1990, while the GNP deflator is projected to increase 4.2 percent. These rates are similar to rates of inflation in recent years, excluding food and energy. In line with moderate real growth, little change is expected in the rate of capacity utilization and the rate of unemployment. This will reduce upward pressure on prices caused by sectoral capacity bottlenecks and tightening labor markets. Sharply rising and then falling prices for energy and food helped explain much of the acceleration and deceleration in inflation in 1989. Increases in these prices are expected to be modest over the near term.

Economic projections are, of course, characterized by uncertainty. The Administration was fortunate that its first official forecast (that accompanying the 1989 Mid-Session Review of the Budget) was quite accurate for 1989. Nevertheless, it must be emphasized that forecasting is an imprecise science. Unanticipated events with economic consequences, such as the hurricane and earthquake in 1989, occur from time to time. In addition, the reactions of businesses and households to changes in economic conditions or policies may shift over time. Thus, the current forecast inevitably involves uncertainties. For example, business investment, housing demand, and the improvement in international trade may be weaker than is currently projected. On the other hand, consumption growth could be stronger in 1990.

Such uncertainties are illustrated in the alternative projections presented in Table 2-3. The alternatives show somewhat stronger and somewhat weaker real growth, each with plausible associated paths for unemployment, inflation, and interest rates. Real growth in the lower path in 1990 is similar to the slowdown in 1986. The higher path shows real growth improving from the slow rate of 1989 to the faster pace of 1987 and 1988.

TABLE 2-3.—*Effects of Alternative Projections on the Budget*

	Calendar Year 1990 <sup>1</sup>	Calendar Year 1991 <sup>1</sup>
	Percent change, fourth quarter to fourth quarter	
<b>Real gross national product:</b>		
Higher growth .....	3.0	3.4
Administration .....	2.6	3.3
Lower growth .....	1.9	3.0
<b>GNP deflator:</b>		
Higher growth .....	4.4	4.3
Administration .....	4.2	4.1
Lower growth .....	4.0	4.1
	Percent	
<b>Total unemployment rate:</b>		
Higher growth .....	5.1	5.0
Administration .....	5.4	5.3
Lower growth .....	5.6	5.4
<b>Interest rate, 91-day Treasury bills:</b>		
Higher growth .....	6.9	5.7
Administration .....	6.7	5.4
Lower growth .....	6.5	5.5
	Billions of dollars	
<b>Budget deficit:</b>		
Higher growth .....	118.5	54.6
Administration .....	123.8	63.1
Lower growth .....	129.1	77.5

<sup>1</sup> Deficit is for fiscal year.

Sources: Council of Economic Advisers, Department of the Treasury, and Office of Management and Budget.

The evolution of the budget deficit is significantly affected by economic conditions. Hence, uncertainty in the economic forecast leads to uncertainty in the budget projections. The impact of each alternative path for economic conditions on the budget deficit is also shown in the table. The cumulative effect by fiscal 1991 ranges from a \$14.4 billion increase in the deficit for the lower growth alternative to an \$8.5 billion reduction under the higher growth alternative.

### *The Outlook Through 1995*

Table 2-4 summarizes the Administration's medium-term economic projections through 1995. As the table shows, GNP growth between 1991 and 1993 is projected to be above 3 percent as the economy moves toward full utilization of its resources. Thereafter, the growth rate is expected to stabilize at around 3.0 percent, roughly equal to the economy's projected growth potential. Real compensation per hour is projected to rise in line with productivity growth at a rate of 1.8 percent per year. Inflation (as measured by the CPI) and interest rates on 91-day Treasury bills are projected to decline gradually from current levels, with real (inflation-adjusted) interest rates returning to levels closer to their historical averages.

These sustained declines in inflation and interest rates depend upon the Administration's systematic and credible macroeconomic policies, particularly those to eliminate the Federal budget deficit and then to reduce the national debt (Box 2-2).

TABLE 2-4.—Administration Economic Assumptions, 1989-95

	1989 <sup>1</sup>	1990	1991	1992	1993	1994	1995
	Percent change, fourth quarter to fourth quarter						
Real GNP.....	2.4	2.6	3.3	3.2	3.1	3.0	3.0
Real compensation per hour <sup>2</sup> .....	.9	1.7	1.9	1.8	1.8	1.8	1.8
Output per hour <sup>2</sup> .....	.7	1.6	1.9	1.8	1.8	1.8	1.8
Consumer price index <sup>3</sup> .....	4.5	4.1	4.0	3.8	3.5	3.2	2.9
	Annual level						
Interest rate, 91-day Treasury bills (percent) <sup>4</sup> .....	8.1	6.7	5.4	5.3	5.0	4.7	4.4
Employment (millions) <sup>5</sup> .....	119.0	120.2	122.0	123.7	125.5	127.3	128.9
Unemployment rate (percent) <sup>6</sup> .....	5.2	5.4	5.3	5.2	5.1	5.0	5.0

<sup>1</sup> Preliminary.

<sup>2</sup> Nonfarm business, all persons.

<sup>3</sup> For urban wage earners and clerical workers.

<sup>4</sup> Average rate on new issues within period, on a bank discount basis.

<sup>5</sup> Includes resident Armed Forces.

<sup>6</sup> Unemployed as percent of labor force including resident Armed Forces.

Sources: Council of Economic Advisers, Department of the Treasury, and Office of Management and Budget.

The U.S. economy begins the decade of the 1990s at relatively high levels of resource utilization. Thus, unlike earlier years in the expansion, growth cannot rely heavily on fuller utilization of existing resources. Instead, future growth in the economy depends upon growth of resources and improvements in the economy's ability to produce.

Growth in output is the result of growth in the work force and improvements in labor productivity. Productivity growth, in turn, follows from increases in the quality of the work force, advances in the quality and quantity of the capital stock, and technological progress.

Growth in the labor force is the result of growth in the population and increases in the rate of labor force participation. Following the passage of the baby-boom generation into adulthood, growth of the population aged 16 and over is projected to slow in the 1990s. Population growth from 1989 to 1995 is projected to average 0.9 percent per year, down from slightly over 1 percent in the 1980s and nearly 2 percent in the 1970s (Table 2-5).

The changing demographic composition of the population affects participation rates. Overall participation rates in the 1970s were raised by the strong upward trend in the involvement of women and teenagers in the labor force. Continued strong participation increases by women furthered the rise in overall participation in the 1980s. Growth in the participation rate for women is projected to



### Box 2-2.—Policy Credibility and the Economic Projections

Credible macroeconomic policies are a key to the Administration's projection of solid growth in the 1990s with gradually declining inflation. The success in containing inflation through 7 years of economic expansion has helped to build this credibility. The interest rate projections are influenced by the Administration's commitment to reducing the Federal budget deficit to zero in 1993 and dedicating projected future surpluses thereafter to reducing the national debt. The Federal Government's commitment to reduced borrowing in the future is expected to ease pressure on interest rates. Similarly, the Federal Reserve's continued commitment to move toward price stability is expected to help keep wage increases in line with productivity gains by reducing the expected inflation component of wage decisions.

There is no inconsistency in projecting continued low unemployment and declining rates of inflation. The idea that there is a simple, stable, and permanent tradeoff between inflation and unemployment does not accord with modern macroeconomic theory, which emphasizes the importance of expectations, or with historical experience. In the 1970s, inflation and unemployment were high, while in the 1980s, the opposite occurred—inflation and unemployment were relatively low. The United States and other economies are capable of sustaining growth, achieving low unemployment, *and* controlling and reducing inflation simultaneously. The notion that the *only* way to keep inflation in check is to run a slack economy with relatively high unemployment and excess capacity is incorrect.

The potential gains from credible policies are discussed more fully in Chapter 3.

slow somewhat in the 1990s, but this is expected to be offset by slower declines in the participation rates of older workers. As a result, growth of the overall participation rate is projected to average 0.4 percent per year through 1995, just below the average growth rate experienced since 1973.

The net effect of slower population growth and roughly unchanged growth in the rate of participation is slower expected growth of the labor force. Between 1989 and 1995, the projections show a 1.3-percent annual rate, down from 1.7 in the 1980s and 2.4 percent in the 1970s. With little anticipated change in the unemployment rate through 1995, employment is expected to grow at roughly the same rate as the labor force.

TABLE 2-5.—Accounting for Growth in Real GNP, 1948-95

[Average annual percent change]

	1948 IV to 1981 III	1973 IV to 1981 III	1981 III to 1989 III	1989 III to 1995 IV
<b>GROWTH IN:</b>				
1) Civilian noninstitutional population aged 16 and over.....	1.5	1.8	1.1	0.9
2) PLUS: Civilian labor force participation rate.....	.2	.5	.5	.4
3) EQUALS: Civilian labor force.....	1.8	2.4	1.7	1.3
4) PLUS: Civilian employment rate.....	-.1	-.4	.3	.0
5) EQUALS: Civilian employment.....	1.7	2.0	2.0	1.4
6) PLUS: Nonfarm business employment as a share of civilian employment.....	.1	.1	.3	.3
7) EQUALS: Nonfarm business employment.....	1.7	2.1	2.2	1.7
8) PLUS: Average weekly hours (nonfarm business sector).....	-.4	-.7	-.0	-.1
9) EQUALS: Hours of all persons (nonfarm business).....	1.3	1.4	2.2	1.6
10) PLUS: Output per hour (productivity, nonfarm business).....	2.0	.7	1.4	1.8
11) EQUALS: Nonfarm business output.....	3.3	2.0	3.7	3.4
12) LESS: Nonfarm business output as a share of real GNP.....	-.0	-.1	.6	.4
13) EQUALS: Real GNP.....	3.3	2.2	3.1	3.0

Note.—Time periods for the first two columns are from business cycle peak to business cycle peak to avoid cyclical effects. Sources: Council of Economic Advisers, Department of the Treasury, and Office of Management and Budget.

The productivity of each worker depends upon the skills generated by his or her training and experience, the technical sophistication of production, and the capital resources available to each worker. Following slow growth for most of the 1970s and early 1980s, productivity for the nonfarm business sector of the economy—which makes up four-fifths of GNP—is projected to increase at a 1.8-percent average annual rate through 1995. This rate is identical to growth during the years 1986-88, represents a rebound toward the 1.9-percent average for the period from 1948 through the third quarter of 1989, and contrasts with growth of only 0.7 percent for the 1970s and early 1980s.

Real investment spending has been strong from 1987 through 1989, contributing to an increase in the ratio of capital to labor, which will aid labor productivity. A stable, growing low-inflation economy provides a climate conducive to capital formation. Maintaining a low rate of inflation and low tax rates keeps the cost of capital low and the return to capital investments high. The accumulation of capital will also be aided by expected stable energy prices, which will allow firms to continue to focus on productivity-enhancing, rather than energy-conserving, capital equipment. Slower growth of the labor force and employment will also contribute to a higher capital-to-labor ratio.

Real GNP growth is expected to average 3.0 percent between 1989 and 1995. Despite expected slower growth of the labor force, continuing strong productivity growth is projected to contribute to output growth averaging 3.4 percent a year in the nonfarm business sector of the economy. Because growth is projected to be slower in the government and other sectors than in the nonfarm

business sector, total real GNP is expected to grow at a slightly slower rate.

## SUMMARY OF THE OUTLOOK

- Administration policies and events are setting the stage for economic growth continuing in 1990 and later years. The containment of inflation in 1989 is a key factor in the Administration's forecast of continued expansion in 1990 and beyond. Periods of rapidly accelerating inflation are often followed by economic downturns.
- The goal for fiscal policy will be to continue to reduce government borrowing. Reduced deficits through 1993 and reduction of the national debt thereafter would contribute to lower interest rates, increased capital formation, and stronger growth.
- Monetary policy eased over the second half of 1989, lowering interest rates. Given the lags in the effects of monetary policy, this is likely to help some interest-sensitive sectors to rebound in 1990. Over the longer term, monetary growth is expected to be consistent with the Federal Reserve's goal of strong noninflationary growth.
- The Administration anticipates a 2.6-percent increase in real GNP in 1990, on a fourth-quarter-over-fourth-quarter basis, and lower inflation.
- Over the longer term, the Administration anticipates real growth in GNP at a rate of 3.0 percent per year, with continued progress in reducing inflation.

## CONCLUDING COMMENTS

As the U.S. economy moves into the eighth year of growth, there is a strong basis for continued expansion in the 1990s. The Administration's goal is not simply to avoid recessions and extend the expansion. The goal is to sustain growth at a sufficiently strong pace to provide rising real incomes, expanding employment opportunities, and additional resources to address the needs and wants of the American people.

As described in detail in the next chapter, systematic and credible monetary and fiscal policies are essential for strong future growth and reduced inflation. The conduct of these policies should be governed by the goal of enhancing long-run performance, not by an exclusive focus on short-term outcomes, which would raise the likelihood of policy errors.



## CHAPTER 3

# Design of Fiscal, Monetary, and Financial Policies

MONETARY AND FISCAL POLICIES have powerful effects on the economy. It is essential that they be well-designed. These macroeconomic policies are powerful in part because they affect interest rates and exchange rates and thereby influence the willingness of households and businesses, both foreign and domestic, to purchase goods and services produced in America. These purchases translate into production, jobs, and income for Americans. Tax rates are among the most important determinants of incentives for saving, investment, and work effort. The government's policies toward financial markets significantly affect the stability of the economy and its ability to allocate capital efficiently.

The Administration's goals for macroeconomic policy are maximum sustained economic growth, economic stability, and low, stable inflation. Historical experience, both in the United States and abroad, has demonstrated that well-designed monetary and fiscal policies can help achieve these goals. But misguided policies can wreak havoc with the economy, by reducing its productivity, creating uncertainties that make planning for the future difficult or impossible, driving up inflation, and reducing standards of living.

### THE DESIGN OF MACROECONOMIC POLICY

The power of monetary and fiscal policies to affect the economy has led some to advocate discretionary policymaking, with frequent changes in policy instruments, such as tax rates or expenditure programs, to influence near-term economic conditions. Indeed, a strong endorsement of discretionary policy was eloquently put forth in the 1962 *Annual Report of the Council of Economic Advisers* as a way to achieve the goals of the Employment Act of 1946—"maximum employment, production, and purchasing power." That *Report* argued that "discretionary policy is essential" and recommendations constituting a "far-reaching innovation in discretionary fiscal policy" were made.

In contrast, recent economic research and practical experience, while supporting the view that macroeconomic policy has powerful

effects, lead to the conclusion that discretionary macroeconomic policies can be detrimental to good economic performance. Instead, policies should be designed to work well with a minimum of discretion, with a clear focus on the longer term, and with allowance for future contingencies. Government should credibly commit to follow such policies consistently. As argued below, this approach to policy design can best achieve the Nation's economic goals.

## ADVANTAGES OF SYSTEMATIC POLICIES

In its extreme form, discretionary policy involves frequently reacting to short-term developments, with little attempt to consider and communicate intentions for future actions. Such a shortsighted policy approach gives little weight to the benefits of outlining a contingency plan and committing to that plan. For this reason, discretionary macroeconomic policies can actually be counterproductive. Most businesses and many households are forward-looking; expectations of future tax rates, inflation rates, and government spending programs affect their decisions. Frequent unanticipated government actions cause uncertainty for the private sector and interfere with long-term business and household planning.

Without commitment to a clear plan, strong incentives exist to change policies in an attempt to achieve short-term gain. Economists refer to this incentive as "time inconsistency," because policymakers have a natural incentive to alter previously adopted policies or to follow "inconsistent" policies. Such policy changes can have detrimental long-term effects. For example, programs of fiscal stimulus can lead, over time, to long-run government spending that exceeds the level implied by an assessment of the costs and benefits of the programs themselves. Analogous problems exist for monetary policy. For example, an incentive exists to employ short-term monetary policy to boost output above sustainable levels. Such actions can lead to increased inflation over a longer term. Because inflation takes more time to develop than the rise in economic activity, it may not be adequately taken into account in the public policy process.

The drawbacks to discretionary policy go beyond these disadvantages. Experience has shown that the ability of discretionary macroeconomic policies to move the economy in the right direction at the right time is quite limited. First, assessing the current state of the economy is difficult because economic data are subject to appreciable errors and are generally available only after a considerable lag. Second, economic forecasting is difficult and quite imprecise, limiting the ability of policymakers to anticipate swings in the economy. Third, even if economic fluctuations are forecast correctly, determining the appropriate policy measures is difficult because the economy responds somewhat unpredictably to changes in fiscal

and monetary policy. Finally, lags between a policy action and its ultimate effect on the economy imply that timely implementation of a discretionary change in policy frequently may not be possible. To be sure, discretionary policy changes might partly offset unusually large and sustained economic fluctuations. But, in general, the ability of discretionary macroeconomic policies to contribute to economic stability is quite limited.

The alternative to discretionary policies might be called systematic policies. A systematic policy specifies, as clearly as possible, *a plan for the instruments of policy*, be they the Federal budget, the growth rate of the monetary aggregates, or tax rates. For a systematic policy to improve economic performance, it must of course be well designed. In some cases a systematic policy might be very simple and specific, such as a promise not to raise marginal tax rates or a law that sets a target for the budget deficit for several years into the future. In the 1960s and 1970s, a rule that specified a fixed growth rate of the money supply was proposed and might have been appropriate; changes in the financial sector in the 1980s, however, have rendered such a simple rule unworkable. In other cases it is appropriate and possible to specify contingencies for future policy actions, such as indexing tax brackets for inflation according to a numerical formula, or stating the conditions under which a budget target could be suspended.

However, the concept of a systematic policy is much broader than a simple or even complex numerical formula for policy. In some cases it may not be possible to be so precise about a policy plan or its contingencies, and some judgment in interpreting or implementing the plan is necessary. Even in such cases, a systematic policy has significant advantages over a discretionary policy if it places some discipline or general guidelines on future changes in the policy instruments, and if policymakers commit to this discipline. Moreover, even the most carefully designed systematic policies may need to be revised occasionally in view of significant changes in economic structure.

## IMPORTANCE OF CREDIBILITY

Economic research and policy experience have led to a growing awareness of the importance of the *credibility* of policymakers to carry out a stated policy. Various definitions of policy credibility have been offered, but the following seems most useful: an announced policy is credible if the public believes that it will be implemented, and acts on those beliefs even in the face of occasional contradictory evidence. Policy credibility is not an all-or-nothing concept, and in many situations credibility can only be achieved gradually.

Policy credibility will often lead to economic performance that is superior to that in which policy is not credible. The more credible the policy, the more likely it is to improve performance. A credible disinflation plan initiated by the monetary authorities will bring down inflation more quickly and with less chance of recession than a plan with little credibility. For example, a billion-dollar stabilization fund for Poland, recently established by a group of industrial economies, is designed to lend credibility to the Polish disinflation plan by providing financial backing to help the Polish government stabilize the exchange rate. This will reinforce other policies to reduce inflation and promote external trade.

In addition, credibility can help resolve problems arising from unpredictable shifts in the structural relationships between the policy instruments and the state of the economy. Such changes can make it quite difficult for the public to assess the appropriateness of macroeconomic policies when the policy rules are complicated. If the public is confident that appropriate policies are being followed, households and businesses can plan for the future, which promotes saving, investment, and economic growth.

## A NEW RULE FOR FISCAL POLICY

Since the mid-1980s, fiscal policy in the United States has been guided by the Gramm-Rudman-Hollings law, which has served as a fairly systematic rule for budget policy. As part of the fiscal policy agenda for 1990, the Administration is proposing an innovative new rule for fiscal policy, one that would be an unprecedented step in U.S. fiscal policy. The proposed new Social Security Integrity and Debt Reduction Fund would ensure that projected future surpluses in Social Security are not spent for other purposes, but rather are used to build reserves needed to help provide Social Security benefits in the future. As discussed in detail below, payments into the fund would be used to reduce government debt and decrease the legacy of deficit spending passed on to future generations. This policy rule would also increase the supply of savings, lower interest rates, and increase resources in the future. Committing such a strong rule to law will increase the credibility of the policy, which will speed up the reduction in interest rates and more quickly enhance investment and economic growth.

## FISCAL POLICY

The spending and revenue activities of the government comprise its fiscal policy. In fiscal 1989 (October 1988 to September 1989) total outlays of the Federal Government for purchases of goods and services, transfer payments, grants, and interest payments amounted to 22.2 percent of gross national product (GNP). Tax and other



receipts were 19.2 percent of GNP, with a resulting budget deficit of 2.9 percent of GNP. Receipts were the same fraction of GNP in 1989 as they were 10 years before, but outlays were up by 1.6 percent of GNP over the same period. The sheer size of the Federal sector suggests that fiscal policy can shape aggregate economic activity, for the better or worse. Focusing only on the impact of fiscal policy on the level of GNP, however, understates the importance of fiscal policy.

## THE IMPACT OF THE INSTRUMENTS OF FISCAL POLICY

Fiscal policy affects the economy in several ways. Government purchases of goods and services are a direct use of the productive resources of the economy, and change prices, profits, and the allocation of capital and labor. Taxes, transfer payments, borrowing, and interest payments shift funds among individuals and over time, and thereby alter incentives for work, saving, and investment. For example, income-support programs affect both the distribution of purchasing power and incentives to work. In some circumstances—for example, by reducing barriers to saving—this power of fiscal policy can improve economic performance. But poorly designed policies, such as a tax system with high marginal rates, reduce incentives for productive activity and lower the growth of national income.

In the short run, changes in government spending and revenues can significantly affect total output in the economy. For instance, increases in Federal consumption of goods and services directly boost the demand for firms' output. In the short run, firms meet this demand by producing more. But because government purchases do not increase the total productive resources in the economy, the increase will eventually diminish. After a period of time, prices begin to increase or increase more rapidly. Higher interest rates reduce domestic demand, and purchases by the private sector fall. The reduction in private purchases will occur primarily in interest-sensitive areas such as investment, and some types of investment may suffer more than others. As interest rates rise, exchange rates also rise, reducing demand for exports and raising demand for imports. The effects of the increase in government purchases are offset by the decline in investment and net exports. Over the longer term, the decline in investment in turn reduces the productive potential of the economy.

Conversely, decreases in government spending can slow growth of total demand in the short run. For example, a reduction in government spending lowers the demand for goods and services. But again, this decline is short-lived. Soon investment and net exports will increase, offsetting the reduction in government purchases,

and in the long term the higher level of investment will increase potential GNP.

Short-run changes in taxes paid by households have effects similar to changes in government purchases. To the extent that households do not save the extra funds available after a tax cut, their increased spending boosts the demand for goods and services. These increases in demand will raise production by firms and increase overall employment. Again, in the absence of an increase in the productive capacity of the economy, these increases will be short-lived.

Permanent reductions in tax rates are far more likely to expand long-run productive capacity than is a one-time tax rebate or credit. Reducing the tax-induced distortion of decisions to work, save, innovate, and invest will raise the resources devoted to production in the economy, permanently expanding total output.

## THE DESIGN OF FISCAL POLICY

It is tempting to use fiscal policy in a reactive fashion, employing frequent discretionary changes in taxes and spending to alter economic activity temporarily and to counteract each aggregate fluctuation. This approach is fraught with so many difficulties that discretionary fiscal policy becomes inconsistent with ambitious goals for long-run growth. Fiscal responses to economic fluctuations should be credible and predictable. These characteristics reduce the distortionary effects of policy by aiding private-sector plans for saving and investment.

### *Automatic Stabilizers*

During recessions, income tax receipts fall, even though tax rates are unchanged. In addition, income assistance payments (such as unemployment benefits and traditional welfare programs) rise. These kinds of systematic adjustments are called "automatic stabilizers." They are an important example of systematic policy and contribute to the predictability of short-run fiscal policy. They are clearly not discretionary, as they are embodied in legislation. Automatic stabilizers help to maintain individuals' purchasing power and mitigate the decline in aggregate demand. Studies show that, on average, disposable income falls by 40 percent of a fall in GNP. Historically, modifications to the features of automatic stabilizers undertaken for other reasons have also changed their responsiveness to economic conditions.

Systematic fiscal policies such as automatic stabilizers have distinct advantages over discretionary policies. For example, discretionary increases in spending provide a ready rationale for politically motivated increases in government programs. Also, because investors cannot undo the past, it may appear that discretionary tax increases levied on existing investments have no detrimental

effect. Over time, however, continuous application of such policies would teach investors to expect tax increases, reducing the incentive to invest and harming economic efficiency.

### *Budgeting Rules and Targets for Government Saving*

Sustained economic growth requires continued increases in the Nation's productive capital. Government policies, such as fiscal, monetary, regulatory, and legal policies, affect national saving and are thus an important determinant of both the funds available to finance investment and their cost.

By definition, when the Federal Government budget deficit increases, government saving falls. Only if other savers—households or businesses—increase their saving dollar for dollar is there no detrimental effect on national saving—the sum of household, business, and government saving. Empirical studies find that when government reduces tax collections, increased private saving does not fully offset the decline in government saving. When government consumption increases, private investment and net exports decline; private consumption may fall, but not sufficiently to offset the rise in government consumption. Thus, chronic budget deficits reduce national saving, leading to lower domestic capital formation and reduced net exports.

The actual deficit is influenced by current economic conditions. For example, the budget deficit increased during the early 1980s in part as a result of the economic downturn. Accurately gauging the long-run impact of the deficit requires adjusting the deficit for changes caused by economic fluctuations. (This adjustment is made by calculating the difference between receipts and expenditures that would occur under current law if economic activity were equal to some estimate of the economy's high-employment potential.) At the trough of the most recent recession, the cyclical component was about two-thirds of the actual budget deficit. In the last few years, however, the economy has been closer to its potential output, making the cyclical correction less important. Nonetheless, the deficit as a fraction of GNP has fallen from 5.3 percent in fiscal 1986 to 2.9 percent in fiscal 1989 (Chart 3-1).

In 1985, the Federal Government adopted, and in 1987 amended, the Balanced Budget and Emergency Deficit Control Act, more commonly known as Gramm-Rudman-Hollings (GRH). GRH was a visible response to the record of deficit spending. At its heart are targets for the maximum allowable budget deficit, with the ultimate goal, as amended, of balancing the budget by 1993. GRH includes a mechanical procedure, known as sequester, for cutting Federal spending whenever deficits are expected to exceed the allowable target by more than \$10 billion, except in fiscal 1993. (See Box 3-1 for an explanation of the sequester in fiscal 1990.) GRH provides a predictable means to reduce Federal deficits, thus serv-

Chart 3-1

**FEDERAL BUDGET DEFICIT AS PERCENT OF GNP.** The budget deficit as a percent of GNP has declined substantially since 1986 as a result of deficit control measures.



Note: Data are for fiscal years.

Source: Department of Commerce and Office of Management and Budget.

ing as a valuable rule for fiscal policy that reduces Federal borrowing.

In each year since the inception of GRH, the Federal deficit has exceeded the GRH target (Table 3-1). How can this happen? The most important reason is that a sequester can be implemented, if necessary, only in the first 2 weeks of a fiscal year. Thus, the GRH deficit can initially fall below the target, but rise later in the year through appropriations for new spending. For example, the fiscal 1989 budget deficit reflected the addition of large costs attributable to the rescue plan for savings and loan institutions. In addition, some programs have been excluded from the deficit calculation so that the spending they entail does not count under GRH. Finally, the inherent difficulties of economic forecasting and technical budget projections can cause the actual deficit to differ from the GRH target, although there is no systematic direction to this effect.

*When viewed from a broad perspective, GRH has provided valuable control over Federal spending.* To some, the failure to match the targets exactly is an indictment of GRH. But this is a narrow view. A focus simply on the difference between GRH targets and annual budget deficits ignores important progress in controlling deficits.

**Box 3-1.—The GRH Process: How It Worked in Fiscal 1990**

Under GRH, the Administration reviews the budget and estimates the deficit. GRH allows for a \$10 billion cushion or "margin of error" (except in 1993, when there is no margin of error), but if the projected deficit exceeds the target by more than this amount, the Administration calculates automatic spending cuts (or sequester) needed in each program to meet the GRH deficit target. If legislation does not achieve this reduction by the end of the second week of the fiscal year, the President orders a sequester.

For fiscal 1990, the GRH deficit target was \$100 billion. In October 1989, the Administration estimated a deficit of \$116.1 billion—\$6.1 billion above the target plus "cushion." Hence a sequester designed to reduce outlays by \$16.1 billion was brought into operation, and the President stated that he would continue with a sequester until a satisfactory budget reconciliation bill was passed.

To meet the target, total outlays had to be reduced by 1.4 percent. GRH splits these reductions evenly between defense and nondefense spending, thus requiring an \$8 billion reduction in each. However, 35.4 percent of defense outlays and 73.7 percent of nondefense outlays (largely entitlements and interest payments) are exempt by law from a sequester. To achieve the \$8 billion reduction, nonexempt nondefense programs had to be cut by 5.3 percent and nonexempt defense programs by 4.3 percent.

Under the Reconciliation Act, the President issued a revised order that required a sequester of 1.5 percent for defense programs and 1.4 percent for nondefense programs. The revised sequester was designed to achieve outlay reductions equivalent to keeping the original sequester in effect until early February 1990. Hence, the Administration established the important precedent of not restoring previously sequestered amounts after the sequester period.

Since the adoption of GRH, the deficit has fallen steadily as a percentage of GNP. Moreover, deficits are far below the path projected prior to the adoption of GRH. One prominent study during 1985 projected that the unified deficit would reach \$266 billion during fiscal 1989, more than \$100 billion above the actual deficit. Further, the rate of Federal debt accumulation has stabilized—Federal debt held by the public rose from 26.6 percent of GNP in 1980 to 42 percent in 1986, but has remained at about this level since.

TABLE 3-1.—GRH and Budget Deficits: The Record

[Billions of dollars]

Fiscal Year	1985 Target	1987 Target	Actual Deficit	Actual as Percent of GNP
1986 .....	171.9	171.9	221.2	5.3
1987 .....	144.0	144.0	149.7	3.4
1988 .....	108.0	144.0	155.1	3.2
1989 .....	72.0	136.0	152.0	2.9
1990 .....	36.0	100.0	NA	NA
1991 .....	.0	64.0	NA	NA
1992 .....	.0	28.0	NA	NA
1993 .....	.0	.0	NA	NA

Sources: Department of the Treasury and Office of Management and Budget.

These improvements partly reflect better control over outlays. GRH has limited the ability to consider new spending programs or expand existing ones. Since GRH, the annual growth rate of real Federal outlays has fallen from an average of 4.7 percent for 1984 and 1985 to an average of 1.7 percent for 1986 through 1989. Controlling growth in Federal outlays is one part of sustained deficit reduction, and GRH has contributed to this process.

*Although GRH has provided valuable control over deficits, it can still be improved.* Currently, deficit targets may be circumvented too easily late in the fiscal year. The Administration has enunciated a principle that any increased spending after the sequester period has passed must be fully offset elsewhere in the budget. This principle serves to buttress GRH and improve the credibility of efforts to reduce Federal deficits. Reforms to the GRH law itself could further increase control over deficits initiated in this way. For example, introducing a second sequester period later in the fiscal year would maintain the discipline of automatic reductions for a longer time period. Alternatively, it may be useful to require 60-percent majorities of the House and Senate to pass any legislation that increases the deficit after the sequester period is over. A related measure is the Administration's proposal to give the President enhanced rescission authority—the power to cancel unnecessary appropriations. These cancellations would be subject to a vote by the Congress to override the rescission.

GRH could also be modified to eliminate the practice of using surpluses in the Social Security trust funds to offset the operating budget deficit. In fiscal 1989 there was a unified budget deficit of \$152.0 billion. Social Security, however, had a surplus of \$52.4 billion, indicating that the non-Social Security activities of the government had a deficit of \$204.4 billion. As discussed below, the Administration proposes amending GRH as part of a program to protect the Social Security surpluses and reverse chronic Federal defi-

cit spending. Balancing the non-Social Security budget will require additional control over Federal outlays. In exercising that control, care must be taken to ensure adequate funding for programs that contribute to economic growth and meet essential national needs, such as research and development, education, and reductions of drug abuse.

### *The Importance of Eliminating Chronic Government Borrowing*

The Gramm-Rudman-Hollings law has served as an important rule for reducing Federal borrowing. An improved rule for long-run fiscal policy would not only reduce deficits but would commit the Federal Government to annual budget surpluses after 1993.

Raising the rate of government saving will lower interest rates and increase capital formation and growth, leading to higher incomes. A credible policy of increased government saving would accelerate the reduction in interest rates and the increase in investment. By expanding U.S. economic resources, greater government saving will make it easier for society to meet the full range of private and government obligations. Increasing government saving will also reduce net interest payments, which constituted 14.8 percent of Federal outlays in fiscal 1989, thus freeing these resources to address other budgetary needs.

Fiscal policy should anticipate the effects of the large postwar baby-boom cohort. Total Social Security payments are projected to rise from 4.5 percent of GNP in 1989 to 6.8 percent of GNP in 2033. At the same time, the ratio of retirees to working members of the labor force is expected to increase dramatically. In the absence of a policy of government saving, financing these payments would require either extremely sharp increases in payroll taxes or large deficits, with negative consequences for economic welfare in the future.

Reforms to Social Security adopted in 1983 provide for higher future outlays by levying payroll taxes in excess of current benefit payments. At its peak in 2016, the resulting annual Social Security surplus (including interest) is anticipated to reach 1.9 percent of GNP, potentially contributing toward higher national saving, which will expand the pool of funds to finance capital formation and more rapid economic growth. It is important to establish a commitment now that this potential increase in government saving will in fact take place.

### *The Social Security Integrity and Debt Reduction Fund*

The Administration's proposed Social Security Integrity and Debt Reduction Fund (SSIDRF) is designed to ensure that the expected surpluses are not spent for other purposes, but are used to build reserves necessary to help provide Social Security benefits

when the baby-boom generation retires. These reserves will be provided to the Nation's capital markets, thereby expanding investment and transforming the Federal Government from a drain on national saving to a source of enhanced growth.

The SSIDRF should not be confused with either the current Federal old-age and survivors insurance trust fund or the Federal disability insurance trust fund. This new fund would protect the trust fund surpluses by restricting their use to reducing the national debt. At the same time, the Gramm-Rudman-Hollings law would be amended to preclude deficits on the government's non-Social Security activities. In this way, the proposed law would provide more stringent fiscal discipline than the current GRH law, which permits Social Security surpluses to offset the deficit in the rest of the budget.

The Administration's proposal to establish the SSIDRF marks a sharp departure from a history of Federal deficit financing. Each year the Federal Government would pay from the general operating budget into the SSIDRF an amount equal to the projected surplus on the Social Security trust funds during that year. The payments into the fund could be used only to reduce outstanding Federal debt held by the public, the national debt. Outlays to the fund would be counted as any other outlay in the budget. Using Federal borrowing to finance these contributions would directly contradict the intent of establishing the fund. To preclude this possibility, the current GRH law would be amended to require a balanced budget in 1994 and thereafter. To ensure further that full payments are made each year, payments into the SSIDRF would be exempt from the sequester procedures in the GRH law. When viewed as a whole, Federal Government receipts would have to exceed non-SSIDRF outlays in order to both balance the budget *and* reduce the national debt.

Operation of the fund would be phased in over the fiscal years 1993 through 1995. The payments into the fund would be \$14.1 billion in 1993, \$53.6 billion in 1994, and \$101.8 billion in 1995. These amounts are 15 percent, 50 percent, and 85 percent, respectively, of the Social Security trust fund surpluses projected for these years. From fiscal 1996 through fiscal 2000, the required payment would equal the surplus as projected in 1989. Thereafter, the projections would be updated at 5-year intervals.

The new proposal would not take Social Security off the budget. Receipts and outlays for Social Security would remain in the budget used to calculate the GRH deficit. Thus, any changes in Social Security benefits or contributions would be subject to the same overall constraints as other government programs. While Social Security is of vital importance, the government faces many pressing issues, and no single program should be exempted from the normal budget process.



Legislating a specific rule to reverse the established practice of Federal borrowing is a radical change in the conduct of U.S. fiscal policy. The SSIDRF would shift the government from chronic deficits to contributing to national saving. In the near term, saving allocated to the SSIDRF would rise quickly from only 0.3 percent of GNP in 1993 to 1.5 percent in 1995. At the peak in 2016, Federal saving would be \$495 billion or 1.9 percent of GNP at that time.

By moving the government toward supplying funds to capital markets, the SSIDRF would raise capital formation and the economy's potential to produce. Reducing the national debt would release to the private sector funds to finance purchases of corporate stock, corporate bonds, or other financial instruments. These funds would, in turn, be used for increased capital expenditures.

Over the next half century the additional investment would lead to greater U.S. capital accumulation than would otherwise occur. This additional capital would provide substantial additional GNP to be used for a wide variety of private and government purposes. Among other uses, the additional national output would ease the burden of meeting the retirement costs of the baby-boom generation.

The Social Security trust funds are currently anticipated to begin to run annual deficits in 2030. In the absence of offsetting changes in other parts of the Federal budget, borrowing could act as a drain on national saving and capital formation. Nonetheless, implementation of the SSIDRF would endow the United States with sufficient resources to meet these demands. In effect, the more rapid growth of the capital stock generated by the SSIDRF would be used to finance retirement payments, in essentially the same way that individuals use accumulated saving to meet large, anticipated expenditures such as a college education.

Would the move toward increased Federal saving cause a drag on the economy in the short run? Economic theory and empirical evidence suggest that economic adjustment to this change in fiscal policy can be made easier by a credible commitment to the SSIDRF. A credible rule could bring a substantial reduction in interest rates prior to 1993. Economic models that take expectations of such credible policies into account indicate that a reduction in expected future short-term interest rates is likely to quickly lower long-term real interest rates by as much as a full percentage point. Lower interest rates would reduce the cost of capital, stimulating investment and economic growth. In addition, a credible rule and lower interest rates could permit more rapid, noninflationary monetary expansion.

### *Anticipating Potential Federal Liabilities*

Broadly speaking, Federal liabilities are any obligations to pay out resources in the future. The most familiar liability is Federal

debt. Here the legal obligation is concrete and visible, embodied in the contractual terms of government bonds. However, there are many other obligations such as government insurance, loan guarantees, or costs of Federal programs in the future. Recognition of the full range of obligations underscores the importance of increasing government saving as a responsible fiscal approach to reducing the burden imposed on future generations.

The costs of many government programs will escalate in the future without matching increases in receipts. Social Security is the most prominent example, but the government will very likely also face increased outlays in the future for medicare, Federal civil pensions, and Federal military pension programs. Unlike Federal debt, these obligations are not fixed, as the exact costs of these programs may change in response to economic conditions or legislative initiatives. The government must maintain a constant vigil against escalating costs in entitlement programs. For example, improved cost control in the health care system would help to provide the increasing number of older Americans with high quality care without imposing an ever-larger burden on taxpayers. Even with improved efficiency in entitlement programs, additional resources may be necessary. Greater government—and national—saving will lead to the growth needed to expand economic resources to reduce the burden of meeting these demands as well as to enhance private living standards.

The Federal Government must monitor the need for outlays to cover Federal loan guarantees. Direct guarantees back loans for housing through, for example, the Federal Housing Administration and the Government National Mortgage Association, for agriculture via the Farmers Home Administration, and for college education via the Guaranteed Student Loan Program. In 1989, the face value of outstanding Federal Government loan guarantees was \$588 billion.

Government-sponsored enterprises (GSEs) are chartered by the Federal Government but are generally privately financed. GSEs provide credit services in a variety of areas. For example, the Federal National Mortgage Association and the Federal Home Loan Mortgage Corporation operate in home mortgage markets. The agriculture sector receives additional credit through the activities of the Farm Credit System and the Federal Agricultural Mortgage Corporation.

The liabilities of GSEs are not backed by the Federal Government. In the past, however, the Congress has chosen to assist financially troubled GSEs, such as in the case of the Farm Credit System. The Administration is currently studying the risks undertaken by GSEs and the appropriate level of GSE capital consistent

with soundness, stability, and minimal potential exposure of taxpayers.

Lastly, the government must evaluate the need for increased Federal saving to meet government insurance obligations. The Federal Government meets a myriad of insurance needs: veterans' life insurance, Federal crop insurance, flood insurance, informal insurance against natural disasters, and others. In 1989, insured assets totaled \$4.2 trillion, with the largest amounts in deposit insurance (\$2.9 trillion) and pension fund insurance (\$820 billion). The Financial Institutions Reform, Recovery and Enforcement Act of 1989 addressed weaknesses in the insurance of thrift institutions. In other areas of Federal insurance, implementing reforms, such as those discussed later in this chapter, is one way to improve the soundness of Federal insurance programs. Nonetheless, resources may be needed to meet Federal outlays for insurance over the next decade.

## SUMMARY OF PRINCIPLES FOR FISCAL POLICY

- Fiscal policy should move toward credible, systematic policies that would promote strong noninflationary growth.
- The major long-run effect of fiscal policy is on national saving, capital formation, and growth. The Federal Government should continue to reduce deficits in accordance with the Gramm-Rudman-Hollings targets.
- The GRH process has provided a valuable contribution to deficit reduction. Nonetheless, it may be desirable to modify GRH to provide additional control over Federal deficits.
- Credible policies to enhance fiscal discipline by reducing the national debt after the budget has been balanced, such as the proposed Social Security Integrity and Debt Reduction Fund, will raise national saving, lower interest rates and the cost of capital, increase investment, and augment long-run growth.

## MONETARY POLICY

Like fiscal policy, monetary policy is important in promoting strong economic growth and limiting the size and frequency of economic fluctuations. Over the long run, monetary policy is the most important determinant of the rate of inflation. Keeping inflation low is essential to promoting maximum sustainable economic growth and helping avoid recessions.

## THE EFFECT OF MONETARY POLICY ON THE ECONOMY

When the economy is operating near its long-term potential, an expansionary monetary policy raises real GNP and lowers unem-

ployment temporarily. Wages and prices do not adjust immediately in response to a monetary expansion, but eventually they do adjust, and inflation begins to increase. If inflation increases to a level that instigates a subsequent sharp monetary tightening, a recession could be the ultimate result.

In the 1960s, many believed that the unemployment rate could be reduced permanently if only a higher rate of inflation was accepted. This belief was based largely on a negative relationship in historical data between the rate of inflation and the unemployment rate. Such historical data in the United States and other countries seemed to indicate that when inflation was higher, unemployment was lower, and *vice versa*. But the experience of the 1970s, with simultaneously rising inflation and unemployment (stagflation), and that of the 1980s, with inflation and unemployment both falling, cast grave doubt on any such simple relationship.

Since the late 1960s, economists have become increasingly convinced that a correct explanation of the relationship between inflation and unemployment depends critically on *expectations* of inflation. If expectations of inflation are low, workers will not demand large wage increases to compensate for the expected erosion of their real earnings caused by inflation. Businesses' costs of production will not rise rapidly, and increases in their product prices can be relatively low. Under these circumstances, a moderate increase in inflation may lead temporarily to lower unemployment.

Consequently, monetary policy under certain circumstances is able to reduce unemployment in the short run. An unexpected monetary expansion will produce a money-induced pickup in demand that will stimulate firms to expand employment, produce more, and raise prices.

Soon, however, people will notice the pickup of inflation. Firms will have incorporated it into their price increases; workers will add it to wage demands, eliminating the fall in real wages and leading to a return of the unemployment rate to its initial level. Because it is not possible for people to be "fooled" indefinitely about the rate of inflation, higher inflation cannot permanently lower the unemployment rate.

Moreover, under certain circumstances, higher inflation may not reduce unemployment at all. Suppose the central bank showed a persistent tendency to try to lower short-term unemployment below the level associated with realization of peoples' expectations of inflation—that is, below the nonaccelerating inflation rate of unemployment or NAIRU. (The concept of the NAIRU is explained in Chapter 5.) This tendency would be noticed and would foster higher inflation expectations. To the extent people correctly anticipate this behavior, even the temporary boom that a monetary expansion would otherwise produce would be thwarted.

## THE COSTS OF INFLATION AND RECESSION

Low, predictable rates of inflation have little adverse effect on the economy. But for several reasons, high and fluctuating inflation can reduce economic performance.

*First, excessive inflation leads to recessions.* Monetary policy that is too expansionary will eventually bring on a rise in the rate of inflation. If left unchecked, inflation will reach a rate that is no longer tolerable. At that point, the Federal Reserve must reduce the rate of inflation by tightening monetary policy. Such a tightening may well lead to a recession, as it did in the early 1980s and in other postwar downturns.

*Second, excessive inflation hinders economic growth and productivity.* Inflation can depress investment by increasing the effective tax rate on capital. For example, inflation reduces the real value of depreciation allowances. In addition, excessive or fluctuating inflation tends to prevent an economy from reaching peak efficiency because inflation is associated with increased uncertainty about the future. The increased uncertainty adds a risk premium to interest rates, which raises the cost of capital and lowers investment. Also, because nominal returns on liquid deposits tend not to fluctuate point-for-point with market interest rates, depositors devote more resources to economizing on money holdings when inflation rises. Although this activity is productive from the point of view of the individual, from society's point of view it represents a waste because the resources are not being used to produce real goods and services. Moreover, because higher inflation tends to be associated with greater dispersion of prices, households and businesses will devote more resources to searching for the lowest price when inflation is high. For the same reason, resources will not be allocated efficiently.

*Third, inflation raises issues of fairness.* When inflation rises unexpectedly, lenders and recipients of fixed-income payments tend to lose, because the real value of their receipts falls with the rise in prices. Conversely, borrowers and others making fixed payments tend to gain. This transfer of income and wealth through unexpected inflation is arbitrary and capricious.

### *Containing and Reducing Inflation*

High and variable inflation, such as the United States experienced in the 1970s, does great harm to the economy and must be prevented. Relatively steady inflation in the 4½-percent range, such as the United States has experienced over much of the 1980s, also has costs, although these costs are far lower than those of the late 1970s inflation. Thus, an important priority of policy must be to prevent inflation from drifting up to the 7-percent, 9-percent, and finally double-digit rates that were experienced in that decade.

Policy must also work to reduce inflation rates below the 4½-per-cent range over time while sustaining economic growth.

### *Preventing Recessions and Fostering Strong Economic Growth*

Just as inappropriate monetary policies can damage economic performance by allowing excessive inflation, they also can lead directly to recessions. For example, excessively tight policies, when demand is already weak and rising inflation is not a threat, may contribute to a recession, with its attendant human and economic costs. Moreover, recessions can damage long-run economic growth by reducing confidence and thus aggregate saving and investment—crucial contributors to economic growth. But the Nation should not be satisfied merely with avoiding recessions. The U.S. economy can and should do better than that. It should sustain growth sufficient to provide rising employment and incomes to Americans as well as continued low unemployment. The President supports macroeconomic policies that promote strong, sustainable economic growth.

## NEW CHALLENGES FOR MONETARY POLICY

Recent years have seen increased consensus on the appropriate goals for monetary policy. But monetary policymakers have been confronted with new technical problems in trying to achieve these goals. These problems make policy more difficult to carry out by obscuring the relationship between the tools that monetary policy has at its disposal and the objective of noninflationary growth. In addition, they make it more difficult for businesses, households, the Congress, and the Administration to monitor the conduct of monetary policy.

### *Changing Behavior of the Monetary Aggregates*

Historically, certain measures of the money stock moved fairly closely with nominal spending, and thus represented useful measures of the stance of monetary policy. In the United States, transactions balances—currency and deposits that can be used as means of exchange—were especially noteworthy in this regard. The association appeared to be so close that the Federal Reserve took steps in 1979 and the early 1980s to increase its control over the growth of the monetary aggregate M1. (Box 3-2 provides definitions of the monetary aggregates.)

However, beginning in the early 1980s, M1's velocity (the ratio of GNP to M1) became much less predictable. Velocity no longer tended to increase steadily (Chart 3-2). At first, it was not clear whether the change in the relationship was temporary or permanent. Eventually, though, evidence accumulated that the breakdown was permanent and primarily reflected a regulatory change—the nationwide introduction of NOW accounts, which are

### **Box 3-2.—Definitions of the Monetary Aggregates**

**M1** includes currency, travelers checks, demand deposits, and other fully checkable deposits such as interest-earning negotiable order of withdrawal (NOW) accounts. It was designed to measure the quantity of transactions instruments, but the inclusion of NOW accounts implies that M1 in fact includes a substantial portion of savings balances. Moreover, certain other accounts that are not included in M1, such as money market deposit accounts (MMDAs) and money market mutual funds (MMMFs) can be used, within limits, for transactions.

**M2** is defined as M1 plus a number of savings instruments, including savings deposits, MMDAs, certain MMMFs, and small time deposits. It also includes certain liabilities—repurchase agreements and Eurodollar deposits held by U.S. residents—issued by banking institutions on an overnight basis. M2 is designed as a broad measure of monetary assets.

**M3** comprises M2, shares in money market mutual funds that are available only to institutions, time deposits with balances of at least \$100,000, and repurchase agreements and Eurodollar deposits with terms longer than 1 day.

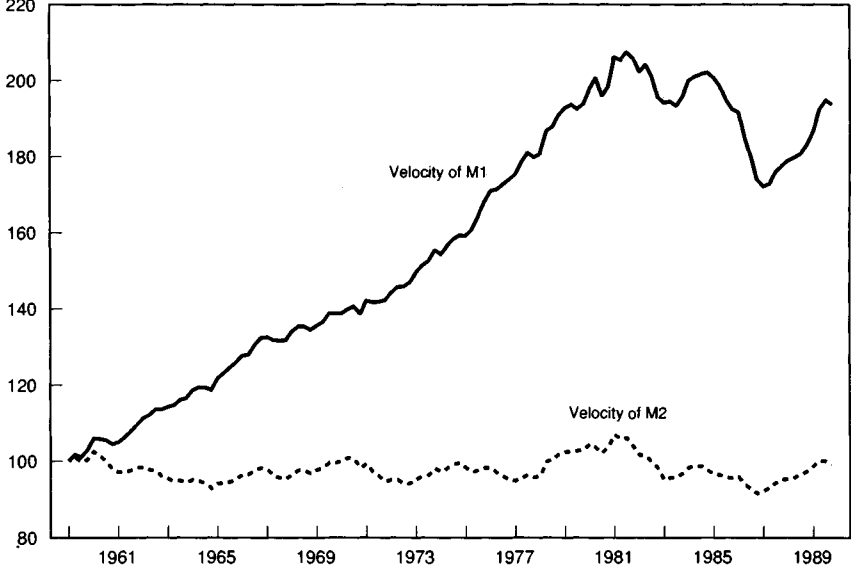
interest-bearing, checkable deposits. Because these accounts pay interest, households shifted into NOW accounts (and therefore into M1) not only a large volume of transactions balances from demand deposits, but also savings balances that were in the non-M1 part of M2. This latter shift meant that M1 no longer so dominantly represented transactions balances. For related reasons, M1 and its velocity became much more sensitive to swings in market interest rates. In that light, it was not surprising that the relationship of M1 to GNP changed.

M2 and M3 are substantially broader than M1 and encompass many more types of financial assets. Probably because these aggregates represent broader measures of wealth than M1 and are not restricted to transactions vehicles, they have not historically related as closely to GNP as did M1 before the 1980s. Nevertheless, some stable patterns in their velocities can be detected. For example, the velocity of M2 has tended to fluctuate around a fixed level over the past 30 years (Chart 3-2). This pattern probably reflects the breadth of this aggregate and the resulting tendency for shifts from one liquid savings asset to another to be captured within it. The pattern also reflects the long-run tendency for interest rates on deposits to follow market interest rates. Because this tendency is incomplete, the velocity of M2, like that of M1, tends to rise and fall with short-term market interest rates, reflecting shifts between

Chart 3-2

**VELOCITIES OF M1 AND M2.** The velocity of M1 deviated in the 1980s from earlier patterns, while the velocity of M2 remained relatively stable.

Index, 1959Q1=100  
220



Note: Data are quarterly.  
Source: Board of Governors of the Federal Reserve System.

liquid balances and market instruments as their relative returns vary. But this tendency is less pronounced for M2 than for M1, making it more suitable as a monetary target.

Despite their relative stability, the relationship of these broader aggregates to nominal income over shorter periods has at times been erratic, and instances of these temporary shifts appear to have become more frequent in the 1980s. Some examples of such behavior have reflected regulatory influences. For example, M3 was noticeably affected in 1989 by changing regulations in the thrift industry. A provision of the Financial Institutions Reform, Recovery, and Enforcement Act of 1989 mandated increased capital standards for thrift institutions. In order to comply with these standards, some thrifts sharply reduced assets and funding sources. A portion of these funding sources were managed liabilities included in M3 (but not in M2), such as large certificates of deposit and securities sold under repurchase agreements. In addition, a number of insolvent thrift institutions substituted borrowings from the Resolution Trust Corporation for liabilities included in the monetary aggregates. As discussed in Chapter 2, this drop in M3-type instruments meant that M3 growth, unlike that of M2, did not increase



significantly in the second half of 1989. The sensitivity of the monetary aggregates to such developments is one reason that monetary policymakers should not focus exclusively on the aggregates in formulating policy.

### *Changing Economic Relationships*

Rapid changes in the structure of the economy and financial markets in recent years have also posed challenges for monetary policymakers. Such changes alter the relationships between monetary policy instruments and economic outcomes. Identifying these relationships is difficult to begin with; rapid shifts make identification all the more difficult, and thus complicate the conduct of monetary policy. They also make it harder for the public to assess the stance of monetary policy.

One such change is that the volume of imports and exports relative to GNP has risen considerably. Both imports and exports are sensitive to exchange rates. Thus, the larger international sector of the U.S. economy may have caused overall production to become more sensitive to exchange rates. Because exchange rates are importantly influenced by interest rates, this change in structure may constitute one channel by which the effect of monetary policy on the economy has changed.

Financial innovation and deregulation have also been important in the 1980s and may lead to an altered responsiveness of spending to interest rates. For example, the elimination of deposit interest rate ceilings, the development of highly liquid secondary markets for mortgage loans, and the wide availability of adjustable-rate mortgages (which usually offer relatively low initial interest rates) mean that mortgage credit is no longer as constrained during a period of monetary tightening as it was before the 1980s, reducing the interest-sensitivity of residential construction activity.

Another example of possible changes in interest sensitivity relates to household consumption spending. The increasing use of adjustable-rate mortgage and consumer loans in recent years has tended to increase the sensitivity of household expenses to changes in market interest rates. Consequently, the sensitivity of household spending to changes in interest rates may have increased. However, a greater proportion of households' financial assets now bears interest returns that vary with market interest rates than was the case before the 1980s. This fact would tend to offset any increased sensitivity of consumption.

Empirical studies that attempt to determine whether the responsiveness of spending to interest rates has changed obtain mixed results. Most studies confirm a lower interest sensitivity of residential housing expenditures; a few find a reduced sensitivity in other sectors as well. On the whole, there is some evidence for the proposition that the interest sensitivity of aggregate spending has fallen

in the 1980s, implying that larger changes in interest rates are needed to offset economic fluctuations.

## THE DESIGN OF MONETARY POLICY IN THE 1980s AND 1990s

Substantial movements in the velocities of the monetary aggregates in recent years have made rigid monetary targeting inappropriate. Given this situation, but recognizing the disadvantages of shortsighted, discretionary policy discussed earlier in this chapter, the Federal Reserve has not regressed to an undisciplined, ad hoc approach to policy. Rather, it has attempted to develop a more systematic, longer run approach. By attempting to pursue such a forward-looking policy consistently over time, the Federal Reserve appears to have achieved a high degree of policy credibility.

### *The Framework for Monetary Policy*

The Federal Reserve Act establishes a broad framework for the conduct of monetary policy. It calls for two policymaking bodies within the Federal Reserve: the 7-member Board of Governors, located in Washington; and the 12-member Federal Open Market Committee (FOMC), which includes the members of the Board and, on a rotating basis, presidents of 5 of the 12 regional Federal Reserve Banks.

The Federal Reserve Act sets goals for policy, requiring that the Federal Reserve shall "maintain long run growth of the monetary and credit aggregates commensurate with the economy's long run potential to increase production, so as to promote effectively the goals of maximum employment, stable prices, and moderate long-term interest rates." The law also requires the Fed to report to the Congress annual target ranges for growth of the monetary and credit aggregates.

Thus, the law establishes broad principles for the conduct of monetary policy. Within this framework, the Federal Reserve must design a policy to meet its goals. In the regular meetings of the FOMC (currently eight times per year), FOMC members decide what adjustments in the policy instruments, if any, are appropriate, and issue a directive for implementing these adjustments to the Federal Reserve Bank of New York, which acts as the FOMC's agent. The directive calls for adjustments in the supply of reserves; it is presented in the context of a public statement (released with a lag) that explains the FOMC's reasons for the change.

Changes in the supply of reserves lead to changes in short-term interest rates. For example, an increase in the availability of reserves means that banks will have to bid less aggressively for funds in the open market. Consequently, interest rates will decline, at least temporarily. An increase in reserve availability also means that fewer banks will need to borrow from the Fed's discount

window to obtain funds. Consequently, lower interest rates tend to be associated with reduced borrowing at the Fed's discount window, and higher interest rates with increased borrowing.

Since 1982, the Fed has relied on this association, using an operating target for the quantity of borrowed reserves as an index of the desired availability of bank reserves. Over the past 2 years or so, however, the relationship of borrowing to reserve market conditions has shifted somewhat unpredictably. Consequently, the Federal Reserve has gradually reduced its reliance on borrowed reserves and has focused more directly on interest rates—especially the Federal funds rate, the interest rate on overnight interbank loans—in implementing monetary policy.

### *Operating Strategies for Reserves and Interest Rates*

The Federal Reserve generally increases interest rates when inflationary pressures appear to be rising and lowers interest rates when inflationary pressures are abating and recession appears to be more of a threat. In general, Federal Reserve policymakers base their assessment of inflation pressures and the state of economic activity on several key economic and financial indicators as well as on economic forecasts; some of these forecasts are constructed judgmentally by the Fed's staff, some are econometric, and some are produced by private forecasters. Financial markets can also provide valuable information. For example, long-term interest rates incorporate market participants' assessment of the future rate of inflation.

Assessing just how much the policy instrument needs to be changed as circumstances evolve requires judgment. Thus, a policy approach that relies on the expertise of the FOMC members is appropriate and should be preserved. If the operating stance of policy is gauged in terms of monetary aggregates, appropriate settings change with shifts in the behavior of velocity; if measured by interest rates, appropriate settings vary with the interest sensitivity of aggregate demand; and, if measured in terms of borrowed or non-borrowed reserves, appropriate settings change as the relationship between reserve measures and interest rates changes. Experience has indicated that predicting such changes accurately is often impossible. The Federal Reserve's ability to react flexibly to unforeseen, adverse shifts in financial market conditions is especially useful. For example, the Federal Reserve's provision of additional liquidity in the wake of the stock market break of October 19, 1987, was appropriate and contributed to a return of market confidence.

### *Role of Monetary Targets*

As discussed above, the law requires the Federal Reserve to set annual target ranges for the monetary aggregates. Throughout the 1980s, the Federal Reserve set annual target ranges for the mone-

tary aggregates M2 and M3, and through 1986 it set ranges for M1. In view of the generally looser relationships of the monetary aggregates with GNP over recent years, however, the Federal Reserve has relied less on all of the aggregates. In 1988 and 1989, the FOMC set target ranges for M2 and M3 that were 4 percentage points wide, 1 percentage point more than had been specified earlier. In widening the ranges, the Federal Reserve noted the sensitivity of velocity to market interest rates as well as a more erratic relationship between velocity and interest rates. For much the same reasons, the Federal Reserve in conducting monetary policy has monitored a variety of economic and financial indicators in addition to the monetary and credit aggregates.

Despite problems with the monetary aggregates, the Federal Reserve has not adopted a purely discretionary approach to policy. Rather, the Fed has made clear that its long-run goal is to do its part to promote economic growth by reducing inflation and ultimately achieving price stability. Within this long-run policy orientation, the monetary aggregates can play a useful role. In particular, research at the Federal Reserve and elsewhere shows that the velocity of M2 has been essentially stable over the long run. M2 could serve therefore as an anchor for price stability and as a basis for a credible, systematic long-run monetary policy. That is, as long as there are no signs of *permanent* shifts of M2 velocity, the Federal Reserve would do well to commit to eventually maintaining *long-run* growth of M2 consistent with expansion of the economy's potential to produce, while allowing higher or lower growth rates over shorter periods of time to offset shifts in velocity. Such an approach would be consistent with the Federal Reserve Act's requirements for monetary policy.

By consistently following a forward-looking policy directed at this goal, the Federal Reserve appears to have achieved a high degree of credibility. This credibility is suggested by the lack of increase in measures of inflation expectations in the late 1980s as the economy drew closer to full utilization of its productive resources, a situation that in the past typically was characterized by rising inflation expectations.

## IMPORTANCE OF A CREDIBLE MONETARY POLICY

A high degree of monetary policy credibility will often lead to superior economic performance compared with the situation where a policy is not perceived to be very credible.

### *Credibility and Disinflation*

Suppose monetary policymakers announced their intention to lower the rate of inflation over a specific time interval and, to achieve this goal, slowed the growth of the money supply and allowed interest rates to rise. If the policy was not viewed as credi-

ble—for example, if the public thought that the policy would not be maintained—households and firms would continue to set wages and prices as they had previously, at least for a time. Meanwhile, the increasingly restrictive monetary policy would restrain demand and production. Thus, the lack of policy credibility would result in a worsening of the economic situation, as inflation remained high and unemployment rose. This outcome would persist until the public's expectations of the rate of inflation fell.

Suppose, on the other hand, that the public believed that the policy of reduced inflation would be achieved. In these circumstances, the more restrained monetary policy would be accompanied by a drop of inflationary expectations. The policy restraint would have a smaller effect on unemployment and production, relative to the situation of low policy credibility. Full employment would be maintained, or at least the period of limited slack would be shorter, and output would again achieve its potential, but with less inflation than before.

Policy credibility is also valuable during a period of falling inflation, because a temporarily higher rate of monetary growth may appear to contradict the stated policy of lower inflation. As the rate of inflation falls, the public will likely wish to hold a larger quantity of money, because the opportunity cost of doing so will be smaller—that is, money holders will be giving up less income by holding money, as opposed to investing in financial assets or appreciating durables such as housing. The Federal Reserve could accommodate this increased demand by allowing the money stock to grow more rapidly for a time. Ideally, the public will recognize that the increased rate of money growth is temporary and a natural consequence of the disinflationary policy. Even if the public does not understand this process but finds the policy of disinflation to be credible, inflation expectations will not rise in response to the pickup in money growth. If the policy does not have much credibility, on the other hand, the public might become concerned that the higher money growth is permanent, signaling an inflationary monetary policy. Any consequent heightening of inflationary expectations would hinder achievement of the Nation's economic goals.

### *Credibility and Economic Uncertainty*

Credibility can help resolve problems that can result from unpredictably shifting economic relationships. For example, the looser relationship of the monetary aggregates to economic activity not only makes it more difficult for the Federal Reserve to conduct monetary policy, but it also causes problems for the public in monitoring the stance of monetary policy. The increased uncertainties about possible changes in structural economic relationships have a similar effect, by making it more difficult for the public to determine whether a given policy change will have the desired effect on

the economy and on inflation. If monetary policy is credible, short-run difficulties of monitoring the stance of monetary policy will not adversely affect the public's expectations.

### *Achieving Policy Credibility*

Policy credibility is clearly useful to have, but achieving it may not be easy. Simply announcing a change in policy does not make it believable. Credibility depends in part on the plausibility and consistency of the announced policy in the context of the overall economic environment and other policies. Credibility probably depends most importantly on a track record of following the stated principles of policy.

## **SUMMARY OF PRINCIPLES FOR MONETARY POLICY**

- Monetary policy, and macroeconomic policies more generally, should adopt ambitious but realistic goals for economic performance. The Nation should not be satisfied merely to avoid recessions and contain inflation. The U.S. economy can and should do better than that. It should sustain growth sufficient to provide rising employment and incomes and continued low unemployment.
- Monetary policy can contribute to the achievement of these goals by systematically controlling and reducing inflation.
- Monetary policy needs to maintain credibility, because credibility helps ensure that the goals of policy will be attained during a period of dynamic economic and financial developments. Policy credibility is enhanced by building a record of achievement of the stated goals of policy and by consistently following stated policy principles.
- Over long periods of time, the monetary aggregates are useful guides to monetary policy. In view of the difficulties of predicting velocity, however, monetary policymakers also need to monitor other economic and financial measures within a credible, systematic approach to policy.

## **INTERNATIONAL ASPECTS OF FISCAL AND MONETARY POLICY**

As discussed above, the internationalization of the U.S. economy has implications for monetary and fiscal policy. For example, there is a tendency for government deficits to crowd out net exports and for larger, more sensitive international capital flows to influence the effects of domestic policies on interest rates. This section analyzes the international dimension of economic policy considerations in more detail.

Linkages between the United States and the rest of the world led to some of the most visible and significant features of U.S. economic performance in the 1980s. There were wide swings in the value of the U.S. dollar. For example, it rose from 1.82 Deutsche marks per dollar (DM/\$) in 1980 to more than 3.40 DM/\$ in early 1985 before falling back to 1.76 DM/\$ on average in 1988. The U.S. current account, which includes trade in both goods and services, plummeted from a surplus of \$8 billion in 1981 to a record deficit of \$144 billion in 1987—a deficit equivalent to 3.2 percent of U.S. GNP. This deficit reflected a \$160 billion excess of merchandise imports over exports. Since this peak, the merchandise trade deficit has been cut more than 30 percent to an annualized level of \$111 billion.

The fact that the United States has important connections to the rest of the global economy must be considered in the design of fiscal and monetary policy. These policies influence economic performance in part through their effects on exchange rates, on international capital flows, and on the trade balance. The United States accounts for more than one-quarter of total world production of goods and services. Not surprisingly, U.S. policy actions have implications for other industrialized economies and for developing economies. Policy actions taken by other countries, especially the larger ones, also influence U.S. economic performance. Growing recognition of mutual concerns and international economic linkages has heightened awareness of the potential benefits from enhanced international coordination of economic policies. A challenge for the 1990s is to use and improve the process for policy coordination developed in the 1980s to achieve sustained, noninflationary growth for the global economy.

## INCREASED OPENNESS OF THE U.S. ECONOMY

The growing economic interdependence of the United States and other countries is reflected in expanding international trade and capital flows. U.S. imports of goods and services increased from less than 5 percent of total demand on average in the 1960s to more than 11 percent on average in the 1980s and 12.7 percent in 1988. This increased presence of foreign products has generated concern over the competitiveness of U.S. industries. What is not as frequently recognized is that U.S. exports of goods and services to other countries have also grown to record levels. Nearly 11 percent of domestic production was sold abroad during the 1980s, compared with just 6 percent on average during the 1960s. Through international trade, economic expansion in the rest of the world contributes to the health of the U.S. economy.

International financial markets have also grown dramatically over the past decade. Capital flows from abroad help to finance in-

vestment expenditures in the United States. These flows respond quickly in 24-hour financial markets to differences in short-term interest rates and other developments across countries. Because capital movements are sensitive to differences in policy, the globalization of financial markets has increased the interdependence of what were traditionally regarded as domestic policies.

### *Implications of Openness for Monetary and Fiscal Policies*

International considerations do not alter the basic principle that credible, systematic monetary and fiscal policies can promote non-inflationary growth. The complex interactions among countries, however, should be taken into account in policy design.

U.S. policymakers must recognize that international linkages influence the effectiveness of their policy actions. The experience of 1980 to early 1985 provides an example. In a determined effort to bring inflation under control, the Federal Reserve, supported by the Administration, pursued firm anti-inflationary policies during 1980-82. Fiscal policy turned expansionary during the 1982 recession. These policies did contribute to the reduction of inflation and to strong economic growth in 1983 and 1984. However, they also contributed to rapid appreciation of the U.S. dollar (Chart 3-3) and a decline in net exports. First tight monetary policy and then declines in government and private saving relative to investment put upward pressure on interest rates in the United States. Partly in response to the resulting interest rate differentials, the dollar appreciated. Imports became relatively cheap, while U.S. exports became more expensive abroad. The resulting trade and current account deficits were the counterparts to the net capital inflows.

U.S. policy also affected the global economy. In particular, the U.S. economic recovery helped spur growth worldwide in the wake of the deep 1981-82 recession. At the same time, the increased demand for funds in international markets as the world economy recovered contributed to a rise in world interest rates, which added to the difficulties developing countries faced in meeting their external debt obligations.

## **EXTERNAL BALANCE AND EXCHANGE-RATE OBJECTIVES**

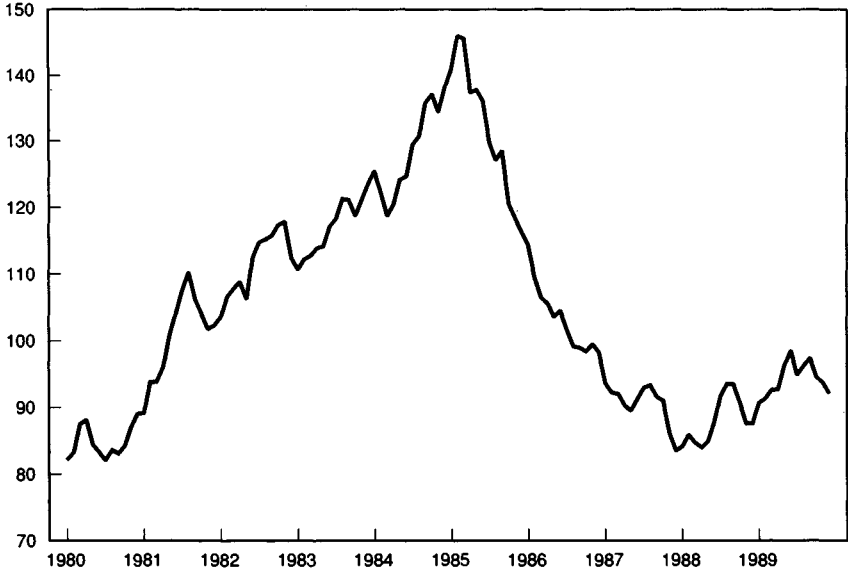
To what extent should exchange-rate stability and external balance—current account and trade balance—be objectives of macroeconomic policy? The short answer is that both should be of concern to policymakers because, in an open economy, both are related to the fundamental objectives of economic growth and rising living standards. Like price instability, current account imbalances and exchange-rate fluctuations—especially large, persistent misalignments—may jeopardize efficient resource allocation and, thus, economic growth.



Chart 3-3

**U.S. REAL EFFECTIVE EXCHANGE RATE.** The real value of the U.S. dollar appreciated sharply in the first half of the 1980s before depreciating and then stabilizing at lower levels.

Index, March 1973=100



Note: Data are monthly.

Source: Board of Governors of the Federal Reserve System.

### *External Imbalance*

Current account deficits reflect an excess of investment over domestic saving. If that gap resulted from unusually strong investment, it would not generally be considered a problem. Inflows of foreign savings can contribute to higher investment, spurring economic growth and putting in place productive capacity to service the debt in the future without slowing the growth of domestic living standards. A reason for concern over the rise in the U.S. current account deficit from 1982 to 1987 was that it primarily reflected a decline in domestic saving. As saving has revived, the deficit has been cut by more than 30 percent since the mid-1987 peak.

An aggregate current account deficit implies that imports exceed exports in some sectors, and some of these sectoral trade imbalances are often large. Competitively priced imports may threaten domestic production and fuel pressures for protectionist trade policies, such as import tariffs or quotas. Yielding to these pressures impedes the efficient allocation of resources and harms consumers. Taken to an extreme, increased barriers to trade in one country result in a retaliatory trade war that can lead to worldwide recess-

sion. This danger provides a second reason for concern about large and persistent external imbalances.

### *Exchange Rates*

Chart 3-3 shows the value of the dollar relative to currencies of the main U.S. trading partners since 1980. The graph shows both short-term volatility and sharp longer term swings in the value of the dollar. In asking whether policymakers should be concerned about exchange-rate changes, it is important to distinguish between the two.

Short-term volatility of the major currency-exchange rates has been much greater during the floating exchange-rate period since 1973 than during the previous two decades of the Bretton Woods System of fixed but adjustable rates. Although this fact is widely recognized, the problems associated with short-term volatility may be overstated. Exchange rates are the prices of assets (U.S. dollars relative to other currencies). Short-term interest rates and other asset prices, such as stock prices, are even more volatile than exchange rates. Furthermore, short-term volatility should not disrupt production decisions, such as where to purchase imported inputs, provided that longer term trends are predictable. Forward and futures markets can be used to hedge against short-run uncertainties. Also, empirical studies have found very little evidence that short-term exchange-rate volatility has a significant influence on the volume of international trade, once the influence of other factors (including real incomes and the relative prices of traded goods) is taken into account.

Concern about pronounced medium-term swings in exchange rates is based on the perception that they reflect misalignments relative to long-term, sustainable exchange-rate levels. Although there are disagreements about which exchange-rate level is appropriate to use as a benchmark, swings in the 1980s were so large that they were widely believed to represent misalignments. Unlike short-term variance, medium-term misalignments can have a profound effect on the allocation of resources. Large changes in the value of the dollar relative to the Japanese yen, for example, have led to large changes in prices of American goods relative to prices of Japanese goods. These large relative price movements, and uncertainty about how quickly they might be reversed, may complicate decisionmaking for both producers and consumers.

An appreciation of more than 60 percent, such as the U.S. dollar experienced in the mid-1980s, can erode the international competitiveness of domestic exporters and import-competing firms, putting firms out of business and generating unemployment. At the same time, goods and services produced abroad become bargains to domestic consumers, helping foreign firms to capture a larger share of the home market. Even if the appreciation is fully reversed

within a few years, domestic firms may find it difficult to recapture the market share they held before the exchange-rate cycle. Macroeconomic policies that avoid large exchange-rate swings help to create an environment conducive to long-term growth.

## MACROECONOMIC POLICY TOOLS

Monetary and fiscal policies influence external balances and exchange rates. For example, monetary policy can be used to maintain fixed exchange rates—at least temporarily. Monetary and especially fiscal policy can alter domestic saving and investment, and thus the current account balance. External balance and exchange rates are determined by a wide variety of factors, however, including policy and economic performance in other countries. Exchange-rate determination is especially complex. There is some tendency for high interest rates in the United States relative to those abroad to be associated with a stronger dollar. However, political events, credibility of policies, and news about economic performance at home or abroad also influence the value of the dollar. Furthermore, objectives of policymakers may come into conflict. A more expansionary monetary policy would tend to bring down the value of the dollar, but often with the cost of increased domestic inflation.

### *Exchange-Market Intervention*

Policymakers can intervene directly in foreign exchange markets by buying and selling currencies. Following the dollar's peak in February 1985, policymakers used this tool more actively. However, the amounts of dollars sold or purchased by authorities are small relative to the total daily sales and purchases in the foreign exchange market, approximately \$650 billion per day.

As a hypothetical example of foreign exchange intervention, suppose the dollar were overvalued. The Federal Reserve or the Treasury could sell dollars and purchase Deutsche marks in attempting to decrease the value of the dollar. When such actions are not permitted to affect the level of bank reserves, they are said to be "sterilized" intervention. The Federal Reserve can always sterilize any change in bank reserves through offsetting transactions in Treasury securities. If the Federal Reserve made no transactions to offset, or sterilize, the increase in bank reserves from a sale of dollars, the intervention would be called unsterilized. Unsterilized interventions, in effect, constitute monetary policy actions. The general practice of the Federal Reserve has been to sterilize intervention operations.

There is little disagreement that expansionary monetary policy tends to depreciate exchange rates. Most of the recent intervention by major central banks has been routinely sterilized, however, and some analysts have raised doubts about the effectiveness of steri-

lized intervention—at least as an instrument that produces lasting changes in exchange rates. Arguments in support of the effectiveness of sterilized intervention hinge largely on the fact that official transactions may signal the future course of domestic policy. If other market participants recognize, believe, and act in response to the signal, then sterilized intervention can be an effective tool for moving exchange rates.

What has been the actual experience with intervention in foreign exchange markets? Most studies have concluded that sterilized intervention is unlikely to be an effective tool for moving exchange rates in directions that are inconsistent with underlying fundamentals of policy and performance—except perhaps in the very short run. The effects are larger and more lasting if backed by other policy changes such as interest rate adjustments, which help to make the signal credible. Also, coordinated intervention by monetary authorities in more than one country seems to have a greater and more sustained effect on exchange rates than intervention by a single country alone.

## INTERNATIONAL POLICY COORDINATION

Recognition of the increasingly integrated global economy and dissatisfaction with economic performance, including exchange-rate swings and persistent external imbalances, have precipitated calls for more consistent and compatible policies among major industrial countries. Since 1985, these countries have strengthened the process for international coordination of policies.

### *What Is Policy Coordination?*

There is no single definition of international policy coordination. To some, the term has a rather lofty meaning: jointly determined policy actions in support of mutually agreed-upon objectives. However, national objectives will often differ substantially or conflict with one another. A more limited definition of policy coordination would be: a process through which national policies are modified in recognition that economic performance is interdependent.

Neither definition need imply that countries follow identical policies. Countries have different technologies, tastes, and political institutions. They may also be subject to different economic shocks. For example, many economists believe that a coordinated effort to reduce external imbalances while avoiding a slowdown in real growth worldwide would include fiscal contraction in the United States, which has a current account deficit, and an expansionary fiscal stance in Japan and West Germany, which have current account surpluses. Thus, even if countries adopt the same policy objective, actual policy settings are likely to differ.

## *Is Macroeconomic Policy Coordination a Good Idea?*

The arguments in favor of policy coordination stress that the effects of one country's policies spill over to other countries. This spillover is especially true for the larger industrial economies, but even here, the linkages are stronger among some countries, such as those within Western Europe, than for others. However, policymakers may not take these spillover effects into account in weighing the costs and benefits of policy options. Coordination can improve domestic policy decisions by helping policymakers to consider the global implications of their actions. Small developing countries are likely to benefit greatly from policy coordination among the developed countries, if such coordination is successful in increasing world growth. At the same time, the most important aspect of promoting noninflationary growth in any one country is that it pursue sound domestic monetary and fiscal policies. Thus, macroeconomic policy coordination can also make a positive contribution by encouraging individual countries to pursue the proper credible and systematic policies at home.

International cooperation is important in other areas as well. In particular, agreement on rules for trade improve the functioning of the international trading system, with widespread benefits. The United States places a high priority on its active participation in the General Agreement on Tariffs and Trade, and is pursuing further international cooperation to advance mutual concerns about the environment.

### *What Is the Policy Coordination Process?*

Since 1975, the leaders of the seven largest industrial economies (the United States, Japan, West Germany, France, the United Kingdom, Italy, and Canada) have met in annual economic summits to discuss economic issues of common concern. Over time, recognition of the growing integration of world goods and financial markets and shared concerns have led to the realization that further policy cooperation could be mutually beneficial.

The divergence of economic policies and performance among the major industrial countries after 1982 contributed to the sharp rise in the value of the dollar and to the emergence of large trade imbalances. In 1985, responding to shared concerns over these developments, finance ministers and central bankers from the United States, Japan, West Germany, the United Kingdom, and France (collectively called the G-5) met in New York. They agreed to work to strengthen the process for coordinating macroeconomic policies, to bring down the value of the dollar, and to reduce trade imbalances while maintaining noninflationary growth. In 1986, the G-5 together with Canada and Italy (the G-7) initiated regular meetings of their finance ministers and central bank governors. The

purpose of these G-7 meetings is to promote more consistent and compatible economic policies among members so as to work toward sustained global growth with low inflation, reduced trade imbalances, and greater exchange-rate stability.

The policy coordination process that evolved during the 1980s has two main elements. First, the G-7 has instituted a regular, high-level dialogue on economic policy, performance, and objectives. Second, the G-7 has developed economic indicators to provide a framework for multilateral surveillance of their economies and to help monitor the international effects of national policies. This process is supplemented through frequent additional discussions in other forums, notably the International Monetary Fund, the Organization for Economic Cooperation and Development, and the Bank for International Settlements.

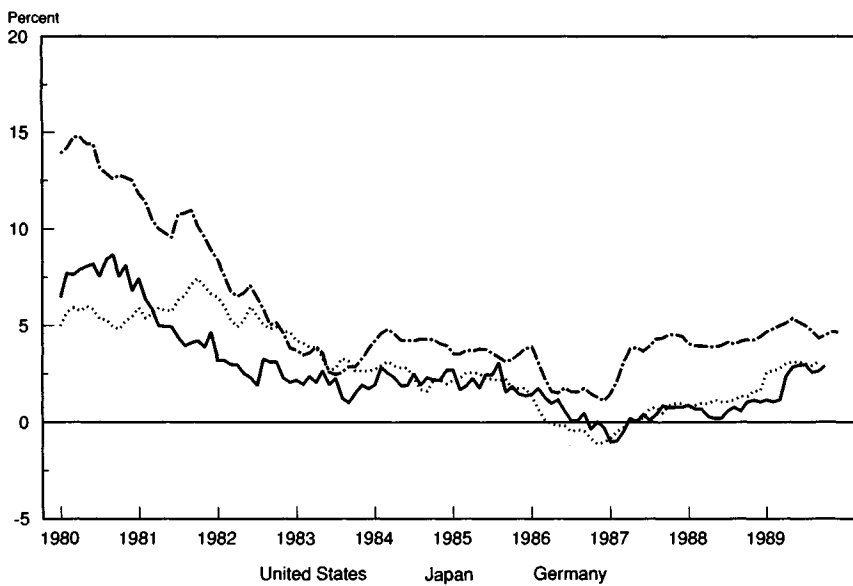
### *To What Extent Has Policy Coordination Been Useful?*

To what extent has the G-7 process achieved its goals? Some observers note the continued fluctuations and last year's appreciation of the dollar and the persistence of trade deficits in the United States and surpluses in West Germany and Japan and conclude that policy coordination has been a failure. This view is extremely narrow and misleading. The economic policy coordination process has promoted more consistent and compatible policies among the major countries, helping to sustain the expansion of output and employment while reducing external imbalances. A regular dialogue on key economic policy issues now exists. The use of indicators has helped to focus their discussions on key linkages between economies. Further, the discussions have highlighted the importance of structural measures, such as lowering marginal tax rates, decreasing regulation, and reducing barriers to trade, to promote greater efficiency and openness, thereby facilitating noninflationary growth and adjustment of external balances.

Over the past decade, a substantial convergence in the longer term orientation of monetary policies among G-7 members has occurred. This convergence reflects increased mutual awareness among central bankers of the desirability of reducing inflation rates and moving toward price stability. As shown in Chart 3-4, this convergence has resulted in an overall reduction in the average inflation rate and the range of inflation rates among West Germany, Japan, and the United States. With this awareness, there was also a common response to the indications of inflation resurgence in 1988. At the same time, international discussions have reflected concern that the effects of several countries responding together might result in too great a response. Such discussion is a natural part of the evolving policy coordination process and would have been more difficult just 15 years ago.

Chart 3-4

**CONSUMER PRICES.** During the 1980s consumer price inflation rates declined and converged among industrial countries.



Note: Data are 12-month changes.  
Source: Department of Commerce.

## SUMMARY OF PRINCIPLES FOR INTERNATIONAL MACROECONOMIC POLICIES

The increased internationalization of the U.S. economy has important implications for monetary and fiscal policies and helps shape the principles that should form a basis for such policies.

- The United States is part of a global economy that is becoming increasingly integrated. This development implies both that policymakers must take international linkages into account when they design monetary and fiscal policies and that there are potential gains from working together.
- Credibility, highlighted in the previous discussions of monetary and fiscal policy, is equally important in this context. Consistently following appropriate policies, both in the United States and abroad, fosters an environment conducive to saving, investment, and economic growth.
- The ultimate objectives of monetary and fiscal policy are economic growth and rising living standards, *not* exchange-rate stability or current account balance per se. Nonetheless, reasonably stable exchange rates and sustainable external bal-

ances are important aspects of a healthy economy. Particularly when these variables get far out of line, they should be of concern to policymakers.

- The best means to adjust external imbalances and to avoid dollar misalignments is to alter the fundamentals. In the United States, such measures should include reducing the Federal budget deficit and taking steps to raise private saving. Sterilized intervention by itself is not an effective means for altering long-run exchange-rate levels.
- International macroeconomic policy coordination has had some important successes over the past 5 years but further progress could be made. The G-7 coordination process has been most effective in coordinating policies to respond to shared concerns.

## FINANCIAL EVOLUTION AND FINANCIAL SOUNDNESS

A highly developed financial system is central to a modern economy. Financial institutions perform the vital function of channeling savers' funds into the hands of those who wish to use the resources for investment. When these institutions do their job well, funds flow to their most productive uses, stimulating growth and improvements in the standard of living. One of the most important challenges facing policymakers over the next several years is to ensure that the financial system continues to adapt efficiently to both domestic and international competitive challenges. At the same time, policymakers must take care to preserve the fundamental soundness of the system, and to prevent it from imposing unnecessary costs on taxpayers.

## BANKING-TYPE INSTITUTIONS AND THEIR COMPETITORS

Broadly speaking, savers' funds can be allocated to investors in three ways. The first is through banking-type financial intermediaries such as commercial banks and savings and loans. The second is through nonbanking financial intermediaries such as pension and mutual funds. The third way is for funds to move directly from individual lenders to borrowers via securities markets. All three have advantages. Banking-type institutions, however, have historically received special attention from policymakers because they hold the bulk of the funds used by the public to make payments—deposits on which checks can be written. For this reason, preserving the integrity and stability of the banking system is essential to the daily functioning of the economy.

In recent years, the banking industry has been buffeted by unanticipated problems with loans to developing countries and to the oil



and real estate industries, as well as by increased competition from other types of financial institutions, such as securities firms. The increased competition comes from both foreign and domestic sources and shows no signs of abating; the innovation of financial products and the globalization of financial services continues at a rapid pace.

While these competitive developments enhance efficiency, they are worrisome to many observers in view of the government's enormous stake in the financial sector. As the thrift industry crisis has illustrated, the combination of poorly designed policies and sharp changes in the external environment can be extraordinarily costly.

In the larger commercial banking sector, where the Federal Deposit Insurance Corporation insures almost \$2 trillion of deposits, difficulties have also arisen. For example, in 1988, the commercial banking industry suffered bad debt losses (also known as charge-offs) on almost \$18 billion of loans, representing 0.97 percent of loans outstanding. Before peaking in 1986, this ratio had climbed steadily over the decade—in 1980, it stood at only 0.36 percent. Although the problems in commercial banking are not comparable in scope with those in the thrift industry, they do underscore the importance of sound regulatory and supervisory policies to ensure that taxpayers are not asked to bear undue costs.

Thus, policymakers must deal with a difficult tension: many of the banking industry's troubles can be traced to increased competition from other providers of financial services, but policies that would protect banks from competition would impose large costs on their customers and on the economy as a whole. For example, restricting competition in financial services could lead to lower returns to savers, higher borrowing costs for companies, and a concomitant decrease in investment. Furthermore, any such restrictions may be unworkable as international competition increases. In planning more sensible policies, it is useful first to understand the basic economic functions of banks and of their principal competitors, the securities markets.

### *The Economic Role of Banks*

Banks have traditionally performed two distinct economic services, one on the asset side of their balance sheets, and one on the liability side. On the asset side, banks produce and monitor information that is used to evaluate the returns on investment projects. When such information production is expensive, it is more efficient to have it carried out in a centralized institution (i.e., a bank) than to have the work needlessly duplicated by a large number of securities market participants.

On the liability side, banking-type institutions provide a medium of exchange by issuing claims (checking accounts) that are immediately payable on demand, and that can be used by consumers and

firms for transactions purposes. Unlike money market mutual funds, banks issue these claims while simultaneously devoting some of their investment portfolios to illiquid assets. Consequently, bank instability can pose a serious threat to the financial system and to the functioning of the broader economy. If many of a bank's depositors demand immediate repayment and a run begins, the bank will be unable to satisfy its contractual obligations. Furthermore, a sharp drop of bank liabilities, if not offset by other factors, would result in a decrease in the money supply, which could cause a recession. The U.S. experience with bank panics in the late 19th and early 20th centuries was the motivation for the current system of deposit insurance, as well as for the Federal Reserve's role as lender of last resort to banks. This system has worked very well in preventing further panics, although it has become apparent that deposit insurance can also encourage excessive risk-taking by institutions that do not have enough of their own capital at stake.

While banking-type institutions have clear economic advantages, allocating credit directly through the securities markets also has benefits. First, circumventing the intermediary reduces costs. These costs take the form not only of brick-and-mortar overhead for banks, but also of reserve requirements, capital requirements, and deposit insurance premiums, which act as a "tax" on intermediated, or bank-channeled credit. Second, securities markets create assets that, unlike many bank loans, are easily traded among a wide array of investors seeking to diversify their portfolios.

## CHANGES IN THE FINANCIAL INDUSTRY

Many recent developments in the financial system can be understood in the context of a single trend: an increase in the appeal of direct, or securities-channeled, credit allocation relative to fully intermediated credit allocation.

Examples of the growing importance of direct credit abound. On the lending side, commercial paper—uncollateralized borrowings in the open market—has made large inroads into commercial banks' traditional business of short-term lending to industrial corporations. The volume of nonfinancial corporations' commercial paper outstanding has grown from \$7 billion in 1972 to \$125 billion today, an annual rate of increase of 18 percent. Over the same time, bank commercial and industrial loans have grown at only 10 percent per year. Partly as a consequence, banks' market share of short- and intermediate-term credit extended directly to domestic nonfinancial companies has fallen from 82 percent to 49 percent.

A similar phenomenon has occurred in mortgage finance. Mortgage-backed securities allow home loans to be purchased directly by investors, rather than being funded by thrifts or banks. These securities were developed in the mid-1970s, and by the end of 1988,

approximately \$810 billion in these securities were outstanding. More than one-third of the financing for mortgage loans on one- to four-family homes is currently channeled through the mortgage-backed securities market.

The high yield, or “junk” bond market, provides another example of the move to direct finance. Before this market’s development in the late 1970s, only the relatively small number of companies with investment grade (top-quality) debt ratings of BBB and above were able to access the public markets for debt. Lesser known or riskier borrowers had to rely on banks or privately placed debt. By 1988, such noninvestment grade companies had issued more than \$130 billion in new public debt.

Several structural factors, notably the revolution in information and communications technology, have produced this shift toward directly allocated credit. With information costs reduced, banks have found that one of their principal comparative advantages—efficient production of credit information—is no longer as valuable for some types of credits as it used to be.

### *Impact of Innovation on Bank Profits*

Whatever their causes, the innovations of the past several years have had a profound impact on the business of banking. Overall, bank profitability has been falling modestly. The average return on assets for all banks was 0.79 percent in 1980; over the period 1986 to 1988, it averaged 0.52 percent. This broad trend, however, does not fully capture the changes in the industry’s economics. Variations between the performance of successful and unsuccessful institutions have become much more pronounced. For example, the return on assets for banks in the lowest 5 percent of the industry fell precipitously over the same interval, dropping from 0.28 percent in 1980 to an average of -2.18 percent during 1986 to 1988. In many cases, the largest banks (known as money center banks) experienced more pronounced declines in profitability than their smaller counterparts, partly as a result of their large exposure to developing country loans. These banks’ traditional customers had included the largest and most well-known corporations, for whom the shift to securities market credit was often accomplished with relative ease.

## ADAPTATION TO CHANGE

The widening variations in profitability across banks highlight a fundamental economic reality: as competition intensifies, some banks will find that the range of activities where they retain a distinct competitive advantage has narrowed. Many banks still maintain an economic advantage in some traditional lines of business, such as consumer lending, where information costs are still rela-

tively high, and where banks and thrifts in the aggregate have maintained their market share.

### *New Lines of Business for Banks*

Some banks have also successfully redeployed old skills into new lines of business that have been spawned by innovation. The rapid growth of standby letters of credit (SLCs) illustrates this trend. Bank SLCs are often used to guarantee the creditworthiness of commercial paper issues, particularly those of less well-known borrowers. In this way, the provision of credit to corporate borrowers is efficiently specialized into two component parts—credit analysis and funding. Banks continue to perform a portion of the credit analysis, and bear a contingent responsibility should the borrower be unable to repay. At the same time, the loan is funded more cost-effectively through the public market. Thus, unlike a conventional loan, an SLC does not appear as an asset on a bank's balance sheet.

The volume of bank SLCs grew at a 26-percent annual rate from 1980 to 1988. SLCs are disproportionately important for money-center banks, which have been most affected by the loss of traditional lending customers. More generally, other activities have been specialized in such a way that banks only participate in an off-balance-sheet fashion. This change is reflected in the increasing relative importance of fees to banks. From 1984 to 1988, the ratio of noninterest income to assets for all banks rose from 1.09 percent to 1.47 percent. The increase was much more dramatic for money-center banks, which saw the ratio rise from 1.15 percent to 2.11 percent. As the above discussion suggests, valid economic reasons support the shift by banks to off-balance-sheet activities. Still, some have expressed concern about the risks involved, particularly in light of the fact that current regulations do not impose capital requirements or deposit insurance premiums on all of these activities. (As discussed below, recently adopted international risk-based capital standards do include letters of credit and thus mitigate this concern.)

### *Efficiency of Industry Adaptation*

In an unregulated industry, the market mechanism can be relied on to carry out adjustment efficiently. Indeed, the widening gaps between strong and weak firms that accompany intensified competition would be seen as a healthy sign of evolution—those that found a niche of competitive advantage would prosper, while those that failed to adapt would quickly find themselves in trouble. Unfortunately, deposit insurance can hamper the ability of the banking industry to adapt efficiently to changes in the competitive environment. Normally, firms that stop being profitable are subject to discipline from their capital suppliers—they are no longer able to raise money to reinvest in unprofitable lines of business. In this

way, excess capacity is flushed from an industry. However, deposit insurance allows banks to keep raising funds even when these funds are being devoted to activities that are not economically viable.

According to this line of reasoning, the deterioration in bank credit quality seen in recent years (as measured, for example, by the increases in loan chargeoffs) may not simply reflect one-time adverse shocks in particular sectors and geographic regions. It may in part be systemic, and attributable to the interaction of intensified competition and lack of capital market discipline. It is interesting to note that the growth in loan chargeoffs has occurred while net interest margins for banks have remained fairly stable. In other words, banks have suffered from more bad loan experience, but in the aggregate have not received increased compensation from borrowers. One interpretation of this evidence is that some banks have reacted to heightened competition in part by loosening their credit standards and offering better terms to lower quality borrowers.

From the perspective of a policymaker, it is extremely difficult to identify *a priori* when banks are pursuing activities where they add real economic value as opposed to ones where they do not earn sufficient profits to justify continued investment. A line of business that is wholly appropriate for one institution may be a money-loser for another. Often it can take several years for the costs and benefits to show up in the data in such a way that they are visible to an outsider.

## POLICY ACTIONS AND PROPOSALS

The events of the past few years have prompted some important changes in banking policy. In addition, other options are receiving increased attention.

### *Risk-Based Capital Requirements*

Risk-based capital requirements are an example of a policy measure that addresses the issues discussed above. In the summer of 1988, 12 industrial nations, including the United States and its major trading partners, agreed to phase in a risk-based capital system by the end of 1992. The essence of the system is that banks investing in riskier types of assets would be made to hold more capital against such assets, that is, assets would be "risk-weighted" for the purposes of calculating capital requirements. Two other noteworthy features are that: (1) some off-balance-sheet items such as SLCs would also be added to risk-weighted assets, and hence would require a capital cushion of their own; and (2) banks from the 12 participating countries would, for the first time, be subject to common minimum capital standards.

By making required capital a function of risk, these rules increase the incentives for self-monitoring among banks choosing the most aggressive strategies. Also, the risks associated with off-balance-sheet activities are now explicitly recognized. This diminishes the likelihood that banks will want to engage in such activities simply as a way to do business without increasing their capital base.

While the self-disciplinary benefits of increased capital are well understood, risk-based requirements also allow banks whose comparative advantage lies in safer activities—gathering deposits from smaller, retail customers, for example—to focus on such a niche without being unduly penalized for doing so. Were all institutions to face the same high capital requirements, relatively safe ones would find it difficult to earn a satisfactory return, and might even feel pushed toward riskier activities in an attempt to boost returns.

Finally, the international nature of the accord recognizes that although not all bank product lines should be treated the same, all banks offering the same product lines should. Maintaining a level regulatory playing field across different countries is an important goal, and will become increasingly crucial as cross-border investment in financial services continues. Indeed, the need for an international approach to financial policy extends well beyond banking regulation, and includes such key objectives as harmonizing the clearing and settlement procedures for securities transactions.

The risk-based capital agreement is certainly not a panacea. The risk categories involved are quite broad, and do not capture true economic risk precisely. For example, there is no consideration of risk caused by movements in the general level of interest rates. Nonetheless, the accord is a step in the right direction. Improvements in the quality of information available to regulators—perhaps through the adoption of market-value accounting techniques—could lead to better risk measurement and further benefits from such an approach.

### *Risk-Based Deposit Insurance Premiums*

A similar measure that is often discussed is the use of risk-based deposit insurance premiums. Institutions currently pay a flat fee per dollar of deposits for deposit insurance, irrespective of the riskiness of their portfolios. Making the cost of insurance vary in a market-like fashion, with the risk assumed by the insurer, would further improve the incentives of banks with respect to choice of investments.

Both risk-based capital requirements and risk-based deposit insurance programs illustrate an important general principle: many of the concerns outlined above can be addressed with a system that allows institutions to opt into a set of rules that best suit their strengths and strategies. In the above examples, banks can choose

whether to adopt high- or low-risk strategies, and are then presented with capital requirements or insurance premiums appropriate for the strategy selected. This opting feature is consistent with the goal of encouraging institutions to focus on the activities that they do best.

### *Thrift Industry Legislation*

The recent thrift legislation, the Financial Institutions Reform, Recovery, and Enforcement Act of 1989, also contains such opting features. The legislation curtails the direct powers of savings and loan institutions (S&Ls), requiring them to focus more narrowly on their traditional areas of expertise, deposit-taking and home mortgage lending. At the same time, the act permits separately capitalized affiliates of thrifts to engage in a broad range of activities so long as these activities are not funded with insured deposits.

The new law also recognizes that the traditional direct product lines alone may no longer be profitable for all S&Ls, and provides for a market-based transfer of S&L assets into the less-restrictive commercial banking regulatory system: S&Ls can either be acquired by existing commercial banks, or, with some costs, can choose themselves to switch to a commercial banking charter.

### *The Need to Modernize the Financial Framework*

The dramatic changes of recent years have exerted pressure on the Nation's Depression-era financial framework. Financial institution law consists of half-century-old statutes and ad hoc deregulation by courts, States, and Federal regulators. The result is a complex web of overlapping rules that can potentially create inequities and market inefficiencies.

One example is the Glass-Steagall Act, a 1933 law designed to separate investment banking from commercial banking. Although recent rulings by the Federal Reserve and the Comptroller of the Currency have eased certain restrictions, banks are still constrained in a number of activities, including the underwriting of corporate equity securities. In the current environment, these activities may represent a natural way for some banks to redeploy existing assets and skills, with concomitant benefits for the economy.

While some favor abolishing Glass-Steagall constraints, others have expressed concerns—namely, that some institutions might take advantage of broadened powers to diversify in an uneconomic fashion, and that the costs of such mistakes may ultimately be borne in part by Federal deposit insurance. These concerns underscore the fact that Glass-Steagall initiatives, and those related to deposit insurance, cannot be considered separately from one another. Rather, they must all be seen as coherent parts of a larger

effort—an attempt to reevaluate and modernize the Nation's laws to compete in a global context.

There is no consensus on a single paradigm for modernizing financial regulation, although several models have been proposed. A glance at other countries reveals a diversity of approaches to issues such as deposit insurance and the separation between banking and securities activities. Moreover, many countries are in the midst of financial reforms themselves, reforms that may have important implications for global competition in financial services.

Clearly, any sweeping proposals to revamp the structure of financial regulation would require study and refinement before they could be seriously considered for implementation. The Department of the Treasury is now coordinating a detailed study of Federal deposit insurance, as mandated in the thrift legislation. The time may be ripe for further work that provides a fundamental reassessment of financial policy, particularly if the analysis is grounded in the sound logic of encouraging efficient, focused competition among financial institutions.

## **SUMMARY OF PRINCIPLES FOR FINANCIAL REGULATION**

As the above analysis makes clear, no easy solutions exist to the difficult problems surrounding financial regulation. Nevertheless, important policy principles emerge:

- Continued competitive pressures on banks from new products and new institutions (domestic as well as foreign) are both desirable and inevitable. Predicting exactly the areas in which these pressures will next manifest themselves is difficult. Thus, regulation should create an environment that is hospitable to a broad range of adaptive behavior by banks.
- Efficient adaptation entails not only entering profitable new lines of business, but also exiting old ones that are no longer attractive, and avoiding inappropriate new ones. Regulation must not encourage institutions to do business in areas where they would not otherwise be competitive.
- A great deal of information is needed to assess precisely which activities are profitable for a given institution. Thus, rather than relying on an inevitably arbitrary list of prohibited activities to guide decisions, it may be preferable to let institutions themselves make the assessments. If this is to be done, however, it is critical that incentives be properly aligned—institutions must be forced to bear the costs of their mistakes.
- Rules should be applied consistently across all types of institutions undertaking the same activities. At the same time, it can make sense to have different rules for different activities, and



to allow institutions to opt for those rules that best fit their competitive strengths.

## SUMMARY AND CONCLUDING COMMENTS

Macroeconomic policies can make substantial contributions to achievement of the Nation's economic goals if these policies are formulated appropriately. Experience and research have indicated that a properly chosen systematic policy program is more likely to perform well than a short-sighted discretionary approach to policy. Unpredictable changes in economic and financial relationships imply that appropriate rules for policy in some circumstances are rather general. In such cases, when it is inappropriate to specify in advance how the tools of policy will be adjusted in reaction to particular events, policy credibility is especially useful. Credibility that policy will achieve its ultimate goals helps to bring about a better economic outcome in the face of unpredictable change by reducing uncertainty about future developments and making it easier for economic decisionmakers to plan for the future.

Increased credibility in one area of economic policy can reinforce credibility in another area. For example, public belief that the deficit will be reduced according to the Gramm-Rudman-Hollings targets would help build credibility that monetary policy will succeed in achieving low inflation.

The increasingly integrated world economy implies that policymakers must take careful account of international linkages in designing macroeconomic policies. The international macroeconomic coordination process can help policymakers work toward sustained global growth with low inflation, reduced trade imbalances, and greater exchange-rate stability.

The pace of innovation in financial markets remains rapid. Maintaining a healthy economy and efficient markets for capital allocation will require that policies enhance rather than constrain the ability of financial institutions to adapt to change.

Macroeconomic policies should emphasize long-run economic performance. Thus, these policies should be directed at strong economic growth through increased national saving and investment, controlling and gradually reducing inflation, and fostering a safe and competitive financial marketplace. Such policies will ensure both continued leadership by the United States in the world economy and rising living standards for American families.



## CHAPTER 4

# Investing in America's Future

A MAJOR CHALLENGE of the 1990s will be to increase the rate at which the productive capacity of the U.S. economy grows. Increasing the rates of growth of productive capacity and living standards will require higher rates of saving and investment. Yet longstanding tax, spending, and regulatory policies impede national saving and investment. Partly, if not entirely, because of these government policies, Americans save and invest a smaller fraction of gross national product (GNP) than their counterparts in other industrialized countries.

The Federal Government cannot, alone, produce dramatic increases in capacity growth. But it can foster an environment conducive to rapid long-term economic growth. *The President is committed to maintaining America's economic leadership, and has thus made it a central element of his economic program to remove impediments to saving, investment, and innovation.*

A higher rate of growth will significantly increase living standards and expand opportunities for both current and future generations. The cumulative effect of even a modest increase in the economic growth rate is enormous. Italy had only 40 percent of the per capita income of the United Kingdom in 1870, but, with an annual growth rate about one-half percentage point higher, overtook the United Kingdom by the 1980s. Growth rate differences of fractions of a percentage point have a substantial effect on how rapidly living standards increase from one generation to the next.

Economic growth can shape society more broadly as well. Rapid growth creates good jobs, thereby increasing economic opportunities for everyone. The poor benefit not only from these new economic opportunities, but also from the greater willingness of others to share their gains. Higher economic growth can reduce the potential for conflicts between generations. As the baby-boom generation begins to reach retirement age early in the next century, the ratio of retirees to workers will rise dramatically. Improving the productive capacity of the economy will permit the United States to accommodate more easily the needs of the future elderly population.

The prospects for rapid, long-term economic growth in the United States depend on investment in factories, equipment, knowledge, and skills. The rate of investment in the United States

is below that of other major industrialized countries, in part because the United States saves at a lower rate than other countries. A higher rate of investment will increase the competitiveness of the U.S. economy. Reducing the bias toward current consumption will increase saving, thereby raising the accumulation of capital assets—both domestic and foreign—by Americans. This accumulation in turn will expand the resources available for future consumption. Raising the rate of national saving is essential to fostering greater increases in future standards of living.

Government policies can have a major impact on the environment for economic growth. As stressed in Chapter 3, credible, stable monetary and fiscal policies are a key to reducing uncertainty and to promoting long-term growth. Tax and spending policies designed to remove impediments to working, saving, investing, and innovating can have a strong positive influence on economic growth. For example, reductions in marginal tax rates and broadening of the tax base, especially after the Tax Reform Act of 1986, have reduced the impact of tax distortions on economic decisions. Reducing the uncertainty in the legal system, removing barriers to the free flow of capital across international borders, and adopting regulatory policies that maximize market flexibility and encourage innovation can all improve the climate for growth.

## DETERMINANTS OF GROWTH

*The Nation's productive capacity depends on the level of technology, the supply and quality of capital, and the number and skills of workers.* Increased utilization of labor and capital translates quickly into growth in the output of goods and services. As in most economic expansions, much of the relatively rapid growth since the recovery began in 1982 can be attributed to increases in the employment and utilization of existing resources, although productivity growth has also played a role and, indeed, has improved since the 1970s. Because fewer opportunities to increase utilization of available resources remain, the economy will need to rely more heavily on other sources of growth in the 1990s.

## TECHNOLOGICAL CHANGE

Technological advances improve the productivity of inputs and the quality of output, thereby increasing the rate of economic growth and raising living standards. Innovations—in the form of new products, new machines, new production techniques, and new communication and transportation methods—exert an important beneficial effect on growth. Entrepreneurs, taking substantial risks (and sometimes failing), often translate new ideas into new products or processes. The Administration has advanced policies de-

signed to spur investment in research and innovation and to provide a more favorable environment for entrepreneurial activity and new business formation.

## INVESTMENT IN PHYSICAL CAPITAL

Investment is a second major vehicle for increasing the rate of economic growth. Increases in physical capital—such as tools and machinery—make the labor force more productive, as each worker has more capital to use. Further, new investment permits technological improvements to permeate the U.S. economy, providing each worker with better capital. Investment is also needed to start the new business ventures that help to give the U.S. economy its vitality. Sustained high investment leads to higher productivity, higher wages, and higher standards of living.

The cost and availability of financial capital are critical parts of the investment climate. Increases in the total supply of funds to finance investment decrease the cost and increase the availability of capital. Although domestic saving has provided the bulk of funds for U.S. investment in recent years, foreign capital inflows—reflecting in part the attractiveness of U.S. investment opportunities—have provided about one-sixth of investment financing. Increasing the rate of national saving will provide more funds for investment and, as discussed below, should help to reduce the U.S. trade deficit. For these reasons, removing impediments to saving is a high priority of the Administration.

## INVESTMENT IN HUMAN CAPITAL

A third major source of growth is raising the number of workers and improving their skills. Efforts by workers to increase their skills through training and education is investment in human capital. A highly skilled work force and a flexible labor market have long been basic economic strengths of the United States. But the increased complexity and competitiveness of the world economy demand new skills, greater training, and additional flexibility. Chapter 5 analyzes the challenges and opportunities for growth in human capital in the next decade.

## TECHNOLOGICAL PROGRESS AND ECONOMIC GROWTH

Technological change has played a central role in economic growth. Many famous innovations—in agriculture, textile manufacture, transportation, communications, and electronics—have played an important role in economic growth and have led to a transformation of society over the past two centuries. The combined effect of a host of less visible minor improvements in product designs and

production techniques has been equally important. There is a role for government policy in financing technological progress because the full benefits of research are rarely captured solely by the firm or individual undertaking the research. Rather, additional benefits accrue to society as a whole. Because these additional benefits cannot be captured as part of the private-sector return, there is a natural tendency for private markets to do too little research and development from society's broader viewpoint. The Federal Government can offset this tendency through policies to raise national spending on research and development.

## FACTORS THAT AFFECT TECHNOLOGICAL PROGRESS

Many people view technological progress as the result of work by solitary scientists or inventors motivated solely by curiosity. Yet ample evidence suggests that economic factors influence innovation. Thomas Edison, after unsuccessfully trying to sell his first invention (an automatic vote counter), vowed that he would work only on ideas for things that people would buy. The size of the potential market determines the return on invention and therefore influences investment in applied research. Even in universities, the availability of funding influences the direction of basic research.

But invention is only the first step in technological progress. To raise economic growth, an idea must be translated into a marketable product or service, applied on a production line, or built into a new machine. Development, which brings the fruits of research to market, is expensive: two-thirds of U.S. research and development (R&D) expenditures in 1988 were devoted to development rather than to basic or applied research. The actual application of an innovation is an important step beyond development. Information about the technological advance must be disseminated, and workers must be trained to use it. In many cases, it is prohibitively expensive to modify the old capital stock to embody new technology. Therefore, *the rate at which new technology actually augments productivity depends in part on the rate at which new capital goods are created, i.e., on the rate of investment.* A recent study estimates that 20 percent of the contribution of technological change to growth in the United States between 1949 and 1983 came from advances that were embodied in capital.

Raising the rate of investment in the United States may increase the rate of technological progress in other ways, although the size of these effects is difficult to determine. Higher rates of investment shorten the lag between innovation and use, increasing the return on research efforts and spurring additional advances. Further, use of new capital equipment and facilities may trigger discoveries of new ways of doing business, new production processes, and new potential products.

## TRENDS IN R&D SPENDING

The United States spent \$127.7 billion on R&D in 1987. This level reflects dramatic growth, as real R&D spending grew more than fivefold since 1953 and doubled as a fraction of GNP. As shown in Table 4-1, the United States spends more on R&D than four other leading industrialized nations combined. The share of total world R&D performed by the United States has, however, fallen over the past 25 years as other countries have grown rapidly and have approached or reached the technological frontier.

TABLE 4-1.—*R&D Expenditures for Five Major Industrialized Countries, 1987*

	France <sup>1</sup>	West Germany	Japan <sup>2</sup>	United Kingdom <sup>2</sup>	United States
R&D expenditures (billions of dollars).....	16.4	22.8	41.7	15.7	127.7
As a percent of GNP.....	2.4	2.8	2.8	2.4	2.8
Estimated nondefense R&D expenditures (billions of dollars).....	13.1	21.6	41.4	11.7	88.6
As a percent of GNP.....	1.8	2.6	2.8	1.8	2.0

<sup>1</sup> Data for France are based on GDP; consequently, percentages may be slightly overstated compared to GNP.

<sup>2</sup> Data for Japan and the United Kingdom are for 1986.

Note.—Foreign currency conversions to U.S. dollars are calculated based on Organization for Economic Cooperation and Development purchasing power parity exchange rates.

Source: National Science Foundation.

To the extent that R&D produces knowledge with the same benefits regardless of the size of the economy, the absolute level of R&D spending is the critical measure of R&D investment. An alternative measure of national R&D spending is its intensity—the share of GNP devoted to R&D. The United States, West Germany, and Japan each currently spend about 2.8 percent of their GNP on R&D, with France and the United Kingdom spending only slightly smaller fractions of their GNP (Table 4-1). But a larger proportion of the R&D in the United States is defense-related. The \$88.6 billion that the United States spent on nondefense R&D in 1987 was a smaller fraction of GNP than were nondefense R&D expenditures in West Germany and Japan.

Although investment in R&D is only part of the explanation for the rate of technological change, it is clearly important. Average private rates of return on R&D investment are extremely high: estimated rates exceed 20 percent a year. Moreover, these returns do not reflect all of the returns to R&D, because it is difficult for an innovator to capture all of the benefits of an innovation. Some innovations cannot be patented; some patents are hard to defend; all patents eventually expire. An innovation may have spinoffs or ramifications that others bring to market. Users of the product, as well as the innovator, receive benefits. For these and other reasons, the returns to society of R&D investment are estimated to average twice those to the firm that makes the investment.

## THE ROLE OF GOVERNMENT

For basic research, the difference between the benefits to society and the returns to those who perform the research is often particularly large. Basic research frequently increases knowledge that has wide application. Because it is usually difficult or inefficient to keep advances in basic research secret, the benefits accrue broadly. Private firms must weigh the costs and risks of a potential investment in basic research against the modest fraction of the total expected social benefit that they generally receive, and thus tend strongly to underinvest in basic research. Moreover, basic research contributes to the strength of universities, which train scientists and engineers for the private sector, as well as to our national defense. *The Federal Government has a key role in supporting basic research.*

Although industry performs about three-quarters of all R&D in the United States, the Federal Government plays an enormous role in science and technology. It provides 47 percent of the funds for R&D, most of which is undertaken by industry and universities. The Federal Government carries out R&D at many facilities, accounting for 11 percent of national R&D spending. It helps to finance the education of scientists and engineers. It protects the intellectual property rights of innovators through the patent system and laws dealing with copyrights, trademarks, and trade secrets. It encourages private innovation through a 20-percent income tax credit for research and experimentation (R&E) and by allowing most R&D expenses to be deducted for tax purposes immediately rather than spread over several years.

## STRENGTHENING THE U.S. RESEARCH BASE

The Administration has proposed a broad program of initiatives that will strengthen the Nation's basic research base and enhance private-sector incentives to translate this knowledge into productive innovations.

### *Improving the Legal Environment*

*The Administration has advanced important proposals to improve the legal environment for innovation.* First, the Administration is aggressively pursuing improved international protection of intellectual property. The current negotiations in the Uruguay Round of the General Agreement on Tariffs and Trade (GATT) are an important forum for developing better international rules. Negotiations on intellectual property rights are also being conducted in the World Intellectual Property Organization and in trilateral talks with the European Community and Japan.

Second, the Administration has proposed reform of product liability laws. The current product liability system, with 50 different



State laws, generates excessive litigation, increases the cost of doing business in the United States, and discourages innovation, particularly in the form of new products. The Administration supports the adoption of uniform product liability standards based on three principles of fairness: the right of an innocent person to fair compensation for actual damages; liability based on responsibility for harm and not ability to pay; and encouragement of alternatives to costly litigation. The proposed changes to product liability laws would maintain incentives to produce safe products, but would restore balance to the tort system and reduce uncertainty—particularly for new products.

Third, the Administration supports continued elimination of unwarranted regulation. Deregulation can spur innovation as well as lower prices. New telephone equipment was rapidly introduced after deregulation of the market. Airlines created more efficient route structures after deregulation. Lives are extended and research is accelerated by the expedited approval of drugs for acquired immune deficiency syndrome (AIDS).

Deregulation also requires a continuous reexamination of existing regulatory policies in light of new technologies. Antitrust regulation, in particular, must be sensitive to changes in technology and in international competition. Unnecessary and burdensome regulations must not be allowed to stifle new products and processes.

### *Restoring the Capital Gains Tax Differential*

Although applied research and development have high average rates of return, they are also quite risky. The high cost of capital such risk produces is a particularly onerous burden for new ventures and small businesses, which have only limited access to traditional sources of finance. Much of the return to entrepreneurs and their backers who bring new products to market—particularly through startup ventures—comes through increasing the value of the business. Reducing the tax rate on capital gains will reward those who bring successful ideas to market and will help provide a climate that encourages businesses to invest in new technologies and products.

Because capital gains are taxed only when assets are sold, the current high tax rate discourages the sales of assets and locks in investors. Reducing the tax rate on capital gains will free these investors to search for more productive new investments.

The Administration has proposed restoring a capital gains tax differential such as existed before the Tax Reform Act of 1986. Most major foreign competitors tax long-term capital gains less heavily than ordinary income, if they tax them at all. A lower tax rate on capital gains will encourage entrepreneurs to take risks to advance themselves by creating wealth for others: new firms hiring

new workers producing new products for new markets here and abroad. *Reducing the capital gains tax rate will encourage innovation and, by increasing investment, hasten the adoption of these innovations.*

### *Making Permanent the R&E Tax Credit*

Under current law, the R&E credit is scheduled to expire on December 31, 1990. Before 1989, the credit was designed so that higher R&E expenditures reduced future credits, which diminished the incentives to undertake further research. In 1989, the incentives in the R&E credit were improved without substantially affecting revenue. *The Administration proposal to make the credit permanent would be an even more significant reform.* It would permit businesses to establish and expand research facilities without fearing that the tax laws will suddenly change.

### *Increasing Basic Research Funding*

America's leadership in science and technology depends on excellence in basic research. Support for basic research, especially at the Nation's universities, makes a critical investment in the 21st century, both by creating knowledge and by training a new generation of scientists and engineers.

The Administration believes that Federal investment in research should focus on fundamental advances in science and technology that have broad relevance and that no individual firm or industry would have the incentive to produce on its own. Accordingly, the Administration supported substantial increases in Federal investment in basic and applied research in the 1990 budget. For 1991, the Administration has a number of new initiatives designed to expand the human frontier. These initiatives include major increases in funding for the National Science Foundation's research programs (continuing the progress begun in fiscal 1990 toward doubling the Foundation's budget by 1993), for space science and exploration to maintain America's leadership into the next century, and for the Superconducting Super Collider to provide new insight into the fundamental structure of matter. Increased funding will be more effective if it is accompanied by improved management of Federal research programs. One way to increase the effectiveness of Federal research spending is to encourage the timely transfer of scientific advances to private-sector applications.

### *Relying on the Market*

Some have argued for a broad new Federal role: choosing specific civilian technologies and financing their development or commercialization by special tax treatment or direct subsidy—a so-called industrial policy. Such an expansion of the current Federal role is strongly opposed by this Administration.

The private sector has inherent advantages over government in identifying potentially useful new technologies. Private decisions are disciplined by careful market evaluations of their prospects. Government decisions, in contrast, are often influenced by noneconomic objectives and based on information supplied by self-interested parties, without regard to taxpayers' cost.

Governments in the United States and elsewhere have shown themselves to be less able than private businesses to pick specific technologies that will be commercially successful. They have often supported fashionable technologies with powerful advocates, rather than those that are economically productive. The billions of dollars in development costs and operating losses that have been invested in the Concorde by the British and French governments illustrate this phenomenon well. Moreover, in many cases governments have continued to support technologies in which they have invested, even if those technologies have been long since demonstrated to be economically unsound by market and technological developments. For example, the synthetic fuels program in the United States lived on for years after its economic futility was evident to most observers.

Over the past 40 years, the world has learned that excessive government involvement in the economy leads to unsound decisions, chokes off productive innovation, and, in the final analysis, slows growth and costs jobs. *The best way to support development of civilian technology is through improving private incentives for applied research and development, not by attempting the impossible job of second-guessing private-sector investments.* It is appropriate, however, for the government to support the development of technologies clearly related to national defense that a careful analysis indicates would not be generated by the private market. In such cases, the government has always relied primarily on the private sector to undertake the R&D required in the development process.

The Administration's proposals will improve incentives for innovation by:

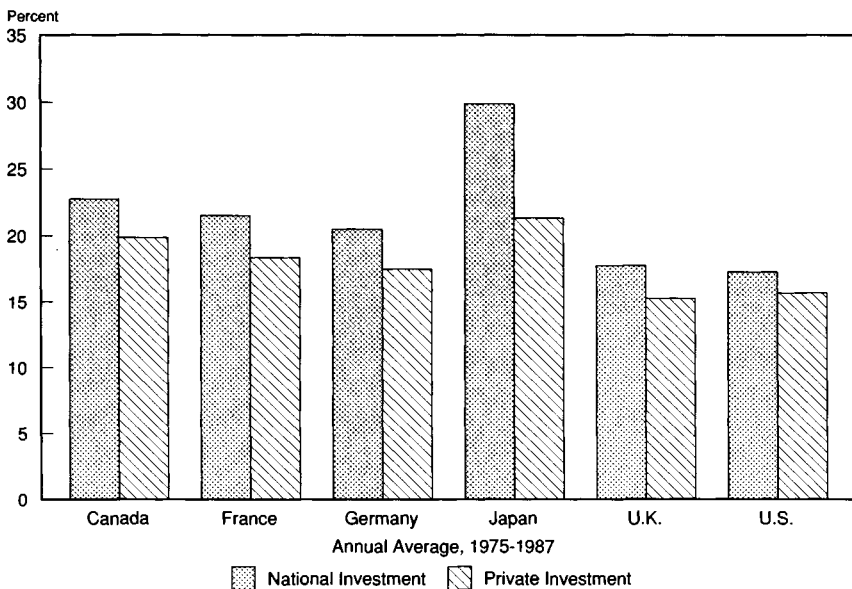
- Protecting intellectual property through international negotiations,
- Reforming product liability laws to restore balance to the tort system,
- Removing regulatory barriers to research, innovation, and development,
- Reducing the tax rate on capital gains to spur entrepreneurial activity,
- Making the R&E tax credit permanent to reduce uncertainty, and
- Substantially increasing funding for the basic research essential to America's future.

## CAPITAL INVESTMENT

The United States has devoted substantial resources to investment, but the U.S. investment rate is low by international standards. Gross domestic investment, as a percent of GNP in the United States, is the lowest of the six major industrialized countries shown in Chart 4-1. Between 1975 and 1987, while the other countries devoted an annual average of 22.5 percent of their GNP to national investment, the United States invested only 17.3 percent. Even in Canada—a North American country with a similar economic structure—investment as a share of GNP was 5.5 percentage points higher than in the United States.

Chart 4-1

**GROSS FIXED INVESTMENT AS PERCENT OF GNP.** Investment in the United States between 1975 and 1987 was low by international standards.



Source: Organization for Economic Cooperation and Development.

One reason that the United States has a lower investment rate than other countries is that government policies are biased against investment. Moreover, several past attempts to address this policy imbalance have been abandoned after a short period, leading to increased uncertainty in the investment environment. *The Administration is committed to removing impediments to investment and to creating a stable environment conducive to long-run growth.*

## CAPITAL ACCUMULATION IN THE UNITED STATES

The comparatively low rate of investment in the United States is not a recent phenomenon. As shown in Chart 4-2, real capital purchases have fluctuated around 16 percent of real GNP for the entire postwar period. During the long expansion since 1982, however, U.S. real gross investment performance has been quite strong. Similarly, the rate of investment in nonresidential fixed capital compares favorably with the historical record.

Using an alternative measure of investment, however, the recent U.S. investment record appears less impressive, even by historical standards. Chart 4-3 shows investment rates excluding depreciation—real net investment as a fraction of real net national product (NNP). (NNP is GNP less depreciation.) Using this measure, net investment has remained below the postwar average for the decade of the 1980s.

The difference between the gross and net investment rates during the 1980s reflects a change in the composition of the capital stock. Over time, equipment has risen as a share of the total capital stock. Because equipment wears out more quickly than other capital, this shift has raised the fraction of the capital stock that depreciates each year. Because measuring depreciation is difficult, true economic depreciation may differ from the estimates in the national income and product accounts. Nonetheless, the movement toward a greater share of equipment in the capital stock implies that the difference between gross and net investment has grown over time.

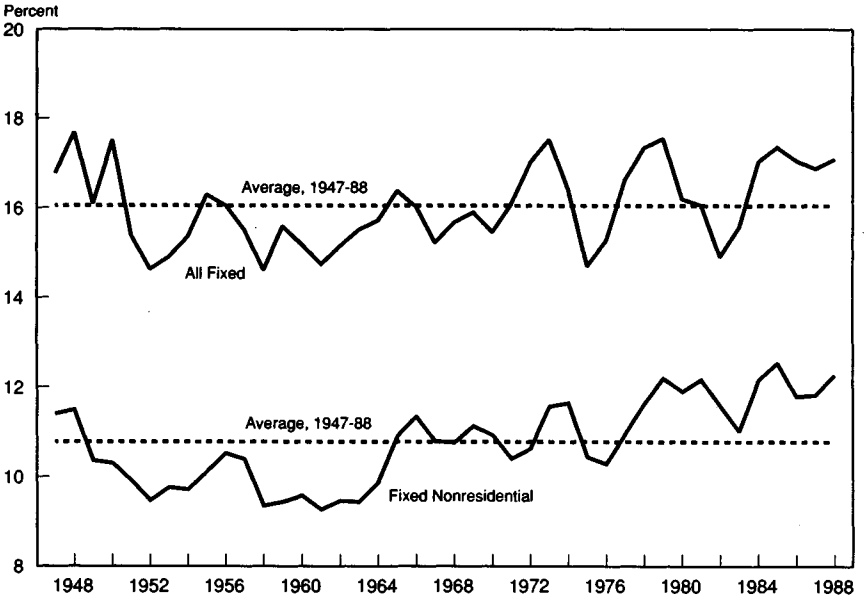
The significance of this trend goes beyond accounting. The gross rate of investment is particularly important when new capital is necessary to incorporate technical advances into production. Both replacement investment and capacity expansion will offer the opportunity to install improved equipment and newer technologies. In these circumstances, increasing the gross rate of investment permits faster adoption of innovations, raising the quality of the capital stock.

On the other hand, investment also contributes to economic growth by increasing the total amount of capital available for production. Only investment above the amount lost to depreciation, or net investment, serves to increase the available capital stock.

Neither investment measure alone is sufficient to judge the U.S. investment performance. The gross investment rate is a better indicator of opportunities to improve the quality of the capital stock, but may substantially overstate total capital accumulation. The rate of net investment may understate improvements in capital, but will better measure increases in the stock of available capital. *On balance, the investment rate in the United States is healthy by*

Chart 4-2

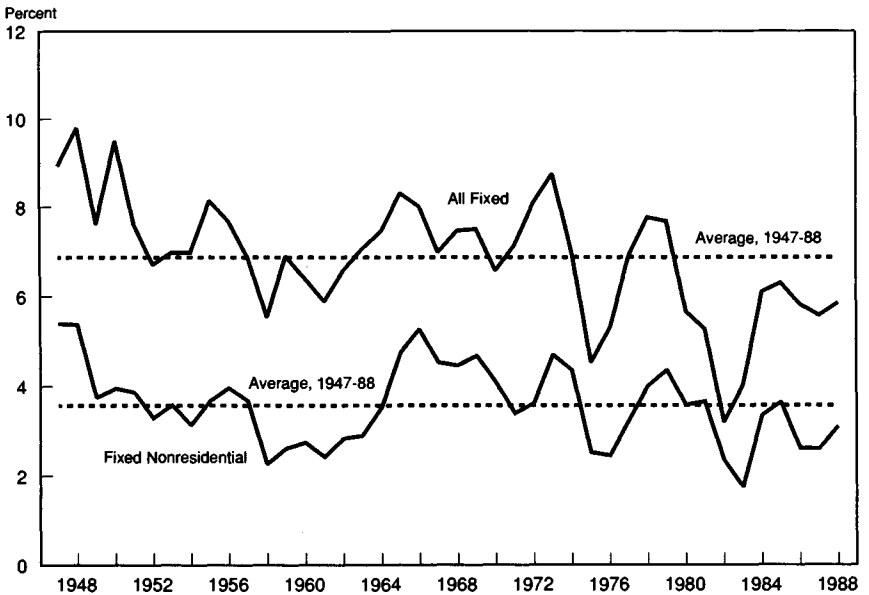
**REAL GROSS INVESTMENT AS PERCENT OF GNP.** Gross investment was high in the 1980s.



Source: Department of Commerce.

Chart 4-3

**REAL NET INVESTMENT AS PERCENT OF NNP.** Net investment was below average in the 1980s.



Source: Department of Commerce.

*historical standards, but remains below the investment rates of other nations.*

## HOW A HIGHER INVESTMENT RATE BENEFITS THE ECONOMY

At first glance, small changes in the investment rate may not seem to have important consequences for economic growth. A simple example shows that this impression is misleading. Consider the effect of raising the net private investment rate by 1 percentage point of NNP. Using 1988 levels, this higher rate of investment would raise the annual growth rate of the net private capital stock by 0.5 percentage point. After 10 years, this higher growth rate would generate 6.4 percent more capital. A conservative estimate of capital's contribution to economic growth is its share of national income—roughly 30 percent. Using this estimate, the increased capital accumulation would imply that the level of GNP would rise by an additional 1.9 percent, which is equivalent to an increase in the annual growth rate of GNP of 0.2 percentage point.

### *Small Improvements Matter in the Long Run*

Such seemingly small improvements have important implications over time. A 0.2 percentage point increase in the annual growth of output would substantially speed improvements in the standard of living for future generations. Raising the annual growth rate of real GNP from 2.8 percent to 3.0 percent, for example, would ultimately yield 10 percent more national income after 50 years than otherwise would have been available. This effect is sizable: 10 percent of 1988 GNP was \$490 billion, much larger than total residential and nonresidential construction spending or than spending for defense and medicare combined.

Thus, even though the consequences of changes in the national investment rate are substantial, they emerge only gradually. Because even substantial increases in the rate of capital accumulation have only a small immediate effect on GNP, policymakers may underestimate the importance of a favorable investment climate. Moreover, the benefits of good policies that are not pursued cannot be observed directly. The costs of inappropriate policies are accordingly difficult to identify.

## ALLOWING CAPITAL TO FIND ITS MOST PRODUCTIVE USE

Capital should be allowed to move freely to its most productive use. Private capital markets, driven by the search for the highest return, weed out investments expected to be inefficient or unsuccessful. Thus, *markets are the best judges of investment opportunities, and success and failure are best determined in the competitive marketplace.*

The sharp reductions in marginal tax rates in 1981 and 1986 have significantly reduced Federal Government interference with the allocation of funds among types of investment. The Federal Government has a smaller impact on private choices. Nevertheless, Federal Government policies still distort the allocation of funds across different industries because some industries are protected and others subsidized. While Federal policies sometimes provide investment funds directly, more often they alter investment incentives. For example, the double taxation of corporate income reduces incentives for corporate compared with noncorporate investment. Similarly, the mix of investment between purchases of equipment and additional business construction has been affected by recent swings in tax policy. Government tax, regulatory, and spending policies should interfere as little as possible with the efficient allocation of investment funds provided by capital markets. The Administration believes that preserving the efficient functioning of these markets is an important foundation for healthy growth.

## INVESTING IN INFRASTRUCTURE CAPITAL

Roughly one-quarter of the capital stock in the United States is owned by Federal, State, and local governments. It is typical for discussions of investment behavior to focus on business investment, but government capital accumulation can also affect growth. Because the value of its product is not revealed through market transactions, the role of government capital in supporting the economy is sometimes underappreciated. For the same reason, however, government investment is not automatically subject to the same comparison of expected costs and returns that markets impose on private investment. Government investment plans should accordingly be carefully scrutinized using rigorous benefit-cost analysis.

The bulk of nonmilitary government capital is owned by State and local governments, although the original investment may have been in part federally financed. State and local government capital consists largely of schools and public infrastructure such as highways, streets, bridges, and sewers. Over the past two decades, a slowdown has occurred in State and local capital accumulation; the growth of the capital stock fell from an average rate of 4.9 percent a year in the 1950s and 1960s, to 2.2 percent in the 1970s, and to 0.9 percent in the 1980s. Part of this decline simply reflects a reduction in the size of the school-age population and the completion of road networks. But part of this decline is a real slowdown, and inadequate government infrastructure can impede improvements in productivity growth.

A growing share of travel is carried by aviation, but many parts of the current aviation infrastructure need to be modernized and expanded. The Administration proposes substantial funding in-



creases for aviation programs in 1991. These programs include modernization of aviation facilities and equipment, expansion of airport capacity, and increased funding for operations and R&D.

State and local governments—along with the private sector—must also fulfill their responsibilities to maintain and expand the Nation’s infrastructure. *Taking advantage of productive opportunities to maintain and improve the infrastructure is an important part of Federal, State, and local government policies to raise economic growth.*

## FINANCING NATIONAL INVESTMENT

For most of the postwar period, U.S. domestic saving was sufficient to finance domestic investment. As Table 4-2 shows, from 1950 to 1979, gross national saving—the sum of household, business, and government saving—exceeded gross private domestic investment in the United States, leaving an average of 0.3 percent of GNP available for net U.S. investment abroad. In those years, international capital flows were often ignored by policymakers and analysts, a practice that would be mistaken in today’s economic environment.

**TABLE 4-2.—The Changing Finance of Investment, 1950-88**  
[Percent of GNP]

	1950 to 1979	1980 to 1988
Gross private domestic investment .....	16.0	15.8
<b>EQUALS:</b>		
National saving .....	16.3	14.1
Private .....	16.8	16.7
Household .....	5.0	3.8
Business .....	11.8	12.9
Government .....	-4	-2.6
Federal .....	-6	-3.9
State and local .....	2	1.3
<b>PLUS:</b>		
Net foreign capital inflows .....	-3	1.6

Note.—Detail may not add to totals because of rounding.  
Source: Department of Commerce, Bureau of Economic Analysis.

## FOREIGN SOURCES OF FINANCING FOR NATIONAL INVESTMENT

The total flow of foreign saving into the United States has been about one-sixth of domestic investment in recent years. Between 1980 and 1988, the share of GNP devoted to gross investment was essentially the same as the average from 1950 to 1979, but the share of national saving fell more than 2 percentage points of GNP. As a matter of arithmetic, the difference between domestic

investment and domestic saving was provided by increased net inflows of foreign saving into the United States.

Foreign individuals and institutions invest their saving in the U.S. capital market to take advantage of available productive, high-yield investments. In 1988, these flows of foreign saving into the United States totaled \$219.3 billion. Similarly, some U.S. domestic saving is directed toward investment opportunities in other countries; in 1988, this saving amounted to \$82.1 billion. The difference, \$137.2 billion in 1988, is the net capital inflow.

Foreign saving in the United States takes two forms. Some is foreign direct investment (FDI)—defined as development of a new business or acquisition of at least a 10-percent interest in a domestic company or tangible asset, such as an office building. The remainder is portfolio investment—purchases of financial instruments such as stocks or bonds. Of total foreign investment in the United States in 1988, \$58 billion, or 26.7 percent, was FDI. FDI in the United States has grown rapidly in recent years. According to balance of payments measures, the book value of all foreign direct holdings reached \$329 billion at the end of 1988, having increased at an annual rate of 19 percent from its 1983 value of \$137 billion.

Some commentators view the growth in FDI with concern, arguing that direct foreign ownership of assets is somehow different from, and more threatening than, “passive” portfolio investments such as Treasury bills or corporate stocks and bonds. In general, such concerns are misguided. FDI benefits both foreign investors and the host economy. Like domestic investment, it can create jobs, produce valuable technological spillovers, and generate long-run increases in productivity. *Interfering with the free flow of foreign direct investment into the United States would harm the U.S. economy.*

### *The Magnitude of FDI in Perspective*

The magnitude of FDI is widely misperceived. Although FDI in the United States has increased a great deal in the past several years, cumulative foreign holdings in the United States remain modest by international standards. In many other industrialized countries, total foreign holdings are a substantially larger proportion of gross domestic product (GDP) than in the United States. Moreover, with the exception of Japan, cumulative investment by the United States in other countries (again as a proportion of host-country GDP) far exceeds these countries’ respective cumulative investment in the United States (Table 4-3). Indeed, because investments are measured at book value or acquisition cost, the figures in Table 4-3 understate the point. While the bulk of foreign holdings in the United States was recently acquired, many U.S. investments abroad were made in the 1950s and 1960s. The historical ac-

quisition cost greatly understates the current market value of these older U.S.-owned assets.

TABLE 4-3.—*Foreign Direct Investment, 1988*

[Direct investment holdings as percent of host-country GDP]

	Foreign holdings in the United States	U.S. holdings in foreign country
United Kingdom.....	2.1	5.7
Japan.....	.8	1.5
Netherlands.....	1.0	6.8
Canada.....	.6	12.2
West Germany.....	.5	1.8
Switzerland.....	.3	10.4
France.....	.2	1.3

<sup>1</sup> Data for 1987.

Sources: Department of Commerce and International Monetary Fund.

Thus, *the recent increase in FDI is properly viewed not as an event unique to the United States, but as part of a process of global economic integration.* It is instructive to recall that the growth of U.S. direct investment abroad in the 1950s and 1960s was greeted with widespread mistrust in Canada, Europe, and many developing countries. One prominent commentator warned that U.S. investment would destroy established European companies. Hindsight shows that such alarmist sentiment was inappropriate, and that U.S. investment significantly benefited European economies.

In fact, foreign firms play a relatively small role in the American economy. Companies with 10 percent or more foreign ownership employ less than 4 percent of the U.S. labor force. Even in manufacturing, where the FDI presence is the largest, such companies account for under 14 percent of assets and employ only 7 percent of all workers. Thus, in absolute terms, as well as in comparison with other countries, the magnitude of foreign direct investment in the United States is relatively modest.

## DOMESTIC SAVING AND NET CAPITAL INFLOWS

International capital flows break the link between domestic saving and investment rates in the short run. Net foreign capital inflows in the 1980s have helped to sustain U.S. investment and thus have contributed to economic growth, despite the low U.S. national saving rate. Nonetheless, for several reasons, increases in the national saving rate would further enhance growth in U.S. living standards.

First, over longer periods, the investment rate in advanced economies is ultimately constrained by the supply of domestic saving. Therefore, raising domestic saving is essential to sustaining the high levels of investment on which economic growth depends

over the long run. It is uncertain to what extent the United States could rely on sustained large capital inflows, even if it chose to do so.

Second, net capital inflows have, in recent years, allowed U.S. spending to exceed U.S. income. However, this pattern cannot persist indefinitely. Ultimately, although no one can be sure when, the United States will have to move to both a current account surplus and a net capital outflow as foreigners receive the returns on their investments in the United States. Some have inaccurately claimed that this transition will mean a reduction in U.S. living standards. In fact, the transition will require only that U.S. income grow faster than U.S. spending. The more rapidly U.S.-owned capital accumulates, the more rapidly U.S. income will grow. More rapid accumulation of U.S.-owned capital requires a higher rate of U.S. national saving. A higher saving rate will thus permit continued healthy growth of U.S. living standards during the transition to a current account surplus.

Third, increased net foreign capital inflows are accompanied by reduced net exports of goods and services (Box 4-1). This can lead to calls for protectionist trade policies, which interfere with international trade of goods and services and can lower living standards in the United States and abroad.

The goal of Administration policy is to remove impediments to national saving. Increased national saving will allow a higher level of domestic investment that is sustainable over the long run—a level that can be achieved regardless of the future of net foreign capital flows.

## DOMESTIC SAVING TO FINANCE NATIONAL INVESTMENT

If U.S. investment performance is poor by international standards, recent U.S. saving performance is abysmal. Chart 4-4 indicates that the national saving rate has been much lower in the United States than in other industrial economies. Although substantial difficulties arise in measuring “the” rate of saving, by any measure the national saving rate in the United States is the lowest of these countries. Moreover, the lower rate of saving does not appear to be concentrated in one sector of the U.S. economy. Businesses, governments, and households all save at lower rates than their counterparts in other advanced economies.

The gross national saving rate (national saving as a percent of GNP) varied around 16 percent during the postwar period until the early 1980s, when it fell, as shown in Chart 4-5. Although the gross saving rate has partially rebounded over the past 2 years, during the 1980s it averaged more than 2 percentage points less than in the previous three decades (Table 4-2).

**Box 4-1.—The Link Between Lower National Saving and Net Export Performance**

As a matter of accounting, changes in net capital inflows and changes in trade flows are linked. Changes in trade flows do not, however, solely determine changes in net capital inflows. Neither are changes in net capital inflows totally responsible for movements in the balance of trade. Instead, economic factors affect both trade and capital flows simultaneously. It is generally recognized, however, that the imbalance between the U.S. saving rate and the higher U.S. investment rate is the fundamental source of the U.S. trade deficit.

When foreign investors enter U.S. capital markets, they must first exchange foreign currencies for U.S. dollars. In large part, these foreign currencies will ultimately be used to pay for goods and services imported from abroad. At the same time, U.S. investments abroad create similar transactions involving the U.S. dollar. The excess of foreign investment in the United States over U.S. investment abroad is the net capital inflow or borrowing from abroad. In order to balance the supply of dollars with the demand, this excess must be matched by a corresponding excess of imports to the United States over exports to other countries.

Adjustments in foreign exchange rates and differences in rates of return serve to coordinate this process by altering the incentives for investment and the attractiveness of imports and exports. For example, as capital flows into the United States, purchases of dollars raise the exchange value of the dollar, making imports cheaper and raising the purchase price of U.S. exports.

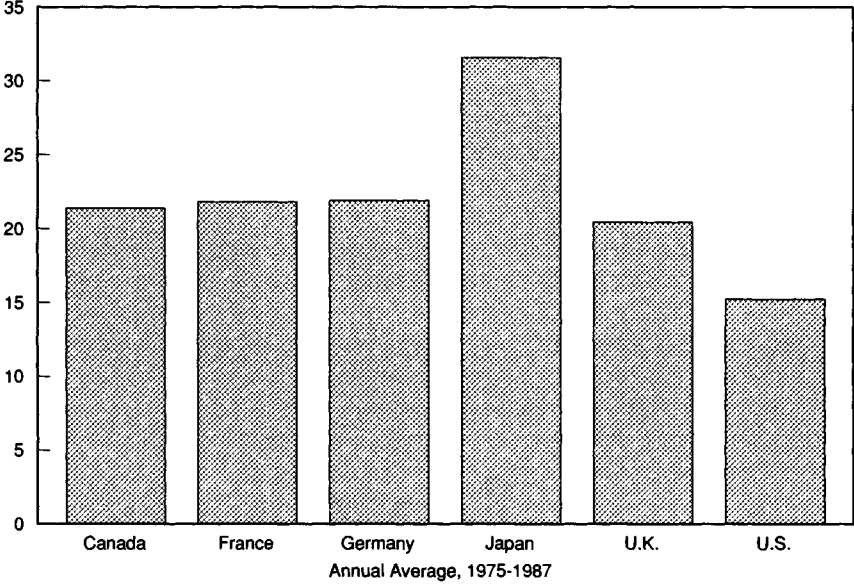
The sectoral gross saving rates shown in Table 4-2 help to identify the sources of this decline. The private saving rate has declined only slightly, but the composition of saving has shifted. During the period 1980 to 1988, the household saving rate fell by more than 1 percentage point relative to the 1950-79 period, but this decline was almost fully offset by a rise in business saving.

One possible reason for the decline in household saving in the 1980s is the large rise in household wealth attributable to increases in the value of household assets. For example, the stock market boom caused a doubling of the value of corporate stock owned by households between 1981 and 1988. Increases in wealth that are not spent are conceptually equivalent to new saving, but are not included in the national income and product accounts.

Chart 4-4

**GROSS NATIONAL SAVING AS PERCENT OF GNP.** Saving in the United States over the period 1975-1987 was low by international standards.

Percent

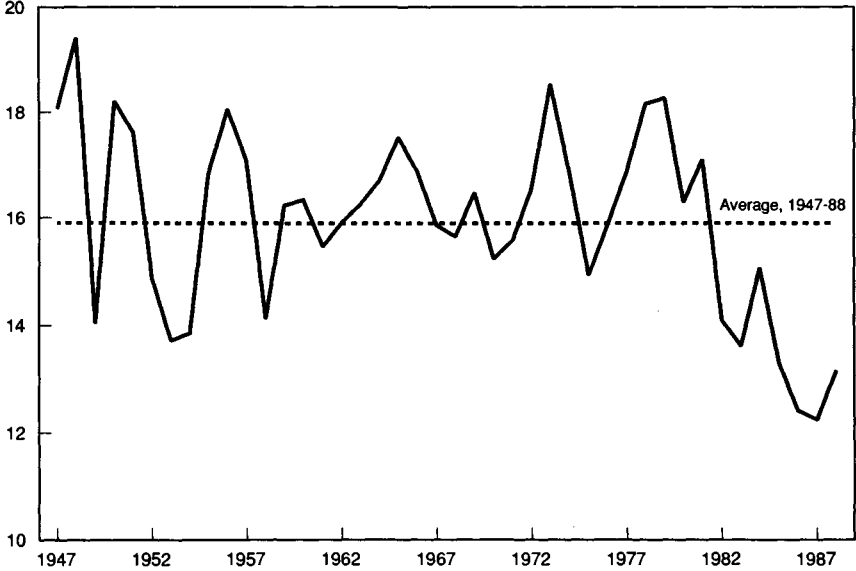


Source: Organization for Economic Cooperation and Development.

Chart 4-5

**GROSS SAVING AS PERCENT OF GNP.** National saving was below its historical average in the 1980s.

Percent



Source: Department of Commerce.

The government borrowing (or dissaving) rate has risen by more than 2 percentage points between the 1950-79 period and the 1980s, although State and local governments ran surpluses. In the 1980s, Federal Government deficit spending increased by more than 3 percentage points of GNP from its average over the period 1950 to 1979. *Federal Government deficits were the principal reason for lower gross national saving in the United States during the 1980s.*

For some purposes, it is useful to take account of the wearing out of the capital stock by considering the net saving rate: gross national saving minus depreciation, as a percentage of GNP. The decline in the net saving rate (4.5 percentage points) is even larger than the fall in the gross rate in the 1980s. While the increase in depreciation can be traced to shifts in the composition of assets, as discussed above, its measurement is imprecise. Using net saving rates, the decline in national saving reflects lower saving by all three sectors. Between 1950 and 1979, the business saving rate net of depreciation was 2.9 percent, while between 1980 and 1988, the net business saving rate was only 1.8 percent.

## POLICY TOWARD INVESTMENT

Increased capital investment is a necessary part of more rapid U.S. economic growth. Policies should be designed to enhance the opportunities to make productive investments. To do so requires an understanding of the factors that influence firms' demands for capital investment. Moreover, in an increasingly integrated global economy, policies should not discriminate among investments by inhibiting foreign direct investment.

## FACTORS THAT AFFECT DOMESTIC INVESTMENT

Investment is largely determined by four factors: expected growth in future demand for business output and the cost of capital (particularly real interest rates) affect expected profitability, business confidence influences the risk associated with investment, and business cash flow alters liquidity. When businesses expect demand to grow in the future, they must anticipate the pressure on productive capacity. Unless current capacity utilization is low, the need to increase the stock of plant and equipment raises investment. Studies find that growth in current output serves as a good proxy for expected growth in future demand and, of the four factors, has the strongest effect on investment.

Firms will invest as long as the expected profitability of investment exceeds the user cost of capital (Box 4-2). A higher cost of capital reduces investment by requiring investment projects to meet a higher standard. The magnitude of this reduction depends

on business expectations—investment responds most strongly to lasting changes in the cost of capital.

#### **Box 4-2.—The User Cost of Capital**

The user cost of capital for any specific investment, such as a new machine, is the minimum expected pre-tax rate of return it must yield in order to be profitable. The user cost includes all costs associated with financing and operating the machine. Two components of the user cost are strongly affected by government policy.

The first of these is the cost of the money tied up in the investment (sometimes called the cost of capital or the cost of capital funds). This cost varies directly with market interest rates and is thus affected by monetary and fiscal policies and the relation between domestic investment and domestic saving.

The second component is the taxes associated with operation of the investment. Thus, higher tax rates raise the user cost of capital, while more rapid depreciation allowances lower it by postponing tax payments. The double taxation of corporate profits increases the cost of equity-financed investments.

In addition to its cost, the availability of capital is a significant factor. Greater business cash flow potentially aids capital formation by allowing firms to finance investment internally. Cash flow is particularly critical when adverse financial market conditions raise the difficulty of external finance. Empirical studies support this argument, finding that higher levels of cash flow are related to greater investment.

Finally, although difficult to measure, increased confidence about the economic future reduces the perceived risk of investment decisions, thereby promoting investment. Policies should reflect the determinants of investment and be designed to minimize interference with investment decisions. *Investment responds most strongly to sustained increases in output and to maintained reductions in the cost of capital.*

### **IMPLICATIONS FOR DOMESTIC INVESTMENT POLICY**

The analysis of key investment factors—output, the cost of capital, cash flow, and the uncertainty of the investment environment—offers insight into policies that can increase investment.

#### ***Policy Stability***

Monetary and fiscal policies affect both the level and volatility of the cost of capital and sales growth. Erratic monetary and fiscal policies make the path of inflation and output more uncertain, inducing lenders and investors to demand a higher rate of return as



insurance against the risks of inflation and economic downturns. Policies that keep the economy close to its potential will improve expectations about sales growth, and thus encourage investment. When people expect stable growth, the risk component of interest rates is lowered and the cost of capital falls.

Stable tax and regulatory policies also encourage investment. When the rules change sporadically in ways that penalize previous investment, firms quickly learn that they cannot rely on current taxes and regulations in the future. These firms are less likely to invest or to respond to the new incentives. Governments, like individuals, benefit from reputations for credibility.

Unstable policy can also influence the timing and type of investment. Because firms do not know exactly what will happen in the future, they must consider the risk associated with their choices. If the environment is highly uncertain, investors may be less willing to commit their money today, preferring to wait for the cost or likelihood of mistakes to decline tomorrow. Those who do invest will likely shift toward short-term ventures at the expense of long-term undertakings.

Maintaining consistent policy toward investment, although difficult, is crucial. Investment spending each year involves a mix of new projects and completions of those started in the past. Hence, it takes time for investors to respond to changes in policies. Moreover, as discussed earlier, even substantial changes in the rate of investment require time to alter the rate of economic growth visibly. Thus, policymakers may be tempted to abandon well-designed, long-run policies in the interests of short-run expediency.

Given the desirability of stable policies, it is important to avoid sharp swings in investment incentives. The Economic Recovery Tax Act of 1981, for example, contained sharply accelerated depreciation allowances that were scaled back or eliminated the following year. Temporary incentives may produce a temporary investment boom, but will increase uncertainty about the long-run course of policy and ultimately discourage long-term growth.

### *Tax Policy Toward Investment*

Tax policy significantly affects the cost of capital. The corporate and individual income taxes alter the cost of capital, as do depreciation allowances, and, in some past years, investment tax credits. Tax-induced increases in the cost of capital can lower overall investment. In addition, unequal tax treatment of different types of capital distorts incentives, alters the allocation of investment funds, and reduces investment efficiency.

*The taxation of capital income at both the corporate and individual shareholder levels increases the cost of capital for corporations. Corporations pay taxes on earnings from new investment. Shareholders pay additional taxes on these earnings when they receive*

dividends or when their sale of shares results in a capital gain. This double taxation of the returns on equity has existed for over 70 years and increases the cost of capital for investments financed in whole or part by corporate shareholders. Because corporations may deduct interest payments, but not dividends, the double taxation of returns on corporate equity also induces corporations to rely more heavily on debt finance. The induced increase in debt, in turn, raises the risk of corporate bankruptcies, with the attendant disruption and job loss.

It has been argued that double taxation is illusory because tax-exempt entities such as pension funds are large suppliers of capital funds, and they are not affected by Tax Code provisions applying to individuals. Similarly, a large fraction of current investment in the United States is financed from foreign sources. For these investment funds, the incentives depend upon the tax treatment of U.S. earnings in the home country.

These observations notwithstanding, the evidence favors a view that firms behave as if their new investment funds come, at least in part, from new equity. As a result, the cost of capital depends on the combined effect of corporate and individual taxes. The double taxation of equity earnings raises the cost of capital to U.S. corporations. Reducing combined taxes on equity earnings such as dividends and capital gains will therefore reduce this restraint on investment.

Tax policy also affects investment by unincorporated businesses. In 1988, nearly 15 percent of real, nonresidential fixed investment was undertaken by noncorporate businesses. For these businesses, one of the most important features of the income tax is the tax rate on capital gains. Much of the return on noncorporate investment takes the form of increases in the value of the business itself. Increasing the tax rate on the capital gains on ownership equity raises the cost of capital and reduces noncorporate investment. *A lower capital gains tax rate provides not only an incentive for increased investment by corporations, but also an incentive to raise noncorporate business investment.*

Further cuts in corporate tax rates would generate only limited investment incentives. As tax rates fall, taxes have a smaller impact on the after-tax return to investment. The Tax Reform Act of 1986 reduced marginal tax rates for corporations and for individuals, limiting the additional investment incentive that can be expected from further rate reduction. The Tax Reform Act also moved toward equalizing effective tax rates for different assets. The equalization provided an important benefit by reducing the significance of tax considerations in choosing among investment opportunities.

In the past, investment tax credits (ITCs) and changes in depreciation schedules were used to provide investment stimulus. ITCs reduced firms' tax liabilities by a fraction of the cost of equipment purchased, and hence reduced the user cost of capital for equipment. The ITC was introduced in 1962. Over the next two decades, the ITC was repealed, modified, or reinstated 7 times, sometimes in response to business cycle conditions. These frequent alterations in investment policy increased the uncertainty of the investment environment.

Depreciation allowances have also been used as an investment incentive. Depreciation allowances are intended to adjust profits for the costs of using capital assets during production. Accelerated depreciation was instituted in the 1950s and modified repeatedly thereafter. The acceleration was designed to lower the user cost of capital, to adjust imperfectly for inflation distortions, and to provide an incentive for greater investment.

While ITCs and accelerated depreciation stimulated investment, numerous studies indicated that they had an unfavorable effect on the allocation of investment among competing investment opportunities. For ITCs, the value of the investment credit was higher for shorter lived assets. With accelerated depreciation, the stimulus was also uneven, varying between structures and equipment and within asset classes. The uneven treatment led to underinvestment in assets that had less generous allowances and in some cases fostered unproductive investments. The Tax Reform Act of 1986 eliminated ITCs and attempted to match tax depreciation schedules and real economic depreciation more closely.

*The most important investment incentives the Federal Government can provide are stable macroeconomic policies that keep output near its potential and inflation low, as well as an institutional framework that permits the free flow of investment to its most valuable use and encourages new business formation.* The United States should also work toward removing longstanding tax impediments to investment by:

- Restoring the capital gains tax differential and
- Reducing the double taxation of corporate equity earnings.

## FACTORS THAT AFFECT FOREIGN DIRECT INVESTMENT

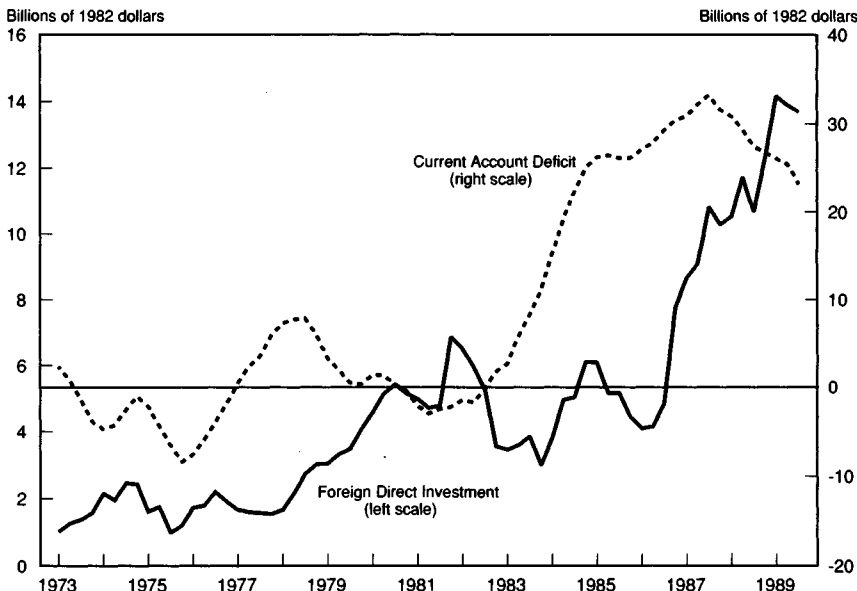
Many observers see the recent increases in FDI as closely related to macroeconomic factors, such as the trade deficit or the decline in the value of the dollar since 1985. But no automatic mechanism links FDI and the current account deficit. Although, as a matter of accounting, a higher current account deficit does imply higher *net* capital inflows, this change in flows can be effected by receiving increased gross inflows of either direct or portfolio investment from

abroad or by a reduced rate of U.S. gross direct or portfolio investment in other countries. For example, FDI in the United States can increase *without* a change in the current account if at the same time the United States is increasing its investment abroad. Indeed, U.S. companies have continued to increase their direct holdings abroad in recent years, in spite of large current account deficits—a recent example being the Ford Motor Company’s acquisition of the United Kingdom’s Jaguar PLC.

The data confirm that FDI is driven by much more than just current account balances. As Chart 4-6 shows, FDI inflows climbed in the late 1970s before a large current account deficit developed and continue to increase even as the current account improves. The experience of other countries is even more striking. For example, West Germany has run a current account *surplus* for decades but has seen foreign ownership of its manufacturing sector climb to 15 percent.

Chart 4-6

**FOREIGN DIRECT INVESTMENT AND THE CURRENT ACCOUNT DEFICIT.** Movements in foreign direct investment are not closely related to movements in the current account deficit.



Note: Consumer price index used as deflator. Data are quarterly.  
Source: Department of Commerce and Department of Labor.

The upward trend in FDI over the past several years has coincided with a surge of mergers and acquisitions in the United States. In this same period, acquisitions of existing assets have played a growing role as a vehicle for FDI. Between 1982 and 1988, the pro-

portion of all new FDI (i.e., all foreign acquisitions or establishments of new enterprises) accomplished through mergers and acquisitions rose markedly.

This change reflects in part the development of a larger and more efficient market for corporate assets—a market that facilitates the movement of those assets into the hands of owners who expect to use them most productively. Not only can whole companies be purchased more easily, but also, because of restructurings and divestitures, particularly desirable assets or divisions can often be acquired on a stand-alone basis.

The United States is one of the most attractive nations in which to invest, in part because of the sheer size and scope of its markets: the United States produces 26 percent of the gross world product. As the global economy becomes more integrated and both U.S. and foreign firms adopt more sophisticated strategies in response, it is hardly surprising that foreign companies are, with increasing frequency, the highest bidders for U.S. corporate assets. International differences in capital costs for some foreign acquirors may also partially explain the rise of FDI in the United States.

Foreign-owned firms operating in the United States receive “national” treatment—they are subject to the same environmental, antitrust, and other regulations as domestically owned firms. Although the exact tax treatment may be affected by the tax code in their home country, they are liable for U.S. taxes and are subject to international tax treaties. They hire from the same labor pool as U.S. companies. As these facts might lead one to expect, foreign-owned firms do not differ markedly from their domestic counterparts in such business decisions as employee compensation and R&D expenditures.

## IMPLICATIONS FOR POLICY TOWARD FOREIGN DIRECT INVESTMENT

U.S. policy toward foreign direct investment has long recognized that a free flow of investment capital across borders benefits both host and investor countries. As noted above, the United States generally provides foreign investors nondiscriminatory treatment under U.S. laws and regulations. It is in the interest of U.S. consumers, workers, and investors to maintain this open policy.

National security considerations have been a longstanding exception to this open investment policy. Like other developed countries, the United States has imposed restrictions on FDI in certain sectors for national security reasons. Various statutes incorporate these restrictions, including the Atomic Energy Act, the Federal Aviation Act, the Shipping Act, and the Federal Communications Act.

Under the Exon-Florio provision of the Omnibus Trade and Competitiveness Act of 1988, the interagency Committee on Foreign Investment in the United States reviews investments with potential national security implications and investigates sensitive transactions. The President can prohibit or suspend investments that threaten to impair U.S. national security. By the end of 1989, this committee had reviewed more than 200 transactions, undertaken investigations of 6 and referred 3 to the President for a decision. In each case, the President decided not to intervene. In line with the Administration's open investment policy and the provision of law, the Exon-Florio authority will be used only when no other measures are adequate to protect the national security.

*Restricting foreign investment in the United States would weaken the economy. The Administration is pursuing the constructive approach of working to remove formal and informal barriers to international investment throughout the world.* The initiatives being pursued include: encouraging the Organization for Economic Cooperation and Development (OECD) to strengthen the voluntary accord that grants national treatment to foreign-owned enterprises; making removal of investment barriers an important part of the negotiations with Japan on structural impediments; and working during the Uruguay Round of GATT for discipline on government-sponsored trade measures associated with investment.

## POLICY TOWARD SAVING

The saving performance of the United States reflects, in part, longstanding features of Federal Government policy. Large, persistent Federal budget deficits directly reduce national saving. Many types of personal saving are taxed twice, once when the income is earned and again when the returns on the saving are received. Inflation increases taxable returns to capital without affecting real returns; these extra taxes further penalize saving and investment. For businesses, returns to corporate equity, particularly dividends, are taxed at both the corporate and individual levels. These and other policies need to be reexamined as part of any effort to increase national saving. *Current policies are biased toward consumption—whether in the household, business, or government sector—and against saving.*

National saving reflects the actions of the three principal sectors of the economy. Household saving is the result of the spending decisions by individuals and families; business saving reflects decisions by firms to retain after-tax profits; and government saving is the outcome of the political debate over revenue measures and spending priorities.

Government policy should focus on *national* saving. National saving determines the amount of domestic funds available for investment, affects the cost of capital, and influences the balance of trade. Policies toward saving must be analyzed both for each sector of the economy—household, business, government—and for the Nation as a whole. Policymakers must be especially careful not to develop incentives to raise private saving at the expense of public borrowing, thereby simply transferring a portion of the low national saving rate from the private to the public sector.

## GOVERNMENT SAVING

*The single most direct way for the government to increase national saving is to continue to reduce the Federal budget deficit.* Some economists argue that reducing Federal deficits would not succeed in raising national saving because private savers would recognize the increased government saving and feel a corresponding reduction in their need to save. In this view, private saving adjusts to offset changes in government saving. This argument is both flawed and inconsistent with the evidence. For example, in the early 1980s, household saving fell even as Federal deficits rose. Because there is no offsetting decrease in private saving, reduced deficits will increase the pool of domestic funds available for private investment. To raise national saving effectively, however, deficit reduction should not be attained by increasing disincentives for private saving or by reducing government investment.

The Gramm-Rudman-Hollings Act was designed to reduce the deficit each year, reaching a balanced budget in 1993. The Administration remains firmly committed to deficit reduction. The Federal Government must end its role as a chronic borrower and stop draining the Nation's scarce savings pool.

Deficit reduction is not enough in view of the likely future demands that the retirement of the baby-boom generation will place on the Social Security system and, indeed, on the whole economy. The Administration proposes to establish a Social Security Integrity and Debt Reduction Fund to safeguard projected surpluses in the Social Security trust funds and to reduce the national debt. Reducing the national debt will increase the pool of domestic saving, reduce the current account deficit, lower the cost of capital, spur investment and productivity growth, and lead to higher future living standards. This proposal would prevent the use of Social Security receipts to finance other spending, reduce the legacy of public debt, and leave a more secure fiscal status to future generations.

## HOUSEHOLD SAVING

Household saving is the most familiar component of national saving. Because the saving decision reflects so many individual

goals, however, fostering household saving is a difficult policy task. Households save as a precaution against accident, illness, or loss of job. For these purposes, savings must be sufficiently liquid to meet unexpected needs. Households also save to purchase homes and big-ticket durable goods and to pay future educational expenses. These saving goals are particularly important for young families who have few assets and relatively little financial flexibility. People also save to help finance their retirement and to leave bequests to their heirs. For these long-term goals, security or the rate of return to saving may dominate considerations of liquidity.

The overall household saving rate can change even when all individuals have the same proclivity to save over their lifetimes. One source of change in overall saving is change in the age structure of the population. Because of the baby-boom generation, those under 35 have constituted an unusually large fraction of the working population over the past 15 years. Young people typically save relatively little of their income, which explains part of the overall decline in saving. As the baby-boom generation ages, the household saving rate will rebound somewhat.

The response of household saving to changes in the rate of return on saving is a critical issue, because tax policy directly affects the rate of return. But increases in the rate of return have two opposing effects on saving. Higher rates of return lower the price of future consumption, thus *increasing* the incentive to save. Higher rates also reduce the amount of saving required to achieve a given level of future consumption, thereby *reducing* the incentive to save. Although this area is being actively researched and debated, empirical studies on balance suggest that saving increases modestly with higher rates of return.

Several options are available to allow savers to earn the untaxed rate of return for retirement purposes, but such options are not typically available for shorter term saving goals. Pensions, Keogh and 401(k) plans, and, for those eligible, deductible individual retirement accounts (IRAs) all permit individuals to deduct their contributions, with both contributions and earnings taxed only upon withdrawal.

Another form of tax-preferred savings account would not allow deductions for contributions. Withdrawals of both contributions and earnings, however, would be tax free. If a taxpayer is in the same tax bracket at the time of contribution and at withdrawal, such accounts would offer the same rate of return as deductible IRAs. As long as households realize this fact, their spending would be the same under either type of account.

### *Individual Retirement Accounts*

IRAs represent one means to reduce the double taxation of saving and reduce the bias against saving. The degree to which this incentive is successful depends in part upon the limit for contribu-



tions to the IRA. Higher contribution limits increase the number of households who receive a saving incentive, because the pre-tax rate of return will apply to their last dollar saved. Higher contribution limits therefore raise private saving.

Deductible IRAs and pensions lower the distortion produced by tax treatment of retirement saving and are a valuable contribution to the climate for saving. Because of penalties for early withdrawal, however, they are not an attractive vehicle for savers with intermediate saving goals. The inaccessibility of savings in IRAs and pensions prior to retirement restricts their usefulness for these purposes. To address this issue, the Administration proposes easing the withdrawal requirements on IRAs to permit savers to use these funds for first-time home purchases.

### *Family Savings Accounts*

To further reduce the bias against saving, especially for families with pre-retirement savings objectives, the Administration proposes creating a Family Savings Account (FSA). Contributions to FSAs would be nondeductible, but earnings on contributions would be exempt from income tax. Annual contributions to an FSA could be up to \$5,000 for married couples and \$2,500 for single people. FSAs would be limited to married couples with incomes below \$120,000, singles with incomes below \$60,000, and heads of households with incomes below \$100,000. If contributions were held for at least 7 years, both the original contribution and all earnings could be withdrawn without tax. Withdrawals made in the first 3 years would be subject to both ordinary income tax and a 10-percent excise tax on the *earnings* alone. Earnings included in withdrawals made after 3 years, but before the 7-year period, would be subject to ordinary income tax.

The enhanced liquidity of the FSA provided by the shorter holding period is an important addition to policy toward saving. It is particularly valuable for families who wish to save for such pre-retirement objectives as a child's education or a down payment on a home. Further, the contribution limits are more generous than for existing IRAs. FSAs will increase household saving. Moreover, they are best viewed as part of the larger program to reduce the bias against saving in the United States.

### *Social Security*

The most important Federal Government policy toward retirement is the Social Security program. Its effect on personal saving has been the object of intense study and controversy among economists. Individuals can substitute Social Security for retirement saving. In addition, Social Security reduces the riskiness of retirement consumption because benefits are indexed for inflation and are paid until the death of both the worker and spouse. As such,

they are essentially government insurance of a constant base level of consumption. These effects may reduce private saving.

Until recently, Social Security ran on a pay-as-you-go basis, with current workers' payroll taxes paying current retirees' benefits. As a result, no government saving was available to offset any reduction in private saving, suggesting that Social Security reduced national saving. After many studies and opinions, the weight of the evidence suggests that Social Security modestly reduced saving in the postwar period. However, reforms enacted in 1983 will produce substantial government saving in the future. As discussed above, the expected increase in government saving will be an important contribution to national saving, and the Administration has proposed policies to ensure that the integrity of projected future Social Security surpluses is protected.

## BUSINESS SAVING

Corporate saving typically accounts for well over one-half of gross private saving, yet most debate regarding saving—whether among policymakers, academics, members of the press, or the public at large—focuses on either household saving or government saving. Businesses save out of earnings, by retaining and reinvesting some profits within the business rather than paying them out as dividends or share repurchases. The impact on business saving of a particular policy therefore depends critically on its effects on the level of earnings and on the incentive to pay them out.

By increasing the incentive to retain earnings, a lower capital gains tax rate will increase business saving. For shareholders, the return to retained earnings comes in the form of higher stock prices, which are taxed at the capital gains rate. Therefore, retained earnings are taxed both when the corporate income is earned and again when the gains are received. Lower capital gains tax rates will both reduce the pressure to pay dividends and increase the incentive for equity finance. Both effects increase retained earnings.

Under current law, dividends are also taxed twice, once when the income is earned by the corporation and again when it is paid out to shareholders. Eliminating the double taxation of corporation income—which can be accomplished in a variety of ways—has a theoretically uncertain effect on business saving. It would increase equity finance, but corporations would have a reduced incentive to retain their earnings.

Even if business saving is reduced slightly, however, total private saving might not fall. Eliminating the double taxation of dividends and lowering the tax rate on capital gains would increase the rate of return to household savers. Personal saving may increase in response by enough to offset any decline in business saving. More-

over, shareholders may change their saving in direct response to changes in business saving—they may see through the so-called corporate veil. If corporations save less for their shareholders, the shareholders can compensate by increasing their household saving. The available evidence indicates that a reduction in business saving is indeed offset—at least in part—by an increase in household saving. Shareholders consume only part of the higher payouts.

Share repurchases, takeovers, and leveraged buyouts have increased dramatically in recent years; net equity issues by U.S. non-financial corporations have been negative in each year since 1984. The effect of these repurchases on the corporate debt-to-equity ratio has been mitigated by the rise in the market value of equity over the same period. Still, the increasing trend to debt finance makes it more likely that the net effect of removing the tax bias against equity finance would be to increase private saving.

## REMOVING IMPEDIMENTS TO SAVING

The Administration's proposals are a comprehensive approach to reducing the current policy bias against saving by households, businesses, and government.

- Reducing the Federal budget deficit is the most reliable policy to increase national saving. The Administration proposes to go further, establishing the Social Security Integrity and Debt Reduction Fund and using it to safeguard projected surpluses in the Social Security trust funds, to reduce the national debt, and to help finance increased investment and spur growth.
- Restoring the capital gains tax differential, as proposed by the Administration, will increase saving by both households and businesses.
- Establishing Family Savings Accounts (FSAs) will further reduce the bias against saving. The enhanced liquidity of the FSA is particularly valuable for families who wish to save for such pre-retirement objectives as a child's education or a down payment on a home.

## SUMMARY

Economic growth is the foundation upon which the Nation's future rests. Ensuring solid growth and enhancing the economy's growth potential are therefore the primary goals of the Administration's economic policy. Economic growth will provide rising living standards and employment opportunities for American families, as well as the resources to achieve other national goals. In order to spur growth, the United States must increase its rate of investment in physical, intellectual, and human capital. It must also raise the low national saving rate.

Current Federal Government tax, spending, and regulatory policies discourage saving and investment. At a minimum, these policies should be moved toward neutrality between consumption and investment.

The Administration has proposed new initiatives to increase saving and investment. The most important is the commitment to a budget policy that will reduce the budget deficit and then the national debt. Restoring the capital gains tax rate differential will increase innovation, investment, and saving. Making the tax credit for research and experimentation permanent will expand private expenditures for innovation. Increased Federal spending for research will strengthen the Nation's knowledge base. Instituting Family Savings Accounts will encourage personal saving.

These initiatives represent a strong commitment to increasing national saving and investment and encouraging entrepreneurship and innovation.

## CHAPTER 5

# Human Resources in the 1990s

THE SUSTAINED ECONOMIC EXPANSION of the 1980s has produced remarkable growth in employment and increased economic opportunity. As the Nation looks ahead to the 1990s, new challenges demand attention. Some have forecast that labor shortages—especially among skilled workers—will dominate the next decade and may limit the potential for economic growth. Based on the experience of past decades, however, the remarkably flexible U.S. labor market should—if left to itself—respond well to these new challenges. But continued growth will require increased labor mobility, reduced barriers to employment, and ongoing investment in the skills and knowledge of the work force.

The President has proposed a variety of new initiatives that will improve the productivity of American workers and the well-being of American families. The efforts of this Administration include new initiatives to raise the quality of the Nation's schools, changes in existing programs to ensure effective employment assistance to disadvantaged workers, implementation of a newly designed welfare system, innovative initiatives to improve housing opportunities for low-income families, and support for legislation that will decrease employment barriers for disabled workers. Coupled with sound macroeconomic policies, these initiatives will help ensure productive employment opportunities and economic security for American families.

### ACHIEVEMENTS OF THE 1980s

Job opportunities for the U.S. population improved markedly in the 1980s. Since the beginning of the current expansion, the economy has created more than 20 million new jobs. The civilian unemployment rate has fallen from 9.7 percent in 1982 to 5.3 percent in 1989, its lowest level in 16 years. In 23 States, the unemployment rate in late 1989 was 4.5 percent or lower. And for almost every major demographic group, jobless rates in 1989 were at their lowest levels since the early 1970s. These gains stand in sharp contrast to the 1970s, when the rate of unemployment was successively higher at each business cycle peak.

U.S. employment growth has been especially strong in comparison with other developed nations. Major industrialized countries

such as the United Kingdom, West Germany, France, and Japan have all experienced slower employment growth than the United States throughout the 1980s. Indeed, the total increase in employment in the United States since 1982 is greater than the increases in Western Europe, Canada, and Japan combined and is nearly as great as the entire work forces of Spain and Portugal combined.

Over the past three decades, the American people have clearly benefited from a remarkably flexible labor market that has successfully created jobs for its workers despite major demographic and industrial changes. This flexibility stems partly from an ongoing commitment to limit government interference that hinders economic adjustments. It also reflects the historic willingness and ability of the U.S. private sector—both workers and firms—to adapt to economic change.

For example, the baby-boom generation, born between 1946 and 1964, flooded the labor market in the late 1960s and 1970s. Yet, the economy successfully absorbed this group. Similarly, women's labor market participation has risen markedly over the past three decades. That increase in supply did not lead, as might have been expected, to lower wages and higher unemployment among women. Instead, women have enjoyed substantial economic gains. Female and male unemployment rates converged in the 1980s for the first time since World War II. And women's wages increased substantially relative to men's, closing almost a quarter of the gap in pay rates between the sexes.

In addition, the labor market has responded to major shifts over the past decade in labor demand across industries and occupations. International competition, technological change, and changing consumer demands have altered the nature and location of many U.S. jobs. Job mobility, migration, and skill retraining have all helped most workers to find new jobs in this rapidly changing labor market.

Labor markets do not adjust instantaneously. Rather, workers and employers respond over time to changes in supply and demand through the workings of the market. The growing economy in recent years has made it even easier for unemployed workers and new labor market entrants to find jobs and for working Americans to increase their living standards.

## CHALLENGES OF THE 1990s

Perhaps shaped by experiences during the Great Depression in the 1930s, the debate on macroeconomic policy over the past five decades has been heavily influenced by fears that the U.S. economy could not produce enough jobs for its workers. Undoubtedly, occasional episodes of declining economic growth and rising unemployment will occur. But analysis of impending labor market develop-

ments in the 1990s suggests that other concerns will also demand attention. Many observers now worry about the availability of workers—especially skilled workers. Some have even argued that labor shortages will dominate the 1990s and may slow economic growth.

Indeed, changes in the labor force and the economy over the next decade will produce new challenges. The relatively small baby-bust generation is moving into its working years, reducing the share of new labor market entrants in the population. At the same time, the demand for skilled labor is likely to increase as the relative importance of the service sector grows.

As in earlier decades, the labor market should naturally adapt to these changes over time. Firms will shape compensation packages to attract and train the workers they need, and workers will respond to the higher wages that result from expanded skill demands by seeking additional training. Appropriate government policies can help quicken the pace of adjustment. To ensure an environment in which economic growth can be sustained over the next decade, private business must work together with all levels of government to provide Americans with the skills and the education necessary to function effectively as workers in a modern economy.

Chapter 4 of this *Report* discusses the need to increase investment in physical capital and in research and development. This chapter examines the concurrent need to increase the Nation's investment in human capital by expanding the skills and knowledge of the Nation's youth and strengthening job training for the existing work force. Reducing barriers to labor mobility and to the use of additional sources of labor—such as immigrants, the elderly, and the disabled—will also be necessary if employers and workers are to adapt quickly to labor market change.

The years ahead will provide a unique opportunity to integrate the poor and disadvantaged into the work force. A healthy and growing economy will provide additional opportunities for poor families to raise their living standards. Policies that increase employment and earnings of the poor can both reduce poverty and add to the Nation's productive resources.

Impending changes in the labor force pose real challenges for the 1990s. But those who argue that labor shortages will stall the economy in the next decade ignore the flexibility and adaptability of U.S. firms, workers, and governments.

## THE CHANGING U.S. POPULATION

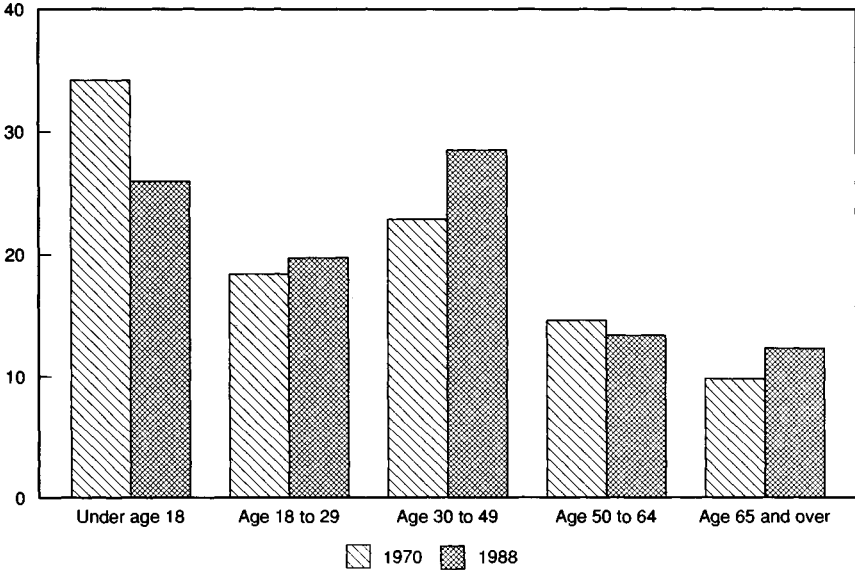
Several major demographic trends will influence the U.S. economy and its labor markets in the 1990s. The steady aging of the baby-boom generation will continue to increase the average age of

the work force. As Chart 5-1 shows, the percentage of the population between ages 30 and 49 rose from 23 to 29 percent between 1970 and 1988, and is projected to rise to 31 percent by 2000. The percentage of the population age 65 and over will also continue to grow, while the percentage age 85 and over will grow even more rapidly. At the same time, the lower birth rates that followed the baby boom have resulted in a declining number of teenagers and young adults in the population.

Chart 5-1

**AGE DISTRIBUTION OF THE U.S. POPULATION.** The aging of the population means a more experienced work force, a declining share of teenagers, and an increasing share of elderly.

Percent of the resident population



Source: Department of Commerce.

In addition, the share of the population composed of racial and ethnic minorities—particularly blacks, Hispanics, and Asians—continues to increase. Growth in the Hispanic community has been particularly rapid. Since 1980, as a result of higher birth and immigration rates, the Hispanic population has expanded at a rate five times as fast as the rest of the population. Inflation-adjusted weekly earnings among full-time minority workers have not risen since 1980. After several decades of steady growth, relative weekly earnings of black men have also remained flat throughout the 1980s, at about three-fourths of white men’s weekly earnings. Employment has gone up among minority workers, however, increasing labor market income for this group as a whole.



This changing population mix has important implications for the U.S. labor market. The movement of the baby-boom generation into its thirties and forties means a work force that is, on average, older and therefore somewhat less flexible and mobile. The declining share of teenagers and young adults has meant labor shortages for those industries that traditionally hire young people for part-time jobs. At the same time, employment opportunities have increased for those older persons who seek employment.

The growing population of Hispanic and Asian workers, many of whom speak English as a second language, will need to adapt fully to the U.S. labor market. This population will also create new challenges for schools and employers to offer training and assistance to enable these workers to be fully integrated into the economy. Historically, this challenge is familiar to the U.S. economy; current immigration rates, while above those of recent decades, are well below those around the turn of the century. The labor market successfully absorbed these earlier immigrants, who worked hard for economic security in their adopted country. The growing share of racial and ethnic minorities in the work force also underscores the importance of ensuring equal economic opportunities for all workers.

Not only is the composition of the U.S. population changing, but so are the ways in which individuals form families and households. The proportion of individuals who do not live with any relative continues to increase, both because young adults spend more years living on their own and because the number of elderly single individuals has been rising. The share of female-headed households with children is also increasing, from 5 percent of all households in 1970 to 7 percent in 1988. Concurrently, the share of married-couple households has declined, from 71 percent of all households in 1970 to 57 percent by 1988. The nature of these married-couple households has also changed dramatically; in most of today's marriages, both husband and wife work. Even among married women with preschool children, 53 percent work at least part-time outside the home.

These trends underscore the increasing importance of women's earnings. More women are the sole earner in the household, either as single individuals or as single parents. Moreover, married couples are relying more heavily upon women's earnings. By 1985, women's earnings provided 28 percent of all income among white households and 46 percent of all income among black households. Women's wages have risen relative to men's over the past decade, and continued improvements in job opportunities and wages for women will help many low-income households improve their standard of living.

These demographic and household trends set the stage for some of the important labor market challenges of the 1990s:

- Adjusting to an aging labor force and a smaller number of new labor market entrants.
- Absorbing a larger share of workers from varying ethnic and racial backgrounds and ensuring economic opportunities for all workers.
- Continuing the expansion of women's labor market opportunities.

The Department of Labor estimates that more than two-thirds of all new labor market entrants between 1988 and 2000 will be Hispanic, Asian, black, or female. Strong economic growth depends on finding productive employment opportunities for these workers.

## SKILLS AND EDUCATION: INVESTING IN HUMAN RESOURCES

A modern growing economy requires an educated and flexible labor force. The median years of schooling acquired by young adults (aged 25 to 29) rose steadily in this country to an historic high in 1976 of 12.9 years. But there has been no increase since then, while the need for a more highly skilled labor force continues to grow. Raising the quality of education in elementary and secondary schools is at least as important as increasing years of schooling. Higher achievement among students of every age will better prepare tomorrow's workers for productive employment. The Federal Government can play an important leadership role in stimulating improvement in the education and training of U.S. workers, but it is important to recognize that the primary responsibility for this task resides in State and local governments and in the private sector.

### THE GROWING NEED FOR SKILLED LABOR

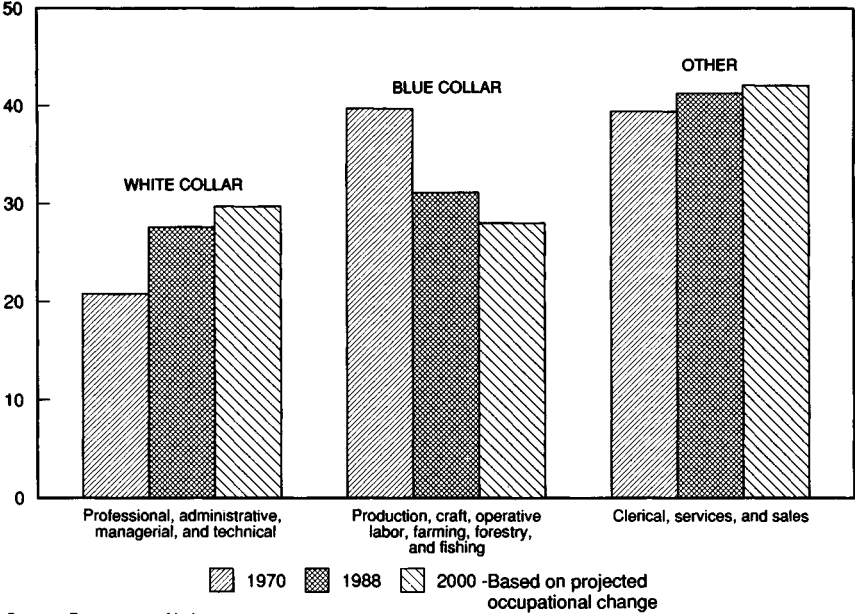
The demand for more highly educated labor has increased steadily for many decades in the United States. As Chart 5-2 indicates, the share of jobs in occupations requiring greater education has expanded. In 1970, 21 percent of the work force were in white-collar jobs (professional, administrative, managerial, and technical occupations). By 1988, 28 percent of workers held these jobs. Correspondingly, the share of blue-collar jobs (production, craft, operative, labor, and agricultural work) fell from 40 percent to 31 percent. The share of sales, clerical, and service jobs rose slightly, and there was a shift toward more skilled jobs within these categories.

These occupational changes have been closely related to the declining share of employment in traditional manufacturing industries and the rising share in service-producing industries. In con-

Chart 5-2

**TRENDS IN OCCUPATIONS.** Projected growth in white collar and service occupations will demand a more highly skilled labor force in the future.

Percent of civilian labor force



Source: Department of Labor.

trast to the stereotype of service-sector jobs as low-skilled labor, the growing service sector in general contains a higher percentage of jobs requiring more education. Fully 24 percent of workers in the service-producing sectors of the economy held a college degree in 1980, while only 20 percent had no high school diploma. In contrast, only 11 percent of the workers in the goods-producing sectors held college degrees, while 30 percent had not completed high school.

As the economy continues to shift toward services, the need for skilled labor will continue to rise. The Bureau of Labor Statistics predicts that the fastest employment growth between now and the year 2000 will occur in white-collar occupations, where 57 percent of all workers are college graduates and 97 percent are high school graduates. Blue-collar occupations, where only 5 percent are college graduates and 71 percent are high school graduates, will continue to shrink.

## EDUCATION AND PRODUCTIVITY

Just as a healthy economy requires investment in physical capital to maintain productivity growth, so it requires investment in

human capital—in the education and training of workers. The skills and attitudes that young workers bring to the labor force are shaped by their families and by the public and private school systems of this country.

Education raises skill levels that increase job performance and productivity. Higher mathematics and verbal achievement scores are associated with higher labor productivity and wages. Years of school are related to increased future earnings and lower risk of unemployment. Moreover, studies show that workers who are better at understanding directions, asking questions, and solving problems are also more productive.

Increased education also provides greater job flexibility for workers in a changing economic environment. When production technologies change, better educated workers learn new procedures more easily. Moreover, when economic change leads to job loss, better educated workers find new jobs more readily.

Concern over declining school quality in the United States has led researchers to probe more deeply into the relationship between educational achievement and economic growth. Studies suggest that 10 to 15 percent of economic growth after 1945 was attributable to improvements in education. Thus, improving the quality of education may have lasting effects on the Nation's standard of living.

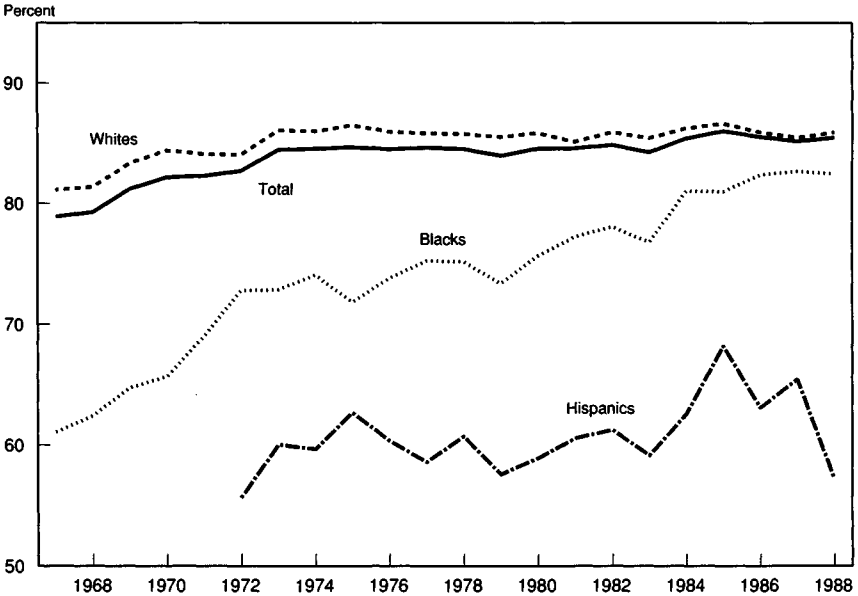
## TRENDS IN BASIC SKILLS

A high school diploma is often considered the minimal requirement for a good job. Currently, 85 percent of the 20- to 24-year-old population has completed high school. High school graduation rates have been largely stagnant since the mid-1970s (Chart 5-3). The primary exception occurs among young blacks, whose dropout rates have fallen and whose high school completion rates have increased steadily to a current level of 82 percent. Among young Hispanics, however, high school completion rates remain at a very low 57 percent. The 15 percent of young adults who are high school dropouts face low earnings and high unemployment rates (Box 5-1). The lack of significant progress over the past decade in raising overall high school completion rates is a serious concern for an economy with a declining need for unskilled workers.

As important as whether a student has completed high school is the level of achievement a student attains in high school. The National Assessment of Educational Progress (NAEP) indicates that high school students' performance in basic subject areas either improved slightly or remained constant over the past two decades, although minority students showed marked improvements. Nonetheless, a significant number of high school students still lack adequate basic skills. The NAEP indicates that about 14 percent of 17-

Chart 5-3

**HIGH SCHOOL COMPLETION RATES BY RACE.** Total high school completion rates have been largely stagnant for the last decade, although completion rates of blacks have increased.



Note: Data are percent of 20 to 24 year olds with high school diplomas.  
Source: Department of Commerce.

year-olds cannot read above the “intermediate” level, attained by nearly three-fifths of all 13-year-olds. Nearly 60 percent of all 17-year-olds cannot read well enough to “understand, summarize, and explain relatively complicated information,” according to the NAEP. International comparisons of science and mathematical competency show U.S. students performing below students from such countries as Japan, South Korea, the United Kingdom, and Spain. Major improvements in the quality of U.S. schools are badly needed. Policies must be implemented that will reward excellence and increase the skills and achievement of U.S. students at all levels of ability.

### TRENDS IN HIGHER EDUCATION

An increasing number of jobs in today’s economy require college-level training. Moreover, maintaining competitiveness in technological development and innovation requires a pool of well-trained researchers with advanced university degrees.

### **Box 5-1.—Widening Earnings Differentials**

Real median hourly earnings (earnings adjusted for inflation) have increased over the past decade, but since the mid-1970s the hourly earnings of young male high school graduates and dropouts have fallen dramatically relative to the earnings of more educated workers. More educated workers have seen substantial real earnings growth, implying that the economic rewards to education are rising. But real earnings among less educated workers have actually declined, even during the expansion of the 1980s. These changes have occurred across all age groups.

These shifts in relative earnings are still only partially understood, but they are clearly related to the increased competition in the world market for manufactured goods, which has led to a decline in high-wage, low-skilled jobs. The widening earnings differences are attributable to more than just sectoral shifts away from manufacturing, however, for they are also occurring within nonmanufacturing industries. If these changes persist, economic opportunities for low-skilled workers in the United States will be seriously limited. The rising rewards to education, however, will enhance the incentives for workers and students to invest in education and training.

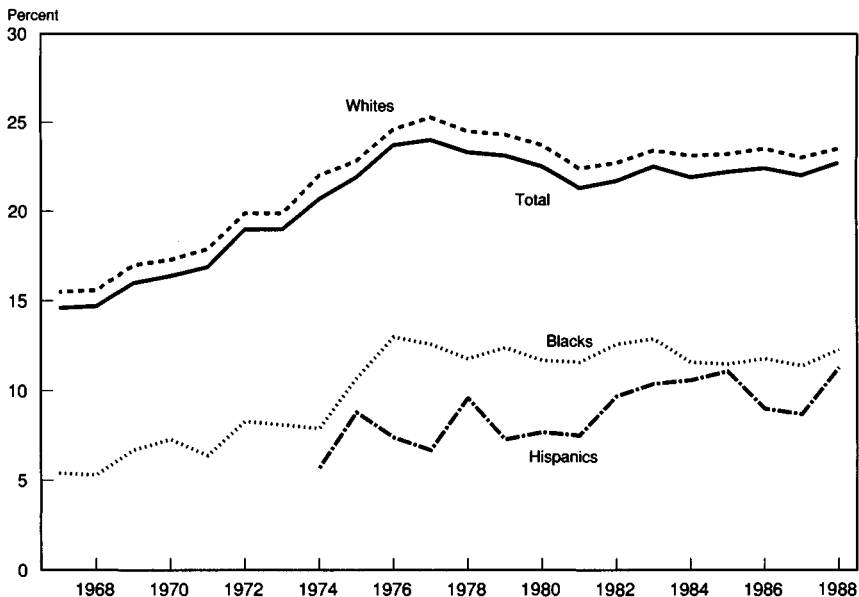
### *Undergraduate Degrees*

The growing demand for skilled workers means a growing need for college graduates. However, the share of 25- to 29-year olds who have completed 4 or more years of college has been virtually unchanged at about 22 percent of the young adult population since the early 1980s (Chart 5-4). Some evidence indicates increasing college enrollment rates among recent high school graduates, but this increase has not yet fed through to college completion rates. Only 12 percent of young blacks and 11 percent of young Hispanics complete 4 or more years of college. Not shown in these data is a small increase in college completions among older students who return to school at a later age.

The rising cost of a college degree may be holding down college completion rates. Since 1980, the cost of a bachelor's degree at 4-year colleges and universities grew twice as fast as the consumer price index. The availability of financial aid (primarily student loans) has helped to offset these mounting costs, but the out-of-pocket expenses paid by students and their families has nonetheless risen.

Chart 5-4

**COLLEGE COMPLETION RATES BY RACE.** After rising through the mid-1970s, the percent of young adults completing four or more years of college fell in the late 1970s and leveled off in the 1980s.



Note: Data are percent of 25 to 29 year olds who have completed four or more years of college.  
 Source: Department of Commerce.

Rising relative wages for college-educated workers at least partially reflect a rising demand for their services. Over the long run, higher earnings of college graduates should induce a greater number of students to attend college, even in the face of rising college costs, although a lag may occur before high school students respond to this incentive.

### *Advanced Degrees*

In an increasingly competitive international economy, the United States needs highly trained specialists and researchers; this requires a growing pool of workers with advanced university degrees. While information is available only on the total number of advanced degrees awarded, assuming that these degrees are given to 25- to 34-year-olds, then about 7 percent of young adults currently receive a master's degree in some field, while slightly fewer than 1 percent receive a Ph.D. These percentages have fallen slightly over the past decade, although large increases have occurred in the number of business and management masters' degrees awarded.

Recipients of advanced degrees are disproportionately white males. Although black and Hispanic students receive more than 8

percent of all bachelors' degrees awarded, they receive only 7 percent of all masters' degrees awarded and 5 percent of all Ph.D.s. In contrast, women receive approximately one-half of all masters' degrees. But women still receive a disproportionately small share of the doctoral degrees awarded, particularly in the natural and computer sciences and in engineering. Attracting a wider range of students into advanced study in all fields will expand the pool of future researchers and broaden the diversity of research perspectives, building the Nation's capacity for creative research and technological advance.

## **ON-THE-JOB TRAINING**

Because many jobs require a significant amount of on-the-job training, workers do not stop learning when they leave school. Some of this training involves classroom participation or organized on-the-job teaching, but much of it involves informally learning procedures and responsibilities. Wages of workers who have received on-the-job training are between 10 and 30 percent higher than those of workers with similar characteristics who do not receive such training, a clear indication that on-the-job training results in productivity increases. On-the-job training also often encourages long-term job retention.

Approximately 5 to 12 percent of the work force claim to have participated in formal on-the-job training programs. (Estimates vary depending on how training is defined.) A higher percentage (around 15 percent) indicate that they have received informal on-the-job training with their current employer.

Theoretically, on-the-job training could reduce skill differentials that result from differences in formal education. The evidence indicates, however, that workers with more years of schooling are more likely to receive formal on-the-job training. Training is also more likely among white workers, more experienced workers, and full-time workers. Thus, there is little evidence that on-the-job training offsets other differentials; given the group of workers who receive it, it may well widen them. As skill demands rise, employers in the years ahead may have an incentive to provide on-the-job training to workers who have not traditionally received it.

## **IMPROVING THE EDUCATION AND SKILL LEVELS OF U.S. WORKERS**

The Administration is strongly committed to improved education and training opportunities for all Americans. State and local governments have traditionally accepted primary fiscal responsibility for education, with the Federal Government providing small amounts of financial support—only 8.5 percent of the funds spent on education in 1986–87, for example. The Federal Government,



however, still plays a vital role in shaping educational policy, as exemplified by last fall's Education Summit. For only the third time in history, a President called together the Nation's Governors and the Cabinet to discuss a vital national issue. As a result of this summit, the Administration is working with the Governors to define national performance goals for the educational system, to increase spending for preschool programs, to strengthen efforts at school reform, and to provide greater flexibility in Federal and State funding for local schools.

### *Improving Elementary and Secondary Schools*

In terms of average per pupil expenditures, U.S. spending on elementary and secondary education is greater than that of most other industrialized nations; only Switzerland spends more resources per child. Despite these expenditures, elementary and secondary students do worse on educational proficiency exams than students from many other nations. Thus, the challenge is not to spend more, but to spend more effectively. Elementary and secondary education in this country must be dramatically improved. For instance, the President has challenged the Nation's schools to make U.S. students first in the world in mathematics and science skills by the year 2000. Improving the quality of education and training will require local school *flexibility* to meet the needs of students with diverse backgrounds, *choice* by students and their families to ensure high-quality schools, and *accountability* of educational institutions to achieving performance goals and standards.

The Administration's proposed Educational Excellence Act (Box 5-2) is designed primarily to provide leadership and support to State and local governments to improve the quality and effectiveness of America's schools and the achievement of America's students. Schools are the Nation's most prominent investment in its human resources; more than 4 percent of gross national product is spent on elementary and secondary schools alone. It has become clear over the past 20 years, however, that spending more money does little by itself to guarantee better schools. Once other aspects of the school environment are taken into account, differences in school expenditures have little relationship to educational achievement. Parental background and home environment are crucial determinants of achievement, but so are effective teaching and certain aspects of school organization, as the Educational Excellence Act recognizes.

Good education requires effective teachers. While teachers' real salaries are now at all-time highs and have been rising relative to those of other workers, many educators still express concern that teaching is not attracting the highest quality applicants. Particularly as a host of new career options have opened up for women, many of whom have traditionally trained as teachers, good female

### **Box 5-2.—The Proposed Educational Excellence Act**

Because of its strong commitment to better schools, the Administration has proposed the Educational Excellence Act. This act will strengthen the quality of education in this country by providing:

- Presidential Merit Schools awards to schools making progress in raising educational achievement, creating a drug-free environment, and reducing dropout rates;
- Presidential Awards to excellent teachers;
- Short-term assistance to districts establishing magnet schools;
- Assistance to States developing alternative teacher certification programs;
- Emergency Grants to urban school districts with severe drug problems;
- A National Science Scholars' program to fund top high school students who undertake college work in the sciences, mathematics, or engineering; and
- Matching funds to support historically black college and university endowment fundraising.

college students have often been encouraged to enter other fields. Many States are working to improve teacher quality by attracting better students into teaching and through alternative certification and better preparation and training. Excellence in teaching can be rewarded through merit pay systems and greater public recognition of effective teaching.

Teachers need an effective school environment in order to do their jobs well. The President has spearheaded an effort, together with the Nation's Governors, to establish national educational performance goals, including a challenge to raise high school graduation rates to 90 percent and to make all schools drug free by the year 2000. A number of States have adopted statewide minimum competency tests to identify students and schools that require special attention and to ensure that schools provide students with an identified set of basic skills. In addition, many school districts are trying to involve private employers much more closely in the school system, both by encouraging employers to offer students valuable work experience, and by soliciting advice from employers on the skills needed by students. Some school districts are also exploring expanded school hours, a longer school year, and greater parental involvement in school decisions. The key is not only to allow schools flexibility to use the educational methods most effective for

their students, but also to demand that schools be accountable for the resulting skill levels of their students.

The Administration particularly supports efforts to improve the quality of schools by offering students and their families a greater choice over which school they can attend, thus expanding competition among schools and increasing parental involvement in the education system. Allowing extensive parental choice among schools is a new idea, and from this and related reforms are emerging models of how school districts can implement choice most effectively.

### *Increasing Participation in Higher Education*

The U.S. system of higher education—vocational programs, colleges, and universities—has long been among the best in the world. It is important to maintain the quality of this vital national resource and, given the increasing demand for skilled workers, to encourage even more students to use it. Improving the Nation's elementary and secondary schools will increase the number of students who are prepared for higher education. But other changes may be desirable as well, including those proposed in the Educational Excellence Act.

Counseling high school students about the possibilities and advantages of further education, and encouraging them to continue their studies, could increase college and vocational school enrollments. Greater involvement of private business in schools may also help, if students learn about the advantages of college or vocational education through internships or contact with older workers. Extremely low rates of college and university attendance among minority students are a particular public concern, especially because these students represent an increasing share of new work force entrants. High schools serving these students should prepare and encourage them to continue their education.

Higher education costs money. Because a student cannot use as collateral the career enhancement that higher education is designed to provide, government has come to provide loan assistance as well as grants and fellowships to low-income students who need this help. The Federal Government provides directly or subsidizes a substantial portion of all financial assistance—loans and grants—received by college students. Continuing support for these college aid programs is important, with continuing attention to their ongoing effectiveness and targeting.

Increased access to graduate degree programs is important to maintain a first-rank group of university-level researchers and teachers. The Federal Government has long encouraged advanced study and research. For instance, the National Science Foundation (NSF) finances fellowships to students pursuing advanced degrees in particular scientific fields. The NSF also underwrites fellowships

that promote advanced research and study by minorities and women in the sciences. Given current concerns about potential shortages of personnel in technical and scientific areas, continued Federal funding of these and similar programs should help encourage a diverse group of students to pursue advanced study.

### *Adult Literacy*

Led by the First Lady's work on behalf of adult literacy, this Administration has raised the level of public concern about the 20 million adult Americans who are functionally illiterate. These adults have difficulty performing simple tasks such as filling out a job application or reading a child's report card. Workers who lack basic skills are less productive on the job and experience higher unemployment. Furthermore, adult functional illiteracy can make it harder to improve school achievement; children of parents with low educational skills are also more likely to do poorly in school and to drop out.

Improvements in the Nation's schools will come too late to help these adults. Adult literacy is the focus of a wide range of private sector programs and volunteer organizations. One study estimated that 36 percent of Fortune 500 companies provide remedial basic skills programs to their workers. An estimated 200,000 volunteers provide individual and small-group tutoring to other adults. A variety of Federal, State, and local agencies also support or provide adult literacy services.

This Administration is strongly committed to reducing adult functional illiteracy. By publicly recognizing volunteers and private organizations working in this area, the Administration has increased the visibility of these efforts. The Administration is also committed to better coordinating Federal adult literacy programs, increasing Federal funding for these programs, and expanding research on effective adult literacy teaching techniques.

### *Job Training*

Although improvements in the public and private school system of this country are important, classroom schooling is not the only way to provide a quality work force. On-the-job training may be more appropriate. The primary responsibility for training rests with employers and workers. As new skills are needed, employers have incentives to provide appropriate training to their workers, and workers have incentives to seek such training.

The Federal Government has a history of limited involvement in job training, largely through programs aimed at low-skilled and unemployed workers. The leading public job training program today is the Job Training Partnership Act (JTPA), which works with the private sector to educate, train, and provide employment-related services to targeted groups of workers. JTPA finances programs for

displaced workers, disadvantaged youth, migrant and seasonal workers, Native Americans, and veterans. The public-private partnership created by JTPA is important to its effectiveness. Additional skills are useful to individuals only if the workplace needs them.

*The Administration has proposed amendments that improve the targeting and effectiveness of JTPA services for workers facing serious barriers to employment.* These amendments include enhanced performance standards to increase accountability; better coordination of services and more attention to individual needs to improve program quality; and more intensive and comprehensive services for disadvantaged youth and adults to improve targeting. In addition, the Administration is implementing the Family Support Act of 1988 (discussed below), which requires all States to provide education, job training, and job placement programs for public assistance recipients.

## THE CHALLENGE FOR THE 1990s

To ensure high economic growth in the future, all American workers must acquire effective skills and education. This effort will require building a three-way network consisting of the public schools and other government training programs, the private sector, and the households of workers, parents, and children who are part of both the school system and the work force.

## LABOR SHORTAGES, WORKER MOBILITY, AND IMMIGRATION

As the U.S. economy enters the 1990s, concerns are growing about the effects of possible labor shortages on production and wages. Employers in some areas of the country report a shortfall of entry-level workers and are paying wages well above the minimum wage to attract new employees. Other firms report difficulties in hiring suitably trained employees for more skilled positions.

In many cases, limited supplies of workers with particular skills or in particular geographic areas have developed from changes in the labor force, forcing employers to intensify their efforts to attract new workers. In other cases, uneven patterns of economic growth and technological change have altered the skill requirements or location of jobs, resulting in labor shortages for employers in growing areas or industries and job losses among workers whose skills have become obsolete or who find themselves in areas with few job opportunities.

Most of the time the labor market has readily and naturally resolved such imbalances. Employers perceiving a labor shortage have often raised wages to attract workers, encouraging new entry or geographic mobility. Other firms have relocated to areas with a

greater supply of available workers, coupled lower hiring standards with remedial and on-the-job training, or targeted nontraditional sources of labor such as older workers and the handicapped. Immigration has also been an important source of new workers in particular industries and occupations.

*Labor markets typically do not experience long-run imbalances, but gradually adjust to changes in supply and demand.* Governments can help the market to adjust more promptly and efficiently by avoiding or easing regulations that inhibit labor mobility and restrict the use of alternative sources of labor.

## LABOR MOBILITY

In recent years, changes in the composition of output and in methods of production have shifted the demand for workers across industries, occupations, and geographic areas. As some jobs were eliminated, new jobs were created that required new skills and abilities. Because job elimination often occurred in geographic areas or in industries different from those of job creation, some workers were displaced from their jobs while others found new opportunities.

Overall, the evidence suggests that workers have adapted quickly to these structural changes. Researchers estimate that the gross flows of workers between employment and nonemployment vastly exceed the net changes in employment and unemployment reported in the official data. Even when the economy shows no net job creation, some estimates suggest that roughly 10 percent of all jobs each year are new, resulting from new business creation or the expansion of existing businesses. This job creation offsets the annual disappearance of about 10 percent of the jobs in the economy as firms close their doors or lay off workers. Compared with such rapid rates of job turnover, the annual net increase in jobs has been roughly 3 percent during the current economic expansion. *The ability of the United States to combine high job turnover with rapid employment growth and low unemployment reflects the flexibility of U.S. labor markets and the adaptability of the U.S. labor force.*

For some workers, of course, shifts in labor demand can create problems of adjustment, characterized by spells of unemployment or reductions in wages. These problems do not suggest that governments should prevent changes in the labor market. Rather, policies should be designed to ease the transitional disruptions associated with labor market change and to reduce barriers to mobility. The experience of workers who make successful job transitions indicates that encouraging geographic and skill mobility will promote more efficient labor market responses to economic change.

## GEOGRAPHIC MOBILITY

All regions have shared in the current economic expansion, enjoying sizable employment gains and declining unemployment rates. But the pace of economic growth over the past decade has varied across regions. Many areas on the eastern and western seaboards and in the Southeast have experienced strong economic growth, aided by industrial diversification and a shift toward services since the mid-1970s. Growth in some areas of the Midwest has been slower, reflecting foreign competition in many heavy manufacturing industries and problems in agriculture. Many local economies in the Southwest still suffer the lingering effects of the decline in oil prices between 1981 and 1986.

### *National Migration*

Free movement of workers within the United States offers a potential source of labor to employers in prosperous areas and potential opportunities for workers in depressed areas. For example, strong employment gains in both the South Atlantic and Pacific Coast regions have stimulated increased migration to those areas. In contrast, net outmigration has occurred from the Midwest and East South Central regions, where economic growth has been less robust.

Despite the widening regional differences in economic opportunities, overall migration rates did not increase in the 1980s. Between 1980 and 1987, about 6 percent of the population moved to a different county each year and about 3 percent moved to a different State, similar to mobility rates in the 1970s.

In part, workers may not have migrated more because in many areas higher living costs offset better labor market opportunities in the 1980s. Regional variation in housing prices widened considerably, as prices for both new and existing homes rose rapidly in various markets of the New England, mid-Atlantic, and Pacific States, but posted declines or only small increases in many parts of the South and Midwest. Because the largest increases in housing prices often occurred in areas with the greatest economic gains and employment opportunities, some workers who might otherwise have migrated to those areas were likely discouraged by high housing costs.

Other factors also influence migration. For example, differences in climate and local public services are an important consideration for many households and partly explain the steady migration from the snowbelt areas of the North to the sunbelt regions of the South and West over the past two decades. A more important factor in the 1980s, however, may have been the aging of the U.S. population. Possibly because of stronger family and social ties, established workers are less likely than younger workers to uproot their fami-

lies and relocate to another part of the country. As a result, the aging of the baby-boom cohort may have reduced the geographic mobility of the population in the 1980s. While an older work force in the 1990s will continue to hold down geographic mobility, increases in the percentage of young, educated workers, who often participate in national rather than regional labor markets, could partially counteract this trend.

### *Firm Location*

Firms also migrate, often relocating to labor markets with larger pools of potential employees. Moreover, new firms, which contribute significantly to economic growth and job creation, base their location decisions, in part, on wage costs and labor quality. In effect, the market often brings the jobs to the people.

In the 1970s, this type of mobility helped to reignite growth in once-depressed areas. As local economies in the industrialized Northeast deteriorated in the wake of the energy shocks of the 1970s, for example, new ventures in light manufacturing and services took advantage of the relatively experienced work forces remaining in those areas. Similarly, much of the improvement in the economies of the sunbelt regions resulted from decisions by employers to locate new plants where labor costs were traditionally low. And while employers in some areas located parts of their operations abroad, by outsourcing production to low-wage countries, some foreign producers set up plants in the United States.

More recently, changing patterns of regional growth have again reduced the regional dispersion in labor markets. Sluggish employment growth has led to an increase in unemployment rates over the past year from their very low levels in New England and in some mid-Atlantic States. At the same time, however, employment opportunities have improved markedly in many Southern States, reducing joblessness in areas experiencing relatively high rates of unemployment.

Recent advances in telecommunications and computers have enhanced a firm's ability to link dispersed locations—both office to office and home to office. As a result, the physical location of workers and jobs may become even less important, increasing the speed at which market forces balance geographic variation in economic growth.

## OCCUPATIONAL MOBILITY

As might be expected, economic growth in the 1980s has also led to shifts in employment across occupations and industries. Productivity gains and international competition have eliminated many traditional blue-collar jobs, while the computer revolution and the expansion of the service economy have boosted the demand for technical and service-oriented skills. In response, workers have dis-



played a high degree of occupational mobility, either by switching occupations voluntarily as economic opportunities improved, or out of necessity, after losing a job.

### *Voluntary Job Changes*

About 10 million workers, or 9 percent of employed workers, switched occupations in 1986, the latest year for which data are available. Nearly 90 percent of those workers who switched occupations did so voluntarily, following a career plan, or seeking better pay or working conditions. Such job changes enable workers to improve their economic status and, at the same time, allow the labor market to adjust to changing demand conditions.

The propensity to change occupations is highest for younger workers. Moreover, much of the labor market adjustment to changes in the composition of demand occurs through the initial choice of a career, usually by relatively young labor force entrants. This propensity is not surprising, given older workers' large accumulated investments in training and skill development. But it suggests that the aging of the baby-boom cohort could reduce the occupational mobility of the work force as a whole in the 1990s.

Education offers a possible solution to the demographic factors reducing occupational mobility. Because of the expanded opportunities available to them, more educated workers exhibit higher mobility rates than less educated workers. For tomorrow's work force, greater educational achievement can both broaden workers' initial career options and improve their potential for advancement.

### *Displaced Workers*

Although most workers who changed occupations in 1986 did so voluntarily, 1.3 million persons switched occupations as a result of a job loss, typically reflecting a plant closing, production cutbacks, or elimination of a particular job. Such job displacements are an expected result of economic and technological gains that benefit the population as a whole, but can bring hardship to individual workers. Clearly, the ability of these displaced workers to transfer their skills to another job is important in maintaining the flexibility of the U.S. work force.

Many displaced workers find employment fairly soon after their job loss. More than 25 percent of displaced adult workers who switched occupations in 1986 found new jobs right away. More than 70 percent of workers displaced between 1983 and 1987 were employed in 1988; another 15 percent had retired or otherwise left the labor force.

Significant numbers of displaced workers were not successful in finding new jobs, however. The unemployment rate for displaced workers—14 percent in 1988—is well above the national unemployment rate. And more than one-quarter of those who did find new

full-time positions experienced a drop in earnings of more than 20 percent.

In general, higher education levels and geographic mobility appear to lessen the costs of a job loss. Reemployment rates for displaced workers were significantly higher among more educated workers; higher levels of schooling substantially reduced both the time spent unemployed and wage losses. Workers who moved to another area after a job loss were also much more likely to find another job, with the percentage of displaced workers who moved typically averaging about 13 percent.

Retraining is another important component of strategies to increase work force flexibility, particularly for workers with low general skills. Title III of the Job Training Partnership Act authorizes funds for retraining displaced workers. This program is projected to serve about 260,000 workers during the 12-month period beginning July 1, 1989, with an average training period estimated at 26 weeks.

Finally, the private sector also plays an important role in assisting workers threatened with a job loss. Many employers attempt to reassign workers within the firm when jobs are eliminated by new technologies. In addition, several major union contracts now mandate retraining for workers displaced for this reason.

## IMMIGRATION

When labor market mobility is insufficient to eliminate area- or industry-specific labor shortages, employers often turn to immigrants. Throughout U.S. history, economic growth and job opportunities have drawn millions of foreign-born persons to this country, both legally and illegally. Of course, factors influencing immigration include family ties and the freedoms offered by the United States. But whatever their motivation for coming to America, immigrants traditionally have adapted well to the U.S. labor market and have contributed significantly to long-run U.S. economic growth.

Between 1980 and 1988, legal immigration averaged 580,000 persons per year—about one-quarter of 1 percent of the U.S. population. This rate of immigration was above the pace of the 1970s, but well below the average immigration rate prior to 1921, when numerical restrictions on immigration were first introduced. Efforts to control illegal immigration, estimated by the U.S. Census Bureau to have added between 100,000 and 300,000 illegal aliens each year in the first half of the 1980s, led to the Immigration Reform and Control Act of 1986. This act restricted the employment opportunities of illegal aliens by imposing penalties on employers who hired them, but offered legal immigrant status to aliens who were in the United States before 1982.

Do immigrants take jobs that would otherwise go to U.S. workers and depress wages in particular areas and occupations? The many case studies of this question provide no conclusive answer, and disagreement over the existence and magnitude of any effects continues to be widespread. However, one recent study of 120 cities between 1970 and 1980 found that, on average, an increase in the number of immigrants equal to 1 percent of a city's population (more than four times the annual rate of immigration to the United States as a whole) had a negligible effect on the employment status of less-skilled native workers and reduced their wage rates only about 1 percent over that 10-year period.

Moreover, numerous studies suggest that the long-run benefits of immigration greatly exceed any short-run costs. The unskilled jobs taken by immigrants in years past have often complemented the skilled jobs typically filled by the native-born population, increasing employment and income for the population as a whole.

Currently, U.S. immigration policy is based primarily on the humanitarian principles of family reunification and refugee resettlement. Fewer than 10 percent of immigrants in recent years were admitted because of their skills. Less skilled immigrants will clearly continue to be a valuable resource for employers. Yet, with projections of a rising demand for skilled workers in coming years, the Nation can achieve even greater benefits from immigration by augmenting this traditional emphasis on family reunification with policies designed to increase the number of skilled immigrants. Immigrants with more education or training will likely make the greatest contributions to the U.S. economy, suggesting that basic skill levels could be one guide to admitting new immigrants under a skill-based criteria.

## POLICIES TO ADDRESS SKILL SHORTAGES

Policies designed to increase the quality and extent of education among today's youth may be the most important investment society can make to promote greater labor market flexibility in the years ahead. Continuing efforts at all levels of government to remove barriers to geographic and occupational mobility also are warranted.

For many workers, the lack of affordable housing restricts mobility. Linking Federal housing subsidies to tenants and making the subsidy portable is one way to overcome housing affordability barriers to greater geographic mobility. Eliminating State and local laws—such as rent control and overly restrictive building codes and zoning regulations—that limit the availability of such units, and enactment of the Administration's proposal, Homeownership and Opportunity for People Everywhere (discussed below), could also increase labor flows to rapidly growing areas.

Similarly, efforts to revitalize economically depressed areas through removal of barriers to growth could transfer job opportunities to areas of high unemployment. The Administration's commitment to develop public/private partnerships through the creation of urban enterprise zones can encourage private investment and job creation in these areas.

Immigration policy can also contribute to the smooth operation of the U.S. labor market in the 1990s. While continuing the humanitarian principles that have shaped immigration policies in the past, the Federal Government can encourage the immigration of workers with skills important to the economy, both by increasing the number of visas for workers with a job in hand and by increasing quota levels for potential immigrants with higher levels of basic and specific skills. This approach will strengthen the prospects for successful assimilation of immigrants into U.S. society and increase the economic gains from immigration for the population as a whole.

Efforts to expand domestic sources of labor will also help prevent potential shortages. The increasing share of healthy active elderly persons in the population could be a particularly useful labor market resource. In the years ahead, it may be increasingly common for employers to provide incentives for older workers to postpone retirement, or to accept part-time work after retirement, giving firms continued access to the expertise of the Nation's most experienced workers.

## IMPROVING THE OPPORTUNITIES OF LOW-INCOME HOUSEHOLDS

This Administration is committed to an antipoverty agenda calling on the Federal Government, in partnership with State and local governments, to:

- Maintain a strong economy to ensure economic opportunities for unemployed and underemployed Americans.
- Work with the private sector to provide the training, assistance, and incentives that will help those with the ability to support themselves to achieve independence and self-sufficiency.
- Supplement family resources when necessary to provide ongoing and adequate support for those in need and unable to work, particularly the elderly and severely disabled.

Integration of more low-income households into the economic mainstream will not only help these families gain economic independence, but will also increase the productive resources of the Nation and help maintain economic growth through the 1990s.

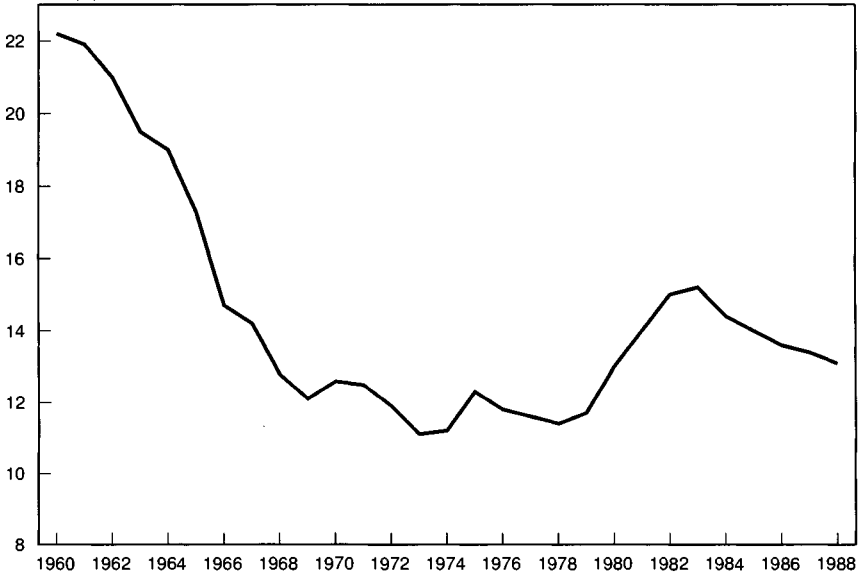
## POVERTY IN THE UNITED STATES

The primary measure of economic need in the United States is the poverty rate, the percentage of individuals who live in families with income below the poverty line. (The poverty line, which varies with family size, is an approximate measure of the minimal amount of income necessary to purchase food, shelter, and other necessities.) As Chart 5-5 indicates, the poverty rate fell steadily through the 1960s, reaching a low of 11.1 percent in 1973, but rose again to a peak of 15.2 percent during the recession of the early 1980s. By 1988, the poverty rate was down to 13.1 percent, with 32 million individuals below the poverty line. While the poverty rate has fallen steadily for the past 5 years, too many families still confront daily problems of economic need.

Chart 5-5

**POVERTY RATE.** The poverty rate rose sharply in the early 1980s, but has since declined.

Percent of population



Source: Department of Commerce.

The aggregate poverty rate obscures significant differences among different types of households. The elderly have experienced the most dramatic decline in poverty rates; by 1988, the poverty rate among elderly persons was at an historic low of 12 percent. While poverty has fallen among the elderly, however, the poverty rate among children has risen, as Chart 5-6 shows. In 1988, one child in five lived in a family with income below the poverty line.

High poverty among children is closely related to the growth of female-headed households in the population, who have disproportionately high poverty rates. In 1988, more than one-half of all poor children lived in female-headed families. In addition, poverty rates are much higher among minorities than among whites, as Chart 5-7 indicates. While 10.1 percent of white individuals were poor in 1988, 31.6 percent of black individuals were poor, and 26.8 percent of Hispanic persons were poor. In female-headed black and Hispanic families with children, poverty rates approached 60 percent.

## **DISTINGUISHING AMONG THE POOR**

Individuals who can work may lack training, available jobs, or access to adequate and affordable child care. In the long run, these individuals may be able to support their families, but need short-term assistance to reach self-sufficiency, such as temporary income support, child care, assistance in household management, job training, and assisted job search. Government programs to help these individuals must balance the need for adequate short-term assistance with the goal of long-term independence.

Not all poor people need this type of assistance. Some are temporarily poor, but have the resources to escape poverty quickly without any government assistance. The 6 percent of the poor who are full-time students are in this category. Other poor individuals cannot be expected to earn the income necessary for their support. This group includes both children and elderly persons, who together constitute almost one-half of the poor, and those with serious mental or physical disabilities. If these individuals do not have family support, society must provide the safety net of resources necessary for their support.

It is sometimes quite difficult to determine whether a particular individual can work. For instance, single mothers with very young children may be unable to work because of household demands rather than because of any inherent lack of earning ability. Arguments over the generosity and scope of public programs often revolve around these difficult judgments. The remainder of this section will focus on those low-income households who are generally considered able to benefit from employment-based strategies.

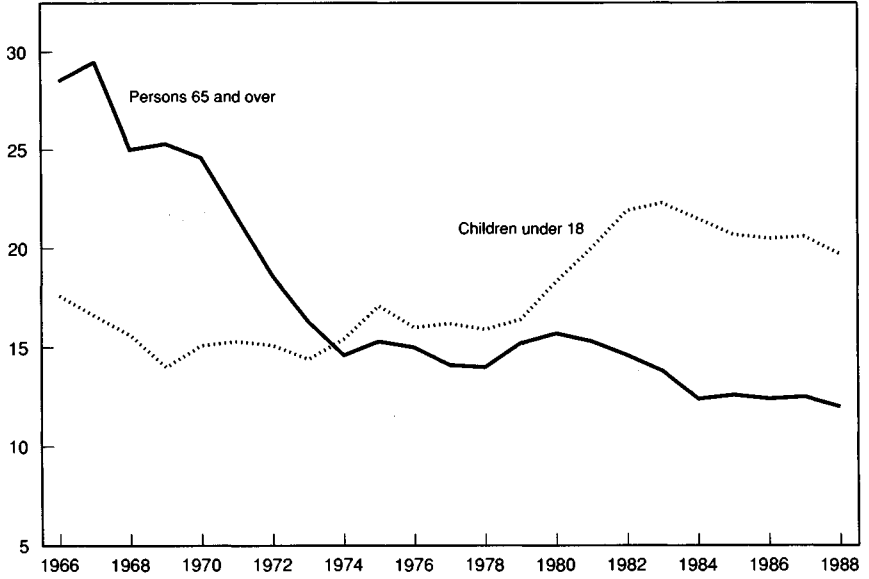
## **THE VALUE OF A HEALTHY ECONOMY**

For the employable poor, the most important government responsibility is to maintain a stable and healthy economic environment that offers positive incentives and opportunities for all workers. The burden of unemployment is disproportionately borne by low-wage and less skilled workers. Indeed, the high poverty rates of the early 1980s reflected the high unemployment rates experienced at that time.

Chart 5-6

**POVERTY RATES BY AGE.** In the 1980s poverty rates of the elderly reached a record low, while children's rates remained high.

Percent of population

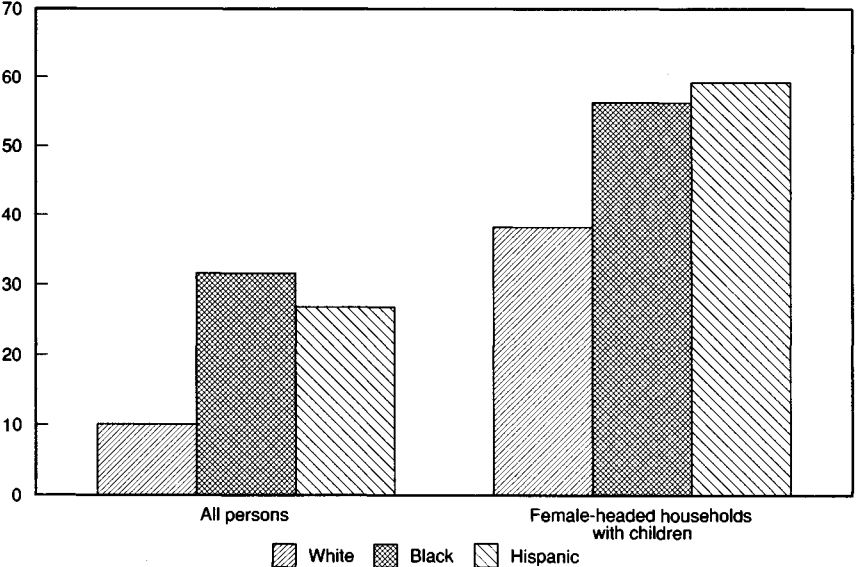


Source: Department of Commerce.

Chart 5-7

**POVERTY RATES BY RACE, 1988.** Poverty rates for blacks and Hispanics exceed those for whites, while rates for female-headed households are high regardless of race.

Percent



Source: Department of Commerce.

In contrast, when unemployment falls and the demand for workers increases, unemployed workers can find jobs and underemployed workers can increase work hours. Younger low-income households, particularly male-headed households, typically show strong income growth in an expanding economy, predominantly because of increased hours of work. The recent declines in poverty have occurred largely because of the sustained economic expansion.

## TARGETED ANTIPOVERTY PROGRAMS

While a healthy economy is important in any government strategy to fight poverty, by itself it is not enough. Not all low-income households benefit from economic expansion. Elderly households, who are largely unable to expand their work hours, tend to show few gains. Female-headed households have not experienced substantial income gains during economic expansion. One reason why poverty rates have not fallen further during the economic expansion of the 1980s is the increase in female-headed families, whose incomes have been less responsive to economic growth. Thus, general policies that foster economic growth must be buttressed by strategies aimed at assisting particular groups.

### *Women and Children*

Recent Federal initiatives, currently being implemented by this Administration, are designed primarily to provide new economic opportunities for poor women and their children. A disproportionately large share of poor families are headed by women—53 percent in 1988—and 90 percent of these families contain children under age 18. The steady increase in the share of poor families accounted for by female-headed families has been referred to as the feminization of poverty. Concern over this trend, coupled with concern over high children's poverty rates, has resulted in a new approach to assistance for this population.

The primary income assistance program designed to aid low-income single-parent families has long been aid to families with dependent children (AFDC), which provides income supplements to eligible low-income families with children. Responsibility for AFDC's funding and program structure is shared among the Federal and State governments. The median State in January 1989 paid AFDC benefits of \$360 per month to a woman with two children (the average AFDC family) and no other income. When combined with food stamps worth \$210 per month, this support provided the family with benefits equivalent to \$570 per month, 73 percent of the 1988 poverty level. AFDC benefits are set by the States, however, so that a family receiving AFDC and food stamps will have benefits equivalent to less than 50 percent of the national poverty line in some States and close to 100 percent in others. Although income from AFDC plus food stamps is the base level of economic support



available to a family, most poor families receive additional public assistance from other programs (such as fuel assistance) or they have other income sources, thereby raising their total resources relative to the poverty line. In addition, all AFDC recipients are eligible for health care assistance through medicaid.

AFDC was initiated in the 1930s to aid needy children without fathers. One of its primary purposes was to prevent widows from being forced into the labor market, allowing them to remain at home with their children. The changing nature of the program and the rising participation of women in the labor force, however, have resulted in significant recent changes in AFDC. Concern over long-term reliance on AFDC has led to an emerging consensus that AFDC participants need more than cash assistance; if they can work, they should also be expected to participate in education, training, and job placement programs to enable them to become economically self-sufficient. The "workfare" experiments run by a variety of States in the 1980s indicate that targeted work experience, job search, and job placement programs can be cost-effective techniques that assist AFDC recipients to work more and rely less on AFDC income. Furthermore, the individuals who benefit most from these programs are those women with little or no recent work history.

*The success of these State experiments led to passage of the Family Support Act of 1988, which requires all States to establish a Job Opportunities and Basic Skills Training (JOBS) program for eligible AFDC recipients.* The Administration is strongly committed to working with States to ensure that the JOBS program is effectively implemented to expand employment opportunities for poor women, as well as for the small number of two-parent families currently receiving AFDC. AFDC recipients who are able to work are expected to recognize their mutual obligation to their community: in exchange for AFDC support, they are required to participate in JOBS. States are given flexibility to design the education, job training, and employment programs most suitable for their population and economy. The JOBS programs must provide child care assistance as well as transitional child care assistance and medicaid coverage for up to 12 months after an individual leaves AFDC because of increased earnings.

The Administration is also committed to enforcing child support payments. Child support payments ensure that both parents share the economic burden of raising children. In 1987, only 44 percent of poor female-headed families with children had child support awards, and only 72 percent of these families (32 percent of all poor female-headed families) received child support payments, many of which were less than the award. In recent years, States and the Federal Government have sought to levy and enforce child support

orders on absent fathers. The Family Support Act strengthened the ability of States to establish mandatory payment guidelines and to locate fathers and directly withhold their wages.

This policy alone will not have substantial effects on the poverty rate among women and children, both because absent fathers of many poor children are unemployed or employed at very low wages and because child support collected on behalf of AFDC families is primarily used to offset AFDC expenditures and thus does not produce much of an increase in overall family income. But, for women who increase their earnings and move off AFDC, child support payments can be an important additional source of income. Moreover, child support enforcement has the added social benefit of emphasizing that both parents have ongoing responsibility for their children.

### *The Working Poor*

Providing incentives and opportunities for employment and better jobs among low-income families increases their economic independence, decreases government spending, and increases the productive work force of this country. About 48 percent of all poor families contain an employed worker, while 16 percent contain a full-time, year-round worker. Increased economic opportunities that allow these working poor families—especially those working full-time and year-round—to escape poverty will also provide incentives for other low-income persons to increase their employment.

*For these reasons the Administration has proposed a new and refundable income tax credit, the child credit, for families with an employed parent and young children.* This credit would increase income by lowering taxes among low-income families or by providing cash supplements to families with no tax liability. In addition, the Administration proposes making the existing dependent care tax credit refundable to increase its usefulness to poor families with child care expenses. This approach, rather than the alternative of subsidizing child care centers, allows families to choose the type of child care they need and involves less government regulation.

*The Administration has also proposed a dramatic expansion in the Head Start program for preschoolers.* This program significantly improves children's subsequent school performance and would also help low-income parents meet their child care needs. The 1991 budget requests a \$500 million increase in budget authority for Head Start, a 36-percent increase over 1990 spending.

The President has signed an increase in the minimum wage to \$4.25 per hour by 1991, and he sought and obtained a lower training wage for newly employed teenagers. This innovative provision will encourage employers to hire and train young workers and will

offset the loss of employment opportunities that teenagers have historically experienced when the minimum wage is increased.

Providing incentives for labor market activity among low-income households is particularly important because it offers role models for children and teenagers in poor households. Teenagers and young adults in low-income families need to be convinced that those who play by the rules—finish high school, stay off drugs, do not get pregnant as a teenager, and find full-time work—can escape poverty and make a better life.

Lack of medical insurance can also cause problems for the working poor. Controlling for other differences, the uninsured are less healthy and receive less medical care than the insured; they also pay a higher share of medical expenses out-of-pocket. In 1987, 29 percent of all poor individuals were uninsured. In fact, the rate of uninsurance is higher among the working poor than among the nonworking poor because persons who receive AFDC (or supplemental security income, a program for poor elderly and disabled individuals) also have access to publicly provided insurance through medicaid. Many low-wage jobs, especially jobs in small businesses that cannot obtain low-cost group insurance coverage, do not offer health insurance.

*Recent expansions in medicaid eligibility mandate that States must provide medicaid coverage to pregnant women and children under age 6 in families below 133 percent of the poverty line by April 1990. At their option, States may expand coverage to pregnant women and infants in families up to 185 percent of the poverty line. These medicaid expansions may be particularly useful in reducing infant mortality in low-income families.*

Implementing the President's National Drug Control Strategy will help decrease the health problems experienced by drug abusers and their families. Medical care for women and children has become particularly costly in certain inner-city locations where cocaine addiction of mothers is linked to serious infant and maternal health problems. Although the number of poor mothers who are drug abusers is very small, the visibility and cost of the problems they create underscore the need to wage an effective war on drugs.

### *The Unemployed*

The Administration's efforts to improve the quality of schools, its war on drugs, and its education and training programs for disadvantaged persons are all designed to bring more individuals into productive employment. After 7 years of economic growth, the share of the poor who are unemployed, or seeking more work than they can find, has fallen. But some individuals who may be able to work remain unemployed, often because they lack the necessary labor market experience, work skills, or training. This condition

may be particularly costly to younger persons who have never held a steady job.

The Job Training and Partnership Act of 1982 established a structure of job training programs directed by private firms through local private industry councils. JTPA is projected to provide job training and placement services for 1.3 million economically disadvantaged individuals in the 12 months beginning July 1, 1989. Indeed, the expanded work programs for AFDC participants are expected to rely heavily upon local JTPA programs for job placement. The Administration's proposed amendments to JTPA (discussed above) include the creation of two special programs targeted on disadvantaged youth and adults. The Administration has also proposed a challenge grant program, Youth Opportunities Unlimited, for youth in high-poverty inner-city or rural areas.

The need to increase employment is particularly acute among minority populations in high-poverty urban areas, a group that is sometimes referred to as the underclass. Overall, unemployment rates among minority youth have fallen. In areas of concentrated poverty and deprivation, however, there is evidence of high rates of drug use, low educational achievement, high rates of teenage pregnancy, and alienation from legitimate employment.

No single policy can solve the multiple problems experienced by individuals in these areas; a multidimensional strategy is needed. Administration initiatives to improve inner-city public schools, combined with anti-drug efforts, job training, and job placement, should help some individuals. Targeted programs to geographically defined high-poverty areas, such as urban enterprise zones, may also help focus resources on concentrated poverty and its related effects on a community.

Several effective programs have brought young persons from highly disadvantaged backgrounds into the labor market. The Job Corps has 25 years of experience in providing such teenagers with education, job training, and placement. Research evaluations suggest that Job Corps participants are employed more, earn more, and are less likely to become involved in criminal activity than persons of similar background who were not in the Job Corps. Promising model programs include JOBSTART, which focuses on high school dropouts with low literacy skills, and STEP, which provides summer job training and educational services to teenagers.

### *Homelessness and Housing*

This Administration has proposed expanded funding and new programs to address the problem of homelessness and housing affordability among low-income families. One of the more visible problems in urban areas in the 1980s has been homelessness. Not only is homelessness a social problem, but it is also a barrier to effective participation in the labor market. Reliable estimates of the

homeless population are difficult to obtain, and few national estimates have been made. An extensive recent study estimated that 500,000 to 600,000 persons were homeless in the United States over a given week in 1987, while approximately double that number experienced homelessness at some point during that year. As the study acknowledges, however, no one knows exactly how many homeless people there are in the United States.

The homeless population is generally composed of at least three distinguishable groups. First, there are those who have a history of serious mental illness. Although estimates vary, most studies indicate that around one-third of the homeless population are mentally disabled. This group is often the most difficult to reach and the least likely to use temporary shelters and care facilities. Second, homeless families, primarily low-income women and children, constitute about one-quarter of the homeless, and tend to be actually on the streets for the shortest period of time before they enter the public assistance system. The remainder of the homeless are predominantly single men between the ages of 20 and 50. Many of these men work intermittently; some receive food stamps or small payments from State assistance programs; many have ongoing problems with alcohol or other drugs.

Changes in urban housing markets are often cited as an important cause of homelessness, along with the deinstitutionalization of the mentally disabled, drug abuse, spouse abuse, and other problems. Rising rents and land prices and the rejuvenation of downtown areas have displaced low-income populations. The availability of boarding houses and rooms for rent, typically used by poor single adults, has diminished in most cities. In some areas, rent control, restrictive building codes, and zoning regulations also may have decreased the stock of low-income housing.

The President has proposed programs that will provide housing assistance and supportive services to the most troubled homeless individuals as part of his HOPE initiative (discussed below). The Administration also supports full funding of the Stewart B. McKinney Homeless Assistance Act. Passed in 1987, the McKinney Act was the first legislation to authorize major direct Federal expenditures for emergency food, shelter, counseling, and other services for the homeless. For the past 3 fiscal years, the Congress has appropriated less money than it authorized, a situation the Administration seeks to rectify in its proposed 1991 budget.

*Homelessness is a serious issue, but housing affordability is the dominant housing problem confronting most poor.* It is estimated that more than 40 percent of the poor paid more than one-half of their income for housing in 1985. The Administration continues to emphasize housing vouchers or other tenant subsidies as the most efficient way to address low-income housing needs.

The Administration has also proposed a major new program, *Homeownership and Opportunity for People Everywhere* (HOPE) to expand housing opportunities for the poor. This proposed legislation includes tax incentives to encourage greater construction and rehabilitation of low-income housing and to encourage savings for downpayments; opportunities for residents of federally subsidized housing projects to have more voice over their housing, through tenant management and potential tenant-purchase plans; and 50 Housing Opportunity Zones that would establish Federal-local partnerships in metropolitan jurisdictions to remove barriers to affordable housing.

### *Disabled and Employable*

The Administration supports a major new initiative to increase the economic opportunity for disabled persons. Surveys estimate that between 20 million and 50 million Americans are disabled. This large range reflects very different definitions of disability; while every study counts the 650,000 persons in wheelchairs, not all of them include the more than 24 million with hypertension. Of course, many disabled persons are fully employed, especially if a broad definition of disability is used. Many others are elderly, or do not seek employment. But because some disabilities limit the range of work options available and because some of the disabled have suffered discrimination in the workplace, disabled individuals suffer a disproportionate incidence of poverty. In 1988, 28 percent of poor household heads reported that they were not working because they were ill or disabled. Conversely, among those household heads who report that they do not work because they are ill or disabled, fully 42 percent are poor.

The primary program explicitly designed to assist disabled low-income households is supplemental security income, a Federal program available to individuals with low incomes who are certified as unable to work. In addition, those whose disability occurred on the job are typically able to receive workers' compensation, while those who have worked in the past are often eligible for social security disability payments. Several Federal programs also provide funds for work rehabilitation for the disabled.

*The Administration supports the Americans with Disabilities Act (ADA), designed to lower barriers to employment, public services, and public facilities for the disabled population.* Inaccessible workplaces and discrimination against disabled individuals have prevented many disabled persons who are able and willing to work from realizing their full economic potential. Major progress occurred with the passage of the Rehabilitation Act of 1973, which required institutions receiving Federal funding to make their facilities and services accessible to disabled individuals. Survey results still indicate that several million disabled individuals who want to

work are unable to find employment, however, and the ADA is designed to open new employment opportunities for these persons.

## FUTURE DIRECTIONS

Experience has shown that designing policies to alleviate poverty is a difficult task. Among the issues that will continue to be debated in the years ahead are the following:

*How can low-income households be integrated into the economic mainstream?* A delicate balance must be maintained between providing adequate short-term assistance and preventing long-term dependence. Government programs should move people toward employment and self-sufficiency. A growing job base and a healthy economy are crucial ingredients of this strategy.

*How can social policy goals be balanced against budget realities?* In a period of budget stringency, program expenditures must be effectively targeted to those who will benefit the most from them.

One of the major challenges of the 1990s will be to develop effective antipoverty programs that further reduce economic need in this country by increasing the opportunities for productive employment among those who are currently poor.

## MAINTAINING LOW UNEMPLOYMENT AND LOW INFLATION

The civilian unemployment rate in 1989 averaged 5.3 percent, its lowest level since 1973. And the percentage of the civilian population employed reached 63.0 percent, its highest level ever. Recent concerns about labor shortages, however, have led some to ask whether further efforts to reduce unemployment might lead to a significant pickup in wage and price inflation. So far in the current expansion, inflation has remained relatively moderate. The GNP fixed-weight price index, the broadest economy-wide measure of inflation, rose 4.1 percent in 1989, well below its 9.8-percent rate in 1980 and down from 4.5 percent in 1988.

Underlying the concern that unemployment and inflation are linked is the widely accepted view that, when inflationary expectations are stable, the economy has a minimal rate of unemployment consistent with nonaccelerating inflation. The nonaccelerating inflation rate of unemployment, often referred to as the NAIRU or natural rate of unemployment, is an important guide for policy-makers. It reflects unemployment associated with job changes (frictional unemployment) and with the mismatches between workers and jobs that occur in a changing economy (structural unemployment). Moreover, when the unemployment rate falls below the NAIRU, labor markets tighten, and employers face greater pressures to raise wages in order to maintain a qualified work force

(Box 5-3). Some have argued that at current levels of joblessness, further large increases in output could drive the unemployment rate below the NAIRU, thus triggering accelerating wage increases that, in turn, would threaten the progress in reducing price inflation made in the 1980s. Although some concern is justified, the evidence suggests that the United States can achieve sustained growth without accelerating inflation. The Administration projections in Chapter 2, for instance, show 3.0-percent average growth through 1995 and a modest decline in inflation.

## THE SECULAR DECLINE IN UNEMPLOYMENT IN THE 1980s

Because alternative policies to reduce unemployment may have sharply different implications for the behavior of inflation, it is important to distinguish among the different causes of unemployment.

Demand-related, or cyclical, unemployment, by far the most visible cause of variation in joblessness, refers to unemployment that occurs when the overall demand for workers falls. The sharp increases in the unemployment rate that occur during recessions clearly represent cyclical unemployment. Much of the decline in joblessness in the 1980s reflected the strong recovery from the 1982 recession and the long expansion that followed.

Frictional unemployment refers to the transitional unemployment that occurs when workers enter the labor market or change jobs. Structural unemployment is joblessness associated with a general lack of skills or with labor market mismatches between workers and jobs. The decline in unemployment over the past decade also reflects a drop in frictional and structural unemployment, breaking an upward trend evident since 1969.

In particular, although unemployment rates were successively higher at each business cycle peak in 1973, 1979, and 1981, the unemployment rate in 1989 stood 2 percentage points *below* its 1981 level (Chart 5-8). Moreover, the decline in the unemployment rate in the current expansion has *not* led to a significant acceleration in wage inflation. These two facts together suggest that frictional and structural unemployment, and hence the unemployment rate consistent with stable inflation, fell during the 1980s.

## THE EFFECTS OF DEMOGRAPHIC AND LABOR FORCE TRENDS

To a significant extent, the decline in the NAIRU in the 1980s reflected changes in the composition of the labor force, especially the aging of the baby-boom generation. As shown in Chart 5-9, unemployment rates are higher for young workers (aged 16 to 24) than for adults, reflecting both the relative inexperience of new



### **Box 5-3.—The Determinants of Nominal Wage Growth**

Although the process of wage-setting is often quite complex, key determinants of nominal wage growth are current labor market conditions, past and projected rates of inflation, and labor productivity growth. Employer costs for fringe benefits are often influenced by events outside the labor market—such as the acceleration in health care inflation in the past few years. Because employers are ultimately concerned with total labor costs, however, the key determinants of wage growth also determine growth in total labor compensation beyond the short run.

*The availability of labor influences both employers' willingness to pay higher wages and workers' efforts to seek larger pay increases.* Relatively low unemployment rates increase upward pressure on wages as firms raise pay to attract new workers and retain their current employees. Similarly, high unemployment rates tend to hold down wage increases.

*Recent rates of wage and price inflation and expectations about future inflation also affect wages.* If wages are expected to be higher in other parts of the economy, because of recent wage increases at other firms or expectations of future wage increases, then workers and employers will probably settle on a higher wage. Past rates of price inflation may influence wages if workers and employers agree to "catch-up" adjustments to preserve real wage levels, while employees who expect high inflation will demand larger wage increases to maintain their future standards of living. Moreover, employers will be more willing to grant wage increases if they expect to be able to raise prices to offset their higher labor costs.

*Over time, real wage increases have roughly matched the long-run rate of productivity growth in the economy.* Pay hikes associated with productivity gains do not increase the relative cost of labor to an employer, and so do not contribute to an acceleration of price inflation. In this sense, productivity gains are important to workers; wage increases that are not matched by higher prices generate an improvement in living standards.

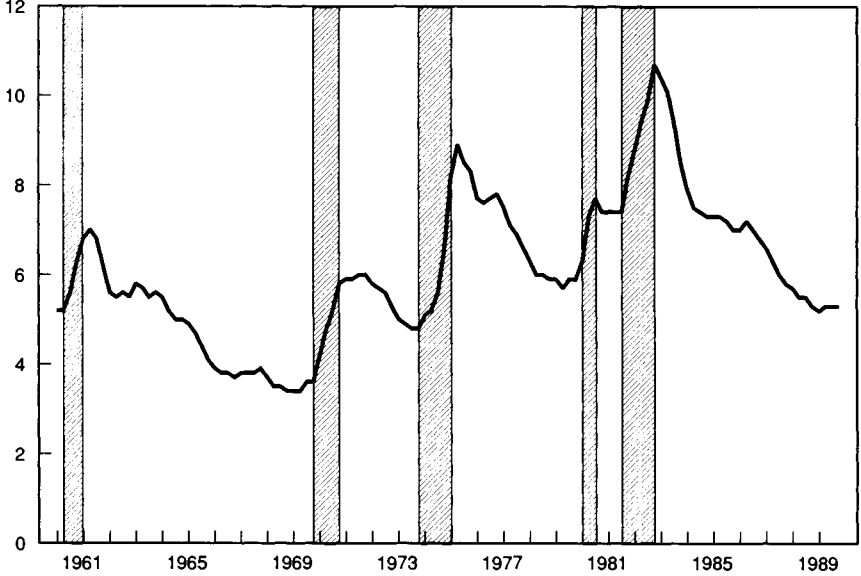
labor market entrants and higher rates of job turnover as young workers move in and out of various jobs during their search for a career.

The relative importance of young workers increased in the 1960s and 1970s, and this shift toward groups with relatively high rates of unemployment caused the overall unemployment rate to rise. In addition, overcrowding in lower skilled labor markets associated

Chart 5-8

**CIVILIAN UNEMPLOYMENT RATE.** The unemployment rate has declined significantly during the current expansion.

Percent of civilian labor force

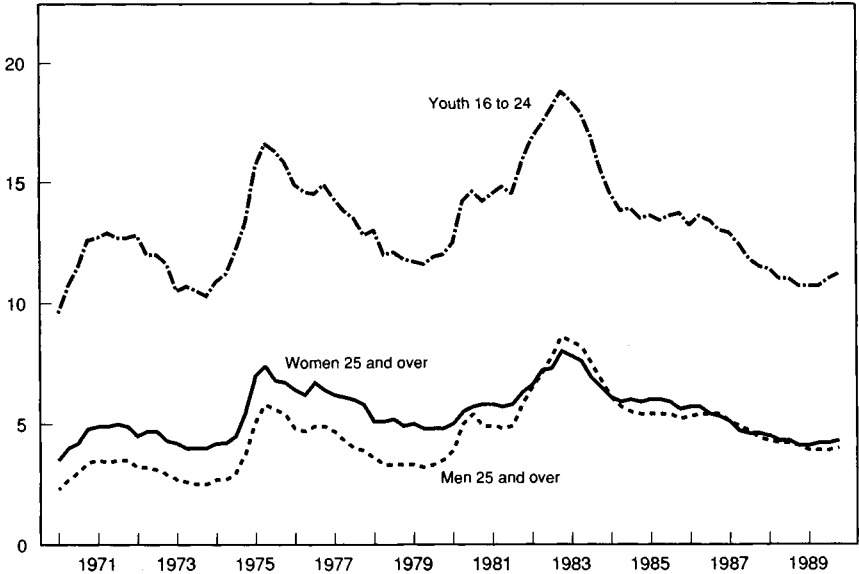


Note: Shaded areas represent recessions; data are quarterly.  
Source: Department of Labor.

Chart 5-9

**UNEMPLOYMENT RATES BY AGE AND SEX.** Youth unemployment rates are higher than rates for adults. Rates for adult men and women converged in the 1980s.

Percent of civilian labor force



Note: Data are quarterly.  
Source: Department of Labor.

with the baby-boom cohort exacerbated the unemployment problems for this group. The differential between youth and adult unemployment rates widened in the 1960s and 1970s. It is estimated that the higher percentage of young people in the labor force and their rising relative unemployment rates added close to 1.5 percentage points to the NAIRU between the 1950s and late 1970s.

As the baby boomers moved into age groups with lower average frictional and structural unemployment rates in the 1980s and were followed by the smaller baby-bust cohort, these trends reversed, contributing about 0.5 percentage point to the decline in the NAIRU in the 1980s. The unemployment rate for youth also fell as smaller cohorts led to decreased crowding in the youth labor market, probably reducing the NAIRU another 0.3 percentage point over the past decade. These favorable demographic trends should continue well into the 1990s.

Labor force participation among adult women rose steadily in the 1960s and 1970s, and higher unemployment rates for that group also boosted the aggregate unemployment rate over that period. Women's labor market participation continued to increase in the 1980s, but their unemployment rate fell to about the same rate as for adult men. This decline in joblessness among women, coupled with women's rising participation, has also contributed to the decline in the NAIRU in recent years.

## LABOR MARKET MISMATCHES AND STRUCTURAL UNEMPLOYMENT

A reallocation of workers across sectors in response to changing supply and demand influences the amount of structural unemployment associated with mismatches between workers and jobs. Recent changes in structural unemployment can be seen across a variety of occupational, industry, or geographic markets. Some insight into these changes can be obtained by focusing on a key feature of the mismatch problem—the coexistence of job vacancies and unemployment.

For the most part, vacancies and unemployment move in opposite directions, with faster economic growth leading to falling unemployment and rising vacancies, while rising unemployment is associated with declining job vacancies. That pattern is consistent with the view that much of the unemployment variability in the United States over time represents changes in cyclical unemployment. Vacancies and unemployment sometimes move in the same direction, however, reflecting a change in structural unemployment arising from localized, industry-specific, or occupation-specific supply and demand mismatches.

The Conference Board's index of help-wanted advertising normalized by the level of payroll employment provides a very rough

proxy for a job vacancy rate and illustrates the relationship between unemployment and job vacancies. Over shorter periods, comparisons show opposite movements in the unemployment and vacancy rates, reflecting the effects of economic recessions and expansions. A gradual upward trend in both the unemployment and the vacancy rate is evident throughout much of the postwar period, however, suggesting that structural imbalances in the labor market worsened through the 1970s. In 1989, the unemployment rate and the vacancy rate were both below their levels in 1979, indicating that these imbalances lessened in the 1980s. A continuation of this trend would reduce the unemployment rate consistent with stable inflation further in the 1990s.

Measures of the dispersion of unemployment across different labor markets can also be useful in assessing the efficiency of labor market adjustment. Uneven growth across markets will initially generate uneven patterns of unemployment and employment changes. Over time, however, efficient labor markets will tend to reduce those initial imbalances, as workers in labor surplus areas—geographic, industrial, or occupational—move to areas with better job prospects.

Across geographic markets, the evidence suggests that labor market imbalances worsened in the 1980s; after holding fairly steady during the 1970s, unemployment dispersion among States increased sharply through most of the 1980s. This rise in geographic dispersion reflected, at least in part, industry imbalances coupled with the industrial composition of particular regions. International competition and the decline in oil prices led to layoffs in the Midwest and Southwest, while strong growth in services and light manufacturing fueled employment gains in the coastal regions. It is difficult to judge whether the widening in unemployment dispersion represents unusually large sector-specific economic shocks or declining labor market mobility. As noted earlier, the geographic dispersion in jobless rates declined significantly over 1989 as the labor market began to adjust to those earlier shocks.

The existence of structural labor market imbalances clearly underscores the importance of labor mobility in reducing structural and frictional unemployment, and hence the unemployment rate consistent with stable inflation. Policies to improve the mobility of the work force and to improve the efficiency with which workers and employers find job matches could generate further declines in structural unemployment without building up inflationary pressures.

## OTHER CHANGES IN LABOR MARKETS

Some researchers argue that significant changes in the U.S. economy also may have unexpectedly tempered wage inflation in

the 1980s. Most prominently discussed is the increased exposure of U.S. producers to international competition. As the foreign exchange value of the dollar rose in the early 1980s, employment in a number of core manufacturing sectors suffered, resulting in unusually large layoffs that extended to workers with more seniority. This increased openness to international competition may have had an important impact on the perceived unemployment risks associated with aggressive wage demands, so that job security gained prominence over wage gains in the priorities of many workers, reducing the inflationary pressures associated with any given level of the unemployment rate. Some evidence suggests that such considerations were important in selected industries particularly vulnerable to foreign competition. Because these industries constitute a small part of the overall U.S. economy, however, international competition thus far appears to have had only a small effect on economy-wide wage behavior.

A second oft-cited, and related, argument is that the declining importance of organized labor in the U.S. work force reduced the contribution of noncompetitive union wage premiums to aggregate wage inflation in the 1980s. The proportion of the private work force that is unionized fell sharply in the 1980s, from more than 20 percent in 1979 to around 14 percent in 1988. Fewer workers receiving union wage premiums would reduce average wage growth, all else equal. In addition, proponents of this line of reasoning argue that the focus on job security in the 1980s was especially important in the union sector, where management became more aggressive in negotiating with workers in response to international and nonunion competition. Data from the employment cost index indicate that union wages have risen less rapidly than nonunion wages since 1983, after rising more rapidly throughout the late 1970s and early 1980s. But that shift may partly reflect the typical cyclical behavior of the union-nonunion wage differential. Moreover, several studies suggest that, although the declining strength of unions may have slowed wage inflation in the union sector, it has had only a small effect on aggregate wage inflation.

Finally, some analysts point to greater flexibility in both pay schedules and employer-employee relationships as evidence that wage determination in today's economy differs fundamentally from that in past years. Many union contracts now use lump-sum bonuses as a means of avoiding base wage increases during periods of uncertain demand. Moreover, profit-sharing and employee stock ownership plans have become more prevalent in recent years, tying workers' pay at some firms more explicitly to overall company performance. In addition, a greater use of part-time and temporary workers by firms has increased the ability to adjust employment

levels promptly during periods of slack demand by lowering the costs typically associated with work force changes.

In general, it is difficult to assess the importance of any one of these factors in changing the fundamental nature of wage determination in the 1980s or to forecast whether such trends will continue. Taken together, the patterns over the past decade may have led to some small downward shift in wage inflation. It seems imprudent, however, to rely heavily on the continuation of these favorable factors in forming policies for the 1990s.

## LOOKING AHEAD

The design of sound economic policies depends on the level of the NAIRU. That level provides a gauge of how far the actual unemployment rate can be expected to decline without a significant buildup of inflationary pressures, and thus represents one goal of an expansionary macroeconomic policy. Conversely, it is also an approximate measure of the extent of frictional and structural unemployment in the U.S. economy; reducing the unemployment rate consistent with stable inflation thus is an important goal of labor market policies.

Unfortunately, the NAIRU is not observable, and it is more difficult to estimate its level than its change. But a rough estimate of the current level can be inferred from recent trends in the unemployment rate and in wage inflation. Both wage inflation and unemployment have shown little movement over the past year. Moreover, the Michigan Surveys of Consumer Attitudes estimate that expectations of price inflation have stabilized at around 4.5 percent. These patterns are consistent with a pace of wage growth that roughly balances the demand for labor with the available supply, suggesting that the remaining unemployment is primarily frictional and structural in nature. *Thus, the average rate of unemployment in 1989—5.3 percent—may not be far above the nonaccelerating inflation rate of unemployment.*

In this setting, the most appropriate policy approach is to focus on reducing the NAIRU further in the years ahead. Maintaining steady economic growth and low unemployment is an important component of that policy, because additional job growth will create opportunities for many structurally unemployed and disadvantaged persons as employers lower expectations about qualifications and increase the intensity of training. Similarly, the decreasing number of new labor market entrants will give firms strong incentives to provide additional training for the existing work force and will reduce the number of labor market participants who experience frictional unemployment. Increasing workers' investments in edu-

cation and training and reducing the barriers to labor mobility will also reduce the NAIRU. The prospects are good for maintaining low unemployment rates, on average, in the future. But, macroeconomic policies must be designed so that reductions in unemployment do not reignite rising inflation, which would increase the risk of a subsequent economic downturn.

## SUMMARY

The U.S. labor market is remarkably efficient in adapting to economic change. Adjustments are not instantaneous, however, and public and private initiatives can help to speed the natural workings of the market. As the United States enters the 1990s, attention focuses on increasing the skills and flexibility of the work force to meet changing economic demands. The Administration is committed to achieving excellence in education at all levels. It is particularly important to improve dramatically the achievement of elementary and secondary students, which means improving the quality of the Nation's schooling system. Increasing the numbers of students receiving education beyond high school may also be important in meeting the job demands of the 1990s.

Within the existing work force, employers and workers must adapt quickly to changes in the supply of and demand for labor. For the most part, these adjustments are likely to occur automatically without government action. In some cases, however, strengthening training programs can facilitate the reemployment of workers whose skills have been rendered obsolete by economic change. In other cases, barriers to mobility can be reduced through policies that increase the affordability of housing or encourage the startup of business in economically depressed areas.

With population growth projected to slow over the next decade, additional sources of labor will be needed. Tapping these sources can be facilitated by immigration reform and by encouraging businesses to hire and train currently underutilized segments of the population such as the elderly, disabled, and the unemployed or underemployed poor.

Indeed, for the Nation to realize its full potential for economic growth in the years ahead, society must bring the poor and disadvantaged more fully into the mainstream of the economy. Policies that assist the poor will certainly be needed, but these policies must be linked with the goal of eventual self-sufficiency by ensuring education, training, and job opportunities for low-income households.

The challenges for the 1990s are large, but the current economic environment is favorable for achieving further progress toward these important goals. Unemployment is low and inflation remains

in check. Economic opportunities are plentiful. If the Nation can more fully utilize its human resources in the decade ahead, the result will be rising productivity, stronger economic growth, increased opportunities, and rising living standards for Americans.



## CHAPTER 6

# The Economy and the Environment

**ECONOMIC PROSPERITY** and environmental quality are widely regarded as two of this Nation's most important goals. Some view these as competing goals and argue that economic growth begets environmental degradation. Increasingly, however, this conventional wisdom is being questioned, and a new consensus is emerging that economic growth and environmental quality need not be incompatible. Indeed, economic growth and environmental quality are in many respects complementary. For example, economic growth provides the opportunity for firms to invest in new facilities that are cleaner and more efficient. It is no coincidence that the wealthy societies are the ones that are both willing and able to devote substantial resources to environmental protection.

Compatibility between economic growth and environmental improvement is far from automatic, however; it depends on selection of appropriate goals and careful design of regulatory programs. Environmental goals must balance the associated benefits and costs. The public interest is best served when government provides a framework that creates incentives for the private sector to seek out the most cost-effective way to meet its regulatory goals. Government should *not* be in the business of picking environmental protection technologies and imposing them on firms, their workers, and their customers.

This chapter presents the Administration's principles for environmental regulation and illustrates how they can be put into action to address local, national, and global environmental concerns. The consistent application of these principles will ensure that this Nation's considerable investment in environmental protection—\$81 billion in 1987, about the same as all American households' electricity and natural gas utility bills—will be made in ways that help to achieve *both* a strong economy *and* a healthy environment.

## PRINCIPLES FOR ENVIRONMENTAL REGULATION

Market-based economies do not automatically provide the level of environmental quality that consumers desire. Understanding why environmental protection may require government action leads to

an understanding of policies that best serve both the economy and the environment.

## MARKET FAILURE

Environmental problems arise in market economies when private individuals and businesses lack incentives to take full account of the environmental consequences of their actions. These market failures, which provide a rationale for government action, can be traced to three sources.

First, individual producers or consumers who pollute the environment generally do not pay for their pollution, even though it may harm others or cause others to incur additional costs. Excess pollution results, just as free electricity would lead firms and households to use electricity without regard to the resources used to produce it.

Second, no single individual can produce tangible evidence of an overall improvement in environmental quality by his or her own actions to reduce or control pollution. When there are some costs and no apparent payoff for individual cleanup effort, rational individuals may be unwilling to act, even in cases where a coordinated effort would yield environmental benefits that exceed the costs of collective action. This problem is analogous to that faced by a stadium full of standing football fans who would all be happier to see the game sitting down if only their actions could be coordinated.

Finally, the private market does not always produce the information needed to solve public problems. Private firms typically do not realize profits from research and development aimed at understanding environmental processes or the relationship between pollution and human health. Government action is often necessary to produce such information to further public policy objectives.

Regulations can also be motivated by factors other than the market failures outlined above. Paternalism, the belief of legislators and regulators that they can improve citizens' overall welfare by taking certain choices out of their hands, can play a significant role. Because the diversity of individual choice generally reflects differences in tastes, needs, and situations among individuals, paternalistic regulation is much more likely to reduce overall well-being than to increase it. Another motive for regulation is the pursuit of private advantage, which can be reflected in the specific design features of regulations that may be broadly grounded in public interest consideration. For example, firms routinely seek to keep their existing products and facilities under the current regulatory regime when more stringent regulations are implemented for new products and facilities.

## ENVIRONMENTAL REGULATION

The Federal Government's involvement in environmental protection is relatively recent. The Congress first enacted major legislation between 1970 and 1980. Many environmental programs enacted in this era rely heavily on an approach referred to as command-and-control regulation. Alternative regulatory schemes that use market incentives to further environmental goals, such as emissions charges or tradable emissions allowances, can serve both the environment and the economy by reducing the costs of environmental protection (Box 6-1).

### **Box 6-1.—A Glossary of Environmental Regulation Terms**

*Command-and-Control Regulation*—a system of administrative or statutory rules that requires the use of specific control devices on classes of selected pollution sources or applies emissions standards to narrowly defined pollution sources.

*Emission Standard*—a limit, usually expressed as a maximum allowable emission rate, applied to an individual pollution source.

*Emission Charge*—a fee levied by the government on each unit of pollutant emitted.

*Tradable Emission Allowances System*—a regulatory regime in which all sources of pollution are required to hold allowances for all emissions of covered pollutants. The government distributes a number of allowances equal to the target emissions level, which can then be freely bought and sold within the private sector.

In the final decade of this century, new environmental issues that include stratospheric ozone depletion and possible global climate change are receiving increased attention. Advances in science are also leading to deeper understanding of problems such as acid rain and pesticide contamination. As the list of environmental concerns grows, policymakers must carefully design programs to make progress on several fronts while minimizing adverse impacts on the economy.

*Regulatory goals should be set so that the potential benefits to society from regulation outweigh the potential costs. Specific objectives should be chosen to maximize net benefits to the extent possible. It is impossible to remove all pollution or environmental risks, just as it is impossible to remove all risk of accident or illness. As any given pollutant or risk is reduced, the costs of further reductions rise and the incremental benefits fall. Because these additional benefits often become minuscule and the additional costs become astronomical as the limit of zero pollution or zero environmental*

risk is approached, the pursuit of such extreme goals is likely to reduce the overall quality of life. Cost-benefit analysis can be useful both in setting appropriate goals within a particular area of concern and in setting priorities across areas.

*Where regulation is necessary, it should wherever possible employ economic incentives to achieve its goals rather than attempt to legislate behavior without changing the underlying structure of private incentives.* Where incentive-based approaches such as emissions fees or tradable allowances cannot be used, it is preferable to let each firm decide how best to meet flexible performance standards rather than to impose inflexible design standards that specify how pollution must be controlled. Regulation should also define pollution sources broadly rather than narrowly, to give plants that emit emissions at more than one point flexibility in meeting an overall emissions objective. Regulation of any type should pass a test for cost-effectiveness—reaching its goals at the lowest possible cost. To forsake cost-effectiveness simply wastes resources that could be used for many purposes, including further environmental improvement.

The command-and-control approach generally fails to create incentives consistent with regulatory goals. Indeed, the hallmark of the command-and-control approach is the uniform treatment of pollution sources without regard for the differences in damages they cause or the costs of control. Because command-and-control regulation relies on administrative or statutory rules, flexibility is limited and incentives to firms are distorted. The likelihood that innovation to reduce the costs of pollution control will be met by tighter regulatory requirements presents a particularly large disincentive to innovation (Box 6-2).

Finally, often an insufficient private incentive exists to undertake research that is necessary to understand and rationally address environmental issues. Government support may be required to spur inquiry into environmental problems, benefits and costs of action, and methods of pollution reduction.

In short, the following principles should guide environmental regulation:

- Goals for pollution abatement and risk reduction should be based on a comparison of the costs and benefits involved. Elimination of all risk is almost never a sensible goal.
- Where possible, market-based approaches that provide flexibility, encourage innovation, and support economic growth should be used to achieve environmental goals in a cost-effective manner.
- Government policy should encourage the development and sharing of scientific and technical information relevant to environmental quality issues.

### **Box 6-2.—Problems with Command-and-Control Regulation**

Regulators generally lack the detailed knowledge of individual production facilities and processes and of alternative production and abatement methods that would be necessary to implement an efficient regulatory program by command-and-control.

Firms sensibly expect that any demonstration of potential for environmental improvement or the exploration of new approaches to emission control will increase their risk of being targeted for tougher emission standards. Therefore, there is a disincentive to innovate that magnifies the inefficiency of command-and-control regulation over time. Regulators may try to overcome the incentive problem by incorporating their own forecast of future technology into regulatory requirements. This inflexible approach is a poor substitute for a decentralized innovation process in which many possibilities are pursued at the same time, with winners emerging naturally only as additional information is developed.

Command-and-control regulation also fails to account for private responses that tend to neutralize its impact. For example, a common regulatory practice is to impose new product standards that are tougher than those for existing products and facilities. This practice locks in the continued use of old products or facilities that may actually be more environmentally damaging. Aside from being costly, such standards can actually increase pollution from levels that might have been obtained without a bias against new investment.

Finally, command-and-control regulation sometimes involves issuing threats that are not credible. In 1976, when it became clear that car manufacturers could not meet the automobile emissions standards for the 1977 model year, the Congress quickly revised the standards. The implicit threat to shut down the U.S. auto industry was simply too draconian to be believed.

The rest of this chapter considers the application of these principles in the Administration's proposals to update the Clean Air Act and food safety legislation, in Federal soil conservation programs, and in the Administration's approach to global environmental issues.

## **THE CLEAN AIR ACT**

Prior to 1970, State and local governments held the primary responsibility for determining air quality targets and emission con-

trol strategies. Some States and cities, such as California and Pittsburgh, did address pollution problems. Others, however, were reluctant to impose and enforce strict pollution controls that might drive industry elsewhere.

The Clean Air Act amendments enacted in 1970 expanded the Federal role in clean air issues beyond its previous focus on support for scientific research on air pollution problems. Under its provisions, the Environmental Protection Agency (EPA), which was also established in 1970, sets national air quality standards for major pollutants. These standards, defined as permissible concentration levels of pollutants in the air over a specific time period, are designed to protect the health of the most sensitive members of the population with an adequate margin of safety and without regard to cost. National emission standards for new industrial, utility, and commercial facilities that are significant sources of pollution and new car emission standards are also set and administered at the Federal level. State and local governments retain responsibility, however, for developing plans to reduce emissions from existing utility and industrial pollution sources so that air quality standards are met or exceeded at all locations.

## EXPERIENCE UNDER THE CURRENT LAW

Meeting the objectives of the Clean Air Act has been complicated by several factors. One is the sheer number of pollution sources. There are an estimated 27,000 major industrial and utility sources of air pollution in the Nation. Mobile sources of pollution (automobiles, trucks, aircraft, and locomotives) number well over 150 million, and vehicle miles traveled have been steadily increasing. Moreover, because pollutants are transformed and transported in the atmosphere, the selection of control strategies is complicated.

Despite rising levels of economic activity and automobile use, emissions of the most common air pollutants have declined substantially since 1970. For example, emissions of carbon monoxide, particulate matter, and lead fell by 39, 62, and 96 percent, respectively, between 1970 and 1987. Yet, in 1987, 12 years past the original target date for meeting air quality standards, more than 100 million people lived in areas where air quality standards had not all been achieved. Failures to meet the ground-level ozone standard accounted for 90 percent of these exposures. Some have argued, however, that this official measure of air quality status gives little indication of normal air quality in affected areas. For example, air quality monitoring data show that the air quality standards are met more than 99 percent of the time in all areas other than Los Angeles, and 97 percent of the time there, even though it is the city with the most polluted air in the United States.

A major feature in the regulatory approach of the Clean Air Act is the requirement that new facilities meet EPA emission rate standards. This approach can effectively offer grandfather protection to old facilities and slow the rate at which firms replace older, inefficient plant and equipment with newer plant and equipment that meet EPA standards.

This peculiar consequence of regulation is apparent in the utility sector. Concern over the impact of emission standards on mining employment in high-sulfur coal regions led the Congress in 1977 to mandate a design standard for new coal-fired power plants. Sulfur dioxide removal from exhaust gases (via scrubbing technology) was required even when the same emission rate could be reached at lower cost by burning low-sulfur coal. Because such scrubbing may add 20 percent to the capital cost of a new plant, and old generating units can be kept running for 65 years or more, replacement of old generating capacity inevitably slowed. Moreover, because new generating units with scrubbers often have higher operating costs than old unscrubbed units, utilities naturally chose to run the old units as much as possible. Having new, clean plants sit idle while old, dirty ones operated at full capacity was an unintended consequence that vividly illustrates the perverse effects that command-and-control regulation can have.

## THE CLEAN AIR INITIATIVE

The Administration has proposed a comprehensive plan for revising and strengthening the Clean Air Act. The Administration's proposal includes initiatives to achieve complete attainment of air quality standards, control toxic air pollutants, address the problem of acid rain, and reduce automobile emissions. The acid rain and automobile emissions programs provide particularly clear applications of the Administration's regulatory principles. The former proposes the use of tradable emissions allowances to reduce sulfur dioxide emissions from utility plants that are a primary cause of acid rain (Box 6-3). The latter uses flexibly applied and carefully targeted standards to limit automobile emissions that are the major source of ground-level ozone pollution.

### TRADABLE ALLOWANCES FOR SULFUR DIOXIDE EMISSIONS

*The Administration proposes to achieve a permanent 10-million-ton reduction in annual sulfur dioxide emissions in a cost-effective manner, using a system of tradable emissions allowances.* The use of tradable emissions allowances is an approach that has been repeatedly advocated in this *Report* for more than a decade. Emission allowances reflecting the required reduction in current emissions

### **Box 6-3.—Acid Rain and Sulfur Dioxide**

Acid rain results from the formation of sulfuric and nitric acids in atmospheric reactions involving sulfur dioxide and nitrogen dioxide. These acids fall to the Earth's surface as dry particles or mixed with rainfall over an area that may extend for hundreds of miles from the location where emissions occur. Thus, emissions from the Midwest can cause acid rain in the Northeast. Rainfall in the most heavily affected areas is eight to nine times more acidic than it would be under pristine conditions.

Sulfur dioxide is regulated as a pollutant under the Clean Air Act. Federal air quality standards for sulfur dioxide are currently met at virtually all locations throughout the country. In some areas, compliance was attained by switching to fuels with lower sulfur content. In others, scrubbing technology was applied to remove sulfur from smokestack gases. Another approach was to build taller smokestacks that spread emissions over a much wider area and allowed standards to be met at all measuring sites near the emission point. Building taller smokestacks was very cost-effective within a local area. But over a larger region, it exacerbated the contribution of sulfur dioxide emissions to the formation of acid rain. The 1977 Clean Air Act amendments limited allowable stack height.

While measured urban sulfur dioxide air quality has improved steadily, aggregate sulfur dioxide emissions, which heavily influence acid rain levels, have declined by only 28 percent since 1970. Almost two-thirds of sulfur dioxide emissions come from electric utility plants, with industrial sources accounting for the bulk of the remaining emissions. Most utility emissions occur at coal-burning power plants—particularly from older plants burning high-sulfur coal without emission controls.

are allocated to existing utility plants. Plant owners, who are required to hold allowances equal to their actual emissions, are then free to trade these allowances among themselves. Thus, the emission rates of individual plants can vary considerably, while overall emissions are automatically held at the target level. An additional requirement that operators of new utility plants hold allowances equal to their emissions after the system is fully in place guarantees against any rise in utility emissions over time.

The allowances trading system has several major advantages over the command-and-control approach. The tradable-allowances approach is estimated to result in cost savings of at least 20 per-



cent annually—totaling billions of dollars over the next two decades—compared with command-and-control regulations. These savings arise from the ability to trade allowances in order to take account of differences in plant access to low- and high-sulfur coal supplies, in expected plant life, and in site constraints that may rule out the installation of scrubbers at some plants. With tradable permits, a plant with low control costs has an incentive to control more and sell its excess allowances to a plant that could only reduce emissions to its original allocation at very high cost. The scope for trading is widened by allowing industrial sources with low control costs to participate in the system and by a provision for the conversion of nitrogen dioxide emissions reductions in excess of required levels into allowances.

### *Incentives for Conservation and Innovation*

*Because reductions in electricity generation levels translate directly into a reduced need to hold allowances, the allowances system puts utility energy conservation programs on an equal footing with other emissions reduction strategies.* Firms can also economize on allowances by using cleaner plants more intensively. By requiring utilities to buy or hold a costly allowance for each ton of pollution they emit, the allowances system uses the private objectives of cost minimization and profit maximization to promote environmentally sound practices. By ensuring that each pound of actual emissions carries a cost, which will be reflected in the price of electricity, additional conservation is promoted as demand falls in response to higher prices. In sum, a market-based approach sends the proper signals to both consumers and producers, resulting in cost-effective reductions in pollution.

*Immediate cost savings are only part of the benefits of the trading program. The possibility of future trading creates strong incentives for further cost reduction and innovation by both utilities and non-utility firms, which could save additional billions of dollars.* Utilities can take advantage of the opportunity to carry forward unused allowances for future sale or use. Such banking of allowances would shift emissions reductions from the future toward the present, allowing for more rapid environmental improvement while lowering compliance costs. Firms always stand to gain if they can achieve additional emissions reductions at a cost below the market value of the allowances that would be freed up for external sale. Thus, these firms have a continuing incentive to explore new abatement and combustion technologies, nonconventional energy sources, conservation programs, and other options that emerging technologies and local circumstances may suggest. Because allowances are transferable and continue in force after the retirement of the plant to which they were initially allocated, the investment disincentive implicit in standard regulatory schemes is avoided.

*The inherent flexibility of the allowances system, which lets the market choose among competing approaches, is particularly valuable given the impossibility of knowing which technology will prove to be best over the long haul.* Several different technologies for burning high-sulfur coal cleanly without scrubbing, as well as improved scrubbers, are currently under development. New concepts will undoubtedly arise over the next decade. The government is no more capable of picking winners in emissions-control technology than in other industrial arenas. By encouraging decentralized innovation and avoiding the pitfalls of centralized technological planning, the allowances system maximizes the potential for the invention and application of new ways to achieve environmental protection.

### *The Workability of the System*

There are several precedents for successful emissions trading and marketable allowances systems. Nationally marketable allowances were used during the phasedown of the lead content of gasoline, with substantial savings. EPA's longstanding bubble policy allows owners of an industrial facility with multiple pollution sources to balance more control at some sources for less control at others to meet emissions targets on a cost-effective facility-wide basis. Since their inception in the 1970s, bubbles have saved billions of dollars compared with a policy of requiring each source to meet its own emissions standard. Trading is also used in EPA's offset policy, which allows construction of new facilities in areas that do not meet air quality standards to be offset by reductions in emissions from existing facilities. Trading in these programs has occurred despite the high air quality modeling costs incurred to verify that proposed trades will not worsen the air quality at any location. Transaction costs for sulfur dioxide emissions trading will be much lower, because local air quality modeling will not be required and continuous emissions monitoring data will be available to verify compliance.

The incentive-based approach to environmental protection offers clear advantages over command-and-control regulation, yet it generates several philosophical and practical criticisms. A common objection is that a marketable allowances system gives industry a right to pollute that it would not otherwise have. This view fails to recognize that command-and-control regulation confers exactly the same sort of pollution right, only in a nontransferable form.

Some observers have raised the concern that trade in allowances will be inhibited by State regulatory actions or manipulated to prevent the entry of new producers into the electric power market. However, facts about market structure and behavioral incentives suggest that the market for allowances will work. The initial distribution of allowances among a large number of utilities means no

one firm or State could exercise market control. Antitrust laws provide an additional safeguard against the possibility of anticompetitive behavior. Existing incentives for cost and rate minimization should lead regulators and utilities with low-cost emissions reduction opportunities to sell sufficient allowances to meet the demand from new plants and new entrants. Of course, there is no guarantee that *every* utility or regulator will seek to minimize costs and electric rates and maximize shareholder returns. But in a competitive situation, cost-minimizing behavior by every participant is not required for the market to work effectively.

## AUTOMOBILE EMISSIONS CONTROL

The goals selected in the President's clean air package reflect the careful comparison of benefits and costs that is a fundamental consideration in the Administration's approach to regulatory policymaking. For example, the President's package includes tighter tailpipe emissions standards for new cars and light trucks and other measures to reduce automobile emissions significantly. However, it explicitly rejects a proposal for unreasonably stringent tailpipe standards that has been advocated in some quarters.

EPA estimates that the exotic technologies required to attain such an unreasonably stringent standard would add about \$500 to the cost of each new vehicle. At a projected sales rate of approximately 14 million covered vehicles per year, the additional costs would be more than \$7 billion annually, almost doubling the projected costs of all actions proposed by the Administration to reduce urban ozone pollution. This standard would result in slightly lower emissions from each new car. However, because consumers would undoubtedly respond to higher new car prices by buying fewer new cars, emissions of pollutants that contribute to ozone formation could actually *increase* in the period immediately following adoption of these extreme standards, as consumers would be led to make greater use of old vehicles with significantly higher per mile emission rates. Even after a complete phase-in of vehicles meeting the extreme standard, total reductions in emissions of pollutants that contribute to ozone formation would be only slightly larger than emissions reductions under the President's proposal. Spending \$7 billion or more per year to achieve, at most, very small environmental improvements is simply not sensible.

### *Flexibility and Targeting*

The President's clean air initiative also incorporates flexibility in its provisions for automobile emission standards. Automakers can average across their product line to reach applicable standards, opening the possibility of substantial cost savings while achieving exactly the same environmental benefits as a standard applied on a car-by-car basis. Because an automaker who elects to use averaging

must necessarily produce some vehicles that are cleaner than the standard, averaging implicitly encourages advances in emission-control technology.

Cost-effectiveness is also enhanced by tailoring program requirements to local needs rather than using a one-size-fits-all approach. Some areas currently meet air quality standards for ground-level ozone, while others do not. Because air quality standards are set at levels that protect the public health with an adequate margin of safety, areas that already meet standards have little to gain from further reductions in emissions. Cost-effectiveness requires focusing reductions where they are needed. For this reason, the Administration's plan for extra-clean, alternative-fueled vehicles is carefully targeted on the areas with the most severe nonattainment problems. Even within these areas, local authorities are free to opt out of the program if they can achieve equivalent air quality benefits in other ways.

The targeted approach is also evident in the President's proposal for recovery of refueling emissions. Refueling vapors can be recovered using either on-board canisters or gasoline pump recovery systems. The latter approach is preferable because it can be applied selectively in areas with ozone problems without imposing unnecessary costs on new car buyers in clean areas. It also provides more immediate environmental benefits in problem areas, because all pumps can be modified long before all cars on the road are replaced. In this matter, as in many others, environmental and economic interests are convergent.

## RISK AND THE REGULATION OF AGRICULTURE

Today the regulation of agriculture involves a complex array of Federal programs—from traditional price support and acreage reduction programs to conservation, environmental, and food safety regulations—administered by the Department of Agriculture, the Environmental Protection Agency, and the Food and Drug Administration. Some programs, such as the acreage reduction programs, affect a farmer's land-use and crop-choice decisions. Others, such as pesticide regulations, affect choice of production methods. Still others, such as conservation regulations, may affect both land-use and management decisions. The combination of farm production decisions and the physical characteristics of farmers' fields—such as soil type, depth of groundwater, and proximity to surface water—are key factors that determine the impacts agriculture has on the environment.

Two questions arise regarding environmental issues that relate to agriculture. What are the circumstances in agriculture that may justify government intervention? When government action is justi-

fied, how can policies be designed to reduce environmental risks to appropriate levels at least cost?

## SOIL CONSERVATION RECONSIDERED

The dust bowl of the 1930s, dramatized by John Steinbeck's *The Grapes of Wrath*, left a public perception that the effects of soil erosion can have dire economic consequences. Because of the dust bowl experience, a principal objective of soil conservation programs since the 1930s has been to prevent the loss of agricultural productivity. Yet, analyses of data on soil erosion indicate that the principal benefits from soil conservation are the prevention of offsite damages such as water pollution, not the prevention of agricultural productivity effects. There is accordingly a need to reconsider the design of soil conservation programs.

### *Soil Erosion and Productivity*

Alarming stories in the press periodically warn that erosive practices are again ruining American farmland and will lead to a food crisis. Such alarmist claims are not supported by the facts. The Department of Agriculture estimates that some 2 billion to 3 billion tons of soil are lost from farmers' fields to erosion each year in the United States. Topsoil is a renewable resource, however, and is replaced as organic matter from crop residues is incorporated into the soil. Because of this replenishment, the rate of net loss of topsoil in the United States as a whole is low.

The gains and losses of soil are not distributed evenly, however. Some areas are net losers and may experience lower productivity as topsoil becomes shallow. These productivity losses are largely offset by gains elsewhere. The Department of Agriculture recently estimated that continuing current rates of soil erosion for 100 years would reduce productivity only about 2 percent (Table 6-1). Because *annual* productivity gains in U.S. agriculture have averaged more than 2 percent for the past 20 years, one year's normal productivity growth will offset the likely effects of erosion on productivity over the next century.

TABLE 6-1.— *Estimated Percent Loss of Productivity From 100 Years of Erosion*

Farming region	Water erosion	Wind erosion
Northeast.....	7.1	( <sup>1</sup> )
Lake States.....	.9	.7
Corn Belt.....	3.5	( <sup>1</sup> )
Appalachia.....	4.7	( <sup>1</sup> )
Southeast.....	1.3	( <sup>1</sup> )
Delta States.....	1.6	( <sup>1</sup> )
Northern Plains.....	.6	.3
Southern Plains.....	.2	2.1
Mountain States.....	4	1.4
Pacific States.....	2.3	.2
United States.....	1.8	.5

<sup>1</sup> Less than 0.01 percent.

Source: Department of Agriculture, *The Second RCA Appraisal*, June 1989.

Alarmist claims about soil erosion's effects on agriculture also appear to run counter to basic economics. The farmer who uses erosive practices that cause a decline in current or future expected productivity of the land reduces the value of that land. This loss takes the form of lower farm output and a lower value of the land as an asset. Landowners thus have an economic incentive to limit erosion to the degree that it is profitable to do so. Department of Agriculture research shows that erodibility and topsoil depth do help explain differences in land values. These findings mean that buyers and sellers of farmland are in fact aware of these factors and generally take them into consideration in their decisionmaking. Even if some buyers and sellers of farmland are unable to know the impacts of erosion on productivity precisely, there is no reason to believe the government would be able to do so significantly better.

In short, private gains from soil conservation provide farmers and landowners with adequate incentives to protect soil productivity without government intervention. It is in environmental and other offsite effects of soil erosion that the market fails to account adequately for the effects of erosion, and it is there that government conservation programs are needed.

### *Pollution Effects of Soil Erosion*

There are a host of offsite effects of wind and water erosion. Wind erosion contributes to particulate air pollution in the Western United States that is estimated to cause \$4 billion or more in annual damages in the form of increased cleaning costs, reduced recreational opportunities, and impaired health. Erosion caused by water runoff is a major cause of water pollution that damages reservoirs and navigational channels, harms aquatic and plant life and wildlife, has adverse effects on human health, and reduces the recreational value of lakes and rivers. These damages are estimated to range from \$5 billion to \$18 billion annually.

These damages reflect a classic market failure: farmers typically bear little if any of the cost of the offsite effects of erosion from their fields. Agricultural pollution usually originates on many farms and it is difficult to attribute any specific amount of damage to any one source. Consequently, policies to control agricultural pollution usually must be designed to change farmers' production decisions—such as tillage practices or chemical use—that are related to pollution. The design of efficient environmental policies is complicated by the effects that Federal agricultural subsidies have on farmers' management decisions.

### *The Conservation Reserve Program*

This program was introduced in the 1985 farm bill to accomplish environmental objectives, such as improved water quality, by re-

moving highly erodible land from production. This program was also intended to help curb the production of subsidized commodities and to provide income support to farmers. About 34 million acres are now enrolled, roughly 8 percent of U.S. cropland. In exchange for government payments, farmers must plant grass or trees on the enrolled acres. All farmers can participate in the program, provided their land meets technical criteria for erodibility.

The Conservation Reserve Program illustrates the potential benefits of conservation programs and the problems in designing programs to meet environmental, income-support, and broader policy objectives. In order to attract widespread participation, the program originally allowed farmers to enroll any land in the program that met erodibility criteria, whether or not erosion was likely to cause damages such as water pollution. The program thus provided an incentive for farmers to place low-valued land into the program. Consequently, a disproportionately large share of the acres enrolled—more than 40 percent—is nonirrigated land in the Plains and Mountain States, where most wind erosion occurs but damages are relatively small. Relatively few acres in the program are higher valued land in the Midwest and South, where most water erosion occurs and a large part of the nationwide damages also occur. Because it is estimated that only 30 percent of the most highly erodible land is now enrolled in the program, it can be concluded that an even smaller share of the damage caused by erosion is being prevented.

Federal agricultural policy also strives to maintain and enhance the U.S. position as the major agricultural exporter in the world. Conservation programs that attempt to achieve environmental goals by removing millions of acres of cropland from production are not consistent with this broader policy objective. The inconsistency in U.S. policy is highlighted by the 1985 Food Security Act. The act established the Conservation Reserve Program to remove 40 million to 45 million acres of U.S. cropland from production and simultaneously instituted an export subsidy program—the Export Enhancement Program—to increase U.S. agricultural exports. These conflicts between environmental and trade objectives may increase if current international negotiations, discussed in Chapter 7 of this *Report*, lead to agricultural policy liberalization.

## IMPROVING CONSERVATION PROGRAM DESIGN

*The targeting problems encountered with the Conservation Reserve Program and its inconsistency with broader U.S. policy objectives both suggest that the Federal Government should reconsider its approach to conservation programs. How can conservation programs be made more effective at meeting conservation objectives and also be consistent with broader policy and trade objectives?*

The answer is to target environmental impacts while keeping as much viable land in production as possible. Land retirement could still be used in those special circumstances, such as protection of wetlands, in which there are no viable alternative methods to meet environmental objectives.

Conservation programs are not an efficient means of transferring income to farmers because they do not target those farmers who might be thought to be deserving of income subsidies. Hence, they should not be used as a means to support farm income. Instead, conservation programs should be designed to achieve environmental objectives by targeting land that causes offsite damages and land that needs to be protected for other environmental reasons such as protection of wildlife. The recent changes in the Conservation Reserve Program's eligibility criteria, to include environmentally sensitive lands such as wetlands and areas bordering rivers and lakes, represent a move toward better targeting of environmentally sensitive land. These criteria could be further improved by explicitly linking them to potential damages. If the program enrollment is increased from the current 34 million acres to 40 million as proposed by the Administration, participation should be extended to land meeting criteria that target environmental damages.

Conservation programs could also be made compatible with both environmental and trade objectives by using economic incentives to encourage farmers to invest in conservation improvements that reduce wind and water erosion damages while keeping land in production. Investments such as terracing and windbreaks can be used to reduce wind erosion, and filter strips and grassed waterways can reduce water pollution. Federal conservation programs have long shared the costs of these investments, but not in a way that targets the investments to mitigate offsite damages. Such targeting could be accomplished by linking these investment incentives to the potential for erosion to cause environmental damage.

## **PESTICIDES: BENEFITS, RISKS, AND REGULATION**

Pesticides are believed to have been a major contributor to the growth in the productivity of U.S. agriculture since the 1950s. This growth in productivity—almost 220 percent since the early 1950s—has benefited consumers by making more food available at lower prices. Pesticides are poisons, however, and their widespread use in agriculture has led to growing public concern about detrimental effects on human health and the environment.

Many pesticides have immediate health effects that pose a risk to pesticide users and others from accidental poisonings. Some scientists also believe that low-level exposure to many pesticides may cause delayed health effects. These delayed effects—cancers, birth



defects, and neurological disorders—are much more difficult to demonstrate than immediate effects. Because experimentation on humans is not possible, researchers must infer delayed effects from animal studies or from statistical data on human exposure. Because neither method provides definitive data, regulatory decisions regarding delayed effects are inevitably based on imperfect scientific evidence.

The effects of pesticides on nature may be even more difficult to measure and evaluate than the effects on human health. Countless plant and animal species inhabit the natural world. Plants themselves contain many natural pesticides necessary for survival. The scientific challenge to understand the effects of pesticides is great, even if attention is focused only on those organisms that have immediate economic value. Researchers have only recently begun to construct a framework for systematic quantitative assessment of pesticide impacts.

### *The Regulatory Process*

The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) directs EPA to evaluate the effects of pesticides on human health and the environment and to regulate pesticide use as necessary to balance benefits and risks. Pesticides that pass the benefit-risk analysis under FIFRA must also meet a health-risk tolerance for residues in processed foods established by the Federal Food, Drug, and Cosmetic Act (FFDCA). The risk tolerance is to be set in light of the need for “an adequate, wholesome, and economical food supply.” EPA uses available data—including laboratory studies of effects on animals, pesticide use data, and food consumption data—to estimate the risk of an adverse health effect (e.g., the probability of a person developing a cancerous tumor during a lifetime). This risk estimate is then used with other relevant information to make regulatory decisions.

This regulatory scheme is straightforward in principle, but its information requirements are burdensome in practice. Within the next decade, EPA must evaluate hundreds of active ingredients contained in thousands of pesticides. Because many studies and analyses are required on each active ingredient, EPA faces a formidable regulatory task. The current regulatory process takes years to complete. In deciding whether to remove a dangerous pesticide from use, current procedures can take 4 to 8 years. Some of the delays in the regulatory process can be attributed to the way it is organized, and the Administration has proposed reforms to expedite the process. But a major constraint is still the time and cost involved in producing reliable scientific information needed to make responsible decisions.

## *Negligible Risk and the Delaney Clause*

Both risks and benefits of a pesticide are considered in setting most tolerances under FFDCA and in all regulatory decisions under FIFRA. For most decisions, EPA uses the concept of negligible risk. A negligible risk is one below which it is deemed that the public health is not threatened, and is often interpreted to be a lifetime cancer risk in the range of 1 in 1,000,000. When a chemical's risk is estimated to be less than 1 in 1,000,000, its use is not regulated. When a chemical's risk exceeds 1 in 1,000,000, benefits from use are weighed against risks in making a regulatory decision.

A different risk standard is applied in the case of pesticide residues in processed foods, however, because of the Delaney Clause in Section 409 of FFDCA. The Delaney Clause states that a pesticide that has been found to cause cancer cannot be registered for use if *any* residues are found in processed foods. This zero-residue standard implies a zero-risk tolerance for carcinogenic pesticides in processed foods, no matter how small the risk or how large the economic benefit from their use. Thus, benefits are balanced against risks if a carcinogenic pesticide residue is present on fresh produce, but not if it is found in processed food.

The Congress adopted the Delaney Clause's zero-risk standard in the 1950s when laboratory techniques were able to detect residues only in parts per million. With modern techniques, such as gas chromatography, it is possible to detect residues in parts per billion, effectively increasing the stringency of the Delaney Clause's risk standard by a factor of one thousand.

The current negligible-risk standard for pesticides is very stringent—some would say excessively so—and represents a high degree of safety. More stringent pesticide regulations could have little effect on the total number of cancers. To put pesticide health risks into perspective, consider that the risk of cancer in the U.S. population is 300,000 in 1,000,000. Pesticides account for only a small fraction of the 2 percent of cancers attributed to all sources of pollution, whereas tobacco use and diet are believed to contribute to about 65 percent of all cancers. The National Cancer Institute has announced its goal to reduce cancer mortality in the year 2000 by 50 percent through changes in tobacco use, diet, and health care. The Institute's focus on reductions of large risks, rather than ones that are already negligible, is clearly sensible.

## **THE ADMINISTRATION'S PROPOSALS FOR PESTICIDE POLICY REFORM**

The National Academy of Sciences recently studied pesticide regulation extensively and recommended that the inconsistencies between FIFRA and FFDCA be eliminated by abandoning the distinc-

tions now made between residues in processed and nonprocessed foods and by replacing the Delaney Clause with a negligible-risk standard for all pesticides. The National Academy concluded that the consistent application of a negligible-risk standard for carcinogens in food would allow regulatory efforts to be focused on the most dangerous substances and would thereby dramatically *reduce* total dietary exposure to cancer-causing pesticides with modest reduction of pesticide benefits.

*The Administration proposes to adopt the National Academy's recommendation that a negligible-risk standard replace the Delaney Clause in FFDCA.* Where risk is greater than negligible, the Administration proposes to extend to processed foods the existing regulatory procedures for nonprocessed foods. These procedures allow economic and health benefits of a pesticide to be balanced against risks in all cases. By allowing better targeting of regulatory efforts, this change should *reduce* cancer risks.

*The Administration's food safety proposal also would amend FIFRA to strengthen and simplify the pesticide regulation process.* The President's plan would establish a periodic review of all pesticides, simplify and make more effective the process of canceling the use of a pesticide found to be harmful to public health, and improve enforcement of pesticide regulations.

### *Other Regulatory Reforms*

Pesticide regulation, like air pollution regulation, is based largely on command-and-control techniques (Box 6-2). Uniform regulatory standards are notoriously inefficient because they fail to take into account the diversity of local conditions. Because pest problems are often location-specific, large production inefficiencies can be caused by uniform pesticide regulations. There is a need for alternative, cost-effective methods of pesticide regulation that allow farmers to adapt production methods to the particular pest problems they face. For example, it may be possible to employ a system of marketable pesticide-use allowances to reduce pesticide contamination of surface and groundwater efficiently. A marketable allowances system (Box 6-1—tradable allowances) would restrict the total use of pesticides in environmentally sensitive areas and would allow those farmers who benefit most from pesticides to use them.

Both Federal and State governments have already financed research into production practices that impose fewer health and environmental risks. For example, many States have developed research programs under the rubric of integrated pest management. Also on the horizon are promising developments in biogenetic research that could enhance pest resistance and reduce the need for chemical pest control. In 1990, the Administration will begin a 5-year interagency research initiative to improve understanding of the process of groundwater contamination, develop safer produc-

tion practices, and disseminate the new practices through the Extension and Soil Conservation Services.

Better data on actual pesticide use, occupational exposure, and environmental contamination are needed to enable regulators to make informed decisions. The Department of Agriculture is currently improving data on pesticide use. The EPA is now conducting the first national assessment of pesticide contamination of well water. Further funding of pesticide data collection and analysis is under consideration.

## ENVIRONMENTAL EFFECTS OF FEDERAL FARM PROGRAMS

Federal farm programs may encourage farming practices that increase health and environmental problems. Farm programs may have adverse environmental impacts through several channels. Crop-specific subsidies can encourage farmers to use more fertilizers and pesticides. To limit the costs of programs, farmers can receive subsidies only on those acres that are part of the farmer's program crop base. This criterion for program participation creates a disincentive to rotate crops, even though crop rotation is an important nonchemical technique for pest control. Thus, the programs may further aggravate pesticide pollution by encouraging farmers to substitute chemical pest control for nonchemical control.

When farm subsidies are based on how much land a farmer devotes to particular crops such as wheat and corn, land suitable for those crops becomes more valuable. Higher agricultural land values in turn encourage farmers to bring more land into production. Land that is not already being farmed is generally less productive or more costly to convert to agricultural uses. Such land may be steeply sloped and thus erodible, or it may be wetlands that provide important wildlife habitat. Agricultural subsidies based on land use thus create incentives for farmers to use land in ways that may increase adverse environmental impacts.

Unfortunately, only limited research has addressed the linkages between agricultural policy and environmental quality. Some evidence supporting these linkages is contained in case studies conducted by the National Academy of Sciences in its report, *Alternative Agriculture*. Other research casts doubt on the generality of that evidence, however. Research shows that pollution caused by agricultural chemical use, for example, depends on the physical characteristics of the farmer's field and its proximity to groundwater and surface water. The diversity of conditions under which agricultural production takes place makes it very difficult to draw broad generalizations from limited data.

*The potential adverse environmental impacts of Federal agricultural programs could be reduced by breaking the links between agricultural subsidies and farmers' production and land-use decisions. These links could be broken, for instance, by making three changes: continuing the reductions of price-support levels that were begun by the 1985 farm bill; relaxing restrictions on the use of land enrolled in subsidy programs; and changing the criterion for receipt of subsidies from one that is based on crop acreage to one that is not related to production of a specific crop. For example, an income-based safety net could replace the current system of crop-related deficiency payments. These same policy changes would also bring U.S. agricultural policy in line with the broader trade policy goals of this Administration that are discussed in the next chapter of this Report.*

## GLOBAL ENVIRONMENTAL ISSUES

Like environmental problems at the local or national level, global environmental problems arise because actions taken by one individual have unintended adverse effects on another. Global environmental problems are complicated by the fact that the individuals involved live in many nations. Because one nation cannot impose its wishes on another, international cooperation is required to solve such problems. Differences across countries—in income, natural resource endowments, population, sensitivity to particular environmental changes, and the political strength of environmental movements—mean that countries inevitably have different views on these issues. At the Paris Summit in July 1989, the President joined other heads of state in recognizing the need for cooperation in addressing global environmental concerns. The President has also encouraged international organizations to facilitate international cooperation to solve global environmental problems.

Stratospheric ozone depletion and possible climate change are two global issues that may affect the economy and the environment far into the next century. To evaluate the impact of a policy course chosen today, the impact it will have on the economic well-being of *both* current and future generations and its environmental impact must be assessed.

Scientific evidence of possible stratospheric ozone depletion is stronger than scientific evidence of possible global warming, although significant uncertainties surround both. These uncertainties extend to environmental and economic as well as scientific aspects of these two issues. Because policymakers must understandably make decisions before information on such issues is complete, the government has an important role to play in supporting basic

scientific and economic research that can reduce critical uncertainties in the meantime.

Even when uncertainty cannot be eliminated, identifying a probable range of effects can inform policy choice. For example, a consensus that changes in global climate will lead to at most a small rise in sea level over the next 60 years would make a policy response to protect high-value coastal areas more feasible than if a large rise were expected. Finally, because the regulatory agenda is often influenced by public perceptions that may not accurately reflect available knowledge, the government also has a responsibility to educate the public.

## STRATOSPHERIC OZONE DEPLETION

Ozone in the upper layer of the Earth's atmosphere (the stratosphere) provides an essential screen from the Sun's ultraviolet rays. In recent years, evidence has mounted that the stratospheric ozone layer is being depleted. Several chemical compounds, most notably chlorofluorocarbons (CFCs) and bromofluorocarbons (halons) have been identified as sources of the increased atmospheric concentrations of chlorine and bromine that cause ozone depletion. These chemical compounds have long atmospheric lifetimes, so that even if their production were halted immediately, elevated concentrations of chlorine and bromine would persist for decades before subsiding. If production is phased out by 2000, current chlorine concentrations would be likely to increase by 50 percent and then decline slowly to one-half of current levels by 2080. Without any production curtailment, these concentrations would rise indefinitely.

The appearance of a major hole in the stratospheric ozone layer over Antarctica, where no emissions originate, illustrates the global scope of the ozone-depletion problem. Long before the hole was observed, the United States acted in 1978 to ban the use of CFCs as aerosol propellants, a use in which substitutes were readily available. Canada and Sweden followed suit. CFCs and halons are also used in applications such as automotive and residential air-conditioning systems, refrigerators, and fire extinguishers; as blowing agents in the production of insulating board and other foam products; and as industrial solvents. These uses of CFCs and halons have continued to grow.

### *Protecting the Ozone Layer: Benefits and Strategies*

The potential benefits from protecting the ozone layer—improvements in human health and favorable impacts on crops, fish, and materials—arise from lower exposure to solar ultraviolet radiation. Both skin cancer and cataracts are related to cumulative exposure to ultraviolet radiation. A phaseout of CFCs and halons is estimated to reduce the incidence of these health problems in the current

population by 50 to 75 percent from levels that would prevail if there were no curtailment of production. (This estimate is likely to be high, because it assumes that individuals take no offsetting actions to reduce their exposure to increased ultraviolet radiation.) For future generations, which would suffer a greater cumulative exposure to ultraviolet radiation if ozone depletion continued, the health benefits would be even larger.

The geographic distribution of ozone-depleting emissions and their expected growth unless action is taken is such that no single country can act alone and have a significant impact on stratospheric ozone depletion. Individual countries have little reason to act alone. The benefits of national policies to reduce ozone-depleting emissions spill over national boundaries, but costs are concentrated where reductions occur. Thus, the application of cost-benefit criteria on a national level would cause any one country, working in isolation, to reject control measures that may be desirable from a global perspective.

Two international agreements regarding ozone depletion are currently in effect. The 1985 Vienna Convention established a framework for international scientific and technical cooperation. The 1987 Montreal Protocol commits signatories who are major CFC users to freeze production levels by 1989, and then to cut their production in half by 1998. In addition, beginning in 1992 the production of several halons is frozen at 1986 levels. The United States and other major industrialized countries have announced further intentions to phase out production of CFCs and halons completely by the turn of the century if safe substitutes are available. Amendments and revisions to the Montreal Protocol, including extending coverage to other compounds with ozone-depleting potential, are currently under consideration.

Hydrochlorofluorocarbons (HCFCs), the most promising substitutes for CFCs in a wide range of applications, themselves have one-fiftieth to one-tenth the ozone-depleting potential of CFCs. By allowing HCFCs to substitute for CFCs in the near term, the Montreal Protocol rejects the uneconomic approach of barring all new ozone-depleting compounds regardless of their advantage relative to current products and their usefulness during the transition to substitutes with no effect on the ozone layer.

Atmospheric lifetime is one important factor in decisions regarding the coverage of the protocol. Decisions to reduce or eliminate the use of short-lived ozone-depleting compounds, such as methyl chloroform, involve weighing the short-term impact of delay against the opportunity to develop improved substitutes to lower the economic costs of action. Under these conditions, it may be sensible to eliminate their use as good substitutes become available.

## *Costs of Protecting the Ozone Layer*

Preliminary estimates place the U.S. costs of a phaseout of CFCs and halons by 2000 at \$2.7 billion over the next decade if the schedule of intermediate reductions currently incorporated in the Montreal Protocol is maintained. Acceleration of this schedule would drive compliance costs upward significantly. These cost estimates reflect a substitution strategy involving conservation, process changes, and the use of more expensive substitute compounds. The availability of substitutes is critical to avoid economic disruption.

The United States is using transferable allowances to implement the reductions required under the protocol in a cost-effective manner. Manufacturers and importers of CFCs and halons will receive permits in proportion to their base period market shares. As supply is restricted, rising prices will encourage users with available low-cost substitutes to switch, leaving remaining supplies for high-value uses. This approach avoids unnecessary direct regulation of end-use applications, while ensuring compliance with U.S. obligations to reduce production and consumption. Moreover, because there are significant economies of scale in the production of CFCs and halons, the use of permit transfers to concentrate production in a small number of facilities during the phasedown has the potential to increase efficiency on the supply side. Allowing for this kind of flexibility on the international level would yield further cost savings.

## GLOBAL CLIMATE CHANGE

Greenhouse gases (carbon dioxide, methane, CFCs, and nitrous oxide, among others) absorb heat that radiates from the Earth's surface and send some of the heat downward, warming the climate. Many scientists believe that fossil fuel burning, certain agricultural practices, deforestation, and other human activities that increase the atmospheric concentration of greenhouse gases will alter the global climate. Scientists are much less confident of the magnitude, timing, location, and character of the greenhouse-induced warming. Many argue that no warming has yet occurred despite a substantial increase in greenhouse emissions; some contend that appreciable future warming is unlikely. Others strongly dispute these views.

Computer models of the Earth's climate system are a principal tool of global climate research. Economic models of energy supply and demand provide the future emissions projections used as input by the climate models. Economic models can also be used to assess the cost and growth impacts of policy actions to change the future emissions profile.



## *Economic and Scientific Uncertainties*

Projections of future emissions of greenhouse gases, a critical input to climate models, are highly sensitive to future rates of population growth, economic growth, and development of new technologies for energy production and use. The inability to place narrow bounds on any of these factors necessarily places very wide bounds on any forecast of future emissions. One recent study could conclude only that actual global carbon emissions from fossil fuel combustion in the year 2050 are likely to be between 50 and 1,100 percent of current annual emissions. This result is typical of the high degree of uncertainty in this area.

Even if estimates of future emission levels are correct, the magnitude of actual climate change will depend on numerous interrelated and, as yet, poorly understood geophysical processes that have both positive and negative feedbacks on warming. For example, an increase in evaporation from a warmer climate will almost certainly increase average cloud cover. Depending on their altitude and configuration, additional clouds can either intensify or counteract warming. Current climate models are incapable of providing reliable estimates of the effect that clouds will actually have if warming occurs.

If the atmosphere begins to warm, a transfer of heat from the air to the oceans is expected to slow the rate at which air temperature actually rises. This effect, which would decrease as ocean temperatures increased, could delay the full effect of any increase in the concentration of greenhouse gases on air temperature for a period ranging from decades to centuries, with wide variations by region. Regional variation in other critical effects such as seasonality, rainfall distribution, and soil moisture is also likely, but current climate models lack sufficient resolution to identify regional differences clearly. This deficiency makes it difficult to specify, among other things, the sea level rise resulting from any degree of average warming.

Considerable resources and effort are being devoted to resolving uncertainties in climate modeling, and in gaining a better understanding of processes that are poorly understood and are not explicitly treated in current climate models. The President's 1991 budget proposal includes \$1.03 billion in funding for global climate change research. This figure reflects an increase of 57 percent over the current funding levels and a 100-percent increase over 1989 expenditures. The United States has also taken a leadership role in the Intergovernmental Panel on Climate Change, the primary international forum for consideration of the scientific, socioeconomic, and policy issues concerning global climate change.

At the Malta meeting with the Soviet President in December, the President of the United States announced his intention to host a

White House Conference on Scientific and Economic Research on the Environment in the spring of 1990. The general purpose of this high-level international meeting will be to advance the quality and understanding of the scientific and economic analytical tools and data necessary to confront international environmental problems, including global climate change. Sound scientific and economic analyses must be the foundation for any policy action in this area. The President of the United States also offered to host the first negotiating session for an International Framework Convention on Global Climate Change in the fall of 1990.

The compounded uncertainties of the projections of future emissions and the climate models present a formidable barrier to accurate forecasting. At present, there is an extremely high level of uncertainty regarding possible future climate change. Some reputable scientists believe that there will be no significant greenhouse warming over the next century. But other reputable scientists believe that a warming of between 1.5 °C and 4.5 °C (with most recent estimates falling into the lower half of this range) could occur by the middle of the next century if emissions grow rapidly. A warming of this magnitude could result in a rise in sea level estimated to range from a little under one foot to about a foot and a half by the end of this period. Both the more optimistic and the more pessimistic judgments are subject to revision as scientific and economic inquiry progresses and additional data are gathered.

If the current understanding of greenhouse processes is correct, some warming could occur by virtue of past emissions. Therefore, some adaptation would be required even if future greenhouse emissions were sharply curtailed. Even though scientists may yet learn that no significant warming is likely, it is nonetheless worthwhile to address two distinct policy questions. First, what actions could be taken now to limit emissions of greenhouse gases and what are the likely costs of those actions? Second, what are the possible economic and other effects of warming that, if these scientists are correct, will occur in any event?

### *Sources of Greenhouse Gas Emissions*

Some steps have already been taken that will reduce greenhouse gas emissions. In addition to their role in stratospheric ozone depletion, CFCs account for 14 percent of total greenhouse emissions from human activities on an impact-weighted basis; the planned phaseout of CFCs is clearly important. In the recently negotiated agreement to replenish the financial resources of the International Development Association, the United States called for preparation of environmental action plans in borrowing countries, expansion of programs for end-use energy conservation and renewable energy sources, and other environmental reforms.

On the domestic front, the Administration's clean air initiative promotes the development of technologies that will improve the efficiency of converting energy stored in coal and other fossil fuels into electricity. The allowances system and the proposed cap on sulfur dioxide emissions may also focus renewed attention on improving efficiency in end-uses of electricity as an alternative to new fossil-fueled generating capacity. Although the measures cited above should reduce net greenhouse emissions, the justification for taking these actions does not depend on resolving the high uncertainties about possible climate change.

Carbon dioxide accounts for about one-half of the current greenhouse gas emissions caused by human activity. The shares of methane, CFCs, nitrous oxide, and other gases are 18, 14, 6, and 13 percent, respectively. Clearly, possible climate change is not a one-gas problem: gases other than carbon dioxide play a significant role. Nonetheless, international attention and current analysis of greenhouse gas limitation policies focus almost exclusively on carbon dioxide.

## THE COSTS OF REDUCING CARBON DIOXIDE EMISSIONS

Fossil fuel combustion is the primary source of carbon dioxide emissions. Deforestation accounts for an additional 10 to 30 percent. Other activities such as agriculture and cement manufacturing contribute smaller shares. Although all fossil fuels contain carbon, coal contains about 1.75 times as much carbon per unit of heat energy as natural gas and about 1.25 times that of oil.

In contrast to the situation for CFCs, low-cost substitutes for fossil fuels used in electricity generation, transportation, heating and cooling, and process heat applications are not currently available or on the immediate horizon. Unlike sulfur dioxide, no commercially feasible technology for scrubbing carbon dioxide from combustion waste gases is available. Thus, for the foreseeable future, only lower energy consumption or fuel switching could reduce carbon dioxide that results from fossil fuel combustion. A substantial increase in the price of fossil fuels would likely be required to reduce consumption substantially.

*Experience following the 1973 and 1979 oil shocks shows that large increases in the price of energy can reduce the energy intensity of economic activity.* The period between 1973 and the sharp decline in oil prices in 1986 saw a significant increase in the relative price of energy. Between 1973 and 1985, the price of energy rose by 47 percent relative to nonenergy products at the consumer level and by more than 80 percent at the industrial level. The ratio of energy use to real gross national product fell by 2.3 percent annually in the United States over this period as consumers and produc-

ers responded to higher energy prices by substituting away from energy and energy-intensive products. With no growth in energy consumption over the period 1973 to 1985, carbon dioxide emissions remained level. The impact on carbon dioxide emissions of the increase in the share of primary fossil energy derived from coal over this period was offset by growth in the use of nuclear power, which produces no greenhouse emissions, and of natural gas. However, the growth rates of output and productivity over this period, 2.3 percent and 1.0 percent, respectively, were far below the corresponding rates of 3.7 percent and 2.9 percent for the 1948-73 pre-shock period.

The relationship between energy prices, energy consumption, and economic growth is also reflected in more recent data covering a period of significant decrease in relative energy prices at the consumer and industrial levels. Between 1985 and 1988, annual growth rates in output and energy use snapped back to 3.6 percent and 2.7 percent, respectively.

Although the slowdown in productivity and output growth between 1973 and 1985 can be attributed to many factors, higher energy prices clearly played an important role. Energy price increases of comparable or larger size would likely be needed to induce the large energy efficiency improvements and demand reductions that must occur to achieve the ambitious targets for carbon dioxide emissions reductions that some have advocated. Although much has changed since 1973—it may be harder now to expand reliance on nuclear power, for instance, even though the regulatory policy errors of that period are less likely to be made—the oil-shock period provides a useful benchmark for consideration of the likely impact of emission reduction policies on output and productivity growth. On balance, there is no reason to believe that an attempt to reduce energy use significantly would be substantially less economically disruptive today.

Modeling the economic effects of policies to curtail carbon dioxide emissions is still in its infancy, and results of modeling efforts remain tentative and controversial. (Even less has been done with regard to other greenhouse gases.) *Recent studies suggest, however, that the costs of policies to stabilize or reduce carbon dioxide emissions from fossil fuel combustion would be high.*

One recent study placed the cost of gradually reducing U.S. carbon dioxide emissions by 20 percent between now and 2100 to range from \$800 billion, under optimistic scenarios of available fuel substitutes and increasing energy efficiency, to \$3.6 trillion under pessimistic scenarios. These present-value estimates, which reflect the discounting of real future costs at a 5-percent annual rate (Box 6-4), are between 35 and 150 times larger than EPA's similarly discounted estimate of the costs that would be incurred over the next

century by consumers and industries forced to use more expensive or less effective substitutes if a complete phaseout of CFCs and halons were implemented by the year 2000.

#### **Box 6-4.—Discounting Over Long Horizons**

The costs of reducing greenhouse gas emissions must be borne both now and well into the next century; the benefits of slowing climate change may not be perceptible for many decades. Discounting is required to compare costs and benefits—both market and nonmarket—that occur at different dates.

Suppose, for instance, that a 5-percent real rate of interest is appropriate for these calculations. (If an investment yields a 9-percent rate of interest in dollar terms, but prices rise by 4 percent per year, the real purchasing power of invested funds grows by 5 percent annually.) One dollar invested at 5 percent per year in 1990 will return \$18.68 in purchasing power in 2050 if the interest income between 1990 and 2050 is reinvested. Therefore, it makes no sense to spend \$1 today to obtain benefits worth \$10 in 2050: future generations must receive at least \$18.68 in 2050 benefits to be better off than they would be if the dollar were invested instead.

It is always possible to compare values in either current or future terms. To compare in 1990 terms, one must divide the 2050 value by 18.68. Thus, \$100 billion in 2050 is worth only \$5.35 billion in 1990. To compare in 2050 terms, \$100 billion in 1990 is worth  $\$100 \text{ billion} \times 18.68 = \$1,868 \text{ billion}$ , or \$1.868 trillion. Either approach will give comparable results; what matters is that all values are placed on a consistent basis.

The costs of carbon dioxide stabilization policies can also be looked at from a future perspective. The present-value estimates cited above reflect reductions in real U.S. output ranging from 1 to 5 percent over the 2010 to 2100 period. Other preliminary estimates place the cost of stabilizing 2050 emissions at 1990 levels in the range of 1 to 2 percent of 2050 gross national product (GNP). To put these estimates in perspective, a 2-percent reduction in GNP in the year 2050 is worth about \$340 billion 1990 dollars, assuming a 2-percent average annual rate of economic growth between now and 2050.

The impact of carbon dioxide stabilization policies can also be considered in terms of growth-rate impacts. A recent estimate based on energy-output balance relationships suggests that global carbon dioxide stabilization could cut world economic growth in half, even after accounting for substitution toward cleaner energy. Other studies and U.S. experience following the oil shocks suggest

substantial if less dramatic impacts. As shown in Chapter 4, even small changes in growth rates can have a large effect on future output levels.

Clearly, economic models as well as climate models are subject to considerable uncertainty. The early estimates of potential costs described above are far from definitive. The critical uncertainty regarding forecasts of the date and cost at which alternative technologies will become available is unlikely to be resolved soon. Meanwhile, the refinement of current estimates and the development and application of new, more detailed economic models would help to provide a stronger foundation for decisions regarding possible actions to limit carbon dioxide emissions.

### *Other Issues in Reducing Carbon Dioxide Emissions*

*Reductions in U.S. carbon dioxide emissions on a unilateral basis or in cooperation with other Organization for Economic Cooperation and Development (OECD) countries alone would not significantly alter the projected growth in world carbon dioxide emissions* (the OECD is an international organization of industrialized countries that promotes economic growth and trade). Chart 6-1 shows current and projected shares of total carbon dioxide emissions. The emissions share of the United States and other industrialized countries is projected to decline sharply as non-OECD economies experience growth and increasing energy intensity. Developing countries are expected to account for the majority of future emissions increases. Clearly, any significant reduction in emissions growth would require the cooperation of the Soviet Union, Eastern Europe, and the developing countries.

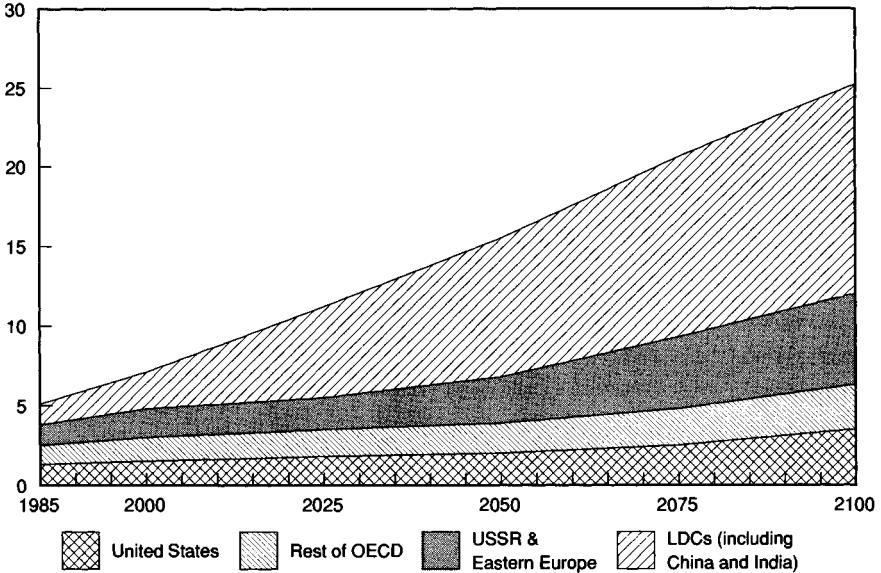
The ratio of carbon dioxide emissions to energy consumption depends on the mix of energy sources employed and thus varies substantially among industrialized nations. This ratio is high for the United States, which depends more heavily on coal than most of its major competitors (Table 6-2), as is energy use per dollar of GNP. *All else equal, uniform international standards or user charges for carbon dioxide emissions are thus likely to have a larger adverse impact on the United States than on its major competitors.* In particular, a fee on carbon dioxide emissions (discussed below) would increase electricity rates in the United States relative to rates in countries that rely more heavily on nuclear and hydroelectric energy, which produce no greenhouse emissions, or in countries relying on fossil fuels with less carbon per unit of energy content. This situation presents a marked contrast to the 1973 and 1979 oil shocks, where greater U.S. self-sufficiency in energy provided an advantage relative to most other industrialized countries.

Other than hydroelectric or geothermal power, which have very limited potential to supply increased electricity within the United States, nuclear power is the only large-scale technology for electric-

Chart 6-1

**CARBON DIOXIDE EMISSIONS BY REGION.** The LDC share of carbon dioxide emissions is projected to grow rapidly. The U.S. share is projected to decline.

Billions of metric tons of carbon



Source: Environmental Protection Agency, *Policy Options for Stabilizing Global Climate* (Rapidly Changing World Scenario).

**TABLE 6-2.—Fuel Share in Electricity Generation, 1986**

[Percent]

Country	Coal	Oil	Gas	Nuclear, Hydroelectric, and Geothermal
Canada.....	15.7	1.3	1.5	81.5
France.....	9.7	1.5	.8	88.1
West Germany.....	56.9	3.1	6.2	33.8
Japan.....	14.7	28.2	19.3	37.8
Netherlands.....	26.8	5.1	61.8	6.3
Sweden.....	3.0	2.0	.1	94.9
United States.....	56.2	5.5	10.1	28.1

Source: Organization for Economic Cooperation and Development, "Energy Policies and Programmes of IEA Countries—1987 Review," Paris, 1988.

ity production that is both benign from a greenhouse emissions perspective and commercially available now. Policies regarding the future role of nuclear power, including the timetable for the development and commercialization of modularized, inherently safe reactor designs, will need to be closely coordinated with policies that affect the future role of fossil-fuel generation.

## POLICY TOOLS TO IMPLEMENT A REDUCTION IN GREENHOUSE GAS EMISSIONS

A variety of policy tools, including user charges, correction of market failures, regulatory standards, expanded funding for research on and development of substitutes for fossil fuels and other sources of greenhouse emissions, and efforts to reduce and reverse deforestation, could be used to slow the buildup of greenhouse gases in the atmosphere. These approaches are relevant for nearly all greenhouse gases, not just carbon dioxide. While international attention has naturally focused on carbon dioxide as the single largest contributor to the greenhouse effect, control costs must also be considered in the design of any strategy to reduce net emissions of greenhouse gases. A cost-effective strategy may involve a focus on other gases or on sinks that absorb greenhouse emissions. Different approaches may be suitable for different countries.

*A fee, charge, or tradable allowances system for greenhouse gas emissions based on an index of the global climate impacts of each greenhouse gas would provide a least-cost reduction in such emissions.* A fee or a tradable allowances scheme would lead firms and individuals to consider the social cost of greenhouse emissions in their private decisions. An emission charge or the need to consider the value of allowances would affect decisions ranging from the choice among alternative technologies for generating electricity, to the energy efficiency of cars, buildings, and industrial equipment, to the demand for automobile travel. Because market-based approaches are flexible and provide incentives that affect decisions at all points along the production-consumption chain and across all industries, they automatically focus on those activities where emissions reductions can be achieved at least cost.

The economic impact estimates for carbon dioxide stabilization discussed above reflect the high costs of reaching very ambitious goals even when efficient market-oriented tools are used. Market-based approaches could also be implemented at a less draconian level to nudge the economy gently and gradually in the direction of greater energy efficiency. Such an approach would test the flexibility of the economy without betting the current way of life on the outcome.

*Publicly supported research and development of nonfossil energy sources, including biomass, solar, and next-generation nuclear fission, may contribute to a reduction in greenhouse emissions.* It is often noted that the fruits of innovation cannot always be fully captured by the innovator, leading to underinvestment in the development of new technology. This problem is particularly acute for innovations that address a global problem, such as greenhouse emissions. Breakthroughs in environmentally benign technologies hold the promise of lowering the future emissions trajectory while



advancing economic progress. Opportunities also exist outside the energy area. For example, emissions of methane from agriculture might be cut through the development of improved techniques for farming and livestock management.

*Reforestation can contribute to reductions in net emissions of carbon dioxide into the atmosphere.* Just as tropical deforestation increases carbon dioxide emissions by releasing carbon that is fixed in trees through photosynthesis, reforestation can increase the uptake of carbon dioxide from the atmosphere by increasing photosynthesis. Reforestation potential varies significantly across countries according to their climate and land use patterns. The United States has an abundant supply of urban and rural land suitable for reforestation. Large-scale reforestation efforts could have significant impacts on agricultural and timber production, however, which would in turn affect consumers and producers in those markets.

### *Correcting Market Failures*

In some cases, market failures may serve to increase emissions of greenhouse gases. *Interventions that address market failures directly are generally preferable to direct regulation via standards.* Approaches that merit consideration include public information programs, promotion of efficient appliances by utilities, and changes in mortgage qualification rules to reflect appliance operating costs.

One promising concept to reduce the growth in electricity use is demand-side management. A utility faced with capacity constraints would consider proposals for demand reduction through efficiency improvements and proposals to increase supply on an equal footing, and choose the lowest cost alternative. One barrier to implementing programs of this type is that utility profits under traditional State rate-setting regulation are often linked directly to the level of electricity sales. Regulatory changes at the State level, possibly to permit nonutility companies to bid for demand reduction that can be compared with the costs of increasing supply, are needed to implement demand-side management. Although estimates of the emissions reductions available through widespread application of this approach vary widely, the removal of regulatory barriers and biases in the market for electric power makes economic sense.

### *The Limitations of Efficiency Standards*

Energy efficiency standards can also be used to overcome information barriers and institutional rigidities. However, this command-and-control approach has several significant disadvantages compared with incentive-based systems or alternative approaches that address perceived market failures directly. First, the burden of meeting standards cannot be reallocated across industries or across

the different greenhouse gases in private cost-saving transactions. Second, in the absence of price increases for fossil fuels, standards can increase the demand for energy-using services. Finally, standards reduce the range of products available to meet diverse consumer needs.

*The costs of efficiency standards are often hidden.* For example, a higher average fuel economy standard might force consumers to buy only the more fuel-efficient and generally cheaper vehicles in the existing product line, thereby actually reducing their purchase and gasoline costs. However, out-of-pocket costs do not reflect costs imposed by denying consumers the option to purchase other valued attributes such as safety, performance, and comfort. Higher fuel efficiency without higher fuel prices also lowers the per mile cost of driving, which encourages more trips, more fuel consumption, and more emissions. Because fuel economy labels already inform consumers about energy consumption, and few apparent institutional rigidities exist, the economic rationale for stringent auto efficiency standards is doubtful at best.

Assertions that efficiency improvements are cost-saving or nearly costless beg the question why these improvements are not automatically taking place. Such assertions must be examined to see if the claimed efficiency gains involve the sacrifice of other product attributes that were excluded from the analysis or market imperfections that could be addressed directly. One must ask whether the analysis considers the entire range of consumer usage rates and energy prices, or is based only on national average values.

In the latter case, efficiency standards may appear to be cost-effective on the national level, while actually restricting the choices of only those consumers who face low energy prices or have low usage rates (and thus energy consumption) for the product. Those with high usage rates or those who face high energy prices would purchase high-efficiency products even in the absence of mandatory standards. Taking this diversity into consideration, an efficiency standard that appears to save money on the national level may actually impose costs.

## IMPACTS OF CLIMATE CHANGE

Available assessments of the costs of substantially slowing the rate of greenhouse gas emissions may reach the trillions of dollars. What benefits might be obtained with those costs? This question is difficult to answer, but it is possible to identify several nonmarket impacts of possible future climate change, and to arrive at preliminary estimates of some market effects.

*There may be both positive and negative effects of climate change on human health, although these effects are controversial.* Temperature extremes—both hot and cold—are associated with higher mor-

tality rates for populations, such as the elderly, that are susceptible to physical stress. These relationships suggest that higher temperatures in winter could reduce weather-related illness and death, whereas higher summer temperatures could increase them. These adverse health effects are not well understood, however, as illustrated by the fact that the average temperature differential between New York City and Atlanta is as large as the most extreme predictions of warming, yet there is no evidence that Atlanta's warmer climate creates a greater health risk than New York's. There could also be changes in the regional distribution of vector-borne diseases, such as those carried by ticks, fleas, and mosquitoes, associated with climate change.

*Substantial reductions in economic growth in low-income countries caused by attempts to reduce greenhouse gas emissions could have far greater adverse health consequences than any direct health effects associated with climate change.* When one considers the very close relationship around the world between income levels and important health indicators such as infant mortality and life expectancy, it is clear that one of the most important factors affecting health is the ability to afford adequate nutrition and health care.

If global warming occurs, its impact on plants and animals, including humans, is likely to depend on how rapidly it occurs. Both the human and other species' ability to adapt to warming appear to increase if the rate of change is slow. In agriculture, plant breeding and biogenetic techniques can be used to adapt crop varieties to changes in solar radiation, temperature, and moisture. These techniques are more likely to succeed when the incremental changes are small and there is adequate time to undertake adaptive research. In the wild, species can adapt to climate change by moving to suitable environments or adapting to new ones through natural selection. Scientists believe that some wild species of plants and animals may not adapt to rapid climate change and might be lost, thus threatening the biological diversity that has evolved over millions of years. The fact that many medicines contain active ingredients obtained from substances in plants and animals, especially those in the tropics, suggests that a reduction in diversity could represent a significant economic loss.

There is also some reason to believe that extreme weather events may be more important than the increase in average temperature for adaptation to and survival of climate change. A change in the frequency and intensity of hurricanes and tornadoes, for example, could substantially affect their costs, measured in both human life and property.

Sea-level rise is another possible effect of global warming. The U.S. coastline, like the coastlines of other industrial maritime nations, has been extensively developed, with buildings often within

100 feet of the sea. The cost of protecting the entire U.S. shoreline against substantial sea-level rise would be prohibitive, as it would be for many countries with densely populated low-lying areas. The cumulative costs of protecting densely developed shoreline areas from a 20-inch rise is estimated to be between \$37 billion and \$50 billion, or between \$7 billion and \$10 billion in present value under the assumption that all costs were incurred in 2025. If the costs of protecting against sea-level rise were spread over the more distant future, as seems likely, their present value would be lower. If the sea level rises gradually and predictably, a reasonable response strategy might include steps to encourage some population and economic activity to relocate inland to higher ground when existing structures come due for routine replacement.

*Most sectors of industrial economies are not climate-sensitive, or could adapt to climate changes.* The costs of adaptation depend on how rapidly warming occurs. Useful lives of plant and equipment tend to be shorter than 50 years, so that a slow warming trend would permit change in the location and composition of economic activity without major or unanticipated disruptions. More rapid changes could result in loss of some immobile private assets, abandonment of certain public infrastructure, and reinvestment at new locations.

The most significant impacts on industry are likely to be in activities that involve biological processes that are sensitive to temperature and rainfall such as agriculture, forestry, and fishing—which account for about 2 percent of U.S. GNP. Global climate change could have both positive and negative impacts on productivity. Up to a point, higher carbon dioxide concentrations improve the efficiency of photosynthesis and thus increase agricultural productivity. Warming could change the amount and distribution of precipitation and shift cropping patterns regionally, but regional predictions are now considered highly unreliable.

*Preliminary analyses show that global climate change could result in a net loss in agricultural productivity, but no evidence shows that it would threaten the world's food supply even under the most pessimistic scenarios.* The Department of Agriculture has made preliminary estimates of the regional and global economic impacts of changes in agricultural production that might be associated with warming. Under one scenario, the net global costs of a doubling of atmospheric carbon dioxide were estimated to range from \$35 billion to \$170 billion annually, with the United States losing \$1 billion annually. Equally plausible but less pessimistic assumptions about yield effects implied small net gains to the global and U.S. economies. Underlying these small net effects would be some redistribution of income from consumers to producers through higher agricultural prices.

These estimated impacts on global and U.S. agriculture can be put into perspective by comparing them with the impacts of agricultural policies discussed in Chapter 7. Using the same economic model, Department of Agriculture researchers estimated that the trade-distorting policies now in place around the world impose a net cost on the world of \$35 billion annually and \$10 billion annually for the United States. Thus, the annual costs of current agricultural policies are estimated to be the same order of magnitude as the estimated agricultural impacts of global warming. However, the agricultural losses from a doubling of carbon dioxide are not likely to occur until well into the next century. For example, using a 5-percent real interest rate, a global loss of \$170 billion in 2050 amounts to about \$9 billion in 1990 dollars (Box 6-4). Thus, the costs of today's agricultural policies are estimated to be more important in economic terms than even pessimistic estimates of the effects of global warming, largely because the former must be borne in the present and the latter may occur, if at all, in the relatively distant future.

## SUMMARY

The United States is taking a leadership role in international efforts to reduce scientific and economic uncertainties about global climate change and to build a common understanding about all aspects of the climate change issue from the basic Earth science, to impacts on human activities, to potential response strategies. The data now available on the economic costs of reducing greenhouse gas emissions suggest that it may be as important to improve understanding of the economics of global warming as it is to improve current ability to predict warming itself.

Policies such as the phaseout of CFCs, the President's clean air proposal, and reforestation can significantly reduce global net emissions of greenhouse gases. At the same time, they can be justified on their own merits. Increased research and development funding and modest changes in fuel prices can reflect the broader social interest in promoting energy conservation. Currently available analyses indicate that near-term stabilization or immediate reduction of carbon dioxide emissions from fossil fuel combustion is likely to impose large economic costs on current and future generations. Such measures must be carefully scrutinized, given the current limited understanding of the impacts and likelihood of global warming. The highest priority in the near term should be to improve understanding in order to build a foundation for sound policy decisions.

Until such a foundation is in place, there is no justification for imposing major costs on the economy in order to slow the growth of greenhouse gas emissions. Policies that may result in slower

growth in greenhouse emissions, but can also be fully justified on other grounds, are the best short-run way to address this potential problem while the uncertainties that exist today are reduced. Being justified on other grounds means that a program yields non-greenhouse benefits commensurate with its costs; it cannot mean simply having some non-greenhouse benefits. The adoption of many small programs, each of which would fail a standard cost-benefit test, could significantly slow economic growth and eliminate jobs.

Because the intense research currently underway may reveal that it is desirable to slow the growth of greenhouse gas emissions, it is useful to consider the elements of what would be an economically rational strategy to do so. Any strategy to limit aggregate emissions without worldwide participation would be likely to fail. A cost-effective policy must provide for comprehensive coverage of both sources and sinks of all major greenhouse gases. It must also provide appropriate incentives for emissions reductions and deal directly with market failures. Carbon dioxide emissions, in particular, could be reduced at much lower cost through the use of emissions fees than through government-imposed standards for energy efficiency.

## CONCLUSION

There is widespread agreement that both economic growth and environmental quality are desirable policy goals. They need not be incompatible, and are in many respects complementary. Three principles should guide regulation. First, realistic environmental and risk-reduction goals that balance benefits and costs must be set. Second, strategies that work with rather than against market incentives should wherever possible be used instead of less effective command-and-control regulation. Market-oriented approaches, such as marketable air pollution allowances, create incentives for firms to achieve environmental goals in a cost-effective manner. Third, government should support the development and dissemination of scientific and technical information about environmental and health risks.

The Administration's clean air initiative, its proposals to improve pesticide regulation and food safety, and its efforts to improve the understanding of global environmental issues each illustrate how these principles for environmental regulation can be put into action. Other pressing environmental issues will face the Nation in the 1990s and beyond. The application of these principles to all environmental problems will help to achieve both a strong economy and a healthy environment.

## CHAPTER 7

# Growth and Market Reform in the Global Economy

THROUGHOUT THE WORLD, there are welcome signs that barriers to free markets and to an open trading system are coming down. Indeed, the movement toward free markets accelerated dramatically in 1989. Revolutionary transformations from centrally planned to market-oriented economic systems are being attempted in Poland, Hungary, and other countries in Eastern Europe. Economic reforms have improved performance in some of the heavily indebted developing countries, such as Costa Rica, Mexico, and the Philippines, and recent steps to reduce debt burdens promise to further this goal. Market-oriented development in the Asian Pacific Rim economies is proving a dramatic success, and efforts are under way to translate the export orientation of these nations into higher domestic living standards. Barriers to the free movement of goods, services, labor, and capital are being removed to establish a single, unified market in Western Europe. The United States and its trading partners are continuing to work for a significantly freer world trading system by developing or extending rules for trade in agriculture, services, intellectual property, and other areas through the Uruguay Round of the General Agreement on Tariffs and Trade (GATT), which is to be completed this year.

What has been called the revolution of 1989 in Eastern Europe highlights the intimate interaction between political and economic freedoms. U.S. support for democracy and free markets, as well as the recent success of the U.S. economy and its market-based system, have been a key impetus to these transformations. During his first year in office, the President took significant actions to further the development of market reform. He submitted legislation for financial and technical support to Poland and Hungary, which was enacted by the Congress last November. More recently, he has proposed a program of technical assistance and a trade agreement with the Soviet Union.

The United States has also been a leader throughout the postwar period in working with other countries toward a more open international trading system. However, many steps have yet to be taken. Thus, the successful completion of the Uruguay Round of GATT negotiations and the strengthening of this rules-based insti-

tution for liberalizing international trade is the highest priority of the President's trade policy. The United States and all developed and developing economies can benefit greatly from a healthy global economy and full participation in an open international trading system.

## MARKET-ORIENTED REFORM IN CENTRALLY PLANNED ECONOMIES

In recent months, the world has witnessed unprecedented developments in Eastern Europe as many countries moved toward democracy and economic reform. These countries have set out on a road that, while difficult, is the only hope for sustained improvement in the future economic well-being of their citizens. The new Polish government has already begun to implement a major economic restructuring and stabilization program. In October 1989, Hungary declared itself a republic. While economic reform has been under way for many years, Hungary is to launch a new reform initiative in 1990. Since the opening of the Berlin Wall in November, economic contacts between East and West Germany, including plans for continued assistance, have multiplied. There have been leadership changes in Czechoslovakia, Bulgaria, and Romania. These countries have indicated some desire to undertake market-oriented reforms and are in the process of redesigning economic policies. As part of continuing reform efforts, new economic policies were recently announced in Yugoslavia.

Economic reform has also been under way in other parts of the world. The People's Republic of China has moved to reshape its economy, and began in 1978 to rely increasingly on markets. However, political actions associated with the Tiananmen Square repression set back these reforms. Through 'glasnost' (openness) and 'perestroika' (restructuring), the Soviet Union began to initiate political, legal, and economic reforms in 1985. Since 1985, the Lao People's Democratic Republic has significantly increased reliance on market forces.

These changes in Eastern Europe, the Soviet Union, China, and Indochina are of tremendous global significance. One-fifth of the world's population lives in China, and nearly 8 percent live in the Soviet Union and countries of Eastern Europe.

*These countries are all addressing the fundamental question of how some form of market economy can revive growth rates and raise living standards after years of disappointing economic performance. The World Bank estimates per capita income for 1988 at \$1,850 in Poland and \$2,460 in Hungary. In contrast, it was \$19,780 in the United States. (Other estimates suggest that these figures may understate living standards in Poland and Hungary somewhat.) Even*



if the economic reforms are successful, it will take many years to close these gaps. However, market-oriented economic reforms can generate noticeable improvements in the short run by reducing shortages of key goods and services, by improving quality, and by producing goods that people actually want, rather than what central planners want them to have. Furthermore, the freedom to choose is an important addition to human welfare that is not measurable by per capita income levels.

Bold and comprehensive plans for economic reform have been put forth by some of the centrally planned economies. These reforms will eventually improve living standards for citizens of these countries. If successful, they promise future growth and prosperity. However, the difficulties of economic transition should not be underestimated. Transformation from one economic system to another will be extremely complex and the adjustment may be painful, involving widespread unemployment with limited unemployment insurance or other social support systems currently in place. No single set of policies will work for all countries, and the appropriate mix and timing of economic policies must be designed on a case-by-case basis. Any policy package necessarily involves the risk of failure and a host of uncertainties. However, external support will raise the likelihood of success. The President has taken a deep interest in the progress of political and economic reform and remains committed to providing assistance.

## **CENTRALLY PLANNED VERSUS MARKET ECONOMIES**

Between World War II and the early 1950s, most countries in Eastern Europe adopted the Soviet economic model of central planning and became members of the Council for Mutual Economic Assistance (CMEA). Each centrally planned economy is unique, just as the United States, West Germany, and Japan are each examples of market economies but with distinct characteristics. A fundamental distinguishing feature of centrally planned economies is that state authorities, not private citizens, own and control most of the means of production. Instead of allocating resources through markets that establish prices based on supplies and demands, the state authorities generally formulate detailed plans for inputs and outputs. Coordinating this process properly requires an immense amount of information, making it exceedingly difficult for a centralized system of managers to allocate scarce resources according to what people want, or to respond to changes in demands, supplies and technologies. The lack of private ownership implies that individuals have little stake in improving resource allocation. Of course, the population as a whole would gain if resources were used to produce goods and services they valued more highly.

Although the operation of centrally planned systems is very complex, a simple polar example illustrates key issues. Consider an enterprise producing shirts. In a centrally planned economy, planners would typically determine the amounts of cloth, dye, thread, and other inputs the enterprise would receive and the source and price of each input. Workers would be assigned to the enterprise, and often allocated to particular tasks. The plan would also set targets for output of each type of shirt and determine the final prices to households.

The contrast with a market economy is striking. In a centrally planned economy, prices of labor, goods, and services do not adjust to reflect supplies and demands, and production decisions are not motivated by profitability. Unlike a market system, producers typically have no leeway to reduce prices or production when inventories accumulate or to raise prices or production as inventories decline—even if consumers form long queues. The enterprise does not base hiring decisions on its assessment of needs and worker quality, nor does it choose where to purchase inputs so as to minimize production costs. Furthermore, state-owned enterprises are allocated the credit needed to finance operations through a centralized banking system. Most centrally planned economies have never developed laws to deal with bankruptcies, because enterprises are typically bailed out if costs exceed revenues. Consider the implications for U.S. firm behavior if the Federal Government promised to mail a check to cover the losses of every business that lost money. Such a system severely weakens the incentives for producers to use resources efficiently.

Because individuals in centrally planned economies own few of the factories or other productive assets, individuals have little incentive to respond to market signals about resource scarcity, even if such signals exist. Instead, the central planning system puts a premium on meeting output targets. The lack of private ownership also provides little incentive for innovation or quality control. New firms cannot simply enter the market to take advantage of better management or new ideas.

Centrally planned economies have persistent problems with demand exceeding supply at officially set prices. As shortages of consumer goods and of inputs required for production develop, the scarce supplies must be rationed to households and to firms, often resulting in long queues and disruptions to production. At the same time, other products may be overproduced and go to waste. The shortages often lead to black markets in which goods sell for far more than their official prices. If shortages get worse over time, hidden inflation may develop. As official prices are decontrolled, measured inflation soars. For example, the removal of controls on

food prices in Poland resulted in the acceleration of inflation in Poland last August (Box 7-1).

Severe housing shortages in Poland provide another example of chronic excess demand. The wait for an apartment has been reported to be as high as 15 years in large urban areas. Largely because of high government subsidies, housing has been very inexpensive for households lucky enough to get it. One survey estimated expenditures on rent or cooperative housing at just 3 percent of total household expenditure in the mid-1980s, compared with more than 14 percent in the United States. Unlike the United States, however, rationing constrains many Polish families from choosing housing of a different size, or in a different area, or from moving to their own residences. Although recent studies have found high returns to producers of new housing, new building is inadequate. Private construction has failed to provide a remedy because of lack of materials, undeveloped financial markets, and counterproductive laws and regulations governing ownership and property transfer.

Centrally planned economies are often also faced with an inadequate tax base, large budget deficits, and a tendency to print money to finance this deficit, fueling inflation. Inflation, which has been estimated recently at 50 percent *per month* in Poland, and at an even higher rate in Yugoslavia, has become the overriding problem. Reducing inflation is a priority of both governments. These difficulties worsen the problems arising from misallocation of scarce resources. Government pricing, credit allocation policies, and subsidies to state-owned enterprises can raise expenditures and increase the budget deficit. With few exceptions, there is no domestic market to finance the deficit through bond sales, so that the central bank cannot make independent decisions about money growth.

## ECONOMIC PERFORMANCE OF CENTRALLY PLANNED ECONOMIES

Poor economic performance has been a major impetus for transforming centrally planned economies toward market economies. Even economies such as Hungary that have been gradually undertaking reforms have experienced long-term declines in productivity, product quality, and economic efficiency. Planners have also been concerned about slow progress in developing and adopting new technologies.

Without meaningful price indices, measures of aggregate output are unreliable. Official CMEA statistics use net material product, which is a measure of national output like gross domestic product, except that it excludes the value of depreciation and of nonmaterial services, such as health, education, and public administration. These data show that average annual growth of net material product has declined consistently over the past four decades. Real net material product growth averaged 9.6 percent during the recovery

### Box 7-1.—Difficulties in the Transition from Central Planning: Food and Food Aid in Poland

Developments in food supplies and food prices have been a focal point of Poland's economic difficulties. These developments illustrate both the difficulties of implementing market-oriented reforms and the potential short-term hardships of a transition from central planning.

Long lines at food stores were an early, visible sign of problems. Three main factors accounted for the queues. First, political and economic uncertainties contributed to widespread panic buying and food hoarding by consumers. This response was related in part to memories of severe food scarcities and sudden price hikes. Second, very rapid inflation meant that commodities, such as food, have been a better store of value than currency. Thus, farmers withheld products from the market. Finally, the distribution system had been disrupted. State enterprises had difficulty procuring output from farmers as state-set prices had not kept pace with rising input prices. Private distribution systems will take time to develop.

Removal of price controls on food in August introduced some market signals, and the lines now seem to have abated. Food prices have risen substantially, reducing demand and alleviating the shortages. Food supplies have not increased markedly, however, largely because higher prices have not generally been passed on to farmers.

Food is now relatively more expensive, however, and the price increases have been especially hard on low-income groups and people with fixed incomes. The United States and other countries have contributed substantial amounts of food aid. In addition to its nutritional value, increasing the availability of food may bolster public confidence in the new government, and help to ease the difficulty of implementing economic reforms.

*Food aid must be managed so as to ease the difficult adjustment period without impeding longer run development of agricultural markets.* Large amounts of food aid may disrupt Poland's newly emerging market system. Greatly increased food supplies from external sources could seriously lower current prices, which would discourage domestic production and lead to even more severe problems next year. Providing pesticides, machinery, and technical assistance that would help increase agricultural production may yield greater benefits than direct food aid.

from World War II in the 1950s, but fell to 3.2 percent during 1981-87. However, official net material product statistics are widely believed to understate inflation substantially, which implies that they greatly overstate real growth. Furthermore, because the central planning system does not typically produce the goods that people actually want, growth in physical production overstates the value of increased output.

Some centrally planned economies have also had mounting balance of payments difficulties with countries outside the CMEA. Trade and current account deficits have grown, especially since high public investment after 1985 led to a surge in imports from the West. These deficits have been financed primarily through foreign borrowing. Since 1986, both Poland and Hungary have had difficulties in servicing their external debts. Debt levels have risen recently in Bulgaria and in the Soviet Union, and to a lesser extent in Czechoslovakia, although these countries have not had debt-servicing difficulties.

## ELEMENTS OF A REFORM PACKAGE

Economic difficulties faced by centrally planned economies are extremely complex. There is no established policy package for reform, nor is there a single prototype market economy that all reformers seek to emulate. However, a growing consensus has emerged on many aspects of the reforms required. In addition to improved long-term growth as resources are more efficiently reallocated, increased reliance on markets is likely to generate some quick payoffs through relieving shortages of food or other goods.

### *Price and Structural Reform*

*Perhaps the most important reform is to establish prices that adjust to reflect relative scarcities of goods, labor, and capital.* Such prices provide information that can be used to allocate resources effectively through decentralized markets, without the need for an elaborate system of central planning. Institutions need to be put in place to facilitate a market system. These include banks and financial institutions that can help allocate savings to productive investments. Also important is a legal system that defines property rights, provides for bankruptcy, and deals with a host of other issues. Firms need useful and reliable accounting systems. Workers and managers also need to learn, through training and apprenticeship programs, how a market economy works. After 40 or more years of central planning, few residents will have developed entrepreneurial skills. Foreign direct investment and joint ventures can play an important dual role in raising economic growth while providing experience for domestic workers. In addition, unemployment insurance and other support programs for low-income households can provide an important social safety net.

## *Stabilization Measures*

It is exceedingly difficult to reform prices and to provide incentives for private-sector investment and growth in the midst of very high inflation. Thus, in some cases such as Poland, the overall economy must be stabilized before the more fundamental economic restructuring can take place. The difficulties are compounded by the likelihood of large initial consumer price increases as prices that have been kept artificially low for years are decontrolled. The basic elements of a stabilization package are reductions in budget deficits, measures to control money growth, and the establishment of a competitive exchange rate.

History offers some useful examples of reforms. Israel and Bolivia brought down very high rates of inflation in the 1980s. The 1948 Erhard reforms in West Germany eliminated price controls and re-established a vibrant private sector after several years of administered price controls. These reforms also stabilized the value of West German currency and revived its usage in international markets. But there are no examples where, after four decades of central planning, an economy has successfully accomplished all of these at once. The centrally planned economies face a unique challenge.

## RECENT DEVELOPMENTS

Each of the centrally planned economies has its own economic and political situation, calling for somewhat different policy responses. Similarly, the appropriate response from the United States and other developed countries to support these reform efforts differs across cases.

### *Soviet Union*

The Soviet economy has many difficulties in addition to the inefficiencies inherent in central planning. For example, military expenditures of more than 15 percent of gross national product (GNP), compared with 6 percent in the United States, consume large amounts of scarce resources. Also, many Soviet households have stored up massive amounts of rubles (Soviet currency) during years of waiting for scarce goods to become available. Distrust of the undeveloped financial system means that much of this wealth is simply hidden by domestic residents. The stored rubles are a problem because economic reforms that free prices and put appliances and other desired consumer goods on store shelves may trigger a buying spree that would fuel inflation. The inflationary impact of price decontrol will be mitigated if higher prices are fed through to producers, thus raising incentives for increased productivity and output.

In 1985, the Soviet Union initiated a program to restructure its economy. Especially those measures taken since 1987 were intend-

ed to increase reliance on independent decisions of enterprises. This goal has proven difficult to achieve while prices as well as credit and production inputs remained controlled. The Soviet economy continues to rely on output targets set by a central plan. Many fundamental steps toward market orientation of the economy have yet to be taken, and the government's commitment to genuine economic reform therefore remains questionable.

*Following the Malta meeting between the Presidents of the United States and the Soviet Union in December, the United States renewed efforts to increase its economic ties with the Soviet Union. These efforts may involve negotiation of a trade agreement and an investment treaty. In addition, the United States has offered technical cooperation, for example, to help the Soviets improve their system of economic statistics. To help further integrate the Soviet Union into world markets, the President of the United States has supported Soviet observership status in GATT, once the Uruguay Round has been completed.*

### *Hungary*

Hungary was the first centrally planned economy to introduce major market reforms, initiating a market-oriented reform program in 1968. It has gradually reduced direct control by central planners and has actively encouraged private-sector development. It also has taken steps to reform the price system. Nonetheless, most analysts agree that, while prices in Hungary reflect relative scarcities better than in most other centrally planned economies, mispricing has nonetheless slowed growth. Hungarian authorities continue to control prices of more than one-third of domestic products and to monitor other prices.

Hungary has fewer pervasive problems than other centrally planned economies—such as inflation, shortages, low product quality, and black markets (although they exist, for example, for foreign exchange). But the overall success of the reforms in stimulating the economy has been mixed. Hungary has developed a small but vibrant and growing private sector. Between 1981 and 1987, gross value added in the private sector as a percentage of GNP doubled to 14.5 percent. In contrast, employment and average incomes in the socialized sector declined. However, more than 90 percent of industrial production was still produced in the socialized sector. Although direct controls are no longer pervasive, widespread indirect controls persist, for example, on the entry and exit of firms.

The Hungarian experience illustrates the difficulties in reforming a centrally planned economy gradually. With the basic institutional structure of a centrally planned economy still intact, authorities remain involved in a wide range of decisions, while managers take only limited responsibility for the operations of enter-

prises. Not surprisingly, the early reforms were only partially effective. Hungarian authorities continue to introduce measures to improve economic performance, including steps to privatize some state enterprises and to encourage further foreign investment.

*The United States has offered both technical and financial assistance to support the next phase of Hungarian reforms.* U.S. aid includes an enterprise fund that will facilitate private-sector development, including joint ventures.

### *Poland*

Poland has made repeated attempts to decentralize economic decisionmaking. Although reforms implemented during the 1980s reduced the central allocation of inputs and liberalized the agricultural sector, severe problems remain. Reforming the Polish economy is especially complex because reforms must be implemented in the midst of an economic crisis. In addition to extremely high inflation, Poland has accumulated a large external debt and is unable to meet its debt-payment obligations.

The new Polish government has launched a comprehensive and radical program of structural reform and macroeconomic stabilization. In contrast to the recent Soviet approaches, the government plan calls for rapid removal of many price controls and subsidies and the reform of the budget process to eliminate the need for inflation-inducing money finance. It also lays out a sensible plan for gradual privatization of state enterprises and reform in banking and finance. Although the Polish plan is well formulated, the adjustment period may bring high levels of unemployment and temporary reductions in living standards, making the plan difficult to implement.

External assistance can play an important role in increasing the likelihood of success. The United States is actively exploring means to support Poland's ambitious effort. In addition to technical assistance, the United States has allocated an aid package that includes \$125 million in food aid, \$240 million for an enterprise fund, \$200 million in trade credit guarantees, and a \$200 million contribution to a currency stabilization fund to bolster the credibility of the Polish reform.

### SUMMARY

- Many centrally planned economies in Eastern Europe have taken steps toward market-oriented economic reform. Poland and Hungary especially have launched ambitious restructuring programs that can promote economic growth and raise living standards.
- Because of important political and economic differences across centrally planned economies, no single blueprint for the appropriate reform package exists.



- While the transition to a market economy may involve unemployment and other costs in the short run, there are likely to be some early benefits as shortages of some goods are alleviated.
- The United States remains committed to support reform efforts among the centrally planned economies, including both financial and technical assistance.

## SUPPORTING GROWTH IN INDEBTED DEVELOPING COUNTRIES

Like the economies of Eastern Europe, heavily indebted developing countries must undertake significant economic reforms in order to revive growth and gain full participation in the world economy. Many nations in Latin America and Africa have suffered severe economic stagnation in the 1980s resulting from declines in investment, high inflation, heavy debt burdens, capital flight, and extensive government interference in economic activity. The revival of growth will require continued implementation of appropriate macroeconomic and market-oriented policy reforms and reductions in debt burdens. *The United States continues to take a leadership role in developing and implementing a strategy of coordinated debt restructuring and support for economic policy reforms in the indebted countries, consistent with reviving growth and restoring their access to world capital markets.*

The recent growth rates of the severely indebted countries (as defined by the World Bank) are shown in Table 7-1. The deterioration of growth rates in per capita income in the 1980s is striking. Strong growth in the per capita incomes of these countries between 1965 and 1980 was followed by declines of 2.8 percent between 1980 and 1985, and negligible growth of 0.2 percent in the subsequent 3 years. Growth in the severely indebted low-income countries, including many in Sub-Saharan Africa, deteriorated especially sharply. In these countries, per capita income declined by 4.6 percent per year on average between 1980 and 1985, and continued to decline by an average of 1.6 percent per year between 1985 and 1988. Per capita income also declined between 1980 and 1985 in the middle-income severely indebted countries, including many in Latin America, and has since remained low. The declines in per capita income among the severely indebted countries between 1980 and 1985 and the failure to reach pre-crisis growth levels since stand in sharp contrast to the more stable growth rates of the high-income countries that belong to the Organization for Economic Cooperation and Development (OECD). The same trends also characterize the growth of total GNP in these groups of countries. Although GNP growth has risen since 1985, it is still far below pre-crisis levels.

TABLE 7-1.—Average Annual Growth

(Percent per year)

Item	1965 to 1980	1980 to 1985	1985 to 1988 <sup>1</sup>
PER CAPITA REAL GNP			
Severely indebted countries			
Low income.....	2.5	-4.6	-1.6
Middle income.....	3.8	-2.2	.9
Total.....	3.5	-2.8	.2
High income OECD countries.....	2.7	1.7	2.7
REAL GNP			
Severely indebted countries			
Low income.....	5.2	-1.7	1.5
Middle income.....	6.2	-.1	2.9
Total.....	6.0	-.4	2.7
High income OECD countries.....	3.5	2.3	3.3

<sup>1</sup> Preliminary.

Source: The World Bank.

Estimated 1988 per capita incomes of \$263 in the low-income severely indebted countries and \$1,850 in the middle-income severely indebted countries are particularly striking when compared with U.S. per capita income of \$19,780. The protracted decline in the incomes of many developing countries also dampened growth and contributed to trade balance deterioration in industrial nations in the mid-1980s by reducing the demand for their products.

It is important to note, however, that heavy debt burdens alone were not responsible for poor growth. Some countries that had very high debt levels in the 1980s, such as South Korea and Malaysia, have grown rapidly. Sound economic policies in these countries contributed to their strong economic performance.

*Revitalizing growth is critical for the indebted developing countries as well as for the global economy more generally.* The restoration of full access of these countries to world capital markets will be achieved only in conjunction with productivity improvements and output growth. Any long-term sustainable solution to the debt crisis must go beyond stabilizing the international trade and payments system to remove impediments to growth in the debtor economies.

## HISTORY OF THE DEVELOPING COUNTRY DEBT CRISIS

The onset of the debt crisis in 1982 followed a decade of rapid expansion in foreign lending to developing countries. Many developing countries borrowed heavily in the mid-to-late 1970s when both the borrowing climate and prospects for repayment were particularly favorable. Their cost of borrowing was low because of low

real interest rates on world capital markets. Their access to credit was enhanced by the recycling of surpluses from the oil-exporting countries to developing countries through commercial banks. In addition, the prices of the major export commodities of many of the developing countries were at record levels.

### *Onset of the Crisis*

The crisis in international credit markets was the product of a complex conjuncture of unexpected shocks to the world economy and decisions taken by both lenders and borrowers. The developments that had favored high levels of international lending in the 1970s reversed during 1981-82, and the debtors found themselves unable to meet the payments on their debts. Interest rates on the debtors' variable rate commercial loans rose sharply as the Federal Reserve System in the United States and central banks in other industrialized nations tightened money supplies to tame accelerating inflation. A steep increase in the value of the dollar sharply raised the effective cost of both the debtors' dollar imports and of payments on the mainly dollar-denominated debt. Although the rise in the dollar strengthened the competitiveness of many exports, this rise was offset by plummeting world prices of many of the debtors' primary export commodities. The overall effect was to reduce the net export earnings debtor countries had available to service their debt, just as the level of debt service was rising.

Debtor countries faced diverse problems. Highly indebted middle-income countries, which were concentrated in Latin America, had borrowed mainly from commercial banks, and faced sharply increased debt-servicing burdens. Highly indebted low-income countries concentrated in Sub-Saharan Africa had obtained the majority of their credit at below-market fixed rates of interest from official creditors. Although their debt-servicing burdens were not adversely affected, poor economic performance made debt servicing increasingly difficult.

In the countries that subsequently developed repayment problems, the external shocks to interest rates and commodity prices were exacerbated by economic mismanagement and political instability. Many heavily indebted countries failed to implement economic policies to correct persistent foreign and domestic imbalances. These countries used much of the borrowed money for consumption or investments with low returns, while countries that avoided repayment difficulties emphasized investments that raised productivity and diversified their export base. Between 1973 and 1982, export volume grew at 0.8 percent per year on average in the debtor countries with debt-servicing difficulties, in contrast to export growth of 4.8 percent in heavily indebted countries that did not experience servicing difficulties. Faced with rising budget deficits, the governments of many debtor countries resorted to printing

money, which fueled inflation, and simultaneously attempted to maintain overvalued exchange rates, which contributed to rising external deficits. Poor policy worsened the uncertain investment climate, causing investors in debtor countries to send their capital abroad and diminishing the resources available internally to service the debt.

### *Stabilizing the International Financial System*

When it became clear that Mexico, one of the largest and most prosperous debtors, could not meet its payments at the height of the global recession in mid-1982, the stability of the international financial system was thrown into question. With a substantial portion of their portfolios in developing country debt, and concentrated exposure to the largest problem debtors, major U.S. banks would have been jeopardized by substantial losses on their developing country loans. Commercial banks in other industrial countries were in a similarly precarious position. U.S. commercial banks gradually strengthened their financial positions by increasing their capital base and setting aside reserves to cover losses. The banks sharply reduced new loans to debtor countries from \$41.4 billion in 1981 to a low of \$3.7 billion in 1986. In addition, since 1986, banks have reduced exposure by selling developing country loans on the secondary market and participating in debt exchanges such as debt-for-equity swaps. Table 7-2 shows that there was a substantial reduction in the exposure of U.S. commercial banks—especially the smaller banks—between 1982 and 1988.

The decline in new commercial loans and the increase in debt-service payments were exacerbated by high rates of capital flight in the Latin American economies, as domestic residents transferred their savings abroad in response to the uncertain and deteriorating economic conditions. One study estimates that the five largest Latin American debtors experienced outflows of \$101 billion in private sector assets between 1979 and 1984.

TABLE 7-2.—*Changes in Reported Exposure of Groups of U.S. Banks to Non-OPEC Developing Countries*

Item	Millions of dollars		Percent
	June 1982 to December 1985	December 1985 to December 1988	June 1982 to December 1988
Top 9 banks .....	889	-11,547	-17.3
Next 13 banks .....	-1,730	-6,620	-40.7
All other banks .....	-1,739	-8,212	-50.0
Total .....	-2,580	-26,379	-28.4

Source: Federal Financial Institutions Examination Council, *Country Exposure Lending Survey*.

The net effect of these factors was a marked reversal in the direction of resource transfer, measured as the current account defi-

cit plus net investment income. Net resource transfers to the highly indebted countries declined dramatically from inflows of \$12.8 billion in 1980 to outflows of \$38.3 billion in 1984. While resource transfers abroad are necessary to prevent a country's debt from growing at unsustainable rates, they reduce the resources available for domestic investment or consumption.

The international response to the debt problem was to encourage macroeconomic stabilization policies and to coordinate additional lending by commercial banks and official creditors. Some new loans were made available through the International Monetary Fund (IMF) to provide financial support for debtor countries undertaking economic reform under IMF guidance, and to encourage lenders to continue to extend credit. Stabilization programs were put into place in several countries in consultation with the IMF, with mixed results. Such programs typically emphasized fiscal discipline, such as reductions in subsidies and improved tax collection, reductions in monetary growth, devaluation of overvalued exchange rates, and export promotion. Many countries found such measures politically difficult to implement because they required substantial sacrifices in the standard of living and in investment needed for growth. A recent study concludes that, while the stabilization programs led to reduced inflation and improved external balance in many countries, little progress was made in reviving growth.

## U.S. POLICY FOR DEVELOPING COUNTRY DEBT

Although the coordinated international response to the debt problem between 1982 and 1985 stabilized international financial markets and maintained the liquidity of the problem debtor countries, economic recovery in debtor countries stalled. The governments of debtor countries were caught between internal pressures to direct resources to the resumption of growth, and international pressures for continued external adjustment. And the commercial banks were increasingly reluctant to make additional loans to heavily indebted developing countries.

### *The Baker Plan*

Concern over the failure of indebted economies to resume growth prompted the 1985 U.S. debt initiative introduced by then Treasury Secretary James Baker—the Program for Sustained Growth, known as the Baker Plan. The program addressed the factors impeding the efforts of debtor countries to improve growth and living standards, and the need to mobilize international financial resources to support debtor country reform efforts. The program called for international commercial banks to extend \$20 billion in new lending and for a 50-percent increase in lending by the multilateral development banks to the heavily indebted countries over 1986 to 1988. The program also called for the World Bank to play

an expanded role in supporting institutional and sectoral reforms and market-oriented economic policies.

The major debtors made progress in reforming their economies and managing their debt burdens between 1985 and 1988, and several countries improved their economic performance. Reforms during this period reflected widespread recognition by debtor governments of the importance of well-functioning markets in generating growth: public-sector deficits were reduced, exchange rates became more competitive, real interest rates rose, and trade protection was rationalized. In spite of this progress, overall improvements in economic growth and performance on the scale that had been hoped for did not materialize, partly because of disruptive changes in oil and commodity prices. In addition, the increase in new lending from all international financing sources fell below the levels that had been expected.

### *The Brady Initiative*

The persistence of serious problems in the debtor economies and concern over the economic hardships sustained by their populations called for a review of the U.S. debt strategy. The strategy of this Administration, outlined by Treasury Secretary Nicholas Brady in March 1989, continues to emphasize the need for market-oriented economic reforms to promote growth. The Brady Initiative emphasizes measures aimed at mobilizing private-sector financing to generate growth. The major innovation of the Brady Initiative is that it emphasizes debt and debt-service reduction by commercial banks, in recognition of the burden placed on growth by increasing levels of indebtedness. It also provides for IMF and World Bank financial support for debt and debt-service reduction to those countries implementing effective economic reform programs.

The emphasis on debt reduction represents an evolution in thinking about the needs of the debtor economies, and a change in the relative emphasis on debt rescheduling, new lending, and debt reduction. Debt reduction is promoted in order to reduce high servicing requirements, in the expectation that the freed resources will be used for investment, and thereby promote growth. The shift in emphasis stems from concerns that growth in many economies has not revived despite appropriate policy reforms. In addition, rising levels of indebtedness impede growth by creating an uncertain and unattractive environment for private investment. An important feature of the emphasis on debt reduction is that it may allow the debtors to take advantage of the secondary market discounts on the value of their debt. The discounting of developing country debt on secondary markets reflects high perceived risks of default and arrears.

The Brady Initiative also provides for debt rescheduling and new lending. Debt rescheduling efforts reduce the drain on debtor coun-

tries' cash flow and the level of resource transfer in the near term by extending the period over which debt is repaid. New lending may generate cash to assist debtors in meeting debt-service obligations without sacrificing investment.

*The Brady Initiative provides a framework for negotiated debt and debt-service reduction, on a case-by-case basis, to countries committed to implementing requisite economic reforms.* The debtor government and commercial bank creditors negotiate a menu of options for the conversion and reduction of outstanding loans and the extension of new loans. The options are designed to enable banks to readjust their portfolios in terms of the timing, level, and riskiness of payments, consistent with debtors readjusting their payment burdens to sustainable levels. The participation of the commercial banks is voluntary.

Negotiations between a debtor country and its commercial bank creditors are premised on a prior commitment to an economic adjustment program designed in conjunction with the IMF and the World Bank. In line with its emphasis on growth, the Brady Initiative stresses economic reforms that improve the investment climate in the debtor economies in order to encourage foreign investment and the return of domestic capital that had fled abroad. Such reforms include the following: reductions in government budget deficits to reduce inflationary pressures, devaluation of official exchange rates to reflect market levels and restore the competitiveness of exports in foreign markets, removal of interest rate ceilings to stimulate domestic savings, reductions in foreign trade barriers, relaxation of regulations restricting foreign investment, and privatization of state-owned enterprises. These measures are intended to encourage investment, raise export earnings, and decrease the drain on resources from government budget deficits and inefficient state enterprises.

Because of its case-by-case emphasis, the Brady Initiative is best understood by comparing the three programs that have been negotiated under its auspices thus far. The agreements for Mexico, the Philippines, and Costa Rica differ significantly in ways that reflect the different needs of these countries and their creditors.

### *Mexico*

Mexico negotiated a preliminary debt agreement with commercial banks in July 1989. Prior to the debt agreement, the Mexican government had undertaken substantial economic reforms, with some encouraging results. Mexico had made sustained efforts to devalue its exchange rate and reduce its budget deficit. It made substantial progress in liberalizing the trade regime and adopting measures to encourage investment. Mexico has also made progress in privatizing state-owned enterprises. At the outset of negotiations, Mexico had foreign debt of almost \$100 billion, of which approximately one-half was medium- and long-term loans owed to commer-

cial banks. Annual interest payments amounted to 28 percent of export receipts in 1988. Mexico's difficulties in servicing its commercial debt were reflected in steep discounts on the secondary market of 65 percent in early 1989. The debt agreement that was reached reflects both the large size of Mexico's commercial debt and its need for cash-flow relief.

The agreement provides for debt and debt-service reduction as well as some new credit. It gives banks a choice of three options, all of which lower Mexico's current payment burden. Banks may (1) swap existing loans for new bonds with a 35-percent discount on the initial principal value at a customary spread above the London Interbank Offer Rate (LIBOR); or (2) exchange loans for bonds with the same principal value and a reduced, fixed rate of interest; or (3) provide new loans over 3 years equivalent to one-quarter of their existing loans at the customary spread above LIBOR. Funds from the IMF, the World Bank, Japan, and Mexico are used to provide collateral for the principal and part of the interest on the debt and debt-service reduced bonds.

Mexico may benefit substantially from a reduction in its debt-service obligations. Preliminary estimates of gross interest savings on payments to banks are above \$1.5 billion per year. Gross cash-flow relief between 1989 and 1992 is estimated to include approximately \$5.4 billion in interest savings, \$6.7 billion in rescheduled amortization, and \$1.4 billion in new money. It appears that Mexico has also benefited from favorable initial reactions to the agreement in financial markets. Between July and December, domestic interest rates in Mexico fell by about 15 percentage points, which, if sustained, would reduce government payments on domestic debt substantially and thereby reduce the government budget deficit. There have also been substantial capital inflows, amounting to around \$3 billion over the course of the year, attributable in part to the debt agreement.

### *The Philippines*

In August 1989, the Philippines became the second country to reach an accord with its commercial bank creditors under the Brady Initiative. Along with debt reduction, new lending is an integral part of the Philippine agreement, reflecting an urgent need for money to close a large balance of payments financing gap and a relatively small level of commercial bank debt. Less than 25 percent of the outstanding \$29 billion in the Philippines' foreign debt is medium- and long-term credit from commercial banks.

The Philippine agreement gives banks a choice between extending new credit at a customary spread above LIBOR and selling existing loans to the Philippine government at a 50-percent discount, in line with secondary market discounts. The cash buyback will



total \$1.3 billion in outstanding debt; the money for the cash buy-back will be provided by the World Bank, the IMF, Japan, and the Philippine government. It is too early to predict the amount of new credit that commercial banks will extend. Although the agreement emphasizes new credit, the level of buybacks is expected to exceed that of new credit, so that the overall level of debt will decline along with annual interest payments. The success of the debt agreement will depend on effective implementation of the economic reform program adopted by the Philippine government.

### *Costa Rica*

In October 1989, commercial banks and the Costa Rican government reached an agreement in principle. Commercial bank debt represents \$1.8 billion of Costa Rica's total \$4.3 billion in foreign debt. The Costa Rican situation differs markedly from that of both Mexico and the Philippines in that the \$1.8 billion of commercial bank debt, although onerous from the point of view of domestic resources, represents a small percentage of the developing country debt of any particular commercial bank. The commercial bank debt includes \$325 million in accumulated interest arrears. Costa Rica's poor debt-service record is reflected in a secondary market discount greater than 80 percent. Accordingly, the agreement places primary emphasis on debt reduction, and makes special provisions for the interest arrears.

The agreement reached with the banks is designed to achieve a 60-percent reduction in commercial bank debt, consistent with Costa Rica's servicing capability. It gives banks the option of selling their existing loans to the Costa Rican government at a discount of above 80 percent, or swapping existing loans for bonds with the same face value and a reduced, fixed interest rate. Banks tendering at least 60 percent of their outstanding loans for buyback will receive additional enhancements on the conversion of their remaining loans, in order to achieve the target of 60-percent reduction overall. The treatment of the arrears on the debt that is not sold back to the Costa Rican government is more stringent. Costa Rica must provide an up-front cash payment for 20 percent of these arrears, and the remainder will be converted to a 15-year bond at market rates.

### *Maintaining Flexibility*

*The three agreements differ substantially in ways that reflect the different needs of the various debtors and creditors.* The Mexican agreement combines debt and debt-service reduction and new lending in the most varied of the three packages. This approach reflects the large size of the Mexican debt, the diversity of its creditors, and the Mexican government's need for both increased cash flow and debt reduction. The emphasis on new lending in the Philippine

agreement reflects the large size of the financing gap relative to the commercial bank debt, and the relatively smaller burden of commercial debt. The emphasis on debt-service reduction and debt relief in the Costa Rican agreement reflects the small and diffuse holdings of the country's debt among commercial banks, and its inability to service the outstanding debt.

The flexibility of the Brady Initiative will be important in addressing the varied needs of debtor countries, based on their demonstrated commitment to appropriate economic reforms. The common feature among future debt agreements is likely to be an emphasis on reducing debt and debt service and on promoting an economic environment that mobilizes domestic and foreign resources for productive investment in order to promote growth.

## SUMMARY

- Economic reforms are critical to reviving growth and raising living standards in the highly indebted developing countries, just as in the centrally planned economies of Eastern Europe.
- Debt and debt-service reduction by commercial banks in countries that undertake market-oriented reforms can be important in easing the transition to sustainable growth and healthy economies. It is a key component of the new U.S. initiative for the revival of growth in heavily indebted developing countries.
- Access to well-functioning international financial markets in the 1990s will play a central role in the continued development of those countries that are currently undertaking needed reforms.

## DEVELOPMENTS IN JAPAN AND OTHER ASIAN PACIFIC RIM ECONOMIES

As a group, the Asian Pacific Rim economies—Japan, Hong Kong, Indonesia, Malaysia, the Philippines, Singapore, South Korea, Taiwan, and Thailand—present a sharp contrast to the severely indebted countries in Sub-Saharan Africa and Latin America. Most of the Asian Pacific Rim economies have benefited enormously from the international trading system, achieving high rates of growth and increases in productivity and living standards. These economies, in general, have maintained an outward orientation in their economic policies and have succeeded in diversifying and strengthening their export bases. The economic policies employed by most of the governments in this region of the world have been very sensitive to the power of the marketplace. Owing to a strong, diversified export base and a reliance on market incentives, even countries with high levels of external indebtedness, such as Korea, have managed to maintain exceptional growth.

## THE ASIAN PACIFIC RIM'S ECONOMIC EXPANSION

Rates of growth in the Asian Pacific Rim, which have at times reached into the double digits, are changing the global distribution of wealth, production, income, and trade. The Asian Pacific Rim's share of world gross domestic product rose from 6.7 percent in 1965 to 19 percent in 1987. Changes in trade flows have been even greater. Since 1965, the Asian Pacific Rim's share of total world exports of manufactures has risen from 8 to 22 percent. A radical transformation has also occurred in the Asian Pacific Rim's financial position. As recently as 1970, the Asian Pacific Rim was a net debtor to the rest of the world and held a modest 15 percent of the world's international financial reserves. By the late 1980s, it had become a major net supplier of capital, holding 24 percent of global international reserves.

The economic successes of the Asian Pacific Rim economies have been accompanied in each instance by high rates of investment and saving, rapid technological transfer, and expanding international trade. In 1987, Asian Pacific Rim economies invested almost 30 percent of their gross domestic product, while saving 34 percent. Still relying heavily on imported technology, even the Asian Pacific Rim's technological leader, Japan, paid \$468 million more in licensing fees and royalties than it received. High rates of investment and heavy use of technology developed abroad have gone hand in hand with an increasing role for international trade. Exports rose from 12 percent of the Pacific Rim's gross domestic product in 1965 to 16 percent in 1987. Excluding Japan, the numbers are striking, with the share of exports rising from 23 percent in 1965 to 49 percent in 1987. The composition of exports has also changed dramatically. Since 1965, Japan has shifted from being the world's preeminent exporter of textile products to being a net importer of textiles and apparel, and now two-thirds of Japanese exports are machinery and transport equipment. For the Asian Pacific Rim as a whole, machinery and transport equipment rose from 20 percent of total exports in 1965 to 46 percent in 1987.

Although the performances of the Asian Pacific Rim's successful economies have much in common, the policies pursued have varied greatly. In some Asian Pacific Rim economies, such as South Korea, the government has had a major role in shaping the allocation of resources. In others, such as Hong Kong, the government interfered relatively little with market processes. In Singapore and Hong Kong, foreign investment has been welcomed and has played a central role in promoting economic growth. By contrast, Japan's extraordinary performance has been achieved with domestic capital and management. In Taiwan, economic policy helped small firms to play a predominant role, while in South Korea, govern-

ment policy on many occasions has discriminated in favor of large-scale firms.

Rapid changes in the Asian Pacific Rim's export structure have at times imposed a faster-than-desired degree of structural adjustment on its trading partners. The emergence of exports from the Asian Pacific Rim economies in sectors long established elsewhere has often forced a reallocation of capital and labor in other countries. Although painful, such reallocations can be beneficial because they result in each country specializing in the goods and services that it can produce relatively most efficiently, leading ultimately to gains for both producers and consumers. The rising share of global economic activity taking place in the Asian Pacific Rim has made structural transformation there an increasingly important issue for other parts of the global economy. This issue is seen most vividly in Japan's international economic relations—particularly those with the United States.

## JAPAN AND THE WORLD ECONOMY

Sales of Japanese goods in the United States have greatly benefited American consumers and demonstrate the significant gains from international trade. But Japan's success in American markets, as well as the large and persistent Japanese trade surplus, and complaints by U.S. firms about difficulties in penetrating Japanese markets have prompted charges of unfair Japanese trade practices. Japan does maintain many important barriers on agricultural imports, but has removed all but a few quotas and imposes low tariff barriers to imports of manufactures. Nonetheless, scope remains for further development of Japanese policies, practices, and institutions to increase trade in manufactured products. Many such developments would help domestic markets to work more competitively. Japanese consumers would gain from lower prices, and producers would gain from better functioning markets. Even if the volume of trade increased, however, the effect on market shares of U.S. or any other country's products in Japan would be difficult to predict.

Several avenues to open Japanese markets further are being pursued in the United States. Some barriers, such as Japan's ban on rice imports, are the subject of multilateral trade negotiations in GATT. There also have been recent bilateral trade discussions under the "Super 301" process. Super 301 is part of the 1988 Omnibus Trade and Competitiveness Act, which directs the U.S. Trade Representative and the Administration to identify "priority practices, including major barriers and trade distorting practices, the elimination of which are likely to have the most significant potential to increase U.S. exports..." and to initiate investigations aimed at eliminating the practices or barriers identified. Under these cri-

teria, the Administration identified three Japanese practices in 1989: government procurement of super computers, government procurement of satellites, and standards and codes for wood products. (A total of three other practices were identified under Super 301—two in India and one in Brazil.)

In identifying these practices, the Administration has endeavored to support its principle of expanding a rules-based system for open markets and an open trading system. By naming only practices that are tangible and observable, Administration policy contrasts sharply with a “managed trade” approach, which would require the U.S. Government to second-guess market outcomes and to attempt to achieve different patterns of imports and exports by regulation. Rather than try to mandate trade flows and market shares, U.S. trade initiatives seek to ensure that domestic and foreign firms have equal opportunities to compete and that markets, not governments, determine the outcomes.

A broader set of issues involving domestic structure and institutions in both the United States and Japan are currently under discussion in a series of bilateral negotiations called the Structural Impediments Initiative. These talks, which focus on aspects of each economy that may create barriers to trade or impede domestic and international economic adjustment, provide a forum for two-way exchange of perspectives and concerns. While saving and investment have been major topics of discussion, a range of issues has been raised. In many cases, these issues have already been raised domestically in both Japan and the United States. U.S. interest in these talks has focused on structural problems in six general areas:

*Saving and Investment.* Reducing the current account imbalance requires reducing the gap between saving and investment. It seems unwise to pursue policies that would lower saving. More public investment by the Japanese government would reduce the gap and would probably improve the quality of life in Japan. Investment in parkland, waste disposal systems, and other social infrastructure in Japan is rather low relative to other industrial nations.

*Land-Use Policy.* Removing the bias toward agriculture in Japanese land-use policies would reduce land prices in Japan and thereby stimulate new construction investment in Japan by households and by domestic and foreign firms.

*Pricing Mechanisms.* A joint study of pricing by the Japanese and U.S. Governments found that prices of a variety of goods tended to be higher in Japan than prices of identical products in the United States, in many cases even where these products were manufactured in Japan. The removal of structural impediments should work to reduce these differentials.

*Distribution Systems.* Laws restricting competition in the distribution and transportation sectors lead to high prices for Japanese consumers and can limit access to the Japanese market.

*Antitrust Policy.* For example, a more vigorous enforcement of Japan's Antimonopoly Law would ensure freer entry into Japanese markets and could have an important impact on Japanese trade.

*Keiretsu Relationships.* (Used here to mean firms owning each other's stock.) Promoting shareholder rights and ensuring that management cannot insulate itself from market discipline may promote increased foreign direct investment in Japan.

The Japanese government has also raised points about the U.S. economy. High on the Japanese list is the low U.S. saving rate discussed in Chapter 4 of this *Report*. Other areas include investment incentives, export promotion, and work force training and education.

### *Trade Barriers and the Current Account*

*Current account surpluses and deficits are macroeconomic phenomena that primarily reflect the gap between domestic saving and domestic investment.* Japanese domestic institutions and trade barriers, such as Japan's continuing protection of its agriculture sector, can impair productivity and reduce real incomes by misallocating resources. There are good reasons to support work toward structural reform. Producers are likely to gain from more open markets, while consumers may benefit from lower prices, as firms produce more efficiently. These gains will be enjoyed by Japan as well as by its trading partners. But trade and structural barriers will only affect the overall current account balances of Japan or Japan's trading partners to the extent they affect savings and investment behavior.

It is not plausible to attribute either the \$82 billion increase in Japan's current account surplus between 1981 and 1987 or its decline by more than \$20 billion in the past 2 years to changes in Japanese trade barriers. Although structural policies and institutions that affect trade can influence the saving-investment gap, there are other determinants, such as fiscal and monetary policies and demographic factors. In common with the experience in all other industrialized economies, these factors are likely to have played a much larger role than trade barriers in explaining Japan's recent current account developments. Efforts to reduce the U.S. current account deficit will also need to focus primarily on measures to raise public and private saving.

Japanese policies and institutional structure may have a greater effect on the volume and commodity composition of Japanese trade than on overall external balances. Japan stands out from most other industrial countries because it is rarely a major exporter and a major importer in the same industry. Some statistical studies

have concluded that this trade pattern might be expected of a country with Japan's resource endowments; however, others do not share this finding. In any case, where low imports of manufactured or agricultural products result from distortionary Japanese government practices, change is in order.

Changes in policies that raise Japanese imports may also raise Japanese exports. Unless these policy changes affect Japan's saving-investment gap, exports may increase to offset a large portion of increases in imports. Consider barriers that act like a tax on imports—for example on agricultural products. Such barriers will tend to raise domestic prices of rice and other agricultural goods, harming Japanese consumers. They will also tend to raise prices of labor, land, and other resources used to produce agricultural goods. These higher input prices will tend to make Japanese export production less competitive as well. Thus, the import barriers also act as a tax on exports. Removal of the import barriers is likely to increase both Japanese imports and Japanese exports. The net effect on overall trade balances is unclear.

While there are barriers to open markets in many countries, bilateral trade imbalances between pairs of countries are not in and of themselves evidence of such barriers. For example, even if the overall external accounts of both Japan and the United States were balanced, and market barriers had been eliminated worldwide, neither the United States nor Japan would have trade exactly balanced with each of its individual trading partners. Because countries have different endowments of land, skilled and unskilled labor, and capital, and different tastes and technologies, each has a comparative advantage in producing a different set of goods and services. A country such as Japan, which has relatively few natural resources domestically, should be expected to have trade deficits, on average, with countries that export raw materials, offset by trade surpluses, on average, with countries that import the manufactured goods Japan produces relatively efficiently. Bilateral imbalances cannot justify increased protectionism.

Thus, removal of trade barriers, while desirable in and of itself, would not necessarily change Japan's bilateral surplus with the United States. For example, removal of the Japanese beef quota, now in progress, will raise Japan's imports of beef. The higher imports could come from Australia, the United States, or other beef exporters. Thus, the effect on particular bilateral balances is uncertain. Furthermore, the beef quota removal is likely to have little effect on saving or investment in Japan, and thus is unlikely to affect Japan's overall trade surplus very much.

## SUMMARY

- Those Asian Pacific Rim economies that exhibit rapid and sustained growth provide striking examples of the potential bene-

fits from market-oriented economic policies. These economies have benefited substantially from the expanding international trading system. They are becoming an increasingly important part of the global economy.

- The persistent U.S. current account deficit and Japanese current account surplus are primarily *macroeconomic* phenomena. Macroeconomic policy is the key to improving overall current account imbalances.
- There are gains to domestic and foreign producers and consumers from changes in government practices that allow markets to allocate resources more efficiently. Such changes will only affect overall current account imbalances, however, to the extent they affect the saving-investment gap. Furthermore, bilateral trade imbalances are determined by a host of factors, and are not in and of themselves evidence of trade or market barriers.
- There is growing recognition that, like tariffs or quotas, a country's *domestic* policies can have important implications for international trade. For example, antitrust regulations or distribution systems may impede a foreign firm's access to domestic markets.

## ECONOMIC INTEGRATION IN WESTERN EUROPE

Sweeping economic changes are under way in Western Europe as the member states of the European Community (EC) move toward elimination of economic barriers among them by 1992. The 12 members have a population of 324 million and a GNP close in size to that of the United States. Since the late 1960s, they have progressively reduced internal restrictions on the movement of goods, people, and capital in order to reap the economic benefits of integration. In 1985, agreement was reached to implement a set of initiatives by 1992. The EC initiatives are the most ambitious set of reforms so far. The kinds of benefits anticipated from increased integration among EC members are similar to those motivating the U.S.-Canada Free-Trade Agreement (FTA), which went into force on January 1, 1989. The EC 92 initiatives promise to move the EC closer to the level of economic integration enjoyed by the 50 States within the U.S. market, particularly if there is further integration of monetary policy through the proposed formation of a European monetary union.

The European Community was established in 1957 by the Treaty of Rome. The original six members of what was often called the Common Market were Belgium, France, West Germany, Italy, Luxembourg, and the Netherlands. Denmark, Ireland, and the United Kingdom became members in 1973, followed by Greece in 1981 and



Portugal and Spain in 1986. Since the late 1960s, the EC has operated as a customs union with a common external tariff. Tariffs and quantitative restrictions on trade within the EC have been largely eliminated. Citizens of member countries are permitted to reside in and travel to other member countries freely for the purpose of work.

The new initiatives focus on the remaining barriers among EC countries. Some examples of these barriers are: (1) differences between countries in more than 100,000 industrial standards and technical regulations (for example, safety standards on machinery and health standards on agricultural products); (2) delays at frontiers for customs purposes and related administrative burdens for companies that sell or purchase goods and services in other member countries; (3) restrictions on participation in competition for one EC member's public procurement by suppliers from other EC member countries; and (4) restrictions on firms' ability to sell or purchase services or to become established in certain service activities in other EC countries. These restrictions have been particularly important in financial and transport services, where barriers to the entry of new firms also appear to be substantial. Taken together, these barriers impose a substantial economic cost. Large and persistent differences in consumer prices among EC members suggest that these barriers allow for a considerable degree of market segmentation and reinforce the noncompetitive structure of many member country markets.

The progress toward removing internal barriers has already been impressive. By June 1989, the EC Commission had adopted about one-half of the 279 directives in the plan to implement EC 92. However, much work remains to be done to achieve the degree of integration envisaged in the EC 92 initiatives, and obstacles to elimination of some existing barriers remain. For example, security threats, especially terrorism, make it difficult to remove border controls. These controls also help national fiscal authorities to collect taxes, the structure of which still differs widely across member countries. Proposals for fiscal harmonization are still under discussion. The process of economic integration in Europe should be seen as an ongoing and dynamic process that is likely to continue well beyond 1992.

## POTENTIAL GAINS

The gains from economic integration in the EC may be substantial. The EC Commission estimates that integration of the internal market will raise the annual potential growth rate of the EC by around 1 percentage point through 1992. Longer run dynamic effects may sustain a strong growth rate for several additional years. The creation of a single European market will present substantial

opportunities and cost savings to firms operating across national boundaries. Implementation of the EC 92 initiatives will remove constraints that prevent firms from fully and efficiently using their resources. It will also establish a more competitive environment, challenging firms that have grown complacent in insulated national markets to innovate and operate more efficiently. Harmonization of technical standards and tax codes and reductions in the administrative costs of trade between countries will enable firms to produce on a much larger scale at substantial savings. Integration of financial services markets is expected to lower the cost of capital. Efficiency gains are also expected from more competitive bidding on the sizable member country government procurement expenditures.

*U.S. firms and consumers also stand to benefit from the increased integration of the European economy.* As long as barriers to trade and investment by firms from countries outside the EC are not raised, U.S. firms will also have new opportunities to invest in and supply goods to a large, prosperous, integrated market. American consumers will benefit to the extent that the EC 92 reforms stimulate increased competition and cheaper imports of EC products. In 1988, 19 percent of total U.S. imports came from the EC, and exports to the EC accounted for 23 percent of total U.S. exports. Growth in the European market induced by the EC 92 initiatives may increase the amount of the EC's external trade, which would raise U.S. exports to Europe.

## POTENTIAL RISKS

*The full gains will only be realized, however, if the EC remains open to the rest of the world.* If barriers to external EC trade rise, U.S. and other non-EC firms and EC consumers may suffer. Even without new external barriers, American firms may find some opportunities constricted to the extent that the easier movement of goods within Europe gives insiders an advantage. EC consumers and firms may substitute products from firms of other member countries for imports from the United States or other nonmembers.

*The EC should continue to have a strong vested interest in a liberal international trading system because it benefits from substantial foreign trade.* While growth in trade within the EC has been 76 percent faster than growth in the EC's external trade between 1982 and 1988, external trade still accounts for more than 40 percent of the EC's total trade. Indeed, the EC's exports to nonmembers are 16 percent of world exports, as against a U.S. share of 12 percent and a Japanese share of 10 percent. Exports to nonmembers are equivalent to 10 percent of EC gross national product, compared with 7 percent for the United States and 10 percent for Japan. These external interests are too important to the EC to risk jeopardizing

them by inward-looking protectionist policies. In addition, low external trade barriers will continue to be the best insurance against EC firms losing their international competitiveness.

EC 92 is not an indication that the international economic system is breaking down into competing regional blocks. But it is important for the United States and other nations to monitor closely the developments in EC 92. Two areas have already been the focus of much attention.

### *Rules of Origin*

One area of particular concern to U.S. firms is the definition and administration of rules governing the determination of the origin of products in the EC. The determination of origin influences the regulations under which products are sold, such as tariffs and duties, quotas, sanctions, and preferential treatment in trade and government procurement. There is concern that adoption of more stringent or less transparent rules of origin within the EC will result in discriminatory treatment of foreign products, especially intermediate goods. Avoidance of such rules may compel foreign companies to locate production facilities in EC markets and, for foreign companies subject to antidumping duties, to obtain inputs from EC producers rather than third-country producers. Rules of origin are an important and controversial issue for the international trading system more generally. Accordingly, the United States is engaged in multilateral discussions to develop disciplines within GATT as well as bilateral consultations with the EC to ensure greater transparency, clarity, and predictability in rules of origin.

### *Financial Services*

An early EC proposal on financial services seemed to call for "mirror-image reciprocity," where foreign firms would receive the same treatment in the EC market that EC firms receive in the market of the foreign firm. The difficulty with this type of reciprocity is that nations have different legal and regulatory systems—often justifiably. The original proposal would have meant that firms from different countries would receive different treatment in the EC. The EC has since modified its proposal; the current proposal comes closer to the "national treatment" principle favored by the United States. Under this principle, foreign firms would be treated the same as EC firms in the EC market, as long as EC firms were treated like foreign firms in the foreign markets. This is another area where developments within the EC may have important lessons for broader multilateral agreements. The United States will continue to monitor EC developments in this area and will continue to negotiate for a multilateral agreement on financial and other services within GATT.

## SUMMARY

- EC 92 represents important potential opportunities and benefits for U.S. firms and consumers as well as for EC firms and consumers. Whether U.S. firms and consumers benefit hinges on the continued openness of the European market to foreign trade and investment.
- Concerns that economic integration under EC 92 will lead to “Fortress Europe” appear to be exaggerated.
- EC 92 carries risks as well as opportunities. The United States and other countries must continue to monitor developments so as to minimize the major risk: that other countries’ access to the new market will be restricted, which is likely to limit gains to EC members as well as nonmembers.

## TRADE LIBERALIZATION AND GATT

A fundamental principle underlying the economic policies of this Administration is that governments should establish clear and credible rules for economic policies in which private-sector decision-making and entrepreneurial activity can flourish. This principle is as applicable to international trade policy as to fiscal and monetary policy. The goal of U.S. trade policy is to create ever-expanding trade opportunities free of barriers and based on a system of clear and enforceable rules.

Acting on this principle in the trade area, the Administration is committed to initiatives aimed at getting governments out of the business of managing trade, whether it be through export-restraining arrangements, subsidies to basic industries, managed marketing arrangements, agricultural import restrictions, or any of the myriad other ways governments distort international trade flows. Some of the more important U.S. initiatives have occurred in the multilateral trade negotiations of GATT (Box 7-2).

Several Administration initiatives have been pursued in bilateral or regional contexts—such as those reviewed earlier in this chapter in the section on the Asian Pacific Rim. But by focusing on rules such as nondiscrimination, by ensuring that reductions in barriers apply to all countries, and by eschewing the fixed quantity approach of managed trade, these efforts have also helped to increase trade opportunities for all countries and are consistent with U.S. support for multilateral trade liberalization. In fact, the principles guiding the architects of GATT—the principal international agreement regulating world trade—are the same as those underlying U.S. trade policy.

GATT comprises rules and mechanisms to encourage freer and fairer international trade. It was established in 1947, after a period in which deviations from the principles of free trade were taken to

extremes and severely damaged the world economy. Many industrial nations resorted to extremely protectionist trade policies in the 1930s. The disastrous consequence of these policies was a sharp contraction in world trade that lengthened and worsened the Great Depression.

**Box 7-2.—What Is GATT?**

At the conclusion of World War II, the United States and other countries sought to establish rules for the international trading system based on the principles of free, nondiscriminatory trade. The United States promoted the position that nontariff barriers should be abolished and that all tariffs should be reduced through international negotiations.

The General Agreement on Tariffs and Trade was drafted in 1947 as part of efforts to establish a broader International Trade Organization. GATT was signed by 23 countries participating in a conference in Geneva in 1947 and went into effect in 1948. Since then, membership has grown to 96 countries that account for 80 percent of world trade.

The GATT system serves several purposes:

- GATT provides a uniform set of rules and disciplines for the conduct of international trade. Each member country must give the most favorable trade treatment it gives any country to all other GATT members. Tariffs are to be used rather than other types of trade barriers.
- GATT provides an institutional framework to support international consultations and to facilitate settlement of trade policy disputes.
- GATT provides a system for trade policy liberalization through periodic multilateral negotiations to lower tariffs, and since the 1970s, also reduce nontariff barriers.

Since 1948, GATT has sponsored seven rounds of tariff reductions. These rounds successfully reduced tariffs and expanded international trade. The international trading system continues to evolve and GATT needs to address these changes. As tariffs have decreased, nontariff trade barriers have increased. Moreover, areas poorly covered by GATT, such as agriculture, or not covered at all, such as services, intellectual property rights, and investment, are of much greater importance than they once were. All told, \$1 trillion or more of international trade in goods and services may not be adequately covered by the GATT rules.

## THE URUGUAY ROUND

*The President has made a successful conclusion to the Uruguay Round his highest trade priority.* The Uruguay Round was launched in 1986 and is scheduled to end in 1990. The final year of negotiations will be critical to the outcome. The negotiations are intended to improve the existing GATT articles and procedures, to negotiate reductions in tariff and nontariff barriers, and to address 15 specific areas. In addition to agriculture, discussed below, some of these areas are:

*Intellectual Property Protection.* The trading system needs a comprehensive agreement on the protection of intellectual property rights, such as patents and copyrights. It should include standards and procedures for enforcement of these rights both internally and internationally.

*Services.* GATT rules need to be extended to areas such as telecommunications services where many countries currently impose trade restrictions.

*Trade-Related Investment Measures.* Trade-related restrictions on foreign investment are used increasingly by many countries. These measures distort trade and result in resource misallocation. GATT needs to develop rules and disciplines in this important area.

*Textiles.* The Multi-Fiber Arrangement is an exception to GATT rules that allows restrictions on textiles trade in many countries. Trade in textiles needs to be brought under normal GATT rules and disciplines.

*Integration of Developing Economies.* A major focus in these negotiations is to develop a system of rules that extends market-opening obligations to all participants. Bringing developing countries more fully into GATT will require tightening GATT rules governing the use of balance of payments difficulties to suspend GATT obligations and will also require greater participation by developing countries in GATT trade-liberalizing obligations.

*Subsidies.* The GATT negotiations offer the opportunity to establish internationally credible and enforceable regulations, or disciplines, for subsidies. This would include extending regulations for export subsidies and introducing prohibitions on domestic subsidies. It would include expanding export subsidy prohibitions to agricultural products.

## AGRICULTURAL POLICY AND GATT

Among the 15 areas, agriculture is perhaps the best illustration of the limitations of the GATT system as well as of its potential to further the process of global economic integration. GATT operates on a consensus basis, and when GATT was established, agriculture was exempted from some of its rules to obtain political support for its ratification. At that time, agriculture was not an important

trading sector of most economies. Since then, agriculture has undergone a transformation from a national to a global industry. The United States, the largest food exporter in the world, exported about 25 million metric tons of agricultural products in the 1950s and now exports nearly 150 million metric tons.

Technology, trade, and government policy have all played prominent roles in this transformation. The postwar technological revolution began an unparalleled period of productivity growth in agriculture in the United States and elsewhere. U.S. agricultural productivity has grown more than 200 percent since the 1950s, and food exporting regions such as Canada, Australia, and Europe have experienced similar growth. The rice producing areas of Asia have seen rapid productivity growth since the mid-1960s. Agricultural markets became international as production expanded in the developed economies and global population, income, and food demand grew. The developing countries became major net importers of food, with a net deficit in their food production of 52 million metric tons in 1980, projected to grow to at least 69 million metric tons by the year 2000. Throughout the world, governments became increasingly involved in the production, marketing, and trade of agricultural products. Measurements of agricultural subsidies calculated by the Department of Agriculture show that subsidies in food-exporting countries increased substantially in the 1980s.

### *Agricultural Policies*

Agricultural policies of the major food-exporting and food-importing countries now stand as a major impediment to more complete integration of agriculture into the international trading system. Because of the adverse impacts of agricultural policies on international markets, agricultural policy reform has become a priority for many countries participating in the Uruguay Round of GATT negotiations. Indeed, some countries are insisting on progress in agriculture before they will agree to reform in other areas.

All governments intervene in their agricultural sectors, either on behalf of producers or at their expense. Industrial economies tend to promote producers' interests through protection or subsidization. Developing economies, on the other hand, often use policies that have the effect of taxing agricultural producers for revenue to promote industrial development or maintain price ceilings to benefit urban consumers. In both cases, policy encourages a different pattern of resource use from what would occur in the absence of intervention. The result has been substantial distortions of agricultural resource use, production, and trade around the world.

The increasing degree to which policies have disrupted world agricultural trade has fueled the movement toward international policy reform. The inflexible trade and domestic policies of most countries limited the ability of, and the incentive for, their agricul-

tural sectors to adapt readily to abrupt changes in world market conditions caused by weather and political shocks. Recent droughts and historically low grain stocks have rekindled fears of a world food crisis. Attempts to insulate domestic producers from changes in global market conditions have depleted the budgets of many governments and strained international relations. The failure of existing policies to address the needs of the emerging global agriculture is clearly a major reason for the willingness of many governments to put agriculture on the agenda for international policy reform. It will be an important and historic achievement if the 96 GATT member countries are able to agree on improved and strengthened GATT rules for agriculture.

Recent studies suggest that meaningful policy reform would yield significant economic benefits. These studies conclude that multilateral reduction in trade-distorting policies would lead to higher world prices, higher market-generated farm income, less costly income support for farmers, and improved global economic welfare. Several studies have estimated the global economic gains from complete policy liberalization to be about \$31 billion annually and \$10 billion for the United States. The GATT reforms advocated by the United States, which would eliminate the most trade-distorting policies, could be expected to yield a large fraction of such benefits.

## AGRICULTURAL POLICY REFORM IN GATT

The participants in the GATT negotiations reached a consensus in April 1989 to agree by the end of 1990 on a long-term agricultural reform program. The long-term objective of the reforms is to provide for substantial, progressive reductions in agricultural support and protection, sustained over an agreed period of time, to correct existing distortions in world agricultural markets and to prevent further restrictions and distortions. A key accomplishment of the Uruguay Round of GATT negotiations thus far is the recognition that domestic policies are a major cause of world market distortions. Meaningful reform must, therefore, address both domestic and trade policies.

Proposals for changes in the GATT rules and disciplines to achieve agricultural policy reform were submitted to GATT in late 1989 by major participants, including the United States, the European Community, Japan, and the Cairns Group—Argentina, Australia, Brazil, Canada, Chile, Columbia, Hungary, Indonesia, Malaysia, New Zealand, the Philippines, Thailand, and Uruguay.

Although there is now agreement about the need for policy reform, there is little agreement on how to achieve it. One of the basic difficulties in developing GATT rules and disciplines for agricultural policy is that every country in GATT has its own complicated policies. The GATT negotiators cannot write domestic policy



for any country. The challenge facing the GATT negotiators is to develop guidelines that can help countries move to less distorting policies without compromising any country's sovereignty.

### *The U.S. Proposal for Comprehensive Reform*

The United States has proposed broad principles for bringing agriculture into the GATT system. The application of these principles in a strengthened and more effective set of GATT rules would move the world toward a fairer and more market-oriented trading system. The U.S. proposal provides for reform in the areas of import access and export competition, internal support, and sanitary regulations pertaining to agricultural products.

The U.S. proposal to improve import access would convert all nontariff barriers to tariffs and then reduce these tariffs to zero or low levels over a 10-year period. The GATT article that currently allows countries to use import quotas to manage their domestic agricultural policies would be eliminated. Nontariff barriers would be converted to tariffs by computing the difference between internal and external prices and imposing an equivalent tariff. The U.S. proposal thus conforms to original GATT principles for liberalizing trade through tariff reductions. The U.S. proposal calls for a 5-year phaseout of all export subsidies except for bona fide food aid. The proposal also calls for elimination of restrictions and prohibitions on exports of products in short supply. Safeguard measures are proposed to achieve an orderly transition process.

A major problem with most domestic agricultural policies is that they subsidize farmers in ways that artificially stimulate production and thus indirectly distort trade. The U.S. proposal limits the types of domestic subsidies that countries can use to those that have the least effect on trade. The most distorting policies, such as administered price policies and income-support policies linked to production, would be phased out over 10 years. Other less distorting policies, such as general input subsidies, would be subject to certain disciplines. Policies that would be permitted include payments not linked to production or marketing decisions, environmental and conservation programs, general support for research and its dissemination to farmers and disaster relief.

## TOWARD U.S. POLICY REFORM

The President's farm policy goals are a market-oriented agriculture that preserves an income safety net for the farm sector and meets other objectives such as environmental quality. The Administration is also committed to global agricultural policy reform fully consistent with its GATT proposal. Agricultural policy reform in the United States would maintain and enhance the U.S. role as the major world food exporter while furthering global reform. But many other countries also subsidize production and export of agri-

cultural commodities or restrict imports. Policy reform in the United States must be accompanied by comparable reforms in other countries if all countries are to reap the gains possible from mutual reductions in agricultural subsidies.

### *Benefits From U.S. Policy Reform*

The most important reason why the United States should simultaneously pursue agricultural policy reform both at home and abroad is the economic self-interest of the United States. The move to less trade-distorting policies could improve the performance of the U.S. farm sector and benefit consumers through increased availability and lower prices of some foods. The U.S. comparative advantage in the production of major traded commodities, notably food and feed grains, means that a large segment of U.S. agriculture can compete successfully in international markets when prices are determined by market forces rather than government subsidies.

Because the United States is one of the largest agricultural producers in the world, agricultural subsidies are particularly costly to U.S. taxpayers. Reforms consistent with the U.S. GATT proposal could help achieve the President's farm policy goal of a more market-oriented agriculture at lower budget and economic cost. Reductions in the budget cost of U.S. farm programs can make a contribution to the goal of a balanced Federal budget. After deducting Social Security, defense, and interest payments on the national debt from the Federal budget, direct price and income-support payments to agriculture were about 10 percent of the remaining budget in fiscal 1986, but fell to 4 percent in fiscal 1990 because of high prices caused by the U.S. drought. Without suitable policy reforms, a return to normal weather could lead to lower commodity prices and significantly higher budget costs in the 1990s.

### *Moving From Price Supports to an Income Safety Net*

Continuing productivity growth in global agriculture will make U.S. and other countries' farm policies based on price support increasingly costly. This productivity growth is the cause of the persistent downward trend in real farm prices since the 1950s shown in Chart 7-1. The chart also shows that price supports have followed the same trend as real farm prices. This is because it is too costly for the government to keep prices above the long-run trend. The U.S. Government supports prices for certain major commodities (including grains and dairy products) by buying commodities and holding them as stocks, an expensive practice, and by managing supply through acreage reduction programs.

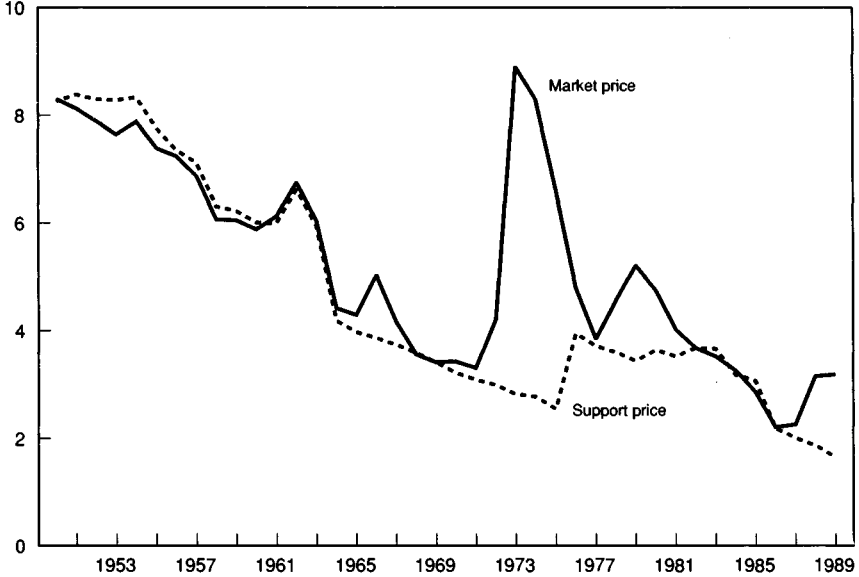
The acreage reduction programs are a policy response to the high costs of directly supporting prices by holding stocks. This pattern of stock buildup and supply management through acreage control is

evident in Chart 7-2, which shows wheat stocks and the forgone wheat output attributable to the idling of land through the wheat programs. A similar pattern of stock buildup and supply control occurred for feed grains. Two such policy cycles have taken place: one in the 1950s and 1960s and another in the late 1970s and 1980s.

Chart 7-1

**REAL WHEAT PRICES.** Real U.S. market and support prices follow a similar long-term trend.

Price per bushel (1982 \$)



Source: Department of Agriculture.

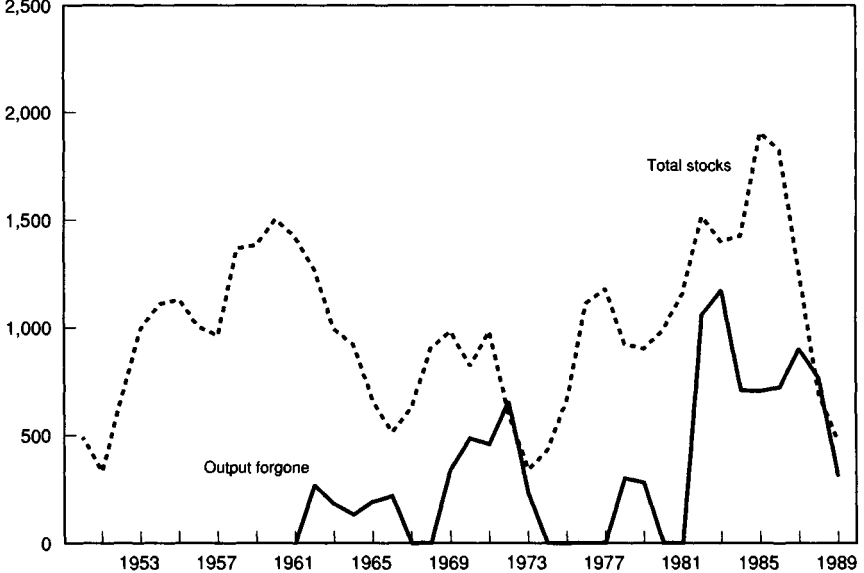
Reliance on supply control reduces U.S. agriculture's exports by taking land out of production that could be producing crops for export. Moreover, because farmers are provided an incentive to make cropping decisions according to program rules rather than market signals, the programs reduce the responsiveness of U.S. agriculture to changes in world market conditions and reduce its international competitiveness.

Price and income supports redistribute income within the agricultural sector in unintended ways. Farmers who own assets when a price-support or supply-control policy is invoked earn capital gains because their land increases in value. Persons who subsequently want to become farmers must pay the capitalized value of the farm programs when they buy land. These newer farmers' economic survival then depends on the continuation of the support programs. Having paid the capitalized value of the programs in

Chart 7-2

**WHEAT STOCKS.** Large stocks lead the government to reduce acreage and thus output.

Millions of bushels  
2,500



Note: Output forgone equals average yield times acres idled.  
Source: Department of Agriculture.

order to farm, they need the high program prices and income subsidies to break even.

Understandably, farmers are concerned that they will have to bear much of the cost of adjusting to a new domestic policy regime. A reform program thus may need to include provisions that facilitate adjustments in the farm sector caused by policy change. To provide income support to farmers in a manner consistent with the principles espoused by the United States in the GATT negotiations, policy could be based on criteria related to income, not production. An income-based safety net for agriculture could facilitate adjustment, protect farmer income from unforeseen circumstances such as weather and political events, and do so at a much lower cost to the economy than the existing system.

## SUMMARY

- The principle underlying U.S. Administration trade policy is to expand the current rules-based trading system to foster open and competitive markets. The Administration strongly opposes all attempts by governments to manage trade.

- GATT provides a set of rules for the international trading system and a process of multilateral negotiations through which further liberalization of trade can be achieved. The United States played a key role in the development of the GATT system in the late 1940s, and continues to play a leadership role.
- U.S. objectives for the Uruguay Round are to broaden and strengthen GATT rules and disciplines, and to reach agreement with other members on reductions in tariff and nontariff barriers. Some of the areas under negotiation in the Uruguay Round are agriculture, intellectual property rights, trade-related investment measures, services, and subsidies.
- Agricultural policy reform has become a priority for many countries in the Uruguay Round because domestic agricultural policies are becoming increasingly costly and are an impediment to trade policy liberalization.
- An income-based safety net could provide income protection for farmers in a manner consistent with the principles advocated by the United States in the Uruguay Round.

## CONCLUSION

Recent developments in the global economy underscore the importance of free and competitive markets to promote and sustain growth. This Administration has taken a leadership role in promoting the development of open markets worldwide through important new initiatives to support economic reform in centrally planned and severely indebted countries. It has also played a leadership role in efforts to extend the GATT rules for the international trading system so as to eliminate barriers to open markets.

Market-oriented economic reforms can help to revive economic performance among the centrally planned economies, as well as among the highly indebted developing countries. While these countries must implement the necessary policy changes, assistance from the United States and other developed nations can be important. The United States continues to provide financial and technical assistance to support reform efforts in Poland and Hungary. It has also initiated a new debt strategy to support reforms in Mexico, the Philippines, Costa Rica, and other indebted countries through reduction of debt burdens.

The dramatic steps underway in the European Community to create a single, unified market by 1992 highlight the potential gains from removal of barriers. The elimination of artificial restrictions that prevent free movement of goods, services, labor, and capital across national boundaries promises to raise growth in the EC

member countries, the United States, and all nations that participate in the global economy. These gains will be realized as long as the EC provides non-EC members access to its newly expanded internal market. The dynamic Asian Pacific Rim economies also provide examples of how reliance on both domestic and international markets can generate economic expansion and raise living standards. These economies will also gain from further steps to remove barriers to open markets.

All countries must press forward to facilitate and safeguard a smoothly functioning global economy. Conflicts should be resolved through negotiation of rules. In this regard, GATT is a critical multilateral institution, providing a unified set of rules and disciplines for trade policies of member countries, and a framework for policy liberalization and dispute settlement. The current round of negotiations seeks to strengthen this rules-based system in existing areas such as agriculture, and extend it to important new areas such as services and intellectual property. The President has made successful completion of the Uruguay Round a major trade priority.

In today's highly integrated world economy, international economic policy issues are inseparably intertwined with domestic policy issues. International features arise naturally as one considers traditionally domestic issues such as fiscal policy, monetary policy, and environmental policy.

The usual concerns with international economic events and international economic policy were heightened immeasurably by the remarkable economic reform movement that began in Eastern Europe in 1989. This reform movement, as well as the economic reforms in some highly indebted countries, the ongoing integration of Western Europe, the success of the market-oriented Asian Pacific Rim economies, and the bold U.S. proposals to expand GATT point to the same theme: an open free-market economy is the surest road to economic prosperity. This is also the lesson from the success of the U.S. economy in the 1980s which the first six chapters of the *Report* have endeavored to explain. The challenge of the 1990s is to build on this success and to continue support for economic and political freedom around the world. The return from this effort will be a safer and more prosperous world in the 21st century.

**Appendix A**  
**REPORT TO THE PRESIDENT ON THE ACTIVITIES**  
**OF THE**  
**COUNCIL OF ECONOMIC ADVISERS DURING 1989**





**LETTER OF TRANSMITTAL**

**COUNCIL OF ECONOMIC ADVISERS**  
*Washington, D.C., December 31, 1989*

**MR. PRESIDENT:**

The Council of Economic Advisers submits this report on its activities during the calendar year 1989 in accordance with the requirements of the Congress, as set forth in section 10(d) of the Employment Act of 1946 as amended by the Full Employment and Balanced Growth Act of 1978.

Sincerely,

**Michael J. Boskin, *Chairman***  
**Richard L. Schmalensee, *Member***  
**John B. Taylor, *Member***

*Council Members and their Dates of Service*

Name	Position	Oath of office date	Separation date
Edwin G. Nourse.....	Chairman.....	August 9, 1946.....	November 1, 1949.
Leon H. Keyserling.....	Vice Chairman.....	August 9, 1946.....	
	Acting Chairman.....	November 2, 1949.....	
	Chairman.....	May 10, 1950.....	January 20, 1953.
John D. Clark.....	Member.....	August 9, 1946.....	
	Vice Chairman.....	May 10, 1950.....	February 11, 1953.
Roy Blough.....	Member.....	June 29, 1950.....	August 20, 1952.
Robert C. Turner.....	Member.....	September 8, 1952.....	January 20, 1953.
Arthur F. Burns.....	Chairman.....	March 19, 1953.....	December 1, 1956.
Neil H. Jacoby.....	Member.....	September 15, 1953.....	February 9, 1955.
Walter W. Stewart.....	Member.....	December 2, 1953.....	April 29, 1955.
Raymond J. Saulnier.....	Member.....	April 4, 1955.....	
	Chairman.....	December 3, 1956.....	January 20, 1961.
Joseph S. Davis.....	Member.....	May 2, 1955.....	October 31, 1958.
Paul W. McCracken.....	Member.....	December 3, 1956.....	January 31, 1959.
Karl Brandt.....	Member.....	November 1, 1958.....	January 20, 1961.
Henry C. Wallich.....	Member.....	May 7, 1959.....	January 20, 1961.
Walter W. Heller.....	Chairman.....	January 29, 1961.....	November 15, 1964.
James Tobin.....	Member.....	January 29, 1961.....	July 31, 1962.
Kermit Gordon.....	Member.....	January 29, 1961.....	December 27, 1962.
Gardner Ackley.....	Member.....	August 3, 1962.....	
	Chairman.....	November 16, 1964.....	February 15, 1968.
John P. Lewis.....	Member.....	May 17, 1963.....	August 31, 1964.
Otto Eckstein.....	Member.....	September 2, 1964.....	February 1, 1966.
Arthur M. Okun.....	Member.....	November 16, 1964.....	
	Chairman.....	February 15, 1968.....	January 20, 1969.
James S. Duesenberry.....	Member.....	February 2, 1966.....	June 30, 1968.
Merton J. Peck.....	Member.....	February 15, 1968.....	January 20, 1969.
Warren L. Smith.....	Member.....	July 1, 1968.....	January 20, 1969.
Paul W. McCracken.....	Chairman.....	February 4, 1969.....	December 31, 1971.
Hendrik S. Houthakker.....	Member.....	February 4, 1969.....	July 15, 1971.
Herbert Stein.....	Member.....	February 4, 1969.....	
	Chairman.....	January 1, 1972.....	August 31, 1974.
Ezra Solomon.....	Member.....	September 9, 1971.....	March 26, 1973.
Marina v.N. Whitman.....	Member.....	March 13, 1972.....	August 15, 1973.
Gary L. Seevers.....	Member.....	July 23, 1973.....	April 15, 1975.
William J. Fellner.....	Member.....	October 31, 1973.....	February 25, 1975.
Alan Greenspan.....	Chairman.....	September 4, 1974.....	January 20, 1977.
Paul W. MacAvoy.....	Member.....	June 13, 1975.....	November 15, 1976.
Burton G. Malkiel.....	Member.....	July 22, 1975.....	January 20, 1977.
Charles L. Schultze.....	Chairman.....	January 22, 1977.....	January 20, 1981.
William D. Nordhaus.....	Member.....	March 18, 1977.....	February 4, 1979.
Lyle E. Gramley.....	Member.....	March 18, 1977.....	May 27, 1980.
George C. Eads.....	Member.....	June 6, 1979.....	January 20, 1981.
Stephen M. Goldfeld.....	Member.....	August 20, 1980.....	January 20, 1981.
Murray L. Weidenbaum.....	Chairman.....	February 27, 1981.....	August 25, 1982.
William A. Niskanen.....	Member.....	June 12, 1981.....	March 30, 1985.
Jerry L. Jordan.....	Member.....	July 14, 1981.....	July 31, 1982.
Martin Feldstein.....	Chairman.....	October 14, 1982.....	July 10, 1984.
William Poole.....	Member.....	December 10, 1982.....	January 20, 1985.
Beryl W. Sprinkel.....	Chairman.....	April 18, 1985.....	January 20, 1989.
Thomas Gale Moore.....	Member.....	July 1, 1985.....	May 1, 1989.
Michael L. Mussa.....	Member.....	August 18, 1986.....	September 19, 1988.
Michael J. Boskin.....	Chairman.....	February 2, 1989.....	
John B. Taylor.....	Member.....	June 9, 1989.....	
Richard L. Schmalensee.....	Member.....	October 3, 1989.....	

## Report to the President on the Activities of the Council of Economic Advisers During 1989

The mission of the President's Council of Economic Advisers was established by the Employment Act of 1946: to advise the President on the most effective means "to promote maximum employment, production and purchasing power." The Council accordingly focuses on providing the President with the best possible advice and economic analysis on the economic outlook and proposed economic policies. This focus usually complements the diverse perspectives and specific concerns of other agencies in the policy formulation process.

The membership of the Council of Economic Advisers changed early in 1989, upon the inauguration of the new President. President Bush nominated Michael J. Boskin as Chairman of the Council on January 20, and on February 2, 1989, following unanimous Senate confirmation, Dr. Boskin was designated Chairman of the Council and was sworn into office. He succeeds Beryl W. Sprinkel, who returned to the private sector. The Chairman is on a leave of absence from Stanford University where he is the Burnet C. and Mildred Finley Wohlford Professor of Economics.

President Bush nominated John B. Taylor and Richard L. Schmalensee as the two other Members of the Council on May 1 and July 20, respectively. After Senate confirmation, Dr. Taylor and Dr. Schmalensee were officially sworn in on June 9, 1989, and October 3, 1989, respectively. Both served as full-time consultants between the time of their nomination and official swearing in. Dr. Taylor is on a leave of absence from Stanford University where he is Professor of Economics. Dr. Schmalensee is on a leave of absence from the Massachusetts Institute of Technology where he is the Gordon Y. Billard Professor of Economics and Management. Thomas Gale Moore resigned from the Council on May 1, 1989, and returned to the Hoover Institution at Stanford University.

During this first year, the Council has stressed the importance of maximizing sustainable economic growth to expand the real resources available to meet the needs and designs of all Americans. It also stressed the importance of setting ambitious, but realistic goals. In its interactions with various outside groups—the Congress, the press, the business community, international organizations—as well as within the Administration, the Council has emphasized that continued growth and higher standards of living re-

quire following the four principles of fiscal, monetary, regulatory, and trade policy outlined in this year's *Report*:

- Reduce government borrowing by slowing the growth of Federal spending while economic growth raises revenue until the budget is balanced, and reduce the national debt thereafter;
- Support a credible, systematic monetary policy program that sustains maximum economic growth while controlling and reducing inflation;
- Remove barriers to innovation, investment, work, and saving in the tax, legal, and regulatory systems;
- Avoid unnecessary regulation and design necessary regulatory programs to harness market forces effectively to serve the Nation's interest; and
- Continue to lead the world to freer trade and more open markets, and to support market-oriented reforms around the world.

## MACROECONOMIC POLICIES

Economic growth was more moderate in 1989 than the rapid pace of 1987 and 1988. Significantly, inflation was contained. The Council emphasized that the run-up of inflation early in 1989 was temporary and related to temporary disruption in the world oil market and the drought. Throughout the year, the Council closely followed macroeconomic developments, briefing the President, and participating in regular discussions on macroeconomic policy issues with the Department of the Treasury, the Office of Management and Budget (OMB), and other members of the President's economic team. The Council also regularly exchanged information and met with the Federal Reserve Board on macroeconomic policy issues and the economic outlook.

The Council and the other members of the Administration's forecasting "Troika"—Treasury and OMB—made good progress in establishing the credibility of the new Administration's economic forecasts. This interagency forecasting group, which is chaired by the Council, develops the economic forecast and projections used in developing the budget. The forecasts made in the spring serve as the official economic assumptions for the Gramm-Rudman-Hollings baseline for the following fiscal year. The Administration's first full forecast was widely described as reasonable and internally consistent when it was released with the Mid-Session Review in July. Dr. Boskin testified on the forecast along with Dr. Taylor before the Joint Economic Committee. Although the forecast was a bit more optimistic than the average of private forecasters, it has thus far tracked the economy quite well and as the year progressed, many forecasters revised their expectations for 1989 towards the Administration's forecast. Based on preliminary data, it would appear that for the four major forecast variables—real GNP

growth, inflation, unemployment, and interest rates—the Troika forecast for 1989 was the most accurate forecast presented in the history of the mid-session budget reviews dating back to the late 1970s. In preparing its forecast for the 1991 budget, the Troika developed and published alternative sets of economic assumptions to indicate that the forecast and the resulting budget calculations have a considerable degree of uncertainty.

The Council also worked to improve the economic information flow through a more comprehensive series of memoranda and briefing papers on economic events for the President and his White House Senior Staff; regular briefings for the White House press on major economic news; and meetings with outside economists, forecasters, financial analysts, and business people. The Chairman and Council Members appeared before numerous other organizations explaining the Administration's economic achievements, principles, and policies.

In the formulation of saving and investment policies, the Council was one of the leading participants in developing proposals through various Cabinet and sub-Cabinet working groups. In testimony to the Congress and in talks to business and other groups, the Chairman and the other Council Members stressed the importance of raising national saving—by lowering the Federal budget deficit and removing barriers to private saving—to reduce the cost of capital to American firms, stimulate investment, and improve U.S. competitiveness, productivity growth, and standards of living. The Chairman and the other Council Members also worked through various fora to educate the public and the Congress on the economic benefits of a lower capital gains tax rate.

The Council was also active on a range of budget issues this year. The Chairman was a member of the President's budget team and testified before a number of congressional committees on both the economic assumptions used in the budget and on the importance to the economy of lowering the Federal budget deficit and eventually reducing the national debt. The Chairman was also a member of the President's review committee for the 1991 budget.

#### INTERNATIONAL ECONOMIC POLICIES

During 1989, international economic issues occupied a substantial part of the Council's time. Developments in the Eastern European economies called for economic analysis in preparing the President's initiatives. As the current GATT round entered its final stage, many economic issues required analysis. Despite substantial progress in reducing the U.S. trade deficit in recent years, 1989 was a year of growing protectionist pressure. Growing concern over foreign investment in the United States was especially important in generating this increased pressure. The Chairman and the other Council Members strove to put these fears in perspective, stressing

the benefits of free trade and open markets for goods, services, and investment. They regularly reminded the Congress and others that foreign investment had helped to prevent the investment rate—a fundamental source of improvements in productivity and standards of living—from falling, despite the Federal budget deficit and low personal saving. In the Congress and before various foreign governments and international organizations, the Council repeatedly stressed the importance of freer trade and more open markets and the dangers to world economic growth of rising protectionism.

The Council was also increasingly active in trade policy issues through Dr. Boskin's participation in the Economic Policy Council and Dr. Taylor's membership in the Trade Policy Review Group. The Council assisted the Administration in producing many important trade decisions that carefully balanced competing interests and goals on: steel quotas; Super 301; strategy for the ongoing GATT round; and many other issues.

The Council undertook an increased role in its participation in international discussions. Dr. Boskin was one of the four leaders of the President's Mission to Poland and was named a deputy coordinator of U.S. aid to Poland and Hungary. Dr. Taylor also participated in the Mission and was active in developing the economic analysis through an interagency group on policy planning for Poland and Hungary.

Dr. Boskin met in Japan with the Prime Minister and other officials to encourage Japan to shoulder its responsibilities as the second largest economy in the world by joining the United States in leading the world to freer and fairer trade. Dr. Taylor was a member of the Structural Impediments Initiative negotiating team and met with Japanese officials in New York, Tokyo, and Washington to discuss ways to reduce barriers to trade. He also testified before the Senate Finance Committee on the importance of these structural issues. Dr. Boskin and Dr. Taylor traveled to Tokyo to discuss the economic outlook and various structural issues with Japan's Economic Planning Agency, and Dr. Taylor participated in biannual sub-Cabinet meetings in Tokyo and Washington.

Dr. Boskin was elected Chairman of the Economic Policy Committee of the Organization for Economic Cooperation and Development (OECD). Dr. Schmalensee chaired the U.S. delegation to OECD Working Party 1, which focuses on structural change in the developed economies, and Dr. Taylor was a member of the U.S. delegation to Working Party 3 on macroeconomic policy coordination and the short-term economic outlook. Dr. Taylor traveled to Paris to chair the U.S. delegation to the Economic and Development Review Committee, where the OECD reviews the U.S. economy, and chaired meetings in Washington with the IMF and GATT in their review of U.S. economic policy. In these roles the Council

stressed the importance of multilateral adjustment to trade imbalances, macroeconomic coordination, and the removal of structural rigidities and subsidies.

The Council provided the President and the White House senior staff with regular briefings and briefing materials on international developments, including materials for the Economic Summit in Paris and the meetings in Malta between the President and Secretary General Gorbachev.

The Council also participated in discussions of a wide range of issues—including developing country debt, economic reform in Eastern Europe, and macroeconomic policy coordination—with other members of the Administration, the Federal Reserve, the World Bank, the IMF, and representatives of other countries. The Council and staff conducted numerous briefings on the U.S. economy for visiting officials and scholars.

#### MICROECONOMIC POLICIES

The Administration considered and proposed action this year on a wide range of economic issues, many of them involving problems that had been building for some time. In its work on these issues, the Council repeatedly stressed that where government regulation is appropriate, it should be formulated in a way that allows workers and firms maximum flexibility and provides incentives to meet social goals in the least costly manner. The Council also provided economic analysis of a variety of continuing issues. The Council worked with other agencies to assure that the Clean Air Act proposal balanced costs and benefits in protecting the environment and minimizing the costs of regulation. The Council emphasized these principles of promoting flexibility, enhancing incentives, balancing costs and benefits, and placing maximum reliance on the private sector in a number of areas, including: global warming, telecommunications, antitrust, food safety, strategic oil stockpiling, and proposals by the Council on Competitiveness to remove regulatory and legal barriers to innovation. Dr. Schmalensee testified before the Congress on the economic importance of tradable permits in the Clean Air Act proposals. He also chaired the Interagency Task Force on Economic Costs of the Working Group on Global Climate Change.

The Council also participated in various interagency working groups in developing policies to aid the disadvantaged without destroying incentives and job opportunities. Dr. Schmalensee was a member of the Low Income Opportunity Board and was active in the analysis of the economic costs and benefits of the Americans with Disabilities Act (ADA). The Administration's accomplishments in this area include passage by the Congress of the first training wage in the history of the U.S. minimum wage, and improvements

in the Job Training Partnership Act. The Council also actively promoted the importance of improving education in the United States through flexibility, choice, accountability, and performance, the values that underpin the Educational Excellence Act.

#### ECONOMIC STATISTICS

The Chairman and the other Council Members took an active role in improving the quality of the U.S. statistical system. Through testimony before the Congress, public speeches, and interagency working groups, the Council stressed the relationship of good information to good policy. Dr. Boskin chaired an Economic Policy Working Group on Improving the Economic Statistics. (Its work is described in detail in Appendix B.)

#### PUBLIC INFORMATION

In addition to the Chairman's and the other Council Members' public speeches, testimony before the Congress, and briefings for the press, the Council produces two publications a year for the public.

The Council's *Annual Report* is the principal medium through which the Council informs the public of its work and its views. It is an important vehicle for presenting the Administration's domestic and international economic policies. Annual distribution of the *Report* in recent years has averaged about 45,000 copies. The Council assumes primary responsibility for the monthly *Economic Indicators*, which is issued by the Joint Economic Committee of the Congress and has a distribution of approximately 10,000.

#### THE COUNCIL AND THE STAFF

The Chairman is responsible for communicating the Council's views on economic developments to the President through personal discussions and written reports. The Chairman also represents the Council at Cabinet meetings, meetings of the Economic Policy Council and Domestic Policy Council, meetings of the National Security Council on issues of economic importance, daily White House senior staff meetings, budget team meetings with the President, and at many other formal and informal meetings with the President and senior White House staff, as well as with other senior government officials. The Chairman guides the work of the Council and exercises ultimate responsibility for directing the work of the professional staff.

Members of the Council are responsible for the full range of issues within the Council's purview, and including direct supervision of the work of the professional staff. Members represent the Council at a wide variety of interagency and international meet-



ings and assume major responsibility for selecting issues for Council attention.

The small size of the Council permits the Chairman and the other Members to work as a team on most policy issues. There is, however, an informal division of subject matter. Dr. Schmalensee is primarily responsible for microeconomic and sectoral analysis and regulatory issues. Dr. Taylor is primarily responsible for international economic issues as well as for macroeconomic analysis, including economic projections.

#### PROFESSIONAL STAFF

The Council's advice to the President is dependent on the analytical and empirical analysis of its professional staff. The Council benefited from an extraordinarily capable professional staff during 1989. The professional staff of the Council currently consists of the Special Assistant, the Senior Statistician, 10 senior staff economists, 2 staff economists, 3 junior staff economists, and 2 research assistants. The professional staff and their respective areas of concentration at the end of 1989 were:

#### *Special Assistant to the Chairman*

J. Steven Landefeld

#### *Senior Staff Economists*

John M. Antle.....	Agriculture and International Trade
Rebecca M. Blank .....	Labor Economics and Human Resources
Susan M. Collins .....	International Macroeconomics and Trade
Howard K. Gruenspecht .....	Regulation and International Trade
Douglas J. Holtz-Eakin .....	Public Finance and Macroeconomics
Brian F. Madigan.....	Macroeconomics and Monetary Policy
Marc S. Robinson .....	Public Finance and Microeconomics
Jeremy C. Stein .....	Finance and Banking
Peter M. Taylor .....	Macroeconomics and Forecasting
William L. Wascher.....	Labor and Macroeconomics

#### *Senior Statistician*

Catherine H. Furlong

#### *Staff Economists*

S. Lael Brainard.....	International Trade and Macroeconomics
Barbara A. Claffey.....	Agriculture and International Trade

#### *Junior Staff Economists*

Janice C. Eberly .....	Macroeconomics and International Economics
Elizabeth T. Powers.....	Public Finance and Microeconomics

David E. Weinstein ..... International Trade

*Research Assistants*

Mark A. Condon ..... Labor and Macroeconomics

Beth Anne Wilson ..... Macroeconomics and International  
Economics

Jonathan S. Leonard (University of California, Berkeley) served as a senior staff economist during the summer of 1989. Gary R. Saxonhouse (University of Michigan) served as a part-time consultant during the fall of 1989. Jeremy A. Arkes (Georgetown University), Scott B. McCallum (University of California, Berkeley), Steven H. Plous (Georgetown University), Brooke D. Rasche (Stanford University), and Omar N. Toulan (Georgetown University) served as research assistants during 1989.

Catherine H. Furlong, Chief Statistician, began her career at the Council 40 years ago as a statistical assistant. She is now our Chief Statistician and is responsible for the management of the Statistical Office. Her tenure has been one of exemplary service, and her dedication and performance have earned her the respect and friendship of the Chairmen, the Council Members and staffs with whom she has served.

Mrs. Furlong is assisted in the operation of the Statistical Office by Natalie V. Rentfro, Linda A. Reilly, and Margaret L. Snyder. The Statistical Office maintains and updates the Council's statistical information system, and is responsible for overseeing the publication of the *Economic Indicators* and the statistical appendix to the *Economic Report*, as well as for the verification of statistics in memoranda, testimony, and speeches.

Joseph Foote provided editorial assistance in the preparation of the 1990 *Economic Report*.

Two former staff members returned to assist in the preparation of the 1990 *Report*: Christine Dreylinger (student assistant), and Dorothy Bagovich (statistical assistant).

**SUPPORTING STAFF**

The Administrative Office, which provides general support for the Council's activities, consists of Elizabeth A. Kaminski, Administrative Officer, and Catherine Fibich, Administrative Assistant.

The secretaries for the Council of Economic Advisers during 1989 were Alice H. Williams and Sandra F. Daigle (secretaries to the Chairman), and Francine P. Obermiller and Suzanne M. Tudor (secretaries to the Council Members). The secretaries for the Council's staff were Lisa D. Branch, Mary E. Jones, Mary A. Thomas, and Janet J. Twyman.

## DEPARTURES

The Council's senior staff economists, in most cases, are on leaves of absence from faculty positions at academic institutions or from other government agencies or research institutions. Their tenure with the Council is usually limited to one or two years. Most of the senior staff economists who resigned during the year returned to their previous affiliations. They are James N. Brown (State University of New York at Stony Brook), David N. Hyman (North Carolina State University), Carole E. Kitti (Office of Management and Budget), Harvey E. Lapan (University of Iowa), and Daniel A. Sumner (North Carolina State University). Others went on to new positions. They are Gregory S. Crespi (Southern Methodist University), Lauren J. Feinstone (University of Colorado), Robert W. Hahn (American Enterprise Institute), and Kim J. Kowalewski (Congressional Budget Office).

Staff economists usually have just completed their dissertations and spend one year at the Council as additional preparation for their professional careers. Staff economists who took new positions are: Ellen E. Hanak (The Brookings Institution) and John A. Hird (University of Massachusetts). Junior staff economists are generally graduate students who spend one year with the Council and then return to complete their dissertations. Those who returned to their graduate studies in 1989 are: Marcel M. Cassard (Columbia University), Kenneth R. Richards (University of Pennsylvania), and Robert J. Scheinerman (Harvard University). Associate junior staff economists were Theodore G. Bernard (Northwestern University) and William A. Teichner (Harvard Business School). Jonathan A. Parker, Research Assistant, accepted a position with The Urban Institute.

Gerry Garcia, secretarial staff, resigned in 1989. In addition, Christine Dreylinger served as a student assistant during the summer, and Amy J. Heir served as a student assistant during the fall.



**Appendix B**  
**IMPROVING THE QUALITY**  
**OF**  
**ECONOMIC STATISTICS**



## Improving the Quality of Economic Statistics

The Council of Economic Advisers has by the nature of its basic mission always been intensely interested in the quality of economic statistics. Economic statistics are critical to the Council's analyses of policy issues, advice to the President, forecasts on the economic outlook, and production of this *Report*. The Council also has an important role in the dissemination of economic statistics through the monthly publication of *Economic Indicators* and Appendix C of this annual *Report*.

The Council and other agencies have become increasingly concerned with the quality of economic statistics, and a number of reports in the 1980s addressed problems with key statistics. In addition to members of the Federal statistical system, numerous professional organizations including the American Economic Association, the National Association of Business Economists, and the National Academy of Sciences, as well as the Congress have become concerned over the quality, timeliness, accuracy, methodological soundness, and comparability of economic statistics.

### NUMBERS THAT MOVE THE ECONOMY

Although the United States has one of the finest statistical systems in the world, changes in the structure of the U.S. economy are making it increasingly difficult to track the course of the economy accurately. Accurate measurement is critical, because the "core" economic statistics have such a large impact on the economy. Statistics provided by the Federal Government alter private and public spending patterns, move markets, and drive government policy. Private contracts and orders, investment decisions, cost-of-living adjustments, the Federal budget, and monetary policy are all based on the economic information produced by the Federal statistical system.

Many analysts question the accuracy of measurement of even the most basic variables, such as output and inflation. This perceived decline in the quality of the basic national economic statistics series is particularly disturbing. Maintaining and improving these "core" statistics will be increasingly important as the Nation moves into the 1990s.

## TRACKING ECONOMIC ACTIVITY IN TODAY'S ECONOMY

### MEASURING PRODUCTIVITY, OUTPUT, AND PRICES

Measuring output involves measuring both increases in quantity and quality. The most serious problem in measuring output in our rapidly evolving economy is in estimating improvements in quality. When the Nation primarily produced things such as steel and wheat, output was easy to count—tons of steel and bushels of wheat. Today, a larger share of output is produced in sectors where increases in output are often in the form of improved quality and convenience: consider the impact of 24-hour automatic teller machines and of desktop and laptop computers. Measurement problems are most severe in rapidly growing industries such as services and microelectronics, and it is likely that real output growth in these industries is underestimated.

In some industries, output is now estimated by labor input. If total hours worked rises by 1 percent, then output is estimated to rise by 1 percent. The result is that productivity (output per hour worked) is assumed constant, so that measured productivity growth is automatically zero.

In other industries, output is estimated by dividing net sales by a price index. Unfortunately, in industries with rapid rates of innovation, it is difficult to separate pure price increases from those arising from improvements in product quality or service. For example, if problems in identifying and measuring quality changes cause the rate of pure price increase to be overstated, the measure of real output will be understated, and the overall rate of inflation will be overstated.

Price indexes that appropriately adjust for quality change can be quite important. When the Department of Commerce introduced a new computer price index that adjusted for quality change, it *raised* the average annual growth rate of real gross national product (GNP) between 1982 and 1988 from 3.8 to 4.1 percent, raising the level of real GNP by \$70 billion in 1988. Correspondingly, the new computer price index *lowered* the average annual rate of inflation (as measured by the GNP implicit price deflator) from 3.6 to 3.3 percent over this period.

In other industries, the statistical system may not have kept pace with changes in the economy. In the airline industry, deregulation produced lower fares, and passenger miles increased by more than 60 percent in the 1980s, yet reported output growth has been below average, and productivity—as measured by value-added per hour worked—has been declining. Part of the problem may be the result of the difficulties in developing real—price-adjusted—measures of output during a period when the fare structure was chang-



ing rapidly. Today less than 10 percent of tickets are sold at full price; in 1976, 85 percent of travelers paid full price.

It is hardest to measure output in the service-producing sector, where many problems arise: rapid innovation, frequent changes in pricing, and difficulties in accurately measuring and defining sales and units of output. Industries such as finance, insurance, and real estate, which are among the fastest growing in the economy as measured by sales and employment, are only average in terms of measured GNP growth. And despite rapid innovation, based in part on revolutionary advances in computation and communications, productivity in these sectors, as measured by value-added per hour worked, fell in the 1980s.

The increasing importance of the service-producing sector relative to the goods-producing sector has not only increased the difficulty of measuring total output, but has also increased the difficulty of collecting data on output. It is easier and less expensive to collect data in manufacturing industries dominated by large firms than in service industries dominated by small firms. For example, by surveying three firms in the auto industry it was possible to obtain data on more than \$150 billion in sales in 1987; whereas it would have required surveying all of the 189,000 firms in the eating and drinking industry to obtain data on \$150 billion in sales.

Finally, while the economy as a whole has gained from deregulation in transportation and services, Federal statistics have suffered. Deregulation has helped to increase competition, spur growth, and lower prices, but it has meant that data once available from regulators must be collected directly, in many cases from a larger number of firms.

#### MEASURING INVESTMENT, SAVING, AND WEALTH

The problems in economic statistics are not limited to output and inflation, but extend to other areas ranging from saving and wealth to income and poverty.

Investment and saving rates are critical factors in economic growth, international trade flows, economic stability, and the evolution of national wealth. Understandably, U.S. rates of saving and investment, particularly in relation to other countries, have been central to the debate on tax, budget, and trade policies. Yet estimates of U.S. saving and investment are not internationally comparable and may be seriously misleading.

The United States is one of only a few major industrialized countries in the world where national income accounts classify government expenditures on bridges, highways, and other investments as consumption rather than investment, which renders international comparisons of national saving and investment rates difficult. U.S. statistical conventions also use historical rather than replacement

costs to value international assets. Since most U.S. investments abroad were purchased some time ago, while most foreign investments in the United States have been made in recent years, U.S. assets abroad are undervalued relative to foreign assets in the United States.

#### MEASURING INCOME AND POVERTY

Estimates of the level and distribution of real family income and of the extent and nature of poverty drive political debates and decisions about social policy and the safety net. Yet the poverty index we use is based on research that was done in the 1950s and 1960s and may not be well suited to the 1990s. Although most major statistical series are revised every 5 years to reflect current price, consumption, and production patterns, the official poverty measure has not had a significant revision in over 25 years.

The Bureau of the Census in recent years has produced experimental measures of poverty that partly correct for well-known problems with the official poverty thresholds and with the definition and measurement of income. These adjustments significantly affect estimates of the level and trends in income and poverty. For example, depending on the definition of income, Census estimates of the poverty rate can vary widely (e.g., by as much as 10 percentage points). A case in point involves the estimated rate of price inflation. Using a consistent measure of price change can lower the poverty estimate by 1.5 percentage points. It also shows real family income rising, albeit slowly, rather than falling during the 1970s.

Nevertheless, our basic understanding of appropriate measures of poverty remains far from complete. Additional research on relevant prices, consumption patterns, and family composition in the 1990s is needed to improve our understanding of the level and distribution of economic need in this country.

#### IMPROVING ECONOMIC STATISTICS

The President has established a working group on improving the economic statistics. The working group is chaired by Michael J. Boskin, Chairman of the President's Council of Economic Advisers, and includes representatives of many of the major producers and users of economic statistics in the Federal Government. In its work thus far, the group has: surveyed the statistical agencies to assess existing plans and priorities; gathered suggestions for further improvements from the agencies and from the community of users inside the Administration, in the Congress, and outside government; and developed a recommended package of the highest priority improvements in economic statistics.

In developing its initial recommendations, the working group concentrated on developing priorities to resolve the inevitable con-

flicts between the various improvement goals, such as those between accuracy and timeliness. The resulting recommendations focus on proposals that address well-known measurement errors, that are in areas important to public policy, that are cost-effective, and that can generally be completed in a reasonable period of time.

Based on the working group's recommendations, the President has approved a multi-year initiative to improve economic statistics:

- This initiative will build on the data improvement efforts already underway at the statistical agencies. Wherever possible it will complement ongoing plans for improvement by reprioritizing, using alternative methods, or revising the existing timetable for improvements.
- The President has approved the initial set of recommendations developed by a working group. These recommendations include both short- and long-term improvements, and focus on the most important steps required to maintain and improve the "core" economic statistics in three major areas of policy concern: a) productivity, output, and prices; b) investment, saving, and wealth, and; c) employment, income, and poverty.
- The statistical agencies have reprogrammed funds during fiscal 1990 to address the priorities identified by the working group, and the relevant agencies are currently developing specific plans to implement the working group's improvements.
- The fiscal 1991 budgets for the relevant statistical agencies include additional funds to begin to implement some of the recommendations.
- The statistical agencies will report back to the working group with their detailed plans to implement its recommendations.
- The working group will develop a comprehensive long-term program to improve the economic statistics. In addition to developing options to fully implement the working group recommendations made to date, the program will consider organizational, methodological, and other overall improvements, as well as the resources required to implement them. It will present options to the Economic Policy Council for possible recommendations to the President.

As the Administration proceeds with this initiative, it will continue to work in close cooperation with the Congress, the private sector, international organizations, and the community of data users.



**Appendix C**  
**STATISTICAL TABLES RELATING TO INCOME,**  
**EMPLOYMENT, AND PRODUCTION**



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#### General Notes

Detail in these tables may not add to totals because of rounding.

Unless otherwise noted, all dollar figures are in current dollars.

Symbols used:

<sup>p</sup>Preliminary.

—Not available (also, not applicable).

Data in these tables reflect revisions made by the source agencies from January 1989 through January 1990.

# NATIONAL INCOME OR EXPENDITURE

TABLE C-1.—*Gross national product, 1929-89*

(Billions of dollars, except as noted; quarterly data at seasonally adjusted annual rates)

Year or quarter	Gross national product	Personal consumption expenditures				Gross private domestic investment						Change in business inventories
		Total	Durable goods	Non-durable goods	Services	Total	Fixed investment					
							Total	Nonresidential		Residential		
								Total	Structures		Producers' durable equipment	
1929.....	103.9	77.3	9.2	37.7	30.4	16.7	14.9	11.0	5.5	5.5	4.0	1.7
1933.....	56.0	45.8	3.5	22.3	20.1	1.6	3.1	2.5	1.1	1.4	.6	-1.6
1939.....	91.3	67.0	6.7	35.1	25.2	9.5	9.1	6.1	2.2	3.9	3.0	4.4
1940.....	100.4	71.0	7.8	37.0	26.2	13.4	11.2	7.7	2.6	5.2	3.5	2.2
1941.....	125.5	80.8	9.7	42.9	28.3	18.3	13.8	9.7	3.3	6.4	4.1	4.5
1942.....	159.0	88.6	6.9	50.8	31.0	10.3	8.5	6.3	2.2	4.1	2.2	1.8
1943.....	192.7	99.5	6.5	58.6	34.3	6.2	6.9	5.4	1.8	3.7	1.4	-6
1944.....	211.4	108.2	6.7	64.3	37.2	7.7	8.7	7.4	2.4	5.0	1.4	-1.0
1945.....	213.4	119.6	8.0	71.9	39.7	11.3	12.3	10.6	3.3	7.3	1.7	-1.0
1946.....	212.4	143.9	15.8	82.7	45.4	31.5	25.1	17.3	7.4	9.9	7.8	6.4
1947.....	235.2	161.9	20.4	90.9	50.6	35.0	35.5	23.5	8.1	15.3	12.1	-5
1948.....	261.6	174.9	22.9	96.6	55.5	47.1	42.4	26.8	9.5	17.3	15.6	4.7
1949.....	260.4	178.3	25.0	94.9	58.4	36.5	39.5	24.9	9.2	15.7	14.6	-3.1
1950.....	288.3	192.1	30.8	98.2	63.2	55.1	48.3	27.8	10.0	17.8	20.5	6.8
1951.....	333.4	208.1	29.9	109.2	69.0	60.5	50.2	31.8	11.9	19.9	18.4	10.2
1952.....	351.6	219.1	29.3	114.7	75.1	53.5	50.5	31.9	12.2	19.7	18.6	3.1
1953.....	371.6	232.6	32.7	117.8	82.1	54.9	54.5	35.1	13.6	21.5	19.4	4
1954.....	372.5	239.8	32.1	119.7	88.0	54.1	55.7	34.7	13.9	20.8	21.1	-1.6
1955.....	405.9	257.9	38.9	124.7	94.3	69.7	64.0	39.0	15.2	23.9	25.0	5.7
1956.....	428.2	270.6	38.2	130.8	101.6	72.7	68.0	44.5	18.2	26.3	23.5	4.6
1957.....	451.0	285.3	39.7	137.1	108.5	71.1	69.7	47.5	18.9	28.6	22.2	1.4
1958.....	456.8	294.6	37.2	141.7	115.7	63.6	65.1	42.4	17.5	24.9	22.7	-1.5
1959.....	495.8	316.3	42.8	148.5	125.0	80.2	74.4	46.3	18.0	28.3	28.1	5.8
1960.....	515.3	330.7	43.5	153.2	134.0	78.2	75.1	48.8	19.2	29.7	26.3	3.1
1961.....	533.8	341.1	41.9	157.4	141.8	77.1	74.7	48.3	19.4	28.9	26.4	2.4
1962.....	574.6	361.9	47.0	163.8	151.1	87.6	81.5	52.5	20.5	32.1	29.0	6.1
1963.....	606.9	381.7	51.8	169.4	160.6	93.1	87.3	55.2	20.8	34.4	32.1	5.8
1964.....	649.8	409.3	56.8	179.7	172.8	99.6	94.2	61.4	22.7	38.7	32.8	5.4
1965.....	705.1	440.7	63.5	191.9	185.4	116.2	106.2	73.1	27.4	45.8	33.1	9.9
1966.....	772.0	477.3	68.5	208.5	200.3	128.6	114.4	83.5	30.5	53.0	30.9	14.2
1967.....	816.4	503.6	70.6	216.9	216.0	125.7	115.4	84.4	30.7	53.7	31.1	10.3
1968.....	892.7	552.5	81.0	235.0	236.4	130.0	129.1	91.4	32.9	58.5	37.7	7.9
1969.....	963.9	597.9	86.2	252.2	259.4	153.2	143.3	102.3	37.1	65.2	41.2	9.8
1970.....	1,015.5	640.0	85.7	270.3	284.0	148.8	145.7	105.2	39.2	66.1	40.5	3.1
1971.....	1,102.7	691.6	97.6	283.3	310.7	172.5	164.7	109.6	40.9	67.7	55.1	7.8
1972.....	1,212.8	757.6	111.2	305.1	341.3	202.0	191.5	123.0	44.5	78.5	68.6	10.5
1973.....	1,359.3	837.2	124.7	339.6	373.0	238.8	219.2	145.9	51.4	94.5	73.3	19.6
1974.....	1,472.8	916.5	123.8	380.9	411.9	240.8	225.4	160.6	57.0	103.6	64.8	15.4
1975.....	1,598.4	1,012.8	135.4	416.2	461.2	219.6	225.2	162.9	56.3	106.6	62.3	-5.6
1976.....	1,782.8	1,129.3	161.5	452.0	515.9	277.7	261.7	180.0	60.1	119.9	81.7	16.0
1977.....	1,990.5	1,257.2	184.5	490.4	582.3	344.1	322.8	214.2	66.7	147.4	108.6	21.3
1978.....	2,249.7	1,403.5	205.6	541.8	656.1	416.8	388.2	259.0	81.0	178.0	129.2	28.6
1979.....	2,508.2	1,566.8	219.0	613.2	734.6	454.8	441.9	302.8	95.5	203.3	139.1	13.0
1980.....	2,732.0	1,732.6	219.3	681.4	831.9	437.0	445.3	322.8	113.9	208.9	122.5	-8.3
1981.....	3,052.6	1,915.1	239.9	740.6	934.7	515.5	491.5	369.2	138.5	230.7	122.3	24.0
1982.....	3,166.0	2,050.7	252.7	771.0	1,027.0	447.3	471.8	366.7	143.3	232.4	105.1	-24.5
1983.....	3,405.7	2,234.5	289.1	816.7	1,128.7	502.3	509.4	356.9	124.0	232.8	152.5	-7.1
1984.....	3,772.2	2,430.5	335.5	867.3	1,227.6	664.8	597.1	416.0	141.1	274.9	181.1	67.7
1985.....	4,014.9	2,629.0	372.2	911.2	1,345.6	643.1	631.8	442.9	153.2	289.7	188.8	11.3
1986.....	4,231.6	2,797.4	406.0	942.0	1,449.5	659.4	652.5	435.2	139.0	296.2	217.3	6.9
1987.....	4,524.3	3,010.8	421.0	998.1	1,591.7	699.9	670.6	444.3	133.8	310.5	226.4	29.3
1988.....	4,880.6	3,235.1	455.2	1,052.3	1,727.6	750.3	719.6	487.2	140.3	346.8	232.4	30.6
1989.....	5,233.2	3,470.3	473.6	1,122.6	1,874.1	777.1	747.7	512.5	145.1	367.4	235.2	29.4
1982: IV.....	3,212.5	2,117.0	263.8	786.6	1,066.5	409.6	469.5	354.9	137.6	217.3	114.7	-59.9
1983: I.....	3,545.8	2,315.8	310.0	837.9	1,167.9	579.8	548.8	383.9	127.4	256.5	164.9	31.0
1984: I.....	3,851.8	2,493.4	346.7	879.6	1,267.1	661.8	616.8	435.0	146.6	288.4	181.8	45.0
1985: IV.....	4,107.9	2,700.4	373.2	932.7	1,394.5	654.1	648.8	451.3	155.9	295.5	195.5	7.2
1986: IV.....	4,297.3	2,868.5	402.0	952.1	1,494.4	648.8	660.9	435.8	133.7	302.2	225.1	-12.2
1987: I.....	4,388.8	2,914.7	422.2	976.4	1,537.1	673.1	647.7	423.9	129.4	294.5	223.8	25.4
1987: II.....	4,475.9	2,989.4	419.2	994.3	1,575.8	684.1	665.3	437.5	129.5	308.0	227.9	18.8
1987: III.....	4,566.6	3,053.9	439.3	1,006.0	1,610.6	692.8	683.2	457.0	137.3	315.8	226.2	9.5
1987: IV.....	4,665.8	3,083.3	424.5	1,015.4	1,643.3	749.7	686.3	458.6	138.9	319.7	227.7	63.3
1988: I.....	4,739.8	3,148.1	446.4	1,022.2	1,679.5	728.8	698.7	472.7	137.1	335.6	226.1	30.0
1988: II.....	4,838.5	3,204.9	454.6	1,042.4	1,707.9	748.4	719.1	487.1	139.9	347.2	232.1	29.3
1988: III.....	4,926.9	3,263.4	452.5	1,066.2	1,744.7	771.1	726.5	493.2	142.0	351.3	233.2	44.6
1988: IV.....	5,017.3	3,324.0	467.4	1,078.4	1,778.2	752.8	734.1	495.8	142.5	353.3	238.4	18.7
1989: I.....	5,113.1	3,381.4	466.4	1,098.3	1,816.7	769.6	742.0	503.1	144.7	358.5	238.8	27.4
1989: II.....	5,201.7	3,444.1	471.0	1,121.5	1,851.7	775.0	747.6	512.5	142.4	370.1	235.1	27.7
1989: III.....	5,281.0	3,508.1	486.1	1,131.4	1,890.6	779.1	751.7	519.6	146.2	373.4	232.1	27.4
1989: IV.....	5,337.0	3,547.5	471.0	1,139.1	1,937.5	784.8	749.6	514.8	147.1	367.7	234.8	35.2

See next page for continuation of table.

TABLE C-1.—Gross national product, 1929-89—Continued

[Billions of dollars, except as noted; quarterly data at seasonally adjusted annual rates]

Year or quarter	Net exports of goods and services			Government purchases of goods and services				Final sales	Gross domestic purchases <sup>1</sup>	Percent change from preceding period			
	Net exports	Exports	Imports	Total	Federal					State and local	Gross national product	Final sales	Gross domestic purchases <sup>1</sup>
					Total	National defense	Non-defense						
1929	1.1	7.1	5.9	8.9	1.5			7.4	102.2	102.8			
1933	.4	2.4	2.1	8.3	2.2			6.1	57.6	55.7	-4.2	-5.5	
1939	1.2	4.6	3.4	13.6	5.2	1.3	3.9	8.3	90.9	90.1	7.0	5.4	
1940	1.8	5.4	3.7	14.2	6.1	2.3	3.9	8.1	98.3	98.7	10.0	8.1	
1941	1.5	6.1	4.7	25.0	17.0	13.8	3.2	8.0	121.0	124.1	25.0	23.2	
1942	.2	5.0	4.8	59.9	52.0	49.4	2.6	7.8	157.2	158.8	26.6	29.9	
1943	-1.9	4.6	6.5	88.9	81.4	79.8	1.6	7.5	193.4	194.6	21.2	23.0	
1944	-1.7	5.5	7.2	97.1	89.4	87.5	2.0	7.6	212.3	213.0	9.7	9.8	
1945	.5	7.4	7.9	83.0	74.8	73.7	1.1	8.2	214.4	213.9	.9	1.0	
1946	.7	15.2	7.3	29.1	19.2	16.4	2.8	9.9	206.0	204.5	-5	-3.9	
1947	11.9	20.3	8.3	26.4	13.6	10.0	3.6	12.8	235.7	223.3	10.8	14.4	
1948	7.0	17.5	10.6	32.6	17.3	11.3	6.0	15.3	256.9	254.7	11.2	9.0	
1949	6.5	16.4	9.8	39.0	21.1	13.9	7.2	18.0	263.4	253.8	-5	2.5	
1950	2.2	14.5	12.3	38.8	19.1	14.3	4.7	19.8	281.4	286.0	10.7	6.8	
1951	4.5	19.8	15.3	60.4	38.6	33.8	4.8	21.8	323.2	329.0	15.7	14.8	
1952	3.2	19.2	16.0	75.8	52.7	46.2	6.5	23.1	348.6	348.4	5.5	7.9	
1953	1.3	18.1	16.8	82.8	57.9	49.0	8.9	24.8	371.1	370.3	5.7	6.5	
1954	2.6	18.8	16.3	76.0	48.4	41.6	6.8	27.7	374.1	370.0	.2	.8	
1955	3.0	21.1	18.1	75.3	44.9	39.0	6.0	30.3	400.2	402.9	9.0	7.0	
1956	5.3	25.2	19.9	79.7	46.4	40.7	5.7	33.3	423.6	422.9	5.5	5.8	
1957	7.3	28.2	20.9	87.3	50.5	44.6	5.9	36.9	449.6	443.7	5.3	6.1	
1958	3.3	24.4	21.1	95.4	54.5	46.3	8.3	40.8	458.3	453.5	1.3	1.9	
1959	1.5	25.0	23.5	97.9	54.6	46.4	8.2	43.3	490.0	494.3	8.5	6.9	
1960	5.9	29.9	24.0	100.6	54.4	45.3	9.2	46.1	512.3	509.4	3.9	4.6	
1961	7.2	31.1	23.0	108.4	58.2	47.9	10.2	50.2	531.4	526.6	3.6	3.7	
1962	6.9	33.1	26.2	118.2	64.6	52.1	12.6	53.5	568.5	567.7	7.6	7.0	
1963	8.2	35.7	27.5	123.8	65.7	51.5	14.2	58.1	601.1	598.7	5.6	5.7	
1964	10.9	40.5	29.6	130.0	66.4	50.4	16.0	63.5	644.4	638.9	7.1	7.2	
1965	9.7	42.9	33.2	138.6	68.7	51.0	17.7	69.9	695.2	695.4	8.5	7.9	
1966	7.5	46.6	39.1	158.6	80.4	62.0	18.3	78.2	757.8	764.5	9.5	9.0	
1967	7.4	49.5	42.1	179.7	92.7	73.4	19.3	87.0	806.1	809.0	5.8	6.4	
1968	5.5	54.8	49.3	197.7	100.1	79.1	21.0	97.6	884.8	887.2	9.3	9.8	
1969	5.6	60.4	54.7	207.3	100.0	78.9	21.1	107.2	954.1	958.3	8.0	7.8	
1970	8.5	68.9	60.5	218.2	98.8	76.8	22.0	119.4	1,012.3	1,007.0	5.4	6.1	
1971	6.3	72.4	66.1	232.4	99.8	74.1	25.8	132.5	1,094.9	1,096.4	8.6	8.2	
1972	3.2	81.4	78.2	250.0	105.8	77.4	28.4	144.2	1,202.3	1,209.6	10.0	9.8	
1973	16.8	114.1	97.3	266.5	106.4	77.5	28.9	160.1	1,339.7	1,342.5	12.1	11.4	
1974	16.3	151.5	135.2	299.1	116.2	82.6	33.6	182.9	1,457.4	1,456.5	8.3	8.8	
1975	31.1	161.3	130.3	335.0	129.2	89.6	39.6	205.9	1,604.1	1,567.4	8.5	10.1	
1976	18.8	177.7	158.9	356.9	136.3	93.4	42.9	220.6	1,766.8	1,764.0	11.5	10.1	
1977	1.9	191.6	189.7	387.3	151.1	100.9	50.3	236.2	1,969.2	1,988.6	11.7	11.5	
1978	4.1	227.5	223.4	425.2	161.8	108.9	52.9	263.4	2,221.0	2,245.6	13.0	12.8	
1979	18.8	291.2	272.5	467.8	178.0	121.9	56.1	289.9	2,495.2	2,489.4	11.5	12.3	
1980	32.1	351.0	318.9	530.3	208.1	142.7	65.4	322.2	2,740.3	2,699.8	8.9	9.8	
1981	33.9	382.8	348.9	588.1	242.2	167.5	74.8	345.9	3,028.6	3,018.7	11.7	10.5	
1982	26.3	361.9	335.6	641.7	272.7	193.8	78.9	369.0	3,190.5	3,139.7	3.7	5.3	
1983	-6.1	352.5	358.7	675.0	283.5	214.4	69.1	391.5	3,412.8	3,411.8	7.6	7.0	
1984	-58.9	383.5	442.4	735.9	310.5	234.3	76.2	425.3	3,704.5	3,831.1	10.8	8.5	
1985	-78.0	370.9	448.9	820.8	355.2	259.1	96.0	465.6	4,003.6	4,092.8	6.4	8.1	
1986	-97.4	396.5	493.8	872.2	366.5	277.8	88.7	505.7	4,224.8	4,329.0	5.4	5.5	
1987	-112.6	448.6	561.2	926.1	381.6	294.8	86.8	544.5	4,495.0	4,636.8	6.9	6.4	
1988	-73.7	547.7	621.3	968.9	381.3	298.0	83.3	587.6	4,850.0	4,954.3	7.9	7.9	
1989	-50.9	624.4	675.2	1,036.7	404.1	302.8	101.3	632.5	5,203.8	5,284.1	7.2	7.3	
1982: IV	14.1	335.9	321.9	671.8	293.2	205.4	87.7	378.7	3,272.4	3,198.5	4.2	11.0	
1983: I	-25.8	364.7	390.5	676.1	276.1	221.5	54.6	400.0	3,514.8	3,571.6	12.4	7.8	
1984: IV	-67.9	385.7	453.6	764.5	326.0	244.1	81.9	438.5	3,806.8	3,919.7	4.7	7.0	
1985: IV	-103.2	369.2	472.4	856.7	376.6	268.6	108.0	480.1	4,100.7	4,211.2	6.2	5.5	
1986: IV	-108.9	402.4	511.3	888.9	368.8	280.7	88.1	520.1	4,309.4	4,406.2	4.2	4.7	
1987: I	-106.0	416.5	522.5	906.9	375.6	288.0	87.5	531.4	4,363.4	4,494.8	8.8	5.1	
II	-114.4	437.4	551.8	916.8	378.2	294.0	84.2	538.6	4,457.1	4,590.3	8.2	8.9	
III	-115.3	458.0	573.4	933.2	384.5	300.2	84.3	548.7	4,557.1	4,681.9	8.4	9.3	
IV	-114.6	482.6	597.2	947.5	388.1	296.8	91.3	559.4	4,602.5	4,780.4	9.0	4.0	
1988: I	-82.8	521.6	604.3	945.7	374.1	297.4	76.7	571.6	4,709.8	4,822.5	6.5	9.7	
II	-74.9	532.5	607.5	960.1	377.1	298.0	79.1	583.0	4,809.2	4,913.4	8.6	8.7	
III	-66.2	556.8	623.0	958.6	367.5	296.1	71.4	591.0	4,882.3	4,993.1	7.5	6.2	
IV	-70.8	579.7	650.5	1,011.4	406.4	300.5	105.9	604.9	4,998.7	5,088.1	7.5	9.9	
1989: I	-54.0	605.6	659.6	1,016.0	399.0	298.7	100.4	617.0	5,085.4	5,167.1	7.9	7.1	
II	-50.6	626.1	676.6	1,033.2	406.0	301.3	104.7	627.2	5,174.3	5,252.3	7.1	7.2	
III	-45.1	628.5	673.6	1,038.9	402.7	307.8	94.9	636.2	5,253.6	5,326.1	6.2	6.3	
IV	-53.8	637.3	691.1	1,058.6	408.8	303.4	105.4	649.8	5,301.8	5,390.9	4.3	3.7	

<sup>1</sup> Gross national product (GNP) less exports of goods and services plus imports of goods and services.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE C-2.—Gross national product in 1982 dollars, 1929-89

(Billions of 1982 dollars, except as noted; quarterly data at seasonally adjusted annual rates)

Year or quarter	Gross national product	Personal consumption expenditures				Gross private domestic investment							Change in business inventories
		Total	Durable goods	Non-durable goods	Services	Total	Fixed investment				Residential		
							Total	Structures	Producers' durable equipment	Nonresidential			
1929.....	709.6	471.4	40.3	211.4	219.7	139.2	128.4	93.0	54.7	38.4	35.4	10.8	
1933.....	498.5	378.7	20.7	181.8	176.2	22.7	33.5	25.8	14.3	11.5	7.7	-10.7	
1939.....	716.6	480.5	35.7	248.0	196.7	86.0	82.1	53.2	25.2	28.0	28.9	3.9	
1940.....	772.9	502.6	40.6	259.4	202.7	111.8	97.4	65.0	28.5	36.5	32.5	14.4	
1941.....	909.4	531.1	46.2	275.6	209.3	138.8	111.1	76.6	33.4	43.2	34.4	27.8	
1942.....	1,080.3	527.6	31.3	279.1	217.2	76.7	64.7	47.4	20.9	26.5	17.3	12.0	
1943.....	1,276.2	539.9	28.1	284.7	227.2	50.4	49.7	39.4	15.6	23.8	10.4	-7	
1944.....	1,380.6	557.1	26.3	297.9	232.9	56.4	61.6	52.6	20.4	32.1	9.0	-5.2	
1945.....	1,354.8	592.7	28.7	323.5	240.5	76.5	84.9	74.2	27.0	47.2	10.7	-8.4	
1946.....	1,096.9	655.0	47.8	344.2	262.9	178.1	150.2	105.5	50.9	54.7	44.7	27.9	
1947.....	1,066.7	666.6	56.5	337.4	272.6	177.9	178.9	121.7	47.5	74.2	57.2	-1.0	
1948.....	1,108.7	681.8	61.7	338.7	281.4	208.2	196.0	127.4	50.5	76.9	68.6	12.3	
1949.....	1,109.0	695.4	67.8	342.3	285.3	168.8	178.4	114.8	49.3	65.5	63.6	-9.7	
1950.....	1,203.7	733.2	80.7	352.8	299.8	234.9	210.8	124.0	52.8	71.2	86.7	24.2	
1951.....	1,328.2	748.7	74.7	362.9	311.1	235.2	204.3	131.7	56.5	75.2	72.6	30.8	
1952.....	1,380.0	771.4	73.0	376.6	321.9	211.8	201.8	130.6	57.3	73.3	71.2	10.0	
1953.....	1,435.3	802.5	80.2	388.2	334.1	216.6	213.8	140.1	62.3	77.7	73.8	2.8	
1954.....	1,416.2	822.7	81.5	393.8	347.4	212.6	217.3	137.5	64.9	72.7	79.8	-4.8	
1955.....	1,494.9	873.8	96.9	413.2	363.6	259.8	243.5	151.0	69.4	81.7	92.4	16.3	
1956.....	1,525.6	899.8	92.8	426.9	380.1	257.8	244.9	160.4	75.5	84.9	84.4	12.9	
1957.....	1,551.1	919.7	92.4	434.7	392.6	243.4	240.4	161.1	75.2	85.9	79.3	3.0	
1958.....	1,539.2	932.9	86.9	439.9	406.1	221.4	224.8	143.9	70.6	73.3	81.0	-3.4	
1959.....	1,629.1	979.4	96.9	455.8	426.7	270.3	253.8	153.6	71.9	81.7	100.2	16.5	
1960.....	1,665.3	1,005.1	98.0	463.3	443.9	260.5	252.7	159.4	76.1	83.3	93.3	7.7	
1961.....	1,708.7	1,025.2	93.6	470.1	461.4	259.1	251.8	158.2	77.7	80.5	93.6	7.3	
1962.....	1,799.4	1,069.0	103.0	484.2	481.8	288.6	272.4	170.2	81.3	88.9	102.2	16.6	
1963.....	1,873.3	1,108.4	111.8	494.3	502.3	307.1	290.5	176.6	81.6	95.1	113.9	16.2	
1964.....	1,973.3	1,170.6	120.8	517.5	532.3	325.9	310.2	194.9	87.9	107.0	115.3	15.7	
1965.....	2,087.6	1,236.4	134.6	543.2	558.5	367.0	341.8	227.6	101.8	125.8	114.2	25.2	
1966.....	2,208.3	1,298.9	144.4	569.3	585.3	390.5	353.7	250.4	108.0	142.4	103.2	36.9	
1967.....	2,271.4	1,337.7	146.2	579.2	612.3	374.4	345.6	245.0	105.4	139.6	100.6	28.8	
1968.....	2,365.6	1,405.9	161.6	602.4	641.8	391.8	370.7	254.5	108.0	146.5	116.2	21.0	
1969.....	2,423.3	1,456.7	167.8	617.2	671.7	410.3	380.1	269.7	112.9	156.8	115.4	25.1	
1970.....	2,416.2	1,492.0	162.5	632.5	697.0	381.5	373.3	264.0	111.1	152.9	109.3	8.2	
1971.....	2,484.8	1,538.8	178.3	640.3	720.2	419.3	399.7	258.4	107.3	151.0	141.3	19.6	
1972.....	2,608.5	1,621.9	200.4	665.5	756.0	465.4	443.7	277.0	109.5	167.5	166.6	21.8	
1973.....	2,744.1	1,689.6	220.3	683.2	786.1	520.8	480.8	317.3	117.7	199.6	163.4	40.0	
1974.....	2,729.3	1,674.0	204.9	666.1	803.1	481.3	448.0	317.8	115.2	202.7	130.2	33.3	
1975.....	2,695.0	1,711.9	205.6	676.5	829.8	383.3	396.1	282.2	102.8	178.4	114.9	-12.8	
1976.....	2,826.7	1,803.9	232.3	708.8	862.8	453.5	431.4	290.6	104.4	186.2	140.8	22.1	
1977.....	2,958.6	1,883.8	253.9	731.4	898.5	521.3	492.2	324.0	108.3	215.7	168.1	29.1	
1978.....	3,115.2	1,961.0	267.4	753.7	939.8	576.9	540.2	362.1	119.3	242.8	178.0	36.8	
1979.....	3,192.4	2,004.4	266.5	766.6	971.2	575.2	560.2	389.4	130.6	258.8	170.8	15.0	
1980.....	3,187.1	2,000.4	245.9	762.6	991.9	509.3	516.2	379.2	136.2	243.0	137.0	-6.9	
1981.....	3,248.8	2,024.2	250.8	764.4	1,009.0	545.5	521.7	395.2	148.8	246.4	126.5	23.9	
1982.....	3,166.0	2,050.7	252.7	771.0	1,027.0	447.3	471.8	366.7	143.3	223.4	105.1	-24.5	
1983.....	3,279.1	2,146.0	283.1	800.2	1,062.7	504.0	510.4	361.2	127.2	233.9	149.3	-6.4	
1984.....	3,501.4	2,249.3	323.1	825.9	1,100.3	658.4	596.1	425.2	143.8	281.4	170.9	62.3	
1985.....	3,618.7	2,354.8	355.1	847.4	1,152.3	637.0	627.9	453.5	149.5	304.0	174.4	9.1	
1986.....	3,717.9	2,446.4	384.4	878.1	1,183.8	639.6	634.1	438.4	130.1	308.3	195.7	5.6	
1987.....	3,853.7	2,513.7	389.6	890.4	1,233.7	674.0	650.3	455.5	122.3	333.2	194.8	23.7	
1988.....	4,024.4	2,598.4	413.6	904.5	1,280.2	715.8	687.9	493.8	122.2	371.6	194.1	27.9	
1989 P.....	4,142.6	2,658.5	425.6	915.7	1,327.2	724.5	700.0	511.1	120.1	391.0	188.9	24.5	
1982: IV.....	3,159.3	2,078.7	262.0	778.6	1,038.1	408.8	468.1	352.3	138.3	214.1	115.8	-59.3	
1983: I.....	3,365.1	2,191.9	300.5	812.7	1,078.6	577.2	550.3	390.4	131.6	258.8	159.9	27.0	
1984: IV.....	3,535.2	2,281.1	333.1	831.2	1,116.8	655.7	614.0	444.4	147.1	297.3	169.6	41.7	
1985: I.....	3,662.4	2,386.9	356.4	858.3	1,172.2	648.0	640.4	460.9	149.9	311.1	179.4	7.7	
1986: IV.....	3,733.6	2,477.8	397.5	883.5	1,196.8	615.2	636.0	435.7	123.4	312.3	200.3	-20.8	
1987: I.....	3,783.0	2,478.3	376.1	887.7	1,214.5	646.3	628.2	430.9	120.1	310.7	197.3	18.1	
II.....	3,823.5	2,507.7	389.3	889.0	1,229.5	656.7	643.4	445.6	117.7	327.9	197.8	13.3	
III.....	3,872.8	2,536.5	403.8	891.8	1,240.9	671.7	664.9	472.8	125.5	347.3	192.1	6.8	
IV.....	3,935.6	2,562.3	389.4	892.9	1,250.0	721.1	664.6	472.7	125.7	347.0	191.9	56.6	
1988: I.....	3,974.8	2,570.8	408.4	896.6	1,265.9	707.0	672.7	483.6	121.8	361.8	189.1	24.3	
II.....	4,010.7	2,586.8	414.8	899.2	1,272.8	713.5	692.0	497.8	122.5	375.3	194.2	31.5	
III.....	4,042.7	2,608.1	410.7	910.3	1,287.0	733.6	696.1	501.0	123.0	378.0	195.1	37.5	
IV.....	4,069.4	2,627.7	420.5	912.0	1,295.2	709.1	690.8	492.7	121.4	371.3	198.1	18.3	
1989: I.....	4,106.8	2,641.0	419.3	915.0	1,306.7	721.1	696.6	501.0	121.1	379.9	195.6	24.5	
II.....	4,132.5	2,653.7	424.9	909.7	1,319.0	719.8	700.7	511.4	118.1	393.2	189.3	19.1	
III.....	4,162.9	2,690.1	436.4	920.8	1,332.9	724.6	702.7	517.9	120.4	397.6	184.8	21.9	
IV P.....	4,168.1	2,689.3	421.6	917.5	1,350.3	732.7	700.1	514.0	120.8	393.3	186.0	32.6	

See next page for continuation of table.

TABLE C-2.—Gross national product in 1982 dollars, 1929-89—Continued

(Billions of 1982 dollars, except as noted; quarterly data at seasonally adjusted annual rates)

Year or quarter	Net exports of goods and services			Government purchases of goods and services					Final sales	Gross domestic purchases <sup>1</sup>	Percent change from preceding period		
	Net exports	Exports	Imports	Total	Federal			State and local			Gross national product	Final sales	Gross domestic purchases <sup>1</sup>
					Total	National defense	Non-defense						
1929	4.7	42.1	37.4	94.2	18.3			75.9	698.7	704.9			
1933	-1.4	22.7	24.2	98.5	27.0			71.5	509.2	499.9	-2.1	-3.1	-1.9
1939	6.1	36.2	30.1	144.1	53.8			90.3	712.7	710.5	7.9	6.3	7.9
1940	8.2	40.0	31.7	150.2	63.6			86.6	758.5	764.6	7.8	6.4	7.6
1941	3.9	42.0	38.2	235.6	153.0			82.6	881.6	905.5	17.7	16.2	18.4
1942	-7.7	29.1	36.9	483.7	407.1			76.7	1,068.3	1,088.0	18.8	21.2	20.1
1943	-23.0	25.1	48.0	708.9	638.1			70.8	1,275.5	1,299.2	18.1	19.4	19.4
1944	-23.8	27.3	51.1	790.8	722.5			68.3	1,385.7	1,404.3	8.2	8.6	8.1
1945	-18.9	35.2	54.1	704.5	634.0			70.5	1,363.3	1,373.7	-1.9	1.6	-2.2
1946	27.0	69.0	42.0	236.9	159.3			77.6	1,069.0	1,069.9	-19.0	-21.6	-22.1
1947	42.4	82.3	39.9	179.8	91.9			87.9	1,067.7	1,024.3	-2.8	-1.1	-4.3
1948	19.2	66.2	47.1	199.5	106.1			93.4	1,096.4	1,089.5	3.9	2.7	6.4
1949	18.8	65.0	46.2	226.0	119.5			106.5	1,118.7	1,090.2	0	2.0	1
1950	4.7	59.2	54.6	230.8	116.7			114.2	1,179.5	1,199.0	8.5	5.4	10.0
1951	14.6	72.0	57.4	329.7	214.4			115.4	1,297.4	1,313.6	10.3	10.0	9.6
1952	6.9	70.1	63.3	389.9	272.7			117.3	1,370.0	1,373.1	3.9	5.6	4.5
1953	-2.7	66.9	69.7	419.0	295.9			123.1	1,432.5	1,438.0	4.0	4.6	4.7
1954	2.5	70.0	67.5	378.4	245.0			133.4	1,421.0	1,413.7	-1.3	-0.8	-1.7
1955	0	76.9	76.9	361.3	217.9			143.4	1,478.6	1,494.9	5.6	4.1	5.7
1956	4.3	87.9	83.6	363.7	215.4			148.3	1,512.7	1,521.3	2.1	2.3	1.8
1957	7.0	94.9	87.9	381.1	224.1			157.0	1,548.1	1,544.2	1.7	2.3	1.5
1958	-10.3	82.4	92.8	395.3	224.9			170.4	1,542.6	1,549.6	-0.8	-4	4
1959	-18.2	83.7	101.9	397.7	221.5			176.2	1,612.6	1,647.3	5.8	4.5	6.3
1960	-4.0	98.4	102.4	403.7	220.6			183.1	1,657.5	1,669.3	2.2	2.8	1.3
1961	-2.7	100.7	103.3	427.1	232.9			192.1	1,701.4	1,711.3	2.6	2.6	2.5
1962	-7.5	106.9	114.4	449.4	249.3			200.1	1,783.3	1,807.0	5.3	4.8	5.6
1963	-1.9	114.7	116.6	458.8	247.8			212.0	1,856.7	1,875.3	4.1	4.1	3.8
1964	5.9	128.8	122.8	470.8	244.2			226.6	1,957.6	1,967.3	5.3	5.4	4.9
1965	-2.7	132.0	134.7	487.0	244.4			242.5	2,062.4	2,090.3	5.8	5.4	6.3
1966	-13.7	138.4	152.1	532.6	273.8			258.8	2,171.5	2,222.1	5.8	5.3	6.3
1967	-16.9	143.6	160.5	576.2	304.4			271.8	2,242.6	2,288.3	2.9	3.3	3.0
1968	-29.7	155.7	185.3	597.6	309.6			288.0	2,344.6	2,395.3	4.1	4.5	4.7
1969	-34.9	165.0	199.9	591.2	295.6			296.0	2,398.1	2,458.1	2.4	2.3	2.6
1970	-30.0	178.3	208.3	572.6	268.3			304.3	2,407.9	2,446.2	-3	4	-5
1971	-39.8	179.2	218.5	566.5	250.6			315.9	2,465.2	2,524.6	2.8	2.4	3.2
1972	-49.4	195.2	244.6	570.7	246.0	185.3	60.7	324.7	2,586.8	2,658.0	5.0	4.9	5.3
1973	-31.5	242.2	273.6	565.3	230.1	171.0	59.1	335.3	2,704.1	2,775.7	5.2	4.5	4.4
1974	8	269.1	268.4	568.4	226.4	163.3	62.1	346.8	2,696.0	2,728.5	-5	-3	-1.7
1975	18.9	259.7	240.8	580.9	226.3	161.1	65.2	354.6	2,707.8	2,676.1	-1.3	4	-1.9
1976	-11.0	274.4	285.4	580.3	224.2	157.5	66.8	356.0	2,804.6	2,837.7	4.9	3.6	6.0
1977	-35.5	281.6	317.1	589.1	231.8	159.2	72.7	357.2	2,929.5	2,929.1	4.7	4.5	5.5
1978	-26.8	312.6	339.4	604.1	233.7	160.7	73.0	370.4	3,078.4	3,142.0	5.3	5.1	4.9
1979	3.6	356.8	353.2	609.1	236.2	164.3	71.9	373.0	3,177.4	3,188.8	2.5	3.2	1.5
1980	57.0	388.9	332.0	620.5	246.9	171.2	75.7	373.6	3,194.0	3,130.1	-2	5	-1.8
1981	49.4	392.7	343.4	629.7	259.6	180.3	79.3	370.1	3,225.0	3,199.4	1.9	1.0	2.2
1982	26.3	361.9	335.6	641.7	272.7	193.8	78.9	369.0	3,190.5	3,139.7	-2.5	-1.1	-1.9
1983	-19.9	348.1	368.1	649.0	275.1	206.9	68.2	373.9	3,285.5	3,299.1	3.6	3.0	5.1
1984	84.0	371.8	455.8	677.7	290.8	218.5	72.3	387.0	3,439.1	3,585.4	6.8	4.7	8.7
1985	-104.3	367.2	471.4	731.2	326.0	237.2	88.8	405.2	3,609.6	3,723.0	3.4	5.0	3.8
1986	-129.7	397.1	526.9	761.6	334.1	252.1	101.0	427.5	3,712.4	3,847.6	2.7	2.8	3.3
1987	-115.7	450.9	566.6	781.8	339.6	265.2	74.4	442.1	3,830.0	3,969.4	3.7	3.2	3.2
1988	-74.9	530.1	605.0	785.1	328.9	261.5	67.4	456.2	3,996.5	4,099.3	4.4	4.3	3.3
1989 P	-56.3	587.6	643.9	805.8	337.2	256.2	81.0	468.6	4,118.1	4,198.9	2.9	3.0	2.4
1982: IV	11.7	336.0	324.3	660.1	289.5	201.4	88.2	370.6	3,218.6	3,147.6	6	7.1	6
1983: I	-46.2	355.5	401.6	642.2	266.0	211.6	54.4	376.2	3,338.1	3,411.3	7.3	3.8	8.6
1984: I	-94.8	376.6	471.4	693.2	300.5	225.3	75.2	392.7	3,493.5	3,630.0	1.7	4.0	2.7
1985: I	-125.3	367.4	492.6	752.7	340.6	241.4	99.2	412.1	3,654.7	3,787.6	3.0	1.6	4.8
1986: I	-135.4	406.5	541.9	776.0	342.4	255.8	86.6	433.6	3,754.4	3,869.0	2.3	3.9	1.5
1987: I	-118.2	418.7	536.9	776.6	338.1	259.0	79.1	438.5	3,764.9	3,901.2	5.4	1.1	3.4
II	-115.9	439.5	555.4	774.9	334.7	264.6	70.1	440.1	3,810.1	3,939.3	4.4	4.9	4.0
III	-118.9	461.3	580.2	783.5	340.7	270.6	70.1	442.8	3,866.0	3,991.7	5.3	6.0	5.4
IV	-109.8	484.1	593.9	792.1	344.9	266.7	78.2	447.2	3,879.0	4,045.5	6.6	1.4	5.5
1988: I	-78.2	517.4	595.6	775.1	323.8	263.0	60.8	451.3	3,940.5	4,052.9	4.0	6.5	7
II	-72.6	519.7	592.3	783.0	327.9	262.5	65.4	455.1	3,989.2	4,083.3	3.7	5.0	3.0
III	-74.9	531.9	606.9	775.9	319.8	258.8	61.0	456.1	4,005.2	4,117.6	3.2	1.6	3.4
IV	-73.8	551.4	625.2	806.4	343.9	261.6	82.3	462.5	4,051.0	4,143.2	2.7	4.7	2.5
1989: I	-55.0	569.7	624.6	799.7	335.5	254.4	81.1	464.2	4,082.3	4,161.8	3.7	3.1	1.8
II	-51.2	587.5	638.7	810.3	343.6	255.8	87.8	466.7	4,113.5	4,183.7	2.5	3.7	2.1
III	-57.1	593.1	650.2	805.3	336.1	260.1	76.0	469.2	4,141.0	4,220.0	3.0	3.7	3.5
IV P	-61.8	600.2	662.0	807.9	333.6	254.7	79.0	474.2	4,135.5	4,229.1	5	-5	9

<sup>1</sup> GNP less exports of goods and services plus imports of goods and services.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE C-3.—Implicit price deflators for gross national product, 1929-89

[Index numbers, 1982=100, except as noted; quarterly data seasonally adjusted]

Year or quarter	Gross national product	Personal consumption expenditures				Gross private domestic investment <sup>1</sup>				
		Total	Durable goods	Non-durable goods	Services	Total	Fixed investment			Residential
							Total	Structures	Producers' durable equipment	
1929.....	14.6	16.4	22.9	17.8	13.8	11.6	11.8	10.0	14.3	11.2
1933.....	11.2	12.1	16.8	12.2	11.4	9.4	9.8	7.6	12.5	8.1
1939.....	12.7	13.9	18.7	14.2	12.8	11.1	11.5	8.8	13.9	10.5
1940.....	13.0	14.1	19.2	14.3	12.9	11.5	11.9	9.0	14.2	10.9
1941.....	13.8	15.2	20.9	15.5	13.5	12.4	12.7	9.7	14.9	11.9
1942.....	14.7	16.8	22.0	18.2	14.3	13.2	13.3	10.7	15.3	12.8
1943.....	15.1	18.4	23.3	20.6	15.1	13.8	13.8	11.4	15.4	13.8
1944.....	15.3	19.4	25.4	21.6	16.0	14.2	14.0	11.6	15.6	14.9
1945.....	15.7	20.2	27.7	22.2	16.5	14.5	14.3	12.3	15.4	15.8
1946.....	19.4	22.0	33.0	24.0	17.3	16.7	16.4	14.5	18.2	17.5
1947.....	22.1	24.3	36.1	26.9	18.6	19.8	19.3	17.1	20.7	21.1
1948.....	23.6	25.7	37.1	28.5	19.7	21.7	21.0	18.9	22.5	22.8
1949.....	23.5	25.6	36.9	27.7	20.5	22.2	21.7	18.6	24.0	23.0
1950.....	23.9	26.2	38.1	27.8	21.1	22.9	22.4	18.8	25.0	23.7
1951.....	25.1	27.8	40.0	30.1	22.2	24.6	24.2	21.1	26.4	25.4
1952.....	25.5	28.4	40.1	30.5	23.3	25.0	24.4	21.3	26.9	26.1
1953.....	25.9	29.0	40.8	30.4	24.6	25.5	25.1	21.8	27.7	26.3
1954.....	26.3	29.1	39.4	30.4	25.3	25.6	25.2	21.4	28.6	26.4
1955.....	27.2	29.5	40.1	30.2	25.9	26.3	25.8	21.8	29.3	27.0
1956.....	28.1	30.1	41.2	30.6	26.7	27.8	27.7	24.1	31.0	27.9
1957.....	29.1	31.0	42.9	31.5	27.6	29.0	29.5	25.2	33.3	28.0
1958.....	29.7	31.6	42.8	32.2	28.5	28.9	29.5	24.8	34.0	28.0
1959.....	30.4	32.3	44.2	32.6	29.3	29.3	30.2	25.0	34.7	28.0
1960.....	30.9	32.9	44.4	33.1	30.2	29.7	30.6	25.2	35.6	28.2
1961.....	31.2	33.3	44.8	33.5	30.7	29.7	30.5	25.0	35.9	28.2
1962.....	31.9	33.9	45.7	33.8	31.4	29.9	30.9	25.2	36.1	28.3
1963.....	32.4	34.4	46.3	34.3	32.0	30.1	31.3	25.5	36.2	28.2
1964.....	32.9	35.0	47.0	34.7	32.5	30.4	31.5	25.9	36.2	28.5
1965.....	33.8	35.6	47.1	35.3	33.2	31.1	32.1	26.9	36.4	29.0
1966.....	35.0	36.7	47.5	36.6	34.2	32.4	33.3	28.2	37.2	29.9
1967.....	35.9	37.6	48.3	37.5	35.3	33.4	34.4	29.1	38.4	30.9
1968.....	37.7	39.3	50.1	39.0	36.8	34.8	35.9	30.4	39.9	32.5
1969.....	39.8	41.0	51.4	40.9	38.6	37.2	37.9	32.9	41.5	35.6
1970.....	42.0	42.9	52.7	42.7	40.7	39.0	39.9	35.2	43.2	37.0
1971.....	44.4	44.9	54.7	44.2	43.1	41.2	42.4	38.1	45.5	39.0
1972.....	46.5	46.7	55.5	45.8	45.1	43.2	44.4	40.6	46.8	41.2
1973.....	49.5	49.6	56.6	49.7	47.4	45.6	46.0	43.7	47.3	44.8
1974.....	54.0	54.8	60.4	57.2	51.3	50.3	50.5	49.5	51.1	49.8
1975.....	59.3	59.2	65.9	61.5	55.6	56.9	57.9	54.7	59.7	54.2
1976.....	63.1	62.6	69.5	63.8	59.8	60.7	61.9	57.6	64.4	58.0
1977.....	67.3	66.7	72.7	67.1	64.8	65.6	66.1	61.6	68.3	64.6
1978.....	72.2	71.6	76.9	71.9	69.8	71.9	71.5	67.9	73.3	72.6
1979.....	78.6	78.2	82.1	80.0	75.6	78.9	77.8	76.2	78.6	81.4
1980.....	85.7	86.6	89.2	89.4	83.9	86.3	85.1	83.6	86.0	89.4
1981.....	94.0	94.6	95.7	96.9	92.6	94.2	93.4	93.1	93.7	96.6
1982.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983.....	103.9	104.1	102.1	102.1	106.2	99.8	98.8	97.5	99.5	102.2
1984.....	107.7	108.1	103.8	105.0	111.6	100.2	97.9	98.2	97.7	106.0
1985.....	110.9	111.6	104.8	107.5	116.8	100.6	97.7	102.5	95.3	108.3
1986.....	113.8	114.3	105.6	107.3	122.4	102.9	99.3	106.9	96.1	111.1
1987.....	117.4	119.8	108.1	112.1	129.0	103.1	97.5	109.4	93.2	116.2
1988.....	121.3	124.5	110.1	116.3	134.9	104.6	98.7	114.9	93.3	119.7
1989 P.....	126.3	130.0	111.3	122.6	141.2	106.8	100.3	120.8	94.0	124.5
1982: I.....	101.7	101.8	101.0	102.7	100.3	100.7	99.5	105.5	99.1	99.1
1983: IV.....	105.4	105.7	103.1	103.1	108.3	99.7	98.3	96.8	99.1	103.1
1984: IV.....	109.0	109.3	104.1	105.8	113.5	100.5	97.9	99.6	97.0	107.2
1985: IV.....	112.2	113.1	104.7	108.7	119.0	101.0	97.9	104.0	95.0	109.0
1986: IV.....	115.1	115.8	106.2	107.8	124.9	103.9	100.0	108.3	96.8	112.4
1987: I.....	116.0	117.6	106.7	110.0	126.6	103.1	98.4	107.7	94.8	113.4
1987: II.....	117.1	119.2	107.7	111.8	128.2	103.4	98.2	110.0	93.9	115.2
1987: III.....	117.9	120.5	108.8	112.8	129.8	102.8	96.7	109.3	92.1	117.8
1987: IV.....	118.6	121.8	109.0	113.7	131.5	103.3	97.0	110.5	92.1	118.7
1988: I.....	119.2	122.5	109.3	114.0	132.7	103.9	97.7	112.6	92.7	119.5
1988: II.....	120.6	123.9	109.6	115.9	134.2	103.9	97.8	114.2	92.5	119.5
1988: III.....	121.9	125.1	110.2	117.1	135.6	104.4	98.4	115.4	92.9	119.6
1988: IV.....	123.3	126.5	111.2	118.2	137.3	106.3	100.6	117.3	95.2	120.4
1989: I.....	124.5	128.0	111.2	120.0	139.0	106.5	100.4	119.5	94.4	122.1
1989: II.....	125.9	129.8	110.8	123.3	140.4	106.7	100.2	120.6	94.1	124.2
1989: III.....	126.9	130.4	111.4	122.9	141.8	107.0	100.3	121.5	93.9	125.6
1989: IV P.....	128.0	131.9	111.7	124.2	143.5	107.1	100.1	121.8	93.5	126.2

<sup>1</sup> Separate deflators are not calculated for gross private domestic investment, change in business inventories, and net exports of goods and services.

See next page for continuation of table.



TABLE C-3.—Implicit price deflators for gross national product, 1929-89—Continued

[Index numbers, 1982=100, except as noted; quarterly data seasonally adjusted]

Year or quarter	Exports and imports of goods and services <sup>1</sup>		Government purchases of goods and services					Final sales	Gross domestic purchases <sup>2</sup>	Percent change from preceding period, GNP implicit price deflator <sup>3</sup>
	Exports	Imports	Total	Federal			State and local			
				Total	National defense	Non-defense				
1929	16.8	15.9	9.4	8.1			9.7	14.6	14.6	.....
1933	10.7	8.6	8.4	8.0			8.6	11.3	11.1	-2.2
1939	12.7	11.3	9.4	9.7			9.2	12.8	12.7	- .8
1940	13.6	11.6	9.5	9.7			9.3	13.0	12.9	2.0
1941	14.6	12.3	10.6	11.1			9.7	13.7	13.7	6.2
1942	17.2	13.1	12.4	12.8			10.2	14.7	14.6	6.6
1943	18.5	13.6	12.5	12.8			10.6	15.2	15.0	2.6
1944	20.2	14.1	12.3	12.4			11.2	15.3	15.2	1.4
1945	21.1	14.6	11.8	11.8			11.6	15.7	15.6	2.9
1946	22.0	17.4	12.3	12.0			12.8	19.3	19.1	22.9
1947	24.6	20.9	14.7	14.8			14.5	22.1	21.8	13.9
1948	26.5	22.4	16.3	16.3			16.3	23.4	23.4	7.0
1949	25.2	21.2	17.3	17.6			16.9	23.5	23.3	- .5
1950	24.4	22.5	16.8	16.3			17.3	23.9	23.9	2.0
1951	27.4	26.7	18.3	18.0			18.9	24.9	25.0	4.8
1952	27.4	25.3	19.4	19.3			19.7	25.4	25.4	1.5
1953	27.0	24.1	19.8	19.6			20.2	25.9	25.8	1.6
1954	26.9	24.1	20.1	19.7			20.7	26.3	26.2	1.6
1955	27.5	23.5	20.8	20.6			21.2	27.1	27.0	3.2
1956	28.6	23.8	21.9	21.5			22.4	28.0	27.8	3.4
1957	29.7	23.8	22.9	22.5			23.5	29.0	28.7	3.6
1958	29.6	22.7	24.1	24.2			24.0	29.7	29.3	2.1
1959	29.9	23.1	24.6	24.6			24.6	30.4	30.0	2.4
1960	30.4	23.4	24.9	24.7			25.2	30.9	30.5	1.6
1961	30.9	23.1	25.4	25.0			25.9	31.2	30.8	1.0
1962	31.0	22.9	26.3	25.9			26.7	31.9	31.4	2.2
1963	31.1	23.6	26.9	26.5			27.4	32.4	31.9	1.6
1964	31.4	24.1	27.6	27.2			28.0	32.9	32.5	1.5
1965	32.5	24.7	28.5	28.1			28.8	33.7	33.3	2.7
1966	33.7	25.7	29.8	29.4			30.2	34.9	34.4	3.6
1967	34.5	26.2	31.2	30.5			32.0	35.9	35.4	2.6
1968	35.2	26.6	33.1	32.3			33.9	37.7	37.0	5.0
1969	36.6	27.4	35.1	33.8			36.3	39.8	39.0	5.6
1970	38.7	29.0	38.1	36.8			39.2	42.0	41.2	5.5
1971	40.4	30.2	41.0	39.8			41.9	44.4	43.4	5.7
1972	41.7	32.0	43.8	43.0	41.8	46.8	44.4	46.5	45.5	4.7
1973	47.1	35.5	47.1	46.2	45.3	48.9	47.8	49.5	48.4	6.5
1974	56.3	50.4	52.2	51.3	50.6	53.3	52.8	54.1	53.4	9.1
1975	62.1	54.1	57.7	57.1	55.6	60.6	58.1	59.2	58.6	9.8
1976	64.8	55.7	61.5	60.8	59.3	64.3	62.0	63.0	62.2	6.4
1977	68.0	59.8	65.8	65.2	63.4	69.1	66.1	67.2	66.4	6.7
1978	72.8	65.8	70.4	69.2	67.8	72.4	71.1	72.1	71.5	7.3
1979	81.6	77.1	76.8	75.4	74.2	78.0	77.7	78.5	78.1	8.9
1980	90.2	96.0	85.5	84.3	83.4	86.4	86.2	85.8	86.3	9.0
1981	97.5	101.6	93.4	93.3	92.9	94.3	93.4	93.9	94.4	9.7
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	6.4
1983	101.3	97.4	104.0	103.1	103.6	101.4	104.7	103.9	103.4	3.9
1984	103.2	97.1	108.6	106.8	107.2	105.5	109.9	107.9	106.9	3.7
1985	101.0	95.2	112.3	109.0	109.2	108.2	114.9	110.9	109.9	3.0
1986	99.8	93.7	114.5	109.7	110.2	108.1	118.3	113.8	112.5	2.6
1987	99.5	90.0	118.5	112.4	111.7	116.7	122.2	117.4	116.8	3.2
1988	103.3	102.7	123.4	115.9	114.0	123.6	128.8	121.4	120.9	3.3
1989 <sup>p</sup>	106.3	104.9	128.7	119.8	118.2	125.2	135.0	126.4	125.8	4.1
1982: IV	100.0	99.3	101.8	101.3	102.0	99.5	102.2	101.7	101.6	3.6
1983: IV	102.6	97.2	105.3	103.8	104.7	100.3	106.3	105.3	104.7	4.7
1984: IV	102.4	96.2	110.3	108.5	108.3	108.9	111.7	109.0	108.0	3.0
1985: IV	100.5	95.9	113.8	110.6	111.3	108.8	116.5	112.2	111.2	3.3
1986: IV	99.0	94.4	114.5	107.7	109.7	101.7	120.0	114.8	113.9	1.8
1987: I	99.5	97.3	116.8	111.1	111.2	110.7	121.2	115.9	115.2	3.2
II	99.5	99.4	118.3	113.0	111.1	120.0	122.4	117.0	116.5	3.8
III	99.3	98.8	119.1	112.8	110.9	120.3	123.9	117.9	117.3	2.8
IV	99.7	100.6	119.6	112.5	111.3	116.8	125.1	118.7	118.2	2.4
1988: I	100.8	101.5	122.0	115.5	113.1	126.2	126.7	119.5	119.0	2.0
II	102.5	102.6	122.6	115.0	113.5	121.0	128.1	120.6	120.3	4.8
III	104.7	102.7	123.5	114.9	114.4	117.1	129.6	121.9	121.3	4.4
IV	105.1	104.0	125.4	118.2	114.9	128.7	130.8	123.4	122.8	4.7
1989: I	106.3	105.6	127.1	118.9	117.4	123.8	132.9	124.6	124.2	4.0
II	106.6	105.9	127.5	118.2	117.8	119.2	134.4	125.8	125.5	4.6
III	106.0	103.6	129.0	119.8	118.3	125.0	135.6	126.9	126.2	3.2
IV <sup>p</sup>	106.2	104.4	131.0	122.5	119.1	133.4	137.0	128.2	127.4	3.5

<sup>1</sup> GNP less exports of goods and services plus imports of goods and services.

<sup>2</sup> Quarterly changes are at annual rates.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE C-4.—Fixed-weighted price indexes for gross national product, 1982 weights, 1959–89

[Index numbers, 1982=100, except as noted; quarterly data seasonally adjusted]

Year or quarter	Gross national product	Personal consumption expenditures	Gross private domestic investment <sup>1</sup>			Exports and imports of goods and services <sup>1</sup>		Government purchases of goods and services					Percent change from preceding period, GNP fixed-weighted price index <sup>2</sup>
			Fixed investment			Exports	Imports	Total	Federal			State and local	
			Total	Nonresidential	Residential				Total	National defense	Non-defense		
						Total	National defense	Non-defense					
1959.....	37.6	35.2	58.0	65.9	30.2	32.8	27.0	25.8	26.9			24.9	
1960.....	38.1	35.7	58.1	66.1	30.3	33.5	27.3	26.4	27.3			25.7	1.4
1961.....	38.4	36.1	58.0	66.0	30.2	34.0	27.0	27.0	27.8			26.4	.7
1962.....	38.7	36.4	58.0	66.1	29.9	34.1	26.7	27.8	28.4			27.3	.8
1963.....	39.1	36.8	58.0	66.2	29.5	34.4	27.1	28.5	29.3			27.9	1.0
1964.....	39.6	37.2	58.2	66.4	29.6	34.8	27.7	29.3	30.1			28.5	1.2
1965.....	40.1	37.7	58.5	66.7	30.0	35.9	28.1	30.0	30.8			29.3	1.4
1966.....	41.1	38.5	59.3	67.4	30.8	37.1	29.1	31.3	32.0			30.6	2.5
1967.....	42.1	39.5	60.2	68.4	31.6	38.2	29.5	32.7	32.8			32.5	2.6
1968.....	43.7	41.0	61.4	69.5	33.1	39.3	30.1	34.5	34.5			34.4	4.4
1969.....	45.6	42.8	63.2	71.0	36.0	40.9	31.2	36.6	36.4			36.7	4.4
1970.....	47.2	44.7	61.5	68.4	37.4	43.3	33.4	39.6	39.5			39.6	3.6
1971.....	48.8	46.6	60.6	66.6	39.5	45.3	35.6	42.3	42.4			42.2	3.5
1972.....	50.3	48.3	59.8	65.0	41.6	46.5	37.8	45.2	46.0	44.3	50.5	44.6	2.9
1973.....	53.1	51.0	61.8	66.6	45.1	50.8	42.4	48.8	50.1	47.4	56.9	47.8	5.5
1974.....	57.2	55.8	64.4	68.5	50.1	59.8	54.5	53.5	54.8	51.4	63.3	52.6	7.8
1975.....	61.8	60.1	69.0	73.1	54.6	65.4	59.7	58.6	59.4	56.5	66.6	57.9	8.0
1976.....	65.1	63.5	71.4	75.2	58.4	67.4	61.3	62.2	62.4	59.7	69.0	62.0	5.3
1977.....	68.4	67.5	72.6	74.9	64.8	70.3	66.1	66.0	65.8	63.5	71.5	66.2	5.1
1978.....	72.7	72.2	74.5	75.0	72.5	74.5	71.3	70.9	70.6	68.6	75.5	71.2	6.2
1979.....	78.8	78.6	80.3	80.1	81.2	82.9	80.9	77.3	76.8	75.1	81.0	77.7	8.5
1980.....	86.1	86.8	86.9	86.1	89.4	90.5	96.3	86.3	86.4	84.7	90.6	86.2	9.3
1981.....	94.1	94.6	94.5	93.9	96.6	97.7	101.5	94.1	94.9	93.8	97.4	93.5	9.3
1982.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	6.2
1983.....	104.1	104.2	100.4	99.9	102.2	101.6	97.7	104.5	104.1	103.7	105.1	104.8	4.1
1984.....	108.3	108.4	101.5	100.2	106.0	104.3	97.5	109.2	108.0	107.6	108.9	110.1	4.0
1985.....	111.9	112.2	103.3	101.9	108.3	103.7	95.7	113.2	110.4	110.5	110.0	115.3	3.4
1986.....	114.9	115.3	105.7	104.2	110.9	103.6	94.0	115.5	110.6	111.1	109.4	119.2	2.7
1987.....	119.1	120.7	107.8	105.4	115.9	105.6	101.2	119.6	113.3	113.8	112.0	124.3	3.6
1988.....	124.1	125.9	111.3	109.0	119.5	111.2	106.3	125.1	117.9	117.9	118.0	130.4	4.2
1989 P.....	129.7	131.8	115.6	113.1	124.2	114.6	110.7	131.0	122.9	122.6	123.8	136.9	4.5
1982: IV.....	101.7	101.8	100.2	100.5	99.1	100.0	99.3	102.0	101.7	101.8	101.4	102.2	4.0
1983: IV.....	105.7	105.8	100.5	99.6	103.3	103.2	97.6	106.0	105.4	104.7	107.0	106.4	4.0
1984: IV.....	109.6	109.7	102.3	100.9	107.2	104.0	96.8	110.7	109.0	109.0	109.1	111.9	3.2
1985: IV.....	113.2	113.8	104.2	102.8	109.0	103.4	96.8	114.4	111.0	111.4	110.1	117.0	3.3
1986: IV.....	116.1	116.7	106.4	104.8	112.1	103.5	94.7	116.6	110.7	111.6	108.7	121.0	3.1
1987: I.....	117.4	118.5	106.9	105.1	113.2	104.2	97.9	118.0	112.1	112.7	110.6	122.3	4.3
1987: II.....	118.5	120.2	107.3	105.2	114.9	105.1	100.4	119.0	113.0	113.5	111.6	123.5	4.1
1987: III.....	119.6	121.4	108.1	105.4	117.4	105.8	101.9	120.2	113.6	114.1	112.5	125.1	3.8
1987: IV.....	120.8	122.8	108.7	106.0	118.2	106.5	103.3	121.3	114.5	114.9	113.4	126.4	3.8
1988: I.....	121.9	123.6	110.1	107.5	119.2	108.1	104.5	123.1	116.3	116.6	115.6	128.1	3.8
1988: II.....	123.3	125.1	111.0	108.6	119.3	110.0	106.1	124.4	117.4	117.7	116.7	129.6	4.8
1988: III.....	124.9	126.6	111.5	109.3	119.3	112.6	106.2	125.9	118.7	118.3	119.7	131.2	5.2
1988: IV.....	126.2	128.1	112.7	110.5	120.1	113.3	107.3	126.9	119.3	119.0	120.0	132.6	4.3
1989: I.....	127.7	129.6	114.1	111.8	121.8	113.7	109.5	129.4	122.3	122.0	123.0	134.7	4.8
1989: II.....	129.3	131.6	115.2	112.6	123.9	114.6	111.1	130.5	122.7	122.5	123.2	136.2	5.0
1989: III.....	130.2	132.3	116.1	113.5	125.3	114.4	109.8	131.4	123.0	122.5	124.2	137.6	2.9
1989: IV.....	131.4	133.8	117.0	114.5	126.0	114.9	111.2	132.6	123.7	123.3	124.7	139.1	3.8

<sup>1</sup> Separate price indexes are not calculated for gross private domestic investment, change in business inventories, and net exports of goods and services.

<sup>2</sup> Quarterly changes are at annual rates.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE C-5.—Changes in gross national product, personal consumption expenditures, and related price measures, 1933–89

[Percent change from preceding period; quarterly data at seasonally adjusted annual rates]

Year or quarter	Gross national product					Personal consumption expenditures				
	Current dollars	Constant (1982) dollars	Implicit price deflator	Chain price index	Fixed-weighted price index (1982 weights)	Current dollars	Constant (1982) dollars	Implicit price deflator	Chain price index	Fixed-weighted price index (1982 weights)
1933	-4.2	-2.1	-2.2			-5.7	-1.6	-4.2		
1939	7.0	7.9	-8			4.6	5.1	-5		
1940	10.0	7.8	2.0			6.0	4.6	1.3		
1941	25.0	17.7	6.2			13.8	5.7	7.7		
1942	26.6	18.8	6.6			9.7	-7	10.4		
1943	21.2	18.1	2.6			12.2	2.3	9.6		
1944	9.7	8.2	1.4			8.8	3.2	5.4		
1945	-9	-1.9	2.9			10.5	6.4	3.9		
1946	-5	-19.0	22.9			20.4	10.5	8.9		
1947	10.8	-2.8	13.9			12.5	1.8	10.6		
1948	11.2	3.9	7.0			8.0	2.3	5.6		
1949	-5	.0	-5			1.9	2.0	-1		
1950	10.7	8.5	2.0			7.7	5.4	2.2		
1951	15.7	10.3	4.8			8.3	2.1	6.1		
1952	5.5	3.9	1.5			5.3	3.0	2.2		
1953	5.7	4.0	1.6			6.2	4.0	2.1		
1954	.2	-1.3	1.6			3.1	2.5	.6		
1955	9.0	5.6	3.2			7.5	6.2	1.3		
1956	5.5	2.1	3.4			4.9	3.0	1.9		
1957	5.3	1.7	3.6			5.4	2.2	3.2		
1958	1.3	-8	2.1			3.3	1.4	1.8		
1959	8.5	5.8	2.4			7.4	5.0	2.2		
1960	3.9	2.2	1.6	1.5	1.4	4.6	2.6	1.9	1.7	1.5
1961	3.6	2.6	1.0	1.0	.7	3.1	2.0	1.2	1.1	.9
1962	7.6	5.3	2.2	1.2	.8	6.1	4.3	1.8	1.1	.9
1963	5.6	4.1	1.6	1.3	1.0	5.5	3.7	1.5	1.4	1.1
1964	7.1	5.3	1.5	1.5	1.2	7.2	5.6	1.7	1.2	1.2
1965	8.5	5.8	2.7	1.8	1.4	7.7	5.6	1.7	1.5	1.2
1966	9.5	5.8	3.6	3.0	2.5	8.3	5.1	3.1	2.7	2.2
1967	5.8	2.9	2.6	2.8	2.6	5.5	3.0	2.5	2.5	2.5
1968	9.3	4.1	5.0	4.3	3.7	9.7	5.1	4.5	4.0	3.8
1969	8.0	2.4	5.6	5.0	4.4	8.2	3.6	4.3	4.4	4.3
1970	5.4	-3	5.5	5.2	3.6	7.0	2.4	4.6	4.7	4.6
1971	8.6	2.8	5.7	4.8	3.5	8.1	3.1	4.7	4.3	4.2
1972	10.0	5.0	4.7	4.2	2.9	9.5	5.4	4.0	3.6	3.5
1973	12.1	5.2	6.5	5.9	5.5	10.5	4.2	6.2	6.0	5.7
1974	8.3	-5	9.1	8.9	7.8	9.5	-9	10.5	10.3	9.4
1975	8.5	-1.3	9.8	9.2	8.0	10.5	2.3	8.0	8.0	7.7
1976	11.5	4.9	6.4	5.9	5.3	11.5	5.4	5.7	5.7	5.6
1977	11.7	4.7	6.7	6.1	5.1	11.3	4.4	6.5	6.4	6.3
1978	13.0	5.3	7.3	7.2	6.2	11.6	4.1	7.3	7.2	7.0
1979	11.5	2.5	8.9	8.7	8.5	11.6	2.2	9.2	9.2	8.8
1980	8.9	-2	9.0	9.0	9.3	10.6	-2	10.7	10.9	10.5
1981	11.7	1.9	9.7	9.4	9.3	10.5	1.2	9.2	9.2	9.0
1982	3.7	-2.5	6.4	6.3	6.2	7.1	1.3	5.7	5.7	5.6
1983	7.6	3.6	3.9	4.1	4.1	9.0	4.6	4.1	4.2	4.2
1984	10.8	6.8	3.7	3.9	4.0	8.8	4.8	3.8	3.9	4.0
1985	6.4	3.4	3.0	3.3	3.4	8.2	4.7	3.2	3.5	3.5
1986	5.4	2.7	2.6	2.5	2.7	6.4	3.9	2.4	2.7	2.7
1987	6.9	3.7	3.2	3.4	3.6	7.6	2.8	4.8	4.7	4.7
1988	7.9	4.4	3.3	3.7	4.2	7.4	3.4	3.9	4.1	4.3
1989 P	7.2	2.9	4.1	4.2	4.5	7.3	2.7	4.4	4.5	4.7
1982: IV	4.2	.6	3.6	4.1	4.0	10.3	5.3	4.4	4.8	4.8
1983: IV	12.4	7.3	4.7	3.9	4.0	9.7	5.5	4.3	4.1	4.1
1984: IV	4.7	1.7	3.0	3.1	3.2	7.2	4.3	3.0	3.1	3.2
1985: IV	6.2	3.0	3.3	3.2	3.3	6.0	1.9	4.0	4.2	4.3
1986: IV	4.2	2.3	1.8	2.7	3.1	6.2	2.2	3.9	3.9	3.9
1987: I	8.8	5.4	3.2	4.1	4.3	6.6	.1	6.4	6.1	6.1
1987: II	8.2	4.4	3.8	3.8	4.1	10.7	4.8	5.6	5.7	5.8
1987: III	8.4	5.3	2.8	3.7	3.8	9.2	4.7	4.4	4.4	4.4
1987: IV	9.0	6.6	2.4	3.3	3.8	3.6	-7	4.4	4.3	4.5
1988: I	6.5	4.0	2.0	3.3	3.8	8.7	6.2	2.3	2.6	2.6
1988: II	8.6	3.7	4.8	4.3	4.8	7.4	2.5	4.7	5.0	5.1
1988: III	7.5	3.2	4.4	4.4	5.2	7.5	3.3	3.9	4.3	4.6
1988: IV	7.5	2.7	4.7	4.1	4.3	7.6	3.0	4.6	4.8	4.9
1989: I	7.9	3.7	4.0	4.6	4.8	7.1	2.0	4.8	4.7	4.8
1989: II	7.1	2.5	4.6	4.9	5.0	7.6	1.9	5.7	5.8	6.3
1989: III	6.2	3.0	3.2	2.8	2.9	7.6	5.6	1.9	2.1	2.2
1989: IV P	4.3	.5	3.5	3.7	3.8	4.6	-1	4.7	4.4	4.4

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE C-6.—Gross national product by major type of product, 1929–89

(Billions of dollars; quarterly data at seasonally adjusted annual rates)

Year or quarter	Gross national product	Final sales	Inventory change	Goods						Services	Structures	Auto output	
				Total			Durable goods		Nondurable goods				
				Total	Final sales	Inventory change	Final sales	Inventory change	Final sales				Inventory change
1929	103.9	102.2	1.7	56.1	54.4	1.7	16.1	1.4	38.3	0.3	35.9	11.9	
1933	56.0	57.6	-1.6	27.0	28.6	-1.6	5.4	-0.5	23.2	-1.1	25.9	3.1	
1939	91.3	90.9	.4	49.0	48.6	.4	12.4	-.3	36.2	.1	34.5	7.8	
1940	100.4	98.3	2.2	56.0	53.8	2.2	15.4	1.2	38.4	1.0	35.8	8.6	
1941	125.5	121.0	4.5	72.5	68.0	4.5	23.8	3.1	44.2	1.4	40.9	12.1	
1942	159.0	157.2	1.8	93.7	91.9	1.8	34.5	1.0	57.4	0.7	50.9	14.4	
1943	192.7	193.4	-.6	120.4	121.0	-.6	54.2	-.0	66.8	-.6	63.2	9.2	
1944	211.4	212.3	-1.0	132.3	133.3	-1.0	58.5	-.6	74.8	-.3	72.4	6.6	
1945	213.4	214.4	-1.0	128.9	129.9	-1.0	50.1	-1.3	79.8	-2	77.3	7.2	
1946	212.4	206.0	6.4	125.3	118.9	6.4	31.8	5.3	87.1	1.1	70.5	16.6	
1947	235.2	235.7	-.5	139.8	140.3	-.5	44.4	1.4	95.9	-1.9	72.7	22.8	7.2
1948	261.6	256.9	4.7	154.4	149.7	4.7	48.0	1.0	101.7	3.7	78.0	29.2	8.8
1949	260.4	263.4	-3.1	147.7	150.8	-3.1	50.0	-1.8	100.9	-1.3	83.0	29.6	11.9
1950	288.3	281.4	6.8	162.4	155.6	6.8	56.2	3.6	99.4	3.2	89.0	36.9	15.4
1951	333.4	323.2	10.2	189.9	179.6	10.2	66.4	6.1	113.2	4.2	104.4	39.1	13.3
1952	351.6	348.6	3.1	195.5	192.4	3.1	72.6	1.2	119.8	1.9	115.2	40.9	12.0
1953	371.6	371.1	.4	204.6	204.2	.4	78.0	1.5	126.2	-1.1	123.4	43.6	16.1
1954	372.5	374.1	-1.6	198.0	199.6	-1.6	74.1	-2.5	125.5	.9	128.5	46.0	14.7
1955	405.9	400.2	5.7	216.3	210.6	5.7	81.7	3.4	128.9	2.3	138.5	51.1	21.2
1956	428.2	423.6	4.6	225.4	220.7	4.6	86.2	2.1	134.5	2.5	148.9	53.9	16.9
1957	451.0	449.6	1.4	234.7	233.3	1.4	91.7	-.5	141.6	.9	161.6	54.8	19.4
1958	456.8	458.3	-1.5	230.5	232.0	-1.5	84.8	-2.8	147.2	1.3	170.9	55.5	14.5
1959	495.8	490.0	5.8	250.8	245.1	5.8	91.1	3.1	154.0	2.6	183.5	61.5	19.4
1960	515.3	512.3	3.1	257.2	254.1	3.1	93.8	1.6	160.3	1.4	197.4	60.7	21.3
1961	533.8	531.4	2.4	260.4	258.0	2.4	93.1	-.1	164.8	2.5	210.9	62.5	17.8
1962	574.6	568.5	6.1	281.5	275.4	6.1	103.4	3.4	172.0	2.7	226.4	66.7	22.4
1963	606.9	601.1	5.8	293.2	287.4	5.8	110.0	2.7	177.4	3.1	242.2	71.5	25.1
1964	649.8	644.4	5.4	313.5	308.1	5.4	119.6	4.0	188.5	1.4	261.1	75.2	25.9
1965	705.1	695.2	9.9	342.9	333.0	9.9	132.4	6.7	200.6	3.2	280.5	81.7	31.1
1966	772.0	757.8	14.2	380.1	365.9	14.2	147.9	10.2	218.1	4.0	307.2	84.6	30.2
1967	816.4	806.1	10.3	395.1	384.9	10.3	154.5	5.5	230.4	4.8	334.9	86.4	27.8
1968	892.7	884.8	7.9	427.4	419.5	7.9	169.1	4.7	250.4	3.2	368.0	97.2	35.0
1969	963.9	954.1	9.8	456.6	446.8	9.8	180.1	6.4	266.7	3.4	402.3	105.1	34.7
1970	1,015.5	1,012.3	3.1	467.8	464.7	3.1	182.1	-.1	282.6	3.2	441.1	106.5	28.5
1971	1,102.7	1,094.9	7.8	493.0	485.2	7.8	189.4	2.8	295.8	4.9	484.9	124.8	38.9
1972	1,212.8	1,202.3	10.5	537.4	526.9	10.5	209.7	7.2	317.2	3.3	533.2	142.1	41.4
1973	1,359.3	1,339.7	19.6	616.4	596.8	19.6	241.9	15.0	354.9	4.6	586.6	156.3	46.0
1974	1,472.8	1,457.4	15.4	663.1	647.7	15.4	257.2	11.2	390.4	4.3	650.1	159.1	38.8
1975	1,598.4	1,604.1	-5.6	714.7	720.3	-5.6	288.2	-7.0	432.2	1.3	725.2	158.5	40.3
1976	1,782.8	1,766.8	16.0	798.9	782.9	16.0	323.6	10.3	459.3	5.7	803.5	180.4	55.2
1977	1,990.5	1,969.2	21.3	882.0	860.7	21.3	369.4	9.7	491.3	11.6	895.9	212.6	64.3
1978	2,249.7	2,221.0	28.6	991.4	962.8	28.6	416.9	20.1	545.9	8.6	1,003.0	255.3	68.3
1979	2,508.2	2,495.2	13.0	1,099.1	1,086.1	13.0	473.1	10.3	613.0	2.7	1,121.9	287.1	66.9
1980	2,732.0	2,740.3	-8.3	1,174.9	1,183.2	-8.3	499.4	-2.9	683.8	-5.4	1,265.0	292.0	60.1
1981	3,052.6	3,028.6	24.0	1,322.9	1,298.9	24.0	541.1	6.8	757.8	17.2	1,415.4	314.4	69.4
1982	3,166.0	3,190.5	-24.5	1,319.1	1,343.7	-24.5	542.9	-16.8	800.8	-7.7	1,547.5	299.4	66.5
1983	3,405.7	3,412.8	-7.1	1,396.1	1,403.2	-7.1	575.3	-1.0	827.9	-6.1	1,682.5	327.1	88.6
1984	3,772.2	3,704.5	67.7	1,581.4	1,513.7	67.7	641.3	40.2	872.4	27.5	1,813.9	377.0	105.1
1985	4,014.9	4,003.6	11.3	1,641.2	1,629.9	11.3	700.1	6.5	929.8	4.9	1,968.3	405.4	116.5
1986	4,231.6	4,224.8	6.9	1,686.7	1,679.8	6.9	723.0	1.2	956.8	5.7	2,119.3	425.6	120.6
1987	4,524.3	4,495.0	29.3	1,785.2	1,755.9	29.3	755.5	22.1	1,000.4	7.2	2,304.5	434.6	119.2
1988	4,880.6	4,850.0	30.6	1,931.9	1,901.3	30.6	838.6	25.0	1,062.6	5.6	2,499.2	449.5	129.9
1989	5,233.2	5,203.8	29.4	2,073.5	2,044.1	29.4	897.1	14.5	1,147.0	14.9	2,700.7	459.0	132.2
1982: IV	3,212.5	3,272.4	-59.9	1,309.8	1,369.7	-59.9	551.8	-42.7	817.9	-17.2	1,598.9	303.9	64.5
1983: I	3,545.8	3,514.8	31.0	1,473.7	1,442.7	31.0	611.9	16.7	830.9	14.3	1,730.1	342.0	102.1
1984: I	3,851.8	3,806.8	45.0	1,599.9	1,554.9	45.0	667.6	33.0	887.3	12.0	1,866.5	385.4	111.5
1985: IV	4,107.9	4,100.7	7.2	1,657.4	1,650.2	7.2	697.9	8.6	952.3	-1.4	2,035.7	414.8	115.5
1986: IV	4,297.3	4,309.4	-12.2	1,694.5	1,706.6	-12.2	740.7	-9.6	965.9	-2.6	2,174.2	428.6	122.5
1987: I	4,388.8	4,363.4	25.4	1,727.9	1,702.5	25.4	717.4	20.7	985.1	4.8	2,233.7	427.2	119.3
1987: II	4,475.9	4,457.1	18.8	1,761.1	1,742.3	18.8	747.3	18.4	995.0	3	2,284.3	430.5	115.7
1987: III	4,566.6	4,557.1	9.5	1,799.8	1,790.3	9.5	788.8	4.8	1,001.5	4.7	2,328.7	438.1	117.8
1987: IV	4,665.8	4,602.5	63.3	1,851.8	1,788.4	63.3	768.4	44.3	1,020.0	19.1	2,371.4	442.6	124.0
1988: I	4,739.8	4,709.8	30.0	1,867.0	1,837.0	30.0	815.2	9.7	1,021.7	20.3	2,434.2	438.6	118.6
1988: II	4,838.5	4,809.2	29.3	1,917.4	1,888.1	29.3	840.2	17.0	1,047.9	23.2	2,472.3	448.8	132.5
1988: III	4,926.9	4,882.3	44.6	1,955.8	1,911.2	44.6	842.6	41.4	1,068.6	3.2	2,520.3	450.8	136.6
1988: IV	5,017.3	4,998.7	18.7	1,987.4	1,968.7	18.7	856.5	32.0	1,112.2	-13.3	2,570.0	459.9	132.0
1989: I	5,113.1	5,085.4	27.7	2,030.9	2,003.2	27.7	872.8	22.0	1,130.5	5.7	2,620.8	461.3	134.5
1989: II	5,201.7	5,174.3	27.4	2,079.1	2,051.7	27.4	892.6	6.0	1,152.5	21.4	2,667.5	455.1	131.7
1989: III	5,281.0	5,253.6	27.4	2,096.3	2,068.9	27.4	924.9	5.2	1,144.0	22.2	2,728.1	456.6	135.8
1989: IV	5,337.0	5,301.8	35.2	2,087.9	2,052.7	35.2	891.5	25.0	1,161.2	10.2	2,786.2	462.9	126.9

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE C-7.—*Gross national product by major type of product in 1982 dollars, 1929-89*

(Billions of 1982 dollars; quarterly data at seasonally adjusted annual rates)

Year or quarter	Gross national product	Final sales	Inventory change	Goods						Services	Structures	Auto output	
				Total			Durable goods		Nondurable goods				
				Total	Final sales	Inventory change	Final sales	Inventory change	Final sales				Inventory change
1929	709.6	698.7	10.8	308.1	297.3	10.8	85.8	7.5	211.5	3.3	290.0	111.4	.....
1933	498.5	509.2	-10.7	210.0	220.7	-10.7	34.9	-4.5	185.7	-6.2	252.1	36.5	.....
1939	716.6	712.7	3.9	331.7	327.8	3.9	74.8	1.6	253.1	2.3	306.4	78.5	.....
1940	772.9	758.5	14.4	370.3	355.9	14.4	91.9	7.2	264.0	7.2	318.1	84.5	.....
1941	909.4	881.6	27.8	431.9	404.2	27.8	122.9	17.4	281.2	10.3	367.1	110.3	.....
1942	1,080.3	1,068.3	12.0	504.1	492.1	12.0	163.3	7.5	328.8	4.5	460.4	115.8	.....
1943	1,276.2	1,275.5	0.7	608.6	607.9	0.7	254.4	1.4	353.5	-0.7	598.9	68.7	.....
1944	1,380.6	1,385.5	-4.9	664.6	665.8	-1.2	292.4	-3.8	377.4	-1.4	665.0	50.9	.....
1945	1,354.8	1,363.3	-8.5	639.1	645.5	-6.4	263.1	-7.8	384.4	-4.6	662.3	53.5	.....
1946	1,096.9	1,069.0	27.9	521.0	493.1	27.9	129.6	23.1	363.5	4.8	472.0	104.0	.....
1947	1,066.7	1,067.7	-1.0	517.1	518.1	-1.0	164.7	2.8	353.4	-3.8	431.1	118.6	24.1
1948	1,108.7	1,096.4	12.3	537.7	519.4	12.3	166.5	3.4	353.0	8.8	438.0	138.9	27.6
1949	1,109.0	1,118.7	-9.7	517.9	527.6	-9.7	166.8	-6.1	360.8	-3.6	450.1	141.0	35.5
1950	1,203.7	1,179.5	24.2	561.4	537.2	24.2	180.0	11.4	357.1	12.8	470.4	171.9	44.9
1951	1,328.2	1,297.4	30.8	623.0	592.2	30.8	208.8	19.1	383.4	11.7	537.7	167.5	38.3
1952	1,380.0	1,370.0	10.0	641.3	631.3	10.0	229.8	3.6	401.5	6.4	567.3	171.4	34.9
1953	1,435.3	1,432.5	2.8	676.6	673.8	2.8	245.4	4.7	428.4	-2.0	577.6	181.2	44.8
1954	1,416.2	1,421.0	-4.8	643.5	648.2	-4.8	230.6	-7.7	417.7	2.9	579.5	193.2	43.3
1955	1,494.9	1,478.6	16.3	683.9	667.6	16.3	245.2	9.5	422.3	6.8	601.0	210.0	58.2
1956	1,525.6	1,512.7	12.9	697.1	684.1	12.9	248.3	6.3	435.8	6.7	619.7	208.9	45.8
1957	1,551.1	1,548.1	3.0	699.3	696.3	3.0	251.3	1.9	445.0	1.1	645.4	206.5	48.3
1958	1,539.2	1,542.6	-3.4	674.2	677.6	-3.4	229.1	-7.1	448.6	3.7	654.7	210.3	37.4
1959	1,629.1	1,612.6	16.5	716.6	700.1	16.5	236.8	8.2	463.4	8.3	681.5	231.0	45.7
1960	1,665.3	1,657.5	7.7	726.8	719.1	7.7	242.2	4.0	476.9	3.7	709.9	228.5	49.6
1961	1,708.7	1,701.4	7.3	730.2	723.0	7.3	238.2	-1.1	483.7	7.3	743.0	235.4	41.1
1962	1,799.4	1,783.3	16.2	773.5	757.3	16.2	260.2	8.4	497.1	7.7	777.0	248.9	49.8
1963	1,873.3	1,856.7	16.6	797.5	780.8	16.6	273.4	7.1	507.4	9.5	811.5	264.4	54.6
1964	1,973.3	1,957.6	15.7	845.2	829.5	15.7	295.4	11.2	534.1	4.5	852.8	275.3	55.3
1965	2,087.6	2,062.4	25.2	904.0	878.8	25.2	322.2	17.4	556.5	7.8	891.6	292.0	66.9
1966	2,208.3	2,171.5	36.9	974.7	937.8	36.9	354.2	26.3	583.6	10.6	942.7	291.0	64.8
1967	2,271.4	2,242.6	28.8	993.1	964.3	28.8	363.6	14.4	600.7	14.4	990.6	287.6	58.3
1968	2,365.6	2,344.6	21.0	1,024.8	1,003.7	21.0	378.5	11.8	625.3	9.3	1,032.0	308.8	70.5
1969	2,423.3	2,398.1	25.1	1,048.5	1,023.3	25.1	389.7	15.2	633.6	9.9	1,066.9	307.9	67.6
1970	2,416.2	2,407.9	8.2	1,030.0	1,021.7	8.2	381.7	-5	640.1	8.8	1,092.4	293.8	53.1
1971	2,484.8	2,465.2	19.6	1,037.6	1,017.9	19.6	375.5	7.1	642.4	12.5	1,126.1	321.2	69.8
1972	2,608.5	2,586.8	21.8	1,093.8	1,072.1	21.8	409.4	15.4	662.7	6.4	1,169.4	345.4	73.9
1973	2,744.1	2,704.1	40.0	1,175.0	1,135.0	40.0	474.9	30.8	660.1	9.2	1,218.7	350.4	82.0
1974	2,729.3	2,696.0	33.3	1,159.2	1,125.9	33.3	476.0	20.0	649.9	13.3	1,256.4	313.7	65.4
1975	2,695.0	2,707.8	-12.8	1,125.0	1,137.8	-12.8	471.1	-11.4	666.7	-1.4	1,286.4	283.6	61.8
1976	2,826.7	2,804.6	22.1	1,194.7	1,172.5	22.1	490.9	15.9	681.7	6.3	1,324.4	307.6	80.1
1977	2,958.6	2,929.5	29.1	1,256.2	1,227.2	29.1	534.0	14.2	693.1	14.9	1,368.7	333.7	87.7
1978	3,115.2	3,078.4	36.8	1,329.1	1,292.4	36.8	572.5	27.5	719.9	9.3	1,426.9	359.1	88.3
1979	3,192.4	3,177.4	15.0	1,354.6	1,339.6	15.0	604.6	13.3	735.1	1.7	1,478.6	359.2	80.2
1980	3,187.1	3,194.0	-6.9	1,344.2	1,351.1	-6.9	584.0	-3.2	767.1	-3.7	1,511.1	331.8	67.1
1981	3,248.8	3,225.0	23.9	1,386.0	1,362.2	23.9	578.5	6.9	783.7	16.9	1,533.4	329.4	73.3
1982	3,166.0	3,190.5	-24.5	1,319.1	1,343.7	-24.5	542.9	-16.8	800.8	-7.7	1,547.5	299.4	66.5
1983	3,279.1	3,285.5	-6.4	1,367.0	1,373.4	-6.4	566.3	-1.2	807.0	-5.2	1,585.5	326.6	85.9
1984	3,501.4	3,439.1	62.3	1,509.2	1,446.9	62.3	623.5	38.2	823.3	24.2	1,625.2	367.1	98.5
1985	3,618.7	3,609.6	9.1	1,553.6	1,544.5	9.1	686.1	5.6	858.4	3.5	1,684.3	380.8	106.5
1986	3,717.9	3,712.4	5.6	1,592.6	1,587.1	5.6	718.6	9	868.5	4.7	1,738.9	386.4	106.4
1987	3,853.7	3,830.0	23.7	1,669.0	1,645.3	23.7	770.6	19.6	874.7	4.1	1,803.7	381.1	101.7
1988	4,024.4	3,996.5	27.9	1,771.6	1,743.7	27.9	860.9	22.7	882.8	5.2	1,873.5	379.3	108.9
1989 P	4,142.6	4,118.1	24.5	1,837.6	1,813.1	24.5	903.2	12.0	909.9	12.5	1,934.0	371.0	108.9
1982: IV	3,159.3	3,218.6	-59.3	1,297.9	1,357.1	-59.3	543.8	-42.4	813.4	-16.9	1,555.5	305.9	63.3
1983: I	3,365.1	3,338.1	27.0	1,423.8	1,396.8	27.0	598.0	16.1	798.8	10.9	1,600.7	340.6	96.4
1984: IV	3,535.2	3,493.5	41.7	1,520.2	1,478.5	41.7	647.8	31.8	830.7	10.6	1,644.7	370.3	104.2
1985: I	3,662.4	3,654.7	7.7	1,564.7	1,557.0	7.7	687.7	7.3	869.4	4	1,712.5	385.2	104.8
1986: IV	3,733.6	3,754.4	-20.8	1,595.7	1,616.5	-20.8	738.6	-9.0	877.9	-11.8	1,753.1	384.8	106.7
1987: I	3,783.0	3,764.9	18.1	1,622.6	1,604.4	18.1	723.9	17.9	880.5	-2	1,778.7	381.8	104.1
II	3,823.5	3,810.1	13.3	1,645.9	1,632.6	13.3	760.3	16.3	872.3	-3.0	1,798.7	378.9	99.2
III	3,872.8	3,866.0	6.8	1,679.1	1,672.3	6.8	806.1	4.4	866.2	2.3	1,812.2	381.5	99.4
IV	3,935.6	3,879.0	56.6	1,728.5	1,671.9	56.6	791.9	39.7	880.0	16.8	1,825.0	382.1	104.0
1988: I	3,974.8	3,940.5	34.3	1,746.7	1,712.4	34.3	840.9	9.9	871.5	24.3	1,854.1	374.0	99.4
II	4,010.7	3,989.2	21.5	1,767.9	1,746.5	21.5	866.8	15.3	879.7	6.1	1,862.5	380.2	111.9
III	4,042.7	4,005.2	37.5	1,782.3	1,744.8	37.5	863.4	37.3	881.4	-1	1,880.8	379.6	114.4
IV	4,069.4	4,051.0	18.3	1,789.4	1,771.0	18.3	872.4	28.1	898.6	-9.7	1,896.7	383.3	110.1
1989: I	4,106.8	4,082.3	24.5	1,823.2	1,798.7	24.5	884.2	18.1	914.5	6.4	1,905.1	378.5	110.9
II	4,132.5	4,113.5	19.1	1,843.9	1,824.8	19.1	908.0	5.0	916.8	14.1	1,919.9	368.8	109.3
III	4,162.9	4,141.0	21.9	1,851.3	1,829.4	21.9	927.2	4.2	902.3	17.7	1,945.0	366.6	112.0
IV P	4,168.1	4,135.5	32.6	1,832.2	1,799.5	32.6	893.6	20.9	905.9	11.7	1,965.9	370.0	103.5

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE C-8.—Gross national product by sector, 1929–89

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Gross national product	Gross domestic product								Rest of the world	
		Total	Business <sup>1</sup>				Households and institutions	Government <sup>2</sup>			
			Total <sup>1</sup>	Nonfarm <sup>1</sup>	Farm	Statistical discrepancy		Total	Federal		State and local
1929	103.9	103.2	96.0	84.8	9.7	1.5	2.9	4.4	0.9	3.5	0.8
1933	56.0	55.7	49.3	43.6	4.6	1.2	1.7	4.7	1.2	3.5	.3
1939	91.3	90.9	81.0	73.0	6.3	1.7	2.3	7.6	3.5	4.2	.4
1940	100.4	100.1	89.8	82.0	6.4	1.4	2.4	7.8	3.5	4.3	.4
1941	125.5	125.0	113.0	103.4	8.9	.7	2.5	9.5	5.1	4.4	.5
1942	159.0	158.5	140.4	128.0	13.0	-.7	2.9	15.2	10.7	4.5	.5
1943	192.7	192.3	163.4	149.8	15.3	-1.7	3.2	25.6	21.0	4.7	.4
1944	211.4	210.9	174.9	156.9	15.3	2.7	3.7	32.3	27.3	4.9	.5
1945	213.4	213.0	173.5	153.5	16.0	4.0	4.1	35.3	30.0	5.4	.4
1946	212.4	211.6	184.8	165.2	18.8	.7	4.5	22.4	16.2	6.2	.7
1947	235.2	234.1	211.3	189.3	20.2	1.8	5.1	17.6	10.3	7.3	1.2
1948	261.6	260.1	236.4	214.4	23.3	-1.3	5.6	18.1	9.6	8.5	1.5
1949	260.4	259.0	232.9	213.3	18.8	.8	5.9	20.1	10.7	9.4	1.4
1950	288.3	286.7	259.0	238.3	20.0	.8	6.5	21.2	11.1	10.1	1.5
1951	333.4	331.4	296.7	271.1	22.9	2.7	6.9	27.7	16.6	11.2	2.0
1952	351.6	349.4	310.7	286.7	22.2	1.8	7.2	31.5	19.3	12.3	2.2
1953	371.6	369.5	329.3	306.3	20.3	2.6	7.8	32.4	19.1	13.3	2.1
1954	372.5	370.3	329.1	306.7	19.7	2.7	8.1	33.0	18.3	14.7	2.2
1955	405.9	403.3	359.4	338.8	18.8	1.8	9.1	34.8	19.0	15.8	2.6
1956	428.2	425.2	378.1	361.4	18.6	-1.9	9.9	37.2	19.6	17.6	3.0
1957	451.0	447.7	397.3	380.1	18.4	-1.2	10.6	39.8	20.2	19.6	3.4
1958	456.8	453.9	399.5	378.9	20.7	-.1	11.5	42.9	21.3	21.6	2.9
1959	495.8	492.7	435.5	417.9	19.0	-1.5	12.4	44.8	21.7	23.1	3.1
1960	515.3	511.8	449.9	432.5	20.2	-2.8	13.9	48.1	22.6	25.5	3.5
1961	533.8	530.0	463.9	445.0	20.2	-1.2	14.5	51.6	23.6	27.9	3.8
1962	574.6	570.1	499.1	478.6	20.4	-.0	15.6	55.4	25.2	30.2	4.5
1963	606.9	602.0	526.0	506.2	20.5	-.6	16.7	59.3	26.5	32.9	4.9
1964	649.8	644.4	562.1	544.3	19.3	-1.4	17.9	64.4	28.5	35.9	5.4
1965	705.1	699.3	610.7	590.0	21.9	-1.2	19.3	69.3	30.0	39.3	5.8
1966	772.0	766.3	666.7	641.7	22.8	2.1	21.3	78.4	34.3	44.1	5.6
1967	816.4	810.4	699.7	677.8	22.2	-.4	23.4	87.4	37.8	49.5	6.0
1968	892.7	885.9	762.0	740.4	22.7	-1.1	26.1	97.8	41.9	55.9	6.8
1969	963.9	957.1	820.1	798.8	25.2	-3.9	29.5	107.5	44.9	62.6	6.8
1970	1,015.5	1,008.2	856.3	831.2	26.3	-1.1	32.4	119.5	48.4	71.1	7.3
1971	1,102.7	1,093.4	927.4	897.5	28.1	1.8	35.6	130.3	51.1	79.3	9.3
1972	1,212.8	1,201.6	1,020.0	988.8	32.8	-1.6	39.0	142.6	54.9	87.7	11.2
1973	1,359.3	1,343.1	1,145.0	1,098.3	51.0	-4.3	43.0	155.0	57.1	97.9	16.2
1974	1,472.8	1,453.3	1,237.5	1,190.0	49.2	-1.7	47.2	168.7	61.1	107.6	19.5
1975	1,598.4	1,580.9	1,341.2	1,288.4	50.3	2.5	52.0	187.7	66.5	121.1	17.5
1976	1,782.8	1,761.7	1,500.7	1,448.7	48.5	3.6	57.1	203.8	70.9	132.9	21.1
1977	1,990.5	1,965.1	1,682.1	1,631.7	50.4	-.0	62.4	220.5	75.5	145.0	25.4
1978	2,249.7	2,219.1	1,908.4	1,850.0	60.3	-1.9	70.2	240.5	81.7	158.9	30.5
1979	2,508.2	2,464.4	2,125.3	2,054.5	71.8	-1.0	78.6	260.4	86.9	173.5	43.8
1980	2,732.0	2,684.4	2,306.8	2,236.4	65.5	4.9	89.3	288.3	96.1	192.2	47.6
1981	3,052.6	3,000.5	2,582.8	2,498.9	79.8	4.1	101.0	316.7	107.4	209.3	52.1
1982	3,166.0	3,114.8	2,658.2	2,581.3	77.0	-.1	112.7	343.9	117.0	226.9	51.2
1983	3,405.7	3,355.9	2,866.6	2,802.1	59.3	5.2	122.9	366.4	124.7	241.7	49.9
1984	3,772.2	3,724.8	3,201.5	3,118.5	77.6	5.4	132.7	390.6	132.1	258.5	47.4
1985	4,014.9	3,974.1	3,412.8	3,342.2	75.4	-4.8	142.3	419.0	140.2	278.8	40.7
1986	4,231.6	4,197.2	3,599.9	3,525.9	75.8	-1.8	153.5	443.8	143.5	300.3	34.4
1987	4,524.3	4,493.8	3,851.5	3,779.5	76.8	-4.7	169.3	473.0	150.9	322.1	30.5
1988	4,880.6	4,847.3	4,153.5	4,087.1	76.1	-9.6	188.0	505.8	159.3	346.5	33.3
1989 P	5,233.2	5,196.6	4,448.4	4,386.1	85.6	-23.4	210.6	540.7	169.6	371.0	33.6
1982: IV	3,212.5	3,163.8	2,693.6	2,607.7	79.0	6.8	116.9	353.4	120.7	232.6	48.7
1983: IV	3,545.8	3,494.6	2,994.8	2,932.7	59.6	2.5	126.6	373.1	126.0	247.2	51.3
1984: IV	3,851.8	3,805.9	3,270.6	3,198.7	74.0	-2.1	136.1	399.1	134.0	265.1	46.0
1985: IV	4,107.9	4,065.9	3,490.7	3,422.4	76.2	-7.9	146.6	428.6	142.4	286.2	42.0
1986: IV	4,297.3	4,267.9	3,655.6	3,587.1	78.1	-9.6	157.9	454.4	144.6	309.8	29.4
1987: I	4,388.8	4,356.9	3,732.6	3,657.4	73.9	1.2	161.4	462.9	148.9	314.0	31.9
II	4,475.9	4,446.9	3,810.8	3,734.8	78.2	-2.3	166.5	469.7	150.5	319.2	28.9
III	4,566.6	4,537.0	3,888.7	3,821.8	77.5	-10.5	172.3	475.9	151.2	324.7	29.6
IV	4,665.8	4,634.3	3,973.9	3,903.8	77.6	-7.4	177.1	483.3	152.8	330.5	31.5
1988: I	4,739.8	4,703.3	4,027.0	3,960.6	79.5	-13.1	180.7	495.5	158.0	337.5	36.5
II	4,838.5	4,808.4	4,121.2	4,042.5	78.8	-.1	185.1	502.1	158.7	343.5	30.0
III	4,926.9	4,894.7	4,194.7	4,119.6	83.7	-8.6	190.8	509.2	159.8	349.4	32.3
IV	5,017.3	4,982.9	4,271.1	4,225.5	82.3	-16.6	195.5	516.3	160.8	355.5	34.5
1989: I	5,113.1	5,078.5	4,347.2	4,280.0	91.3	-24.1	201.2	530.1	168.3	361.8	34.5
II	5,201.7	5,170.8	4,426.7	4,356.0	89.0	-18.3	207.1	536.9	169.1	367.9	31.0
III	5,281.0	5,247.4	4,489.0	4,431.3	83.2	-25.5	214.4	544.0	170.1	373.9	33.5
IV P	5,337.0	5,301.8	4,530.5	4,477.0	79.1	-25.5	219.7	551.6	171.1	380.5	35.2

<sup>1</sup> Includes compensation of employees in government enterprises.

<sup>2</sup> Compensation of government employees.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE C-9.—Gross national product by sector in 1982 dollars, 1929–89

(Billions of 1982 dollars; quarterly data at seasonally adjusted annual rates)

Year or quarter	Gross national product	Gross domestic product									Rest of the world
		Total	Business <sup>1</sup>				Households and institutions	Government <sup>2</sup>			
			Total <sup>1</sup>	Nonfarm <sup>1</sup>	Farm	Statistical discrepancy		Total	Federal	State and local	
1929	709.6	704.6	611.6	547.8	54.1	9.7	34.4	58.6	13.2	45.3	4.9
1933	498.5	496.1	404.9	338.7	56.6	9.6	27.1	64.0	16.2	47.9	2.4
1939	716.6	713.5	586.8	518.3	56.4	12.1	33.3	93.4	38.9	54.6	3.1
1940	772.9	770.3	635.5	571.2	54.6	9.7	35.8	99.0	44.1	55.0	2.6
1941	909.4	906.0	738.7	675.8	58.1	4.8	35.8	131.5	76.2	55.3	3.4
1942	1,080.3	1,077.1	832.9	774.4	62.4	-4.0	36.9	207.4	152.9	54.4	3.1
1943	1,276.2	1,273.4	891.6	841.6	59.2	-9.2	34.3	347.6	294.6	52.9	2.7
1944	1,380.6	1,377.7	934.3	862.5	57.2	14.6	34.3	409.1	357.5	51.7	2.9
1945	1,354.8	1,352.6	914.3	839.3	53.7	21.3	34.4	403.8	350.7	53.2	2.3
1946	1,096.9	1,093.3	866.3	809.0	54.0	3.3	35.4	191.6	135.0	56.6	3.6
1947	1,066.7	1,061.6	886.1	828.6	49.9	7.6	37.9	137.7	76.7	61.0	5.1
1948	1,108.7	1,102.5	925.4	875.1	55.2	-4.9	41.2	135.8	73.2	62.6	6.2
1949	1,109.0	1,103.4	916.7	858.5	55.0	3.2	42.4	144.2	77.1	67.1	5.6
1950	1,203.7	1,197.4	1,002.8	941.4	58.3	3.1	45.0	149.6	80.3	69.3	6.2
1951	1,328.2	1,320.3	1,080.5	1,014.9	56.0	9.7	46.1	193.7	122.8	71.0	7.9
1952	1,380.0	1,371.7	1,114.7	1,050.9	57.2	6.5	46.2	210.7	137.5	73.3	8.3
1953	1,435.3	1,427.4	1,170.0	1,101.3	59.3	9.4	47.7	209.7	133.2	76.5	7.9
1954	1,416.2	1,407.8	1,154.6	1,084.2	60.9	9.5	48.4	204.8	125.0	79.8	8.4
1955	1,494.9	1,485.5	1,229.7	1,161.5	62.0	6.2	53.2	202.6	119.2	83.4	9.4
1956	1,525.6	1,515.0	1,254.1	1,199.6	60.7	-6.2	56.1	204.8	116.1	88.7	10.7
1957	1,551.1	1,539.7	1,274.0	1,219.0	58.8	-3.8	57.7	208.0	114.5	93.5	11.5
1958	1,539.2	1,529.7	1,260.4	1,199.7	61.2	-5.0	60.7	208.6	109.5	99.2	9.5
1959	1,629.1	1,619.1	1,345.8	1,291.6	58.8	-4.6	62.7	210.6	107.5	103.1	10.0
1960	1,665.3	1,654.1	1,369.7	1,317.2	61.1	-8.7	67.4	217.1	108.9	108.2	11.1
1961	1,708.7	1,696.6	1,403.2	1,346.7	60.2	-3.7	68.0	225.4	111.5	113.9	12.1
1962	1,799.4	1,785.6	1,480.9	1,421.1	59.8	-1.0	70.7	233.9	116.7	117.3	13.9
1963	1,873.3	1,858.5	1,546.7	1,488.7	59.8	-1.8	72.5	239.2	116.1	123.1	14.9
1964	1,973.3	1,957.1	1,635.2	1,581.6	57.7	-4.1	74.6	247.3	116.8	130.5	16.1
1965	2,087.6	2,070.6	1,737.4	1,681.8	59.0	-3.4	77.4	255.8	117.3	138.5	17.0
1966	2,208.3	2,192.5	1,837.1	1,776.5	54.7	5.9	80.4	275.0	128.1	146.9	15.9
1967	2,271.4	2,255.0	1,880.9	1,824.2	57.7	-1.0	83.1	291.0	138.5	152.4	16.3
1968	2,365.6	2,347.9	1,961.1	1,908.3	55.7	-2.8	85.6	301.2	140.7	160.5	17.7
1969	2,423.3	2,406.2	2,009.8	1,962.1	57.2	-9.5	88.2	308.2	141.0	167.2	17.0
1970	2,416.2	2,399.1	2,004.4	1,946.4	60.7	-2.7	87.0	307.7	133.2	174.5	17.1
1971	2,484.8	2,464.1	2,068.0	2,001.4	62.3	4.2	88.8	307.4	125.5	181.9	20.7
1972	2,608.5	2,584.9	2,186.6	2,128.0	62.0	-3.4	91.2	307.1	118.3	188.8	23.7
1973	2,744.1	2,711.8	2,309.1	2,256.6	61.1	-8.6	93.4	309.3	113.6	195.7	32.2
1974	2,729.3	2,693.5	2,283.9	2,226.5	60.7	-3.3	93.9	315.7	113.5	202.1	35.9
1975	2,695.0	2,665.7	2,249.6	2,180.6	64.8	4.2	96.4	319.6	112.8	206.8	29.3
1976	2,826.7	2,793.7	2,374.8	2,306.6	62.5	5.6	97.0	321.9	112.7	209.0	33.0
1977	2,958.6	2,921.2	2,497.2	2,434.9	62.2	-1.0	98.0	326.0	112.7	213.3	37.4
1978	3,115.2	3,073.0	2,639.2	2,581.0	61.0	-2.8	101.0	332.8	113.9	219.0	42.1
1979	3,192.4	3,136.6	2,696.4	2,633.2	64.6	-1.4	103.7	336.5	113.0	223.5	55.7
1980	3,187.1	3,131.7	2,683.2	2,613.1	64.2	5.9	107.3	341.2	114.4	226.8	55.5
1981	3,248.8	3,193.6	2,739.8	2,659.6	75.7	4.4	109.9	343.9	115.8	228.1	55.2
1982	3,166.0	3,114.8	2,658.2	2,581.3	77.0	-1.1	112.7	343.9	117.0	226.9	51.2
1983	3,279.1	3,231.2	2,770.1	2,703.7	61.3	5.0	114.9	346.3	119.0	227.3	47.9
1984	3,501.4	3,457.5	2,990.1	2,916.6	68.5	5.0	117.6	349.8	120.5	229.3	43.9
1985	3,618.7	3,581.9	3,103.3	3,028.1	79.4	-4.3	121.3	357.4	122.3	235.0	36.9
1986	3,717.9	3,687.4	3,198.2	3,115.7	84.1	-1.6	125.7	363.5	122.6	240.8	30.5
1987	3,853.7	3,827.2	3,328.9	3,249.6	83.4	-4.1	128.6	369.6	123.6	246.0	26.6
1988	4,024.4	3,996.3	3,482.9	3,418.2	72.7	-8.0	137.3	376.1	125.2	250.9	28.1
1989 P	4,142.6	4,115.4	3,587.0	3,528.1	77.7	-18.8	146.3	382.1	126.9	255.2	27.2
1982: IV	3,159.3	3,111.3	2,654.1	2,567.1	80.3	6.7	113.8	343.5	117.6	225.9	48.0
1983: I	3,365.1	3,316.6	2,853.2	2,795.3	55.6	2.3	115.8	347.5	119.4	228.1	48.5
1984: I	3,535.2	3,493.1	3,022.2	2,953.0	71.1	-1.9	119.0	351.9	121.2	230.7	42.1
1985: IV	3,662.4	3,624.7	3,141.7	3,066.2	82.5	-7.1	123.2	359.9	125.5	237.4	37.6
1986: IV	3,733.6	3,707.7	3,215.1	3,137.2	86.4	-8.5	126.3	366.3	123.2	243.1	25.9
1987: I	3,783.0	3,755.0	3,261.6	3,176.5	84.1	1.1	126.4	367.0	122.9	244.1	28.0
1987: II	3,823.5	3,798.2	3,301.9	3,222.7	81.1	-2.0	127.5	368.8	123.3	245.5	25.3
1987: III	3,872.8	3,847.0	3,346.8	3,273.0	82.9	-9.1	129.7	370.5	123.9	246.6	25.8
1987: IV	3,935.6	3,908.3	3,405.0	3,326.1	85.3	-6.4	131.1	372.2	124.4	247.9	27.3
1988: I	3,974.8	3,943.5	3,436.0	3,364.2	83.0	-11.2	133.5	374.0	124.9	249.1	31.3
1988: II	4,010.7	3,985.1	3,474.1	3,398.8	75.3	-0.0	136.0	375.0	124.7	250.3	25.6
1988: III	4,042.7	4,015.6	3,499.7	3,435.5	71.4	-7.2	139.0	376.8	125.3	251.5	27.1
1988: IV	4,069.4	4,040.8	3,521.7	3,474.2	61.2	-13.7	140.5	378.6	126.0	252.7	28.5
1989: I	4,106.8	4,078.5	3,555.7	3,494.5	80.8	-19.7	142.7	380.1	126.4	253.7	28.3
1989: II	4,132.5	4,107.3	3,580.7	3,518.6	76.9	-14.8	145.4	381.2	126.5	254.7	25.2
1989: III	4,162.9	4,135.9	3,605.1	3,549.7	76.0	-20.5	148.0	382.7	127.0	255.7	27.0
1989: IV P	4,168.1	4,140.1	3,606.4	3,549.7	77.1	-20.3	149.1	384.5	127.6	256.9	28.0

<sup>1</sup> Includes compensation of employees in government enterprises.

<sup>2</sup> Compensation of government employees.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE C-10.—Gross national product by industry, 1947–88

(Billions of dollars)

Year	Gross national product	Gross domestic product											Rest of the world	
		Agriculture, forestry, and fisheries	Mining	Construction	Manufacturing			Transportation and public utilities	Wholesale and retail trade	Finance, insurance, and real estate	Services	Government and government enterprises		Statistical discrepancy
					Total	Durable goods	Non-durable goods							
1947	235.2	20.8	6.8	9.1	66.2	33.5	32.7	21.0	44.2	23.8	20.2	20.2	1.8	1.2
1948	261.6	24.0	9.4	11.5	74.7	38.2	36.6	23.7	48.4	26.9	21.9	20.8	-1.3	1.5
1949	260.4	19.5	8.1	11.5	72.2	37.1	35.0	23.9	48.0	29.2	22.6	23.2	.8	1.4
1950	288.3	20.8	9.3	13.2	84.0	45.9	38.1	26.6	51.5	32.2	24.2	24.2	.8	1.5
1951	333.4	23.9	10.2	15.6	99.0	55.5	43.4	30.2	56.8	35.5	26.4	31.2	2.7	2.0
1952	351.6	23.2	10.2	16.9	103.3	59.0	44.3	32.2	59.0	39.1	28.1	35.7	1.8	2.2
1953	371.6	21.4	10.7	17.5	112.5	66.1	46.4	34.2	60.4	43.3	30.2	36.8	2.6	2.1
1954	372.5	20.8	11.0	17.7	106.7	61.0	45.7	33.8	61.6	47.0	31.6	37.4	2.7	2.2
1955	405.9	20.0	12.5	19.1	121.3	70.8	50.4	36.8	67.0	50.7	35.1	39.0	1.8	2.6
1956	428.2	19.8	13.6	21.3	127.2	73.9	53.3	39.6	71.3	54.3	38.7	41.2	-1.9	3.0
1957	451.0	19.6	13.7	22.2	131.8	78.0	53.9	41.7	75.0	58.5	41.7	44.5	-1.2	3.4
1958	456.8	22.1	12.6	21.8	124.3	70.0	54.3	41.9	76.4	63.1	44.0	47.8	-1	2.9
1959	495.8	20.4	12.5	23.7	141.8	81.6	60.3	45.1	83.3	68.2	48.3	50.8	-1.5	3.1
1960	515.3	21.7	12.8	24.3	144.4	82.5	61.9	47.3	85.7	72.8	51.4	54.2	-2.8	3.5
1961	533.8	21.8	12.9	25.3	145.0	81.6	63.3	48.9	88.0	76.9	54.9	57.6	-1.2	3.8
1962	574.6	22.3	13.1	27.1	158.6	91.9	66.8	51.9	94.1	81.7	59.2	62.1	.0	4.5
1963	606.9	22.3	13.4	28.9	168.1	98.0	70.1	54.8	98.2	86.5	63.3	67.0	-6	4.9
1964	649.8	21.4	13.8	31.6	180.2	105.7	74.5	58.3	107.1	92.0	69.0	72.5	-1.4	5.4
1965	705.1	24.2	14.0	34.7	198.4	118.4	80.0	62.6	115.0	98.9	74.6	78.2	-1.2	5.8
1966	772.0	25.3	14.6	37.9	217.4	130.8	86.6	67.4	124.1	106.9	82.5	88.1	2.1	5.6
1967	816.4	24.9	15.9	37.7	222.9	133.7	89.2	70.7	132.9	115.6	90.6	98.4	-4	6.0
1968	892.7	25.7	16.2	43.5	243.6	146.1	97.5	76.4	146.8	125.1	99.1	110.5	-1.1	6.8
1969	963.9	28.6	17.1	48.7	257.1	154.2	102.9	82.6	159.2	136.3	110.5	121.0	-3.9	6.8
1970	1,015.5	29.9	18.7	51.4	252.3	145.9	106.3	88.4	168.7	145.8	120.2	134.0	-1.1	7.3
1971	1,102.7	32.2	18.8	56.5	265.7	153.8	111.9	97.1	183.7	161.4	130.2	145.9	1.8	9.3
1972	1,212.8	37.4	20.2	63.0	292.5	172.6	119.9	108.0	202.6	174.8	144.6	160.1	-1.6	11.2
1973	1,359.3	56.2	23.4	70.4	326.4	195.4	131.0	118.7	225.6	190.5	163.2	173.1	-4.3	16.2
1974	1,472.8	55.0	36.9	74.5	338.5	201.7	136.7	129.1	246.0	206.7	179.4	189.0	-1.7	19.5
1975	1,598.4	56.3	41.3	76.5	357.3	206.3	151.0	141.7	273.7	221.7	199.8	210.1	2.5	17.5
1976	1,782.8	55.7	46.0	86.2	409.3	239.7	169.7	160.4	299.7	246.1	224.9	229.7	3.6	21.1
1977	1,990.5	58.9	50.2	97.9	465.3	277.7	187.7	178.9	332.8	280.3	253.4	247.4	.0	25.4
1978	2,249.7	70.1	56.5	115.6	518.8	317.4	201.4	201.0	373.5	326.3	289.1	270.3	-1.9	30.5
1979	2,508.2	83.1	72.7	131.4	561.8	345.2	216.5	216.1	415.8	363.3	328.7	292.4	-1.0	43.8
1980	2,732.0	77.2	107.3	137.7	581.0	351.8	229.2	240.8	438.8	400.6	374.0	322.1	4.9	47.6
1981	3,052.6	92.0	143.7	138.4	643.1	385.8	257.3	269.6	483.1	449.3	422.6	354.7	4.1	52.1
1982	3,166.0	89.6	132.1	140.9	634.6	362.5	272.1	288.4	506.5	475.1	463.6	383.9	-1	51.2
1983	3,405.7	74.3	118.4	149.6	683.2	385.6	297.6	320.0	542.9	536.4	515.5	410.5	5.2	49.9
1984	3,772.2	92.9	119.4	171.5	771.9	451.1	320.8	354.4	614.0	572.8	580.2	442.5	5.4	47.4
1985	4,014.9	92.0	114.2	186.6	789.5	458.8	330.8	374.1	658.2	639.5	648.1	476.7	-4.8	40.7
1986 <sup>1</sup>	4,231.6													34.4
1987 <sup>1</sup>	4,524.3													30.5
1988 <sup>1</sup>	4,880.6													33.3

<sup>1</sup> Gross domestic product by industry is not available for 1986–88. Data for 1977–88 based on a revised methodology are expected to be published in the *Survey of Current Business*, March 1990.

Note.—The industry classification is on an establishment basis and is based on the 1972 Standard Industrial Classification.

Source: Department of Commerce, Bureau of Economic Analysis.



TABLE C-11.—Gross national product by industry in 1982 dollars, 1947-88

(Billions of 1982 dollars)

Year	Gross national product	Gross domestic product													Rest of the world
		Agriculture, forestry, and fisheries	Mining	Construction	Manufacturing			Transportation and public utilities	Wholesale and retail trade	Finance, insurance, and real estate	Services	Government and government enterprises	Statistical discrepancy	Residual <sup>1</sup>	
					Total	Durable goods	Non-durable goods								
1947	1,066.7	55.6	67.6	76.7	226.1	138.1	88.0	100.0	157.8	103.0	124.7	156.2	7.6	-13.6	5.1
1948	1,108.7	61.3	72.4	90.0	238.5	145.0	93.5	98.7	161.9	107.7	128.9	155.5	-4.9	-7.5	6.2
1949	1,109.0	61.0	65.7	89.4	226.3	133.2	93.1	90.7	166.1	112.2	129.0	164.0	3.2	-4.2	5.6
1950	1,203.7	64.3	72.8	100.0	257.7	156.7	101.0	95.3	182.1	119.7	133.8	169.2	3.1	-6	6.2
1951	1,328.2	62.6	80.8	110.9	288.4	181.4	107.0	104.9	183.7	126.4	136.9	214.0	9.7	2.0	7.9
1952	1,380.0	64.2	81.5	115.9	298.2	190.6	107.6	104.5	189.5	134.7	139.4	231.9	6.5	5.3	8.3
1953	1,435.3	66.3	84.3	119.9	319.9	208.4	111.5	106.7	195.6	142.2	142.7	230.9	9.4	9.4	7.9
1954	1,416.2	68.2	83.3	124.8	296.6	185.8	110.8	104.1	197.1	149.5	145.9	225.4	9.5	3.5	8.4
1955	1,494.9	69.1	92.0	133.3	327.7	208.5	119.2	112.3	215.0	160.2	153.0	223.4	6.2	-6.6	9.4
1956	1,525.6	67.8	96.5	142.7	330.6	207.3	123.3	117.7	221.5	168.8	161.1	225.6	-6.2	-11.1	10.7
1957	1,551.1	65.9	96.2	142.4	332.5	208.7	123.8	119.9	225.1	178.3	168.6	229.2	-3.8	-14.7	11.5
1958	1,539.2	65.8	89.1	147.5	303.5	180.1	123.4	116.1	225.0	184.5	174.3	230.1	-5	-8.1	9.5
1959	1,629.1	68.3	94.1	160.4	338.0	203.0	135.0	123.5	240.7	195.9	183.5	232.8	-4.6	-11.0	10.0
1960	1,665.3	68.3	94.2	163.1	338.7	202.4	136.3	127.8	245.4	206.5	190.2	240.3	-8.7	-11.6	11.1
1961	1,708.7	67.5	95.6	165.1	339.4	199.9	139.5	130.0	247.8	215.0	197.7	249.2	-3.7	-6.9	12.1
1962	1,799.4	67.1	98.1	172.5	368.3	220.5	147.8	136.3	263.9	226.5	207.7	258.4	.1	-13.3	13.9
1963	1,873.3	67.2	102.2	177.5	397.4	238.9	158.5	143.8	273.9	235.9	217.4	264.5	-1.8	-19.7	14.9
1964	1,973.3	65.2	105.7	185.9	425.4	259.3	166.2	150.4	290.7	245.8	230.7	274.0	-4.1	-12.6	16.1
1965	2,087.6	66.7	109.4	193.7	462.5	286.9	175.6	161.5	309.8	259.8	240.4	284.3	-3.4	-14.0	17.0
1966	2,208.3	62.4	115.0	194.4	497.9	312.3	185.6	174.2	326.5	271.1	253.9	305.5	5.9	-14.5	15.9
1967	2,271.4	65.5	120.2	190.7	496.6	311.9	184.7	178.1	335.4	282.4	265.2	322.3	-1.0	-2	16.3
1968	2,365.6	63.6	124.7	190.2	522.0	326.2	195.8	189.5	354.8	296.0	274.7	332.6	-2.8	2.8	17.7
1969	2,423.3	65.3	128.9	183.6	537.4	334.1	202.6	200.3	361.7	314.0	287.8	340.2	-9.5	-2.7	17.0
1970	2,416.2	68.8	134.5	168.0	506.8	304.8	202.0	203.9	367.6	320.7	295.7	339.6	-2.7	-3.9	17.1
1971	2,484.8	70.6	132.4	162.7	515.5	305.5	210.0	209.8	385.7	335.9	302.4	340.0	4.2	4.8	20.7
1972	2,608.5	70.9	134.4	166.7	561.2	336.5	224.8	223.8	414.8	350.9	320.0	340.5	-3.4	5.1	23.7
1973	2,744.1	70.3	133.4	170.4	621.3	377.0	244.3	243.0	437.0	367.7	340.2	343.4	-8.6	-6.2	32.2
1974	2,729.3	69.7	130.3	162.3	591.6	363.5	228.1	248.8	426.2	381.6	347.5	350.6	-3.3	-11.8	35.9
1975	2,695.0	73.1	125.6	149.4	547.5	325.2	222.2	246.4	433.1	387.6	352.4	355.0	4.2	-8.7	29.3
1976	2,826.7	71.5	124.4	158.1	600.6	357.4	243.2	257.1	454.4	403.1	367.7	357.7	5.6	-6.6	33.0
1977	2,958.6	71.6	126.2	165.1	645.0	386.2	258.9	268.5	479.2	417.7	388.4	362.9	.1	-3.4	37.4
1978	3,115.2	71.8	128.8	176.7	683.4	415.9	267.5	284.8	502.3	442.5	411.9	371.5	-2.8	2.1	42.1
1979	3,192.4	76.1	130.0	173.5	697.1	423.5	273.5	293.4	511.7	459.2	429.8	376.2	-1.4	-9.0	55.7
1980	3,187.1	76.2	135.6	161.6	665.4	401.5	263.9	293.4	500.4	464.3	442.6	382.7	5.9	3.5	55.5
1981	3,248.8	88.0	139.8	147.4	676.1	404.9	271.2	296.2	507.3	474.2	462.5	385.3	4.4	12.5	55.2
1982	3,166.0	89.6	132.1	140.9	634.6	362.5	272.1	288.4	506.5	475.1	463.6	383.9	-1	.0	51.2
1983	3,279.1	74.5	125.4	147.3	675.5	390.4	285.1	300.8	529.1	489.0	486.6	387.4	5.0	10.6	47.9
1984	3,501.4	82.2	133.0	159.2	757.9	466.8	291.1	320.4	578.9	506.6	514.0	392.1	5.0	8.1	43.9
1985	3,618.7	93.8	130.1	165.4	786.8	493.7	293.0	326.0	610.3	524.3	546.4	400.8	-4.3	2.3	36.9
1986 <sup>2</sup>	3,717.9														30.5
1987 <sup>2</sup>	3,853.7														26.6
1988 <sup>2</sup>	4,024.4														28.1

<sup>1</sup> Equals GNP in constant dollars measured as the sum of incomes less GNP in constant dollars measured as the sum of gross product by industry.<sup>2</sup> Gross domestic product by industry is not available for 1986-88. Data for 1977-88 based on a revised methodology are expected to be published in the *Survey of Current Business*, March 1990.

Note.—The industry classification is on an establishment basis and is based on the 1972 Standard Industrial Classification.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE C-12.—Gross domestic product of nonfinancial corporate business, 1940-89

(Billions of dollars; quarterly data at seasonally adjusted annual rates)

Year or quarter	Gross domestic product of non-financial corporate business	Capital consumption allowances with capital consumption adjustment	Net domestic product														
			Total	Indirect business tax, etc. <sup>1</sup>	Domestic income										Inventory valuation adjustment	Capital consumption adjustment	Net interest
					Total	Compensation of employees	Corporate profits with inventory valuation and capital consumption adjustments										
							Total	Profits before tax	Profits tax liability	Profits after tax							
										Total	Dividends	Undistributed profits					
1940	50.6	5.0	45.6	5.5	40.2	31.2	7.6	8.8	2.7	6.1	3.5	2.6	-0.2	-1.0	1.4		
1941	65.9	5.4	60.5	6.4	54.1	39.8	13.0	16.4	7.5	9.0	3.9	5.0	-2.5	-1.0	1.3		
1942	83.3	6.0	77.3	6.8	70.5	51.0	18.2	20.1	11.2	8.9	3.7	5.2	-1.2	-7.1	1.3		
1943	99.1	6.1	93.0	7.3	85.7	62.2	22.4	23.6	13.8	8.8	3.9	5.8	-8	-4	1.1		
1944	102.6	6.2	96.4	8.1	88.3	65.1	22.2	22.2	12.6	9.6	4.1	5.6	-3	-3	1.0		
1945	95.8	6.3	89.5	8.9	80.6	61.9	17.7	17.8	10.2	7.6	4.1	3.5	-6	-5	1.0		
1946	99.8	7.4	92.4	10.1	82.3	67.2	14.4	22.0	8.6	13.4	4.8	8.6	-5.3	-2.3	.7		
1947	121.2	9.0	112.2	11.9	100.3	79.1	20.4	29.1	10.8	18.3	5.5	12.8	-5.9	-2.8	.8		
1948	138.9	10.5	128.4	13.2	115.2	87.7	26.6	31.8	11.8	20.0	6.0	14.0	-2.2	-3.0	.9		
1949	135.2	11.2	123.9	13.9	110.1	85.2	23.9	24.9	9.3	15.6	6.0	9.6	1.9	-2.9	1.0		
1950	153.6	12.1	141.5	15.3	126.2	94.7	30.6	38.5	16.9	21.6	7.5	14.1	-5.0	-2.9	.9		
1951	176.3	13.9	162.4	16.5	146.0	110.2	34.7	39.1	21.2	17.9	7.1	10.8	-1.2	-3.2	1.1		
1952	184.0	14.9	169.1	18.0	151.1	118.2	31.7	33.8	17.8	16.0	7.1	8.8	1.0	-3.0	1.2		
1953	196.6	15.9	180.7	19.2	161.5	128.6	31.5	34.9	18.5	16.4	7.3	9.1	-1.0	-2.4	1.3		
1954	193.5	16.8	176.7	18.6	158.1	126.4	30.1	32.1	15.6	16.4	7.4	9.0	-3	-1.6	1.6		
1955	218.5	17.9	200.7	20.0	180.6	138.4	40.0	42.0	20.2	21.8	8.5	13.4	-1.7	-3	1.6		
1956	233.6	20.1	213.5	22.4	191.1	151.3	38.1	41.8	20.1	21.8	9.0	12.7	-1.7	-1.1	1.8		
1957	244.1	22.1	221.9	23.7	198.2	159.0	37.0	39.8	19.1	20.7	9.3	11.4	-1.5	-1.2	2.2		
1958	238.0	23.2	214.8	24.1	190.7	155.8	32.2	33.7	16.2	17.5	9.3	8.2	-3	-1.2	2.7		
1959	267.1	24.3	242.8	26.2	216.7	171.5	42.1	43.1	20.7	22.4	10.0	12.4	-3.3	-8	3.1		
1960	277.6	25.3	252.4	28.5	223.9	181.2	39.2	39.7	19.2	20.5	10.6	9.9	-2	-2	3.5		
1961	285.2	26.0	259.1	29.8	229.4	185.3	40.1	39.5	19.5	20.1	10.6	9.5	3	4.0	4.0		
1962	311.1	27.0	284.2	32.2	252.0	200.1	47.3	44.2	20.6	23.5	11.4	12.2	0	3.1	4.5		
1963	331.1	28.0	303.0	34.2	268.7	211.1	52.8	48.9	22.8	26.2	12.6	13.5	-1	3.9	4.8		
1964	357.7	29.6	328.0	36.8	291.2	226.7	59.3	55.4	24.0	31.4	13.7	17.7	-5	4.4	5.3		
1965	392.7	31.6	361.1	39.4	321.7	246.5	69.1	65.2	27.2	38.0	15.6	22.4	-1.2	5.2	6.1		
1966	430.2	34.5	395.7	40.7	355.0	274.0	73.7	70.3	29.5	40.8	16.8	24.0	-2.1	5.5	7.4		
1967	452.6	37.8	414.8	43.3	371.5	292.3	70.5	66.5	27.8	38.6	17.5	21.2	-1.6	5.5	8.8		
1968	499.7	41.7	458.0	49.9	408.1	323.2	74.8	73.1	33.6	39.5	19.1	20.4	-3.7	5.3	10.1		
1969	542.2	45.7	496.6	54.9	441.6	358.8	69.6	69.6	33.3	36.2	19.1	17.1	-5.9	5.9	13.2		
1970	560.4	50.2	510.2	59.0	451.2	378.7	55.4	57.0	27.2	29.8	18.5	11.3	-6.6	5.0	17.1		
1971	605.1	55.1	550.0	64.7	485.3	402.0	65.2	65.6	29.9	35.6	18.5	17.1	-4.6	4.2	18.1		
1972	671.8	60.5	611.3	69.4	541.9	447.1	75.7	76.8	33.8	43.0	20.1	22.9	-6.6	5.5	19.2		
1973	753.8	65.6	687.4	76.5	610.8	505.9	82.4	86.9	40.2	56.7	21.3	35.6	-20.0	5.6	22.5		
1974	812.8	76.8	736.0	81.5	654.5	556.8	69.4	107.2	42.2	65.0	21.7	42.3	-39.5	1.7	28.3		
1975	881.5	92.5	789.0	88.3	706.7	580.4	91.6	109.2	41.5	67.7	24.8	42.9	-11.0	-6.6	28.7		
1976	995.5	103.0	892.5	95.4	797.1	656.3	113.3	138.3	53.0	85.4	27.8	57.6	-14.9	-10.2	27.5		
1977	1,126.1	115.1	1,010.9	104.4	906.5	741.0	134.9	160.5	59.9	100.6	32.0	68.6	-16.6	-9.0	30.6		
1978	1,274.1	130.8	1,143.3	114.1	1,029.2	847.4	146.0	182.1	67.1	115.0	37.2	77.8	-25.3	-10.9	35.9		
1979	1,417.4	150.7	1,266.7	122.1	1,144.7	962.0	139.1	195.8	69.6	126.2	39.3	86.9	-43.2	-13.5	43.5		
1980	1,540.8	172.5	1,368.2	138.5	1,229.7	1,051.1	123.1	181.8	67.0	114.8	45.5	69.3	-43.1	-15.5	55.5		
1981	1,738.4	200.2	1,538.1	165.9	1,372.3	1,160.5	144.2	181.5	63.9	117.6	53.4	64.2	-24.2	-13.1	67.5		
1982	1,782.2	223.0	1,559.3	166.9	1,392.4	1,203.9	111.9	129.7	46.3	83.4	59.7	23.7	-10.4	-7.5	76.6		
1983	1,914.2	229.8	1,684.4	182.9	1,501.5	1,266.1	165.6	159.3	59.4	99.9	66.5	33.4	-10.9	17.1	69.8		
1984	2,146.7	240.1	1,906.6	204.2	1,702.5	1,399.8	222.4	196.0	73.5	122.5	69.5	53.0	-5.8	32.1	80.3		
1985	2,267.1	252.6	2,014.5	218.4	1,796.1	1,489.8	225.3	170.2	69.9	100.4	72.2	28.2	-1.7	56.7	81.1		
1986	2,367.1	267.4	2,099.7	230.2	1,869.5	1,567.1	214.0	156.4	75.4	81.0	74.4	6.6	-6.7	50.9	88.4		
1987	2,520.7	281.7	2,239.0	242.3	1,996.6	1,665.1	224.6	197.2	93.1	104.1	81.4	22.7	-18.9	46.3	106.9		
1988	2,731.3	297.1	2,434.2	260.0	2,174.2	1,799.1	249.3	233.4	105.4	128.0	83.0	45.0	-25.0	40.9	125.8		
1989	2,903.5	317.1	2,586.4	276.0	2,310.4	1,938.8	222.9	217.1	97.4	119.7	96.0	23.7	-18.5	24.3	148.7		
1982: IV	1,779.4	229.7	1,549.7	169.7	1,379.9	1,206.5	100.1	116.3	41.0	75.4	62.2	13.2	-13.4	-2.8	73.4		
1983: I	2,012.5	232.2	1,780.3	189.6	1,590.7	1,319.7	199.5	183.0	70.6	112.7	68.8	43.9	-8.1	24.4	71.5		
1984: IV	2,201.8	245.0	1,956.7	210.6	1,746.1	1,436.8	222.1	181.9	66.4	115.3	68.6	46.9	-1.6	41.8	87.2		
1985: I	2,309.4	257.4	2,051.9	221.5	1,830.4	1,524.0	226.3	174.2	71.6	102.6	72.3	30.3	-6.6	58.7	80.1		
1986: IV	2,408.7	273.6	2,135.2	227.5	1,902.5	1,597.9	211.7	172.9	84.8	88.5	75.2	13.3	-8.0	46.8	93.0		
1987: I	2,439.5	277.1	2,162.5	234.9	1,927.5	1,621.1	209.6	179.4	83.5	95.8	79.1	16.7	-15.9	46.1	96.8		
1987: II	2,488.6	290.3	2,208.4	240.3	1,968.1	1,643.1	221.3	195.1	92.1	103.0	79.3	23.7	-20.0	46.1	103.7		
1987: III	2,556.2	283.3	2,272.9	246.3	2,026.6	1,677.4	238.8	211.8	101.1	110.7	81.0	29.7	-19.4	46.4	110.5		
1987: IV	2,598.4	286.2	2,312.2	247.9	2,064.4	1,719.0	228.6	202.3	95.6	106.7	86.2	20.5	-20.4	46.7	116.8		
1988: I	2,648.1	291.7	2,356.4	253.7	2,102.8	1,742.8	241.9	218.7	98.2	120.5	75.8	44.7	-20.7	43.9	118.0		
1988: II	2,705.9	295.1	2,410.9	257.3	2,153.6	1,782.1	248.7	234.9	106.6	128.3	77.4	50.9	-28.8	42.7	122.7		
1988: III	2,754.9	298.1	2,456.8	263.2	2,193.6	1,816.8	248.3	237.0	107.4	130.3	92.6	37.7	-30.4	41.0	128.5		
1988: IV	2,816.4	303.6	2,512.8	265.9	2,246.9	1,854.6	258.2	242.2	109.4	132.8	86.4	46.5	-20.1	36.1	134.0		
1989: I	2,842.7	308.4	2,534.4	269.3	2,265.0	1,889.3	235.3	242.2	110.6	131.6	98.3	33.3	-38.3	31.3	140.4		
1989: II	2,887.2	312.2	2,575.0	273.1	2,301.3	1,923.1	230.5	223.8	100.6	123.1	93.7	29.4	-20.5	27.3	147.6		
1989: III	2,936.2	321.9	2,614.3	280.3	2,334.0	1,954.3	226.7	211.5	94.7	116.8	96.0	20.8	-6.3	21.5	152.9		
1989: IV	3,260.0	326.0	2,934.0	280.8	2,653.2	1,988.5					95.9		-8.9	16.8	153.7		

<sup>1</sup> Indirect business tax and nontax liability plus business transfer payments less subsidies.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE C-13.—Output, costs, and profits of nonfinancial corporate business, 1948–89

(Quarterly data at seasonally adjusted annual rates)

Year or quarter	Gross domestic product of nonfinancial corporate business (billions of dollars)		Current-dollar cost and profit per unit of output (dollars) <sup>1</sup>							Output per hour of all employees (1982 dollars)	Compensation per hour of all employees (dollars)	
	Current dollars	1982 dollars	Total cost and profit <sup>2</sup>	Capital consumption allowances with capital consumption adjustment	Indirect business tax, etc. <sup>3</sup>	Compensation of employees	Corporate profits with inventory valuation and capital consumption adjustments					Net interest
							Total	Profits tax liability	Profits after tax <sup>4</sup>			
1948	138.9	538.9	0.258	0.019	0.025	0.163	0.049	0.022	0.027	0.002		
1949	135.2	510.7	.262	.022	.027	.165	.046	.018	.028	.002		
1950	153.6	570.4	.269	.021	.027	.166	.054	.030	.024	.002		
1951	176.3	622.4	.283	.022	.026	.177	.056	.034	.022	.002		
1952	184.0	637.3	.289	.023	.028	.185	.050	.028	.022	.002		
1953	196.6	668.4	.294	.024	.029	.192	.047	.028	.020	.002		
1954	193.5	650.8	.297	.026	.029	.194	.046	.024	.022	.002		
1955	218.5	719.3	.304	.025	.029	.192	.056	.028	.028	.002		
1956	233.6	747.0	.313	.027	.030	.203	.051	.027	.024	.002		
1957	244.1	758.1	.322	.029	.031	.210	.049	.025	.024	.003		
1958	238.0	725.2	.328	.032	.033	.215	.044	.022	.022	.004	12.771	2.743
1959	267.1	798.5	.335	.030	.033	.215	.053	.026	.027	.004	13.249	2.845
1960	277.6	820.8	.338	.031	.035	.221	.048	.023	.024	.004	13.423	2.962
1961	285.2	839.1	.340	.031	.035	.221	.048	.023	.025	.005	13.830	3.055
1962	311.1	904.8	.344	.030	.036	.221	.052	.023	.029	.005	14.350	3.174
1963	331.1	964.4	.343	.029	.035	.219	.055	.024	.031	.005	14.967	3.275
1964	357.7	1,029.0	.348	.029	.036	.220	.058	.023	.034	.005	15.519	3.419
1965	392.7	1,111.7	.353	.028	.035	.222	.062	.024	.038	.005	15.863	3.517
1966	430.2	1,189.5	.362	.029	.034	.230	.062	.025	.037	.006	16.108	3.710
1967	452.6	1,217.0	.372	.031	.036	.240	.058	.023	.035	.007	16.307	3.916
1968	499.7	1,286.5	.388	.032	.039	.251	.058	.026	.032	.008	16.753	4.209
1969	542.2	1,339.6	.405	.034	.041	.268	.052	.025	.027	.010	16.776	4.494
1970	560.4	1,325.2	.423	.038	.045	.286	.042	.021	.021	.013	16.826	4.808
1971	605.1	1,360.6	.445	.040	.048	.295	.048	.022	.026	.013	17.291	5.109
1972	671.8	1,461.1	.460	.041	.048	.306	.052	.023	.029	.013	17.632	5.395
1973	753.0	1,569.7	.480	.042	.049	.322	.053	.026	.027	.014	18.061	5.821
1974	812.8	1,533.4	.530	.050	.053	.363	.045	.028	.018	.018	17.582	6.384
1975	881.5	1,488.1	.592	.062	.059	.390	.062	.028	.034	.019	17.991	7.017
1976	995.5	1,583.5	.629	.065	.060	.414	.072	.033	.038	.017	18.337	7.600
1977	1,126.1	1,686.6	.668	.068	.062	.439	.080	.036	.044	.018	18.659	8.197
1978	1,274.1	1,789.8	.712	.073	.064	.473	.082	.037	.044	.020	18.783	8.894
1979	1,417.4	1,840.4	.770	.082	.066	.523	.076	.038	.038	.024	18.648	9.748
1980	1,540.8	1,807.9	.852	.095	.077	.581	.068	.037	.031	.031	18.524	10.769
1981	1,738.4	1,837.2	.946	.109	.090	.632	.078	.035	.044	.037	18.643	11.777
1982	1,782.2	1,782.2	1.000	.125	.094	.676	.063	.026	.037	.043	18.704	12.635
1983	1,914.2	1,886.0	1.026	.123	.098	.679	.089	.032	.057	.037	19.217	13.039
1984	2,146.7	2,036.5	1.054	.118	.100	.687	.109	.036	.073	.039	19.682	13.528
1985	2,267.1	2,117.4	1.071	.119	.103	.704	.106	.033	.073	.038	19.996	14.069
1986	2,357.1	2,175.9	1.089	.123	.106	.721	.098	.035	.064	.041	20.456	14.746
1987	2,520.7	2,282.6	1.104	.123	.106	.730	.098	.041	.059	.047	20.908	15.252
1988	2,731.3	2,419.5	1.129	.123	.107	.744	.103	.044	.059	.052	21.393	15.907
1989*	2,903.5	2,478.2	1.172	.128	.111	.782	.090	.039	.051	.060		
1982: IV	1,779.4	1,760.2	1.011	.131	.096	.685	.057	.023	.034	.042	18.770	12.866
1983: IV	2,012.5	1,940.5	1.037	.120	.098	.680	.103	.036	.066	.037	19.422	13.208
1984: IV	2,201.8	2,069.5	1.064	.118	.102	.694	.107	.032	.072	.042	19.784	13.735
1985: IV	2,309.4	2,137.7	1.080	.120	.104	.713	.106	.033	.072	.037	20.116	14.341
1986: IV	2,408.7	2,198.5	1.096	.124	.106	.727	.096	.038	.058	.042	20.650	15.008
1987: I	2,439.5	2,218.6	1.100	.125	.106	.731	.094	.038	.057	.044	20.605	15.056
II	2,488.6	2,259.2	1.102	.124	.106	.727	.098	.041	.057	.046	20.826	15.147
III	2,556.2	2,309.2	1.107	.123	.107	.726	.103	.044	.060	.048	21.090	15.319
IV	2,598.4	2,343.3	1.109	.122	.106	.734	.098	.041	.057	.050	21.176	15.535
1988: I	2,648.1	2,381.8	1.112	.122	.106	.732	.102	.041	.060	.050	21.382	15.645
II	2,705.9	2,408.9	1.123	.122	.107	.740	.103	.044	.059	.051	21.401	15.833
III	2,754.9	2,434.1	1.132	.122	.108	.746	.102	.044	.058	.053	21.469	16.024
IV	2,816.4	2,453.2	1.148	.124	.108	.756	.105	.045	.061	.055	21.446	16.213
1989: I	2,842.7	2,459.1	1.156	.125	.110	.768	.096	.045	.051	.057	21.356	16.407
II	2,887.2	2,471.3	1.168	.126	.111	.778	.093	.041	.053	.060	21.364	16.625
III	2,936.2	2,497.2	1.176	.129	.112	.783	.091	.038	.053	.061	21.516	16.842

<sup>1</sup> Output is measured by gross domestic product of nonfinancial corporate business in 1982 dollars.

<sup>2</sup> This is equal to the deflator for gross domestic product of nonfinancial corporate business with the decimal point shifted two places to the left.

<sup>3</sup> Indirect business tax and nontax liability plus business transfer payments less subsidies.

<sup>4</sup> With inventory valuation and capital consumption adjustments.

Note.—In 1989, hours of labor input were redefined as hours at the work site rather than hours paid and all historical data relating to labor input were revised.

Sources: Department of Commerce (Bureau of Economic Analysis) and Department of Labor (Bureau of Labor Statistics).

TABLE C-14.—Personal consumption expenditures, 1940-89

(Billions of dollars; quarterly data at seasonally adjusted annual rates)

Year or quarter	Personal consumption expenditures	Durable goods			Nondurable goods					Services					
		Total <sup>1</sup>	Motor vehicles and parts	Furniture and household equipment	Total <sup>1</sup>	Food	Clothing and shoes	Gasoline and oil	Fuel oil and coal	Total <sup>1</sup>	Housing <sup>2</sup>	Household operation		Transportation	Medical care
												Total <sup>1</sup>	Electricity and gas		
1940.....	71.0	7.8	2.8	3.8	37.0	20.2	7.5	2.3	1.5	26.2	9.7	4.0	1.5	2.1	2.2
1941.....	80.8	9.7	3.5	4.8	42.9	23.4	8.8	2.6	1.7	28.3	10.4	4.3	1.5	2.4	2.4
1942.....	88.6	6.9	7.7	4.6	50.8	28.4	11.0	2.1	1.9	31.0	11.2	4.8	1.6	2.7	2.7
1943.....	99.5	6.5	8.8	3.9	58.6	33.2	13.4	1.3	2.0	34.3	11.8	5.2	1.7	3.4	2.9
1944.....	108.2	6.7	8.8	3.8	64.3	36.7	14.6	1.4	2.0	37.2	12.3	5.9	1.8	3.7	3.3
1945.....	119.6	8.0	1.0	4.5	71.9	40.6	16.5	1.8	2.2	39.7	12.8	6.4	1.9	4.0	3.6
1946.....	143.9	15.8	4.1	8.4	82.7	47.4	18.2	3.4	2.5	45.4	14.2	6.8	2.1	5.0	4.6
1947.....	161.9	20.4	6.6	10.6	90.9	52.3	18.8	4.0	3.0	50.6	16.0	7.5	2.3	5.3	5.6
1948.....	174.9	22.9	8.0	11.5	96.6	54.2	20.1	4.8	3.4	55.5	17.9	8.1	2.6	5.8	6.3
1949.....	178.3	25.0	10.6	11.3	94.9	52.5	19.3	5.3	3.1	58.4	19.6	8.5	2.9	5.9	6.5
1950.....	192.1	30.8	13.7	13.7	98.2	53.9	19.6	5.5	3.4	63.2	21.7	9.5	3.3	6.2	6.9
1951.....	208.1	29.9	12.2	14.1	109.2	60.7	21.3	6.1	3.5	69.0	24.3	10.4	3.7	6.8	7.4
1952.....	219.1	29.3	11.3	14.0	114.7	64.1	22.0	6.8	3.5	75.1	27.0	11.2	4.1	7.3	8.3
1953.....	232.6	32.7	13.9	14.7	117.8	65.4	22.2	7.4	3.4	82.1	29.9	12.1	4.5	8.0	9.3
1954.....	239.8	32.1	13.0	14.8	119.7	66.8	22.3	7.8	3.5	88.0	32.3	12.7	5.0	8.2	10.2
1955.....	257.9	38.9	17.8	16.4	124.7	68.6	23.3	8.6	3.8	94.3	34.4	14.2	5.5	8.5	10.8
1956.....	270.6	38.2	15.8	17.3	130.8	71.4	24.4	9.4	3.9	101.6	36.7	15.4	6.1	8.9	11.7
1957.....	285.3	39.7	17.3	17.2	137.1	75.1	24.5	10.2	4.1	108.5	39.3	16.3	6.5	9.4	12.8
1958.....	294.6	37.2	14.8	16.9	141.7	77.9	24.9	10.6	4.2	115.7	42.0	17.4	7.1	9.7	14.0
1959.....	316.3	42.8	18.9	18.1	148.5	80.7	26.4	11.3	4.0	125.0	45.0	18.7	7.6	10.5	15.3
1960.....	330.7	43.5	19.7	18.0	153.2	82.7	27.0	12.0	3.8	134.0	48.2	20.3	8.3	11.2	16.4
1961.....	341.1	41.9	17.8	18.3	157.4	84.8	27.6	12.0	3.8	141.8	51.2	21.2	8.8	11.7	17.5
1962.....	361.9	47.0	21.5	19.3	163.8	87.1	29.0	12.6	3.8	151.1	54.7	22.4	9.4	12.2	19.4
1963.....	381.7	51.8	24.4	20.7	169.4	89.5	29.8	13.0	4.0	160.6	58.0	23.6	9.9	12.7	21.0
1964.....	409.3	56.8	26.0	23.2	179.7	94.6	32.4	13.6	4.1	172.8	61.4	25.0	10.4	13.4	24.1
1965.....	440.7	63.5	29.9	25.1	191.9	101.0	34.1	14.8	4.4	185.4	65.4	26.5	10.9	14.5	25.9
1966.....	477.3	68.5	30.3	28.2	208.5	109.0	37.4	16.0	4.7	200.3	69.5	28.2	11.5	15.9	28.3
1967.....	503.6	70.6	30.0	30.0	216.9	112.3	39.2	17.1	4.8	216.0	74.1	30.1	12.2	17.3	31.1
1968.....	552.5	81.0	36.1	32.9	235.0	121.6	43.2	18.6	4.7	236.4	79.7	32.3	13.0	18.9	35.7
1969.....	597.9	86.2	38.4	34.7	252.2	130.5	46.5	20.5	4.6	259.4	86.8	35.0	14.0	20.9	40.9
1970.....	640.0	87.7	35.9	35.7	270.3	142.1	47.8	21.9	4.4	284.0	94.0	37.7	15.2	23.7	46.1
1971.....	691.6	95.6	44.9	37.8	283.3	147.5	51.7	23.2	4.6	310.7	102.7	40.9	16.6	27.1	51.8
1972.....	757.6	111.2	51.5	42.4	305.1	158.5	56.4	24.4	5.1	341.3	112.1	45.2	18.4	29.8	57.8
1973.....	837.2	124.7	56.7	47.9	339.6	176.1	62.5	28.1	6.3	373.0	123.1	49.6	20.0	31.2	64.4
1974.....	916.5	123.8	50.3	51.5	380.9	198.2	66.0	36.1	7.8	411.9	135.1	55.4	23.5	33.9	72.4
1975.....	1,012.8	135.4	55.8	54.5	416.2	218.7	70.8	39.7	8.4	461.2	148.4	65.5	25.5	35.7	84.2
1976.....	1,129.3	161.5	72.7	60.2	452.0	236.2	76.6	43.0	10.1	515.9	163.5	72.3	32.5	41.3	95.9
1977.....	1,257.2	184.5	85.4	67.1	490.4	255.9	84.1	46.9	11.1	562.3	182.4	81.7	37.6	49.2	111.5
1978.....	1,403.5	205.6	95.1	73.9	541.8	282.2	94.8	51.3	12.0	656.1	205.2	90.9	42.1	53.5	125.1
1979.....	1,566.8	219.0	96.9	82.1	613.2	317.3	102.2	66.1	15.8	734.6	231.1	100.3	46.8	59.0	141.4
1980.....	1,732.6	219.3	90.3	86.2	681.4	349.1	109.0	83.7	18.0	831.9	261.5	113.9	56.4	64.5	164.2
1981.....	1,915.1	239.9	100.5	92.7	740.6	376.5	119.9	92.7	19.4	934.7	295.6	127.5	63.5	68.3	193.5
1982.....	2,050.7	252.7	108.9	95.7	771.0	398.8	124.4	89.1	18.6	1,027.0	321.1	143.4	72.8	69.7	217.8
1983.....	2,234.5	289.1	130.4	107.1	816.7	421.9	135.1	90.2	17.5	1,128.7	344.1	156.0	80.0	74.8	238.3
1984.....	2,430.5	335.5	157.4	118.8	867.3	448.5	146.7	90.0	17.8	1,227.6	371.3	166.9	84.8	82.0	265.3
1985.....	2,629.0	372.2	179.1	129.9	911.2	471.6	156.4	90.6	18.5	1,345.6	403.0	175.3	88.9	89.8	291.6
1986.....	2,797.4	406.0	196.2	139.7	942.0	500.0	166.8	73.5	16.6	1,449.5	434.2	179.6	87.3	96.6	318.4
1987.....	3,010.8	421.0	195.5	149.1	998.1	529.2	177.2	75.2	17.6	1,591.7	467.7	185.9	88.5	106.5	357.7
1988.....	3,235.1	455.2	211.6	162.0	1,052.3	559.7	186.8	76.8	19.5	1,727.6	501.3	197.6	93.7	117.9	398.3
1989 <sup>p</sup> .....	3,470.3	473.6	214.0	173.7	1,122.6	595.0	199.9	83.5	20.2	1,874.1	534.0	204.2	95.3	126.8	453.0
1982: IV.....	2,117.0	263.8	115.7	99.1	786.6	407.0	126.5	89.8	18.2	1,066.5	330.3	148.0	74.8	71.1	226.9
1983: IV.....	2,315.8	310.0	144.4	112.4	837.9	430.8	141.1	91.9	18.1	1,167.9	353.8	161.4	84.1	77.6	246.9
1984: IV.....	2,493.4	346.7	162.3	122.7	879.6	456.1	149.8	89.0	16.8	1,267.1	382.2	169.3	86.3	84.5	275.3
1985: IV.....	2,700.4	373.2	173.8	137.4	932.7	482.5	160.6	91.0	19.7	1,394.5	416.2	179.0	90.2	92.1	304.3
1986: IV.....	2,868.5	422.0	201.1	143.8	952.1	511.9	168.7	66.0	16.0	1,494.4	446.1	180.9	87.0	99.8	330.9
1987: I.....	2,914.7	401.2	179.9	146.2	976.4	521.3	173.4	71.7	16.4	1,537.1	454.9	180.8	85.8	103.0	342.0
1987: II.....	2,989.4	419.2	194.4	147.7	994.3	526.8	175.7	75.5	17.6	1,575.8	462.8	186.6	89.9	105.2	350.3
1987: III.....	3,055.9	439.3	211.3	151.0	1,006.0	531.7	178.9	76.8	17.7	1,610.6	471.3	188.7	90.1	106.3	364.3
1987: IV.....	3,083.3	424.5	196.3	151.4	1,015.4	536.8	180.6	76.7	18.8	1,643.3	481.9	187.5	88.4	111.4	371.1
1988: I.....	3,148.1	446.4	210.3	156.9	1,022.2	542.5	180.8	74.3	19.3	1,679.5	490.8	192.9	92.2	113.1	379.9
1988: II.....	3,204.9	454.6	212.5	162.2	1,044.4	554.5	183.6	76.9	19.4	1,707.9	496.6	194.9	92.1	117.4	391.3
1988: III.....	3,263.4	452.5	208.4	162.7	1,066.2	567.8	188.9	78.3	19.6	1,744.7	505.0	200.2	94.5	119.8	404.7
1988: IV.....	3,324.0	467.4	215.3	166.1	1,078.4	574.1	193.9	77.6	19.7	1,778.2	513.0	202.4	95.8	121.5	417.4
1989: I.....	3,381.4	466.4	211.7	172.1	1,098.3	587.3	195.0	77.9	18.7	1,816.7	520.2	201.1	93.6	124.4	432.3
1989: II.....	3,444.1	471.0	212.9	173.5	1,121.5	592.2	198.9	89.5	19.6	1,851.7	527.7	202.3	94.6	125.6	445.1
1989: III.....	3,508.1	486.1	225.6	173.9	1,131.4	598.1	202.2	85.2	19.9	1,890.6	538.4	202.4	93.6	126.7	459.1
1989: IV <sup>p</sup> .....	3,547.5	471.0	205.9	175.2	1,139.1	602.2	203.7	81.4	22.8	1,937.5	549.5	210.9	99.4	130.7	475.3

<sup>1</sup> Includes other items not shown separately.

<sup>2</sup> Includes imputed rental value of owner-occupied housing.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE C-15.—Personal consumption expenditures in 1982 dollars, 1940-89

(Billions of 1982 dollars; quarterly data at seasonally adjusted annual rates)

Year or quarter	Personal consumption expenditures	Durable goods				Nondurable goods					Services					
		Total <sup>1</sup>	Motor vehicles and parts	Furniture and household equipment	Total <sup>1</sup>	Food	Clothing and shoes	Gasoline and oil	Fuel oil and coal	Total <sup>1</sup>	Housing <sup>2</sup>	Household operation		Transportation	Medical care	
												Total <sup>1</sup>	Electricity and gas			
1940	502.6	40.6	18.6	17.6	259.4	150.6	36.3	17.2	23.8	202.7	53.6	32.4	7.1	17.7	21.6	
1941	531.1	46.2	20.6	20.4	275.6	158.3	38.9	19.2	24.6	209.3	56.0	32.0	7.3	19.7	22.4	
1942	527.6	31.3	8.4	17.4	279.1	161.8	40.3	14.5	25.3	217.2	58.1	33.4	7.9	21.9	23.7	
1943	539.9	28.1	7.7	14.0	284.7	166.3	43.0	9.2	25.7	227.2	59.8	31.2	8.2	26.9	24.1	
1944	557.1	26.3	7.1	12.4	297.9	178.5	41.7	9.5	25.5	232.9	61.9	31.5	8.6	29.2	25.9	
1945	592.7	28.7	7.4	13.7	323.5	193.0	43.4	12.5	27.2	240.5	62.6	32.4	9.2	31.0	26.5	
1946	655.0	47.8	15.2	22.9	344.2	202.2	44.7	22.7	29.2	262.9	67.2	35.1	10.3	35.9	31.1	
1947	666.6	56.5	21.8	25.7	337.4	193.9	42.5	24.1	30.8	272.6	72.8	37.6	11.7	35.3	33.8	
1948	681.8	61.7	25.5	27.1	338.7	191.5	42.7	25.7	31.0	281.4	76.5	39.0	12.8	35.1	36.7	
1949	695.4	67.8	32.7	26.4	342.3	193.6	43.0	27.9	27.3	285.3	80.9	40.1	13.7	33.2	37.8	
1950	733.2	80.7	41.3	30.1	352.8	196.6	44.3	29.0	29.4	299.8	86.1	43.8	15.6	32.4	40.1	
1951	748.7	74.7	36.3	28.9	362.9	202.5	43.7	31.5	29.3	311.1	91.9	46.2	17.6	33.2	42.0	
1952	771.4	73.0	34.1	28.9	376.6	209.8	45.8	34.1	28.5	321.9	97.5	47.0	19.0	33.4	44.2	
1953	802.5	80.2	39.9	29.9	388.2	217.7	46.2	36.0	27.6	334.1	102.5	48.9	20.4	34.2	46.6	
1954	822.7	81.5	40.6	30.1	393.8	222.0	46.2	37.1	28.1	347.4	107.1	50.5	22.4	33.3	49.5	
1955	873.8	96.9	51.5	33.7	413.2	231.3	48.6	40.3	29.9	363.6	112.1	55.5	24.2	34.2	51.0	
1956	899.8	92.8	45.3	34.9	426.9	238.8	49.7	42.8	29.9	380.1	117.1	59.3	26.4	35.6	53.9	
1957	919.7	92.4	45.8	33.7	434.7	243.5	49.3	44.4	29.7	392.6	122.6	61.2	28.0	36.2	56.8	
1958	932.9	86.9	40.8	33.2	439.9	243.5	49.9	46.5	30.8	406.1	127.7	63.3	29.5	35.4	60.5	
1959	979.4	96.9	47.4	35.5	455.8	252.1	52.3	48.9	29.4	426.7	133.6	65.7	31.2	36.8	64.0	
1960	1,005.1	98.0	49.2	34.9	463.3	255.5	52.7	50.7	28.5	443.9	139.8	68.7	32.9	37.9	66.5	
1961	1,025.2	93.6	46.6	35.3	470.1	259.7	53.7	51.0	26.7	461.4	145.7	70.9	34.6	38.2	69.1	
1962	1,069.0	103.0	51.0	37.4	484.2	263.7	56.0	53.2	26.7	481.8	153.0	74.4	37.1	39.6	74.3	
1963	1,108.4	110.8	56.4	39.9	494.3	266.5	56.9	54.7	28.0	502.3	159.4	77.0	38.8	41.2	79.1	
1964	1,170.6	121.8	59.0	44.7	517.5	272.2	61.5	57.4	29.5	532.3	166.1	80.5	40.8	43.4	88.0	
1965	1,236.4	134.6	67.5	48.5	543.2	290.4	64.0	60.2	31.0	558.5	174.4	83.9	42.7	45.5	91.4	
1966	1,298.9	144.4	68.5	53.8	569.3	299.4	68.3	63.9	31.8	585.3	181.7	87.7	44.9	48.3	95.2	
1967	1,337.7	146.2	67.4	55.8	579.2	304.0	68.8	66.0	31.8	612.3	189.3	91.9	47.4	51.4	98.3	
1968	1,405.9	161.6	77.3	59.2	602.4	317.0	71.7	70.6	30.1	641.8	197.9	95.1	49.7	54.7	105.2	
1969	1,456.7	167.8	80.4	60.9	617.2	324.3	73.0	75.2	28.6	671.7	207.6	99.3	52.4	58.1	113.6	
1970	1,492.0	162.5	73.5	61.1	632.5	334.5	72.0	79.9	26.7	697.0	216.1	102.2	54.4	59.8	120.4	
1971	1,538.8	178.3	86.4	63.5	640.3	335.9	75.3	83.6	25.9	720.2	224.5	103.6	58.2	62.1	128.2	
1972	1,621.9	200.4	98.3	70.2	665.5	344.2	80.3	87.0	28.6	756.0	235.5	108.6	58.5	66.0	136.0	
1973	1,689.6	220.3	106.7	77.9	683.2	340.8	86.0	91.7	30.9	786.1	246.5	112.6	59.8	67.8	145.4	
1974	1,674.0	204.9	90.3	78.2	666.1	336.6	84.9	87.2	24.3	803.1	258.6	112.8	60.2	68.4	151.3	
1975	1,711.9	205.6	91.1	75.9	676.5	346.4	88.1	89.8	24.2	829.8	265.7	117.5	63.3	69.4	159.9	
1976	1,803.9	232.3	109.6	80.6	708.8	363.6	92.2	93.4	27.0	862.8	273.2	122.3	65.5	72.6	167.8	
1977	1,883.9	253.9	121.2	87.3	731.4	377.1	97.4	96.4	26.1	898.5	279.6	128.2	68.1	77.8	177.8	
1978	1,961.0	267.4	125.9	92.3	753.7	379.6	107.1	100.9	26.9	939.8	292.8	134.0	70.7	80.2	184.8	
1979	2,004.4	266.5	119.4	97.1	766.6	387.5	112.1	97.1	26.2	971.2	304.1	138.3	71.1	82.9	192.2	
1980	2,000.4	245.9	103.8	95.4	762.6	394.9	114.8	88.4	21.6	991.9	312.5	142.6	73.1	77.4	200.6	
1981	2,024.2	250.8	106.3	96.5	764.4	392.5	122.2	87.8	19.2	1,009.0	318.9	142.0	72.0	73.3	212.0	
1982	2,050.7	252.7	108.9	95.7	771.0	398.8	124.4	89.1	18.6	1,027.0	321.1	143.4	72.8	69.7	217.8	
1983	2,146.0	283.1	126.8	106.1	800.2	414.0	132.6	93.2	18.6	1,062.7	325.4	146.2	74.2	71.4	223.0	
1984	2,249.3	323.1	148.0	118.4	825.3	422.8	142.2	94.5	18.5	1,100.3	333.0	148.8	75.4	75.9	232.3	
1985	2,354.8	355.1	164.4	131.0	847.4	435.5	147.2	94.4	19.6	1,152.3	341.7	151.6	77.5	82.1	240.9	
1986	2,446.4	384.4	176.2	142.9	878.1	447.1	157.4	97.5	22.0	1,183.8	348.2	151.9	76.5	86.2	251.5	
1987	2,513.7	389.6	168.8	152.3	890.4	452.7	159.6	95.9	23.0	1,233.7	358.4	156.7	78.8	89.6	266.8	
1988	2,598.4	413.6	179.2	164.8	905.5	460.0	161.3	97.1	25.4	1,280.2	366.1	164.1	82.8	94.5	278.2	
1989	2,668.5	425.6	178.1	177.2	915.7	462.9	168.8	96.6	25.1	1,327.2	372.7	165.4	81.9	98.3	296.3	
1989: I	2,078.7	262.0	115.0	98.4	778.6	404.6	126.2	89.7	17.6	1,038.1	322.1	143.1	71.6	69.1	220.7	
1989: II	2,191.9	300.5	138.1	111.1	812.7	418.2	137.4	94.4	19.4	1,078.6	328.2	149.4	76.9	72.6	224.6	
1989: III	2,281.1	333.1	151.6	122.7	831.2	426.2	143.5	94.7	18.0	1,116.8	335.8	148.9	79.7	78.0	235.7	
1989: IV	2,386.9	356.4	158.9	136.6	858.3	441.0	149.9	94.5	20.5	1,172.2	344.4	153.9	79.1	83.8	245.2	
1989: V	2,477.8	397.5	178.4	147.7	883.5	448.7	158.0	97.7	23.3	1,196.8	351.0	153.3	77.6	87.4	256.5	
1987: I	2,478.3	376.1	158.7	149.1	887.7	452.6	159.6	96.1	22.2	1,214.5	354.7	153.2	76.6	88.0	261.0	
1987: II	2,507.7	389.3	168.5	151.3	898.0	451.2	157.6	97.2	23.1	1,229.5	357.5	157.5	80.0	89.3	265.6	
1987: III	2,536.5	403.8	181.0	154.1	891.8	452.8	161.2	95.2	22.6	1,240.9	359.6	158.6	80.1	90.1	269.1	
1987: IV	2,532.3	389.4	167.2	154.7	892.9	454.1	159.9	95.2	24.0	1,250.0	361.7	157.5	78.7	90.8	271.6	
1988: I	2,570.8	408.4	179.1	160.4	896.6	456.3	159.6	95.6	25.0	1,265.9	364.0	162.1	82.1	92.5	273.3	
1988: II	2,586.8	414.8	180.9	165.4	899.2	459.8	157.1	97.3	24.7	1,272.8	365.6	162.4	81.8	93.9	275.6	
1988: III	2,608.1	410.7	176.2	165.3	910.3	461.9	164.1	97.4	25.3	1,287.0	366.8	166.3	84.0	95.2	279.9	
1988: IV	2,627.7	420.5	180.6	168.0	912.0	462.1	164.6	98.2	26.6	1,295.2	368.0	165.7	83.3	96.2	283.9	
1989: I	2,641.0	419.3	176.1	174.8	915.0	466.0	165.0	97.6	24.0	1,306.7	369.3	163.4	80.7	96.3	289.0	
1989: II	2,653.7	424.9	177.0	178.5	909.7	461.4	165.8	96.5	24.4	1,319.0	371.7	164.4	81.4	97.1	293.1	
1989: III	2,690.1	436.4	188.4	177.4	920.8	463.2	173.3	96.6	24.7	1,332.9	373.6	164.5	81.0	98.8	298.1	
1989: IV	2,689.3	421.6	170.9	177.9	917.5	460.7	171.0	95.8	27.4	1,350.3	375.8	169.4	84.3	101.1	305.0	

<sup>1</sup> Includes other items not shown separately.

<sup>2</sup> Includes imputed rental value of owner-occupied housing.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE C-16.—Gross and net private domestic investment, 1929–89

(Billions of dollars; quarterly data at seasonally adjusted annual rates)

Year or quarter	Gross private domestic investment	Less: Capital consumption allowances with capital consumption adjustment	Equals: Net private domestic investment						Change in business inventories
			Total	Net fixed investment				Residential	
				Total	Nonresidential				
					Total	Structures	Producers' durable equipment		
1929	16.7	9.9	6.7	5.0	3.3	1.8	1.4	1.7	
1933	1.6	7.6	-6.1	-4.5	-3.5	-1.7	-1.8	-1.0	
1935	9.5	9.0	.5	.1	-.7	-1.1	.4	.8	
1940	13.4	9.4	4.1	1.9	.7	-.8	1.5	1.2	
1941	18.3	10.3	8.0	3.5	2.0	-.3	2.3	1.5	
1942	10.3	11.3	-1.0	-2.7	-2.1	-1.7	-.5	-.6	
1943	6.2	11.6	-5.3	-4.7	-3.1	-2.4	-.7	-1.6	
1944	7.7	12.0	-4.2	-3.2	-1.3	-1.9	-.5	-1.9	
1945	11.3	12.4	-1.1	-.1	1.7	-1.0	2.8	-1.8	
1946	31.5	14.2	17.3	10.9	6.9	2.4	4.5	4.0	
1947	35.0	17.6	17.5	17.9	10.7	1.9	8.7	7.3	
1948	47.1	20.4	26.7	22.0	11.8	2.5	9.3	10.2	
1949	36.5	22.0	14.5	17.6	8.7	2.2	6.5	8.9	
1950	55.1	23.6	31.5	24.6	10.3	2.8	7.5	14.4	
1951	60.5	27.2	33.3	23.1	11.6	3.9	7.7	11.5	
1952	53.5	29.2	24.4	21.3	10.1	3.8	6.4	11.2	
1953	54.9	30.9	24.0	23.6	11.9	4.8	7.1	11.7	
1954	54.1	32.5	21.6	23.3	10.2	5.0	5.2	13.0	
1955	69.7	34.4	35.3	29.6	13.2	5.9	7.3	16.4	
1956	72.7	38.1	34.6	29.9	15.6	7.9	7.7	14.4	
1957	71.1	41.1	29.9	28.5	15.9	7.9	8.1	12.6	
1958	63.6	42.8	20.8	22.3	9.6	6.3	3.2	12.7	
1959	80.2	44.6	35.5	29.8	12.1	6.4	5.7	17.7	
1960	78.2	46.4	31.8	28.7	13.4	7.3	6.1	15.4	
1961	77.1	47.8	29.4	27.0	11.9	7.3	4.6	15.1	
1962	87.6	49.4	38.2	32.1	14.9	8.0	6.9	17.2	
1963	93.1	51.4	41.8	35.9	16.0	7.9	8.1	19.9	
1964	99.6	53.9	45.7	40.3	20.3	9.4	10.9	20.0	
1965	116.2	57.4	58.8	48.9	29.3	13.2	16.1	19.6	
1966	128.6	62.1	66.5	52.3	35.8	15.2	20.7	16.5	
1967	125.7	67.4	58.3	48.0	32.3	14.4	18.0	15.7	
1968	137.0	73.9	63.1	55.2	34.2	15.1	19.0	21.0	
1969	153.2	81.4	71.8	62.0	39.8	17.4	22.4	22.2	
1970	148.8	88.8	60.0	56.9	36.8	17.4	19.4	20.1	
1971	172.5	97.5	74.9	67.2	34.5	16.8	17.7	32.7	
1972	202.0	107.9	94.1	83.6	40.5	17.4	23.1	43.1	
1973	238.8	118.1	120.7	101.1	56.2	21.7	34.4	45.0	
1974	240.8	137.5	103.4	87.9	55.8	22.0	33.7	32.2	
1975	219.6	161.8	57.8	63.4	37.5	15.6	21.9	25.9	
1976	277.7	179.2	98.4	82.4	40.9	16.0	24.8	41.6	
1977	344.1	201.5	142.5	121.3	58.6	17.6	41.0	62.6	
1978	416.8	229.9	186.9	158.3	82.2	25.0	57.2	76.1	
1979	454.8	265.8	189.1	176.1	98.9	34.5	64.5	77.2	
1980	437.0	303.8	133.1	141.5	88.9	39.4	49.5	52.6	
1981	515.5	347.8	167.7	143.7	98.6	51.7	46.9	45.0	
1982	447.3	383.2	64.1	88.7	65.5	45.9	19.6	23.2	
1983	502.3	396.6	105.7	112.8	45.8	25.9	19.9	67.0	
1984	664.8	415.5	249.4	181.7	91.1	39.3	51.8	90.6	
1985	643.1	437.2	205.9	194.5	102.1	45.8	56.3	92.4	
1986	659.4	460.1	199.3	192.4	75.3	27.5	47.8	117.1	
1987	699.9	486.7	213.2	183.9	65.5	17.0	48.5	118.5	
1988	750.3	513.6	236.7	206.0	88.1	18.7	69.5	117.9	
1989 P	777.1	552.2	224.9	195.5				29.4	
1982: IV	409.6	393.2	16.4	76.3				-59.9	
1983: IV	579.8	400.8	179.0	148.0				31.0	
1984: IV	661.8	423.5	238.3	193.3				45.0	
1985: IV	654.1	446.9	207.1	199.9				7.2	
1986: IV	648.8	470.8	178.0	190.2				-12.2	
1987: I	673.1	476.9	196.2	170.8				25.4	
II	684.1	483.5	200.6	181.9				18.8	
III	692.8	490.6	202.2	192.6				9.5	
IV	749.7	495.8	253.8	190.5				63.3	
1988: I	728.8	504.7	224.0	194.0				30.0	
II	748.4	510.2	238.2	208.9				29.3	
III	771.1	515.2	255.8	211.2				44.6	
IV	752.8	524.1	228.6	210.0				18.7	
1989: I	769.6	533.0	236.6	208.9				27.7	
II	775.0	541.0	234.0	206.6				27.4	
III	779.1	565.2	213.9	186.5				27.4	
IV P	784.8	569.6	215.2	180.0				35.2	

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE C-17.—*Gross and net private domestic investment in 1982 dollars, 1929-89*

(Billions of 1982 dollars; quarterly data at seasonally adjusted annual rates)

Year or quarter	Gross private domestic investment	Less: Capital consumption allowances with capital consumption adjustment	Equals: Net private domestic investment						Change in business inventories
			Total	Net fixed investment				Residential	
				Total	Nonresidential		Producers' durable equipment		
					Total	Structures			
1929	139.2	86.8	52.4	41.6	26.2	16.8	9.4	15.4	10.8
1933	22.7	86.5	-63.8	-53.0	-40.2	-24.3	-16.0	-12.8	-10.7
1939	86.0	84.4	1.6	-2.3	-10.1	-12.0	1.9	7.8	3.9
1940	111.8	84.9	26.9	12.5	1.5	-8.5	10.0	11.1	14.4
1941	138.8	86.3	52.5	24.7	12.0	-3.5	15.6	12.7	27.8
1942	76.7	86.9	-10.2	-22.1	-17.5	-15.9	-1.6	-4.6	12.0
1943	50.4	85.7	-35.3	-36.0	-24.4	-20.7	-3.8	-11.5	.7
1944	56.4	84.8	-28.4	-23.3	-10.5	-15.2	4.7	-12.8	-5.2
1945	76.5	85.4	-8.9	-.5	10.5	-8.3	18.8	-11.0	-8.4
1946	178.1	88.0	90.1	62.2	39.5	15.4	24.1	22.7	27.9
1947	177.9	91.8	86.1	87.1	52.6	11.7	40.9	34.5	-1.0
1948	208.2	96.8	111.4	99.1	54.3	14.3	40.0	44.8	12.3
1949	168.8	101.7	67.1	76.7	37.9	12.7	25.2	38.9	-9.7
1950	234.9	106.5	128.4	104.2	43.3	15.7	27.6	60.9	24.2
1951	235.2	111.8	123.3	92.5	46.9	18.8	28.1	45.6	30.8
1952	211.8	117.0	94.8	84.8	41.7	18.8	22.9	43.2	10.0
1953	216.6	122.1	94.4	91.7	47.0	22.9	24.1	44.7	2.8
1954	212.6	127.4	85.2	90.0	40.4	24.4	16.0	49.6	-4.8
1955	259.8	132.6	127.2	110.9	49.9	27.7	22.2	60.9	16.3
1956	257.8	138.3	119.5	106.5	54.9	32.5	22.4	51.6	12.9
1957	243.4	143.5	99.9	96.9	51.7	30.7	20.9	45.2	3.0
1958	221.4	147.7	73.7	77.1	31.5	24.8	6.6	45.6	-3.4
1959	270.3	151.9	118.4	101.9	38.5	25.0	13.6	63.4	16.5
1960	260.5	156.3	104.1	96.4	41.4	27.9	13.6	55.0	7.7
1961	259.1	160.6	98.4	91.2	37.3	28.1	9.3	53.8	7.3
1962	288.6	165.1	123.5	107.3	46.4	30.3	16.0	61.0	16.2
1963	307.1	170.3	136.8	120.1	49.2	29.1	20.1	70.9	16.6
1964	325.9	176.3	149.6	133.9	63.3	34.0	29.2	70.6	15.7
1965	367.0	183.7	183.4	158.1	90.4	46.2	44.2	67.7	25.2
1966	390.5	192.2	198.3	161.4	106.3	50.4	55.8	55.1	36.9
1967	374.4	201.1	173.4	144.6	93.6	45.9	47.7	50.9	28.8
1968	391.8	209.8	181.9	160.9	96.1	46.7	49.3	64.8	21.0
1969	410.3	219.8	190.5	165.3	103.1	49.7	53.4	62.2	25.1
1970	381.5	229.8	151.8	143.6	89.3	46.1	43.3	54.2	8.2
1971	419.3	239.5	179.8	160.2	76.1	40.4	35.7	84.1	19.6
1972	465.4	253.4	212.1	190.3	85.3	39.8	45.5	105.0	21.8
1973	520.8	263.6	257.1	217.1	116.5	46.8	69.8	100.6	40.0
1974	481.3	276.1	205.3	172.0	106.9	42.5	64.4	65.1	33.3
1975	383.3	287.0	96.3	109.1	60.8	27.9	32.9	48.3	-12.8
1976	453.5	297.3	156.2	134.1	61.8	27.3	34.6	72.2	22.1
1977	521.3	309.6	211.7	182.6	85.2	28.7	36.6	87.4	29.1
1978	576.9	323.7	253.3	216.5	111.6	37.2	74.3	104.9	36.8
1979	575.2	341.3	234.0	218.9	124.3	44.8	79.5	94.6	15.0
1980	509.3	356.1	153.2	160.1	101.3	47.2	54.1	58.7	-6.9
1981	545.5	369.7	175.8	152.0	105.5	56.0	49.4	46.5	23.9
1982	447.3	383.2	64.1	88.7	65.5	45.9	19.6	23.2	-24.5
1983	504.0	394.4	109.6	116.0	50.4	26.2	24.1	65.6	-6.4
1984	658.4	407.2	251.2	188.9	103.3	39.8	63.5	85.6	62.3
1985	637.0	426.7	210.3	201.2	116.1	41.9	74.2	85.1	9.1
1986	639.6	443.4	196.2	190.7	85.6	20.0	65.6	105.1	5.6
1987	674.0	460.8	213.1	189.4	88.1	10.8	77.2	101.3	23.7
1988	715.8	480.2	235.6	207.7	109.8	10.1	99.8	97.9	27.9
1989 <sup>a</sup>	724.5	508.4	216.2	191.6	.....	.....	.....	.....	24.5
1982: IV	408.8	390.0	18.8	78.0	.....	.....	.....	.....	-59.3
1983: IV	577.2	397.9	179.3	152.3	.....	.....	.....	.....	27.0
1984: IV	655.7	413.5	242.2	200.5	.....	.....	.....	.....	41.7
1985: IV	648.0	435.3	212.7	205.0	.....	.....	.....	.....	7.7
1986: IV	615.2	450.0	165.2	186.0	.....	.....	.....	.....	-20.8
1987: I	646.3	454.2	192.1	174.0	.....	.....	.....	.....	18.1
II	656.7	458.6	198.1	184.8	.....	.....	.....	.....	13.3
III	671.7	463.0	208.7	201.9	.....	.....	.....	.....	6.8
IV	721.1	467.6	253.5	197.0	.....	.....	.....	.....	56.6
1988: I	707.0	472.4	234.5	200.3	.....	.....	.....	.....	34.3
II	713.5	477.5	236.0	214.5	.....	.....	.....	.....	21.5
III	733.6	482.7	250.8	213.4	.....	.....	.....	.....	37.5
IV	709.1	488.1	221.0	202.6	.....	.....	.....	.....	18.3
1989: I	721.1	493.5	227.6	203.1	.....	.....	.....	.....	24.5
II	719.8	498.9	220.8	201.8	.....	.....	.....	.....	19.1
III	724.6	518.6	206.0	184.1	.....	.....	.....	.....	31.9
IV <sup>b</sup>	732.7	522.5	210.2	177.6	.....	.....	.....	.....	22.6

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE C-18.—Inventories and final sales of business, 1946-89

(Billions of dollars, except as noted; seasonally adjusted)

Quarter	Inventories <sup>1</sup>							Final sales <sup>2</sup>	Inventory-final sales ratio	
	Total <sup>2</sup>	Farm	Nonfarm				Total		Non-farm <sup>4</sup>	
			Total <sup>2</sup>	Manu- facturing	Wholesale trade	Retail trade				Other
<b>Fourth quarter:</b>										
1946.....	71.0	19.6	51.4	24.6	10.4	12.8	3.2	15.8	4.48	3.24
1947.....	80.3	21.0	59.3	29.0	11.1	14.5	4.1	18.4	4.36	3.22
1948.....	85.6	19.3	66.3	32.2	12.5	16.6	4.5	19.8	4.33	3.35
1949.....	77.5	16.7	60.8	28.6	12.5	15.4	3.9	19.7	3.94	3.09
1950.....	96.7	22.5	74.2	34.9	14.7	19.2	4.9	21.8	4.44	3.41
1951.....	109.4	24.9	84.5	43.1	15.6	19.7	5.5	24.9	4.40	3.40
1952.....	108.6	23.3	85.3	44.0	15.6	19.4	5.6	26.4	4.11	3.23
1953.....	109.6	22.0	87.6	46.0	15.8	20.0	5.2	27.5	3.98	3.18
1954.....	107.3	21.2	86.1	43.9	16.1	20.2	5.3	28.0	3.84	3.08
1955.....	114.6	19.9	94.7	48.3	17.6	22.8	5.4	30.2	3.80	3.14
1956.....	123.4	19.9	103.5	54.0	18.9	23.7	6.2	31.9	3.87	3.24
1957.....	127.0	21.2	105.8	54.3	19.2	25.0	6.6	33.3	3.82	3.18
1958.....	126.2	22.6	103.7	52.7	19.3	25.1	6.6	34.3	3.68	3.02
1959.....	131.7	22.1	109.6	55.2	21.0	26.2	7.2	36.2	3.64	3.03
1960.....	135.5	23.3	112.2	56.2	21.3	27.5	7.2	37.5	3.61	2.99
1961.....	137.2	23.8	113.4	57.2	21.8	27.0	7.4	39.5	3.47	2.87
1962.....	143.8	25.2	118.6	60.3	22.4	28.3	7.5	41.8	3.44	2.84
1963.....	149.6	25.7	123.8	62.2	23.9	29.6	8.0	44.5	3.36	2.78
1964.....	155.3	24.5	130.9	65.9	25.2	31.0	8.8	47.1	3.30	2.78
1965.....	169.1	28.0	141.0	70.7	26.9	33.7	9.8	52.1	3.24	2.70
1966.....	185.2	27.4	157.8	80.9	30.3	36.2	10.4	55.3	3.35	2.85
1967.....	197.4	27.9	169.5	87.5	32.7	36.9	12.4	58.8	3.36	2.88
1968.....	211.8	29.1	182.6	94.0	34.6	40.7	13.3	64.8	3.27	2.82
1969.....	232.4	31.8	200.6	103.4	37.9	44.5	14.9	68.8	3.38	2.91
1970.....	240.3	31.1	209.2	105.8	41.7	45.8	16.0	72.4	3.32	2.89
1971.....	257.8	35.4	222.4	107.3	45.2	52.3	17.6	78.9	3.27	2.82
1972.....	285.6	44.3	241.3	113.6	50.0	57.7	19.9	87.7	3.26	2.75
1973.....	352.6	65.5	287.1	136.1	59.4	66.4	25.2	96.8	3.64	2.97
1974.....	423.3	62.4	360.9	177.0	75.6	74.6	33.7	104.6	4.05	3.45
1975.....	428.8	64.3	364.5	177.8	76.2	74.7	35.8	117.1	3.66	3.11
1976.....	463.3	60.2	403.1	194.9	86.1	82.7	39.4	128.5	3.60	3.14
1977.....	505.7	59.3	446.4	210.6	96.2	93.3	46.3	143.9	3.51	3.10
1978.....	588.2	73.7	514.5	238.4	113.8	107.8	54.5	165.1	3.56	3.12
1979.....	674.8	80.7	594.1	281.1	133.7	117.0	62.3	183.2	3.68	3.24
1980.....	739.3	84.5	654.8	310.7	154.8	122.7	66.7	201.1	3.68	3.26
1981.....	789.0	81.6	707.4	330.2	164.7	134.0	78.5	217.8	3.62	3.25
1982.....	771.5	79.2	692.2	316.1	162.2	134.7	79.2	229.5	3.36	3.02
1983.....	787.2	79.4	707.8	315.9	163.8	148.2	79.9	247.0	3.19	2.87
1984.....	858.2	80.9	777.3	343.4	177.5	166.7	89.6	268.8	3.19	2.89
1985.....	863.5	71.5	792.1	333.5	181.0	180.9	96.6	290.3	2.97	2.73
1986.....	853.3	66.3	787.0	321.1	184.1	185.5	96.3	305.6	2.79	2.57
1987.....	920.7	69.2	851.5	340.8	198.0	208.0	104.7	325.9	2.83	2.61
1988.....	1,004.0	75.7	928.3	368.6	218.6	233.7	117.4	354.4	2.83	2.62
1989 <sup>3</sup> .....	1,055.3	80.0	975.3	384.2	228.1	237.3	125.8	374.6	2.82	2.60
1982: IV.....	771.5	79.2	692.2	316.1	162.2	134.7	79.2	229.5	3.36	3.02
1983: IV.....	787.2	79.4	707.8	315.9	163.8	148.2	79.9	247.0	3.19	2.87
1984: IV.....	858.2	80.9	777.3	343.4	177.5	166.7	89.6	268.8	3.19	2.89
1985: IV.....	863.5	71.5	792.1	333.5	181.0	180.9	96.6	290.3	2.97	2.73
1986: IV.....	853.3	66.3	787.0	321.1	184.1	185.5	96.3	305.6	2.79	2.57
1987: I.....	868.4	67.5	800.9	322.6	187.0	193.2	98.2	308.9	2.81	2.59
1987: II.....	884.9	70.0	814.9	325.7	190.5	199.3	99.4	316.0	2.80	2.58
1987: III.....	895.2	68.1	827.0	332.3	191.5	201.4	101.9	323.3	2.77	2.56
1987: IV.....	920.7	69.2	851.5	340.8	198.0	208.0	104.7	325.9	2.83	2.61
1988: I.....	937.8	71.0	866.7	347.7	204.9	207.1	107.0	333.1	2.82	2.60
1988: II.....	962.0	75.0	887.0	354.9	210.1	212.5	109.5	341.0	2.82	2.60
1988: III.....	985.3	77.6	907.7	360.8	215.7	218.2	113.0	345.8	2.85	2.62
1988: IV.....	1,004.0	75.7	928.3	368.6	218.6	223.7	117.4	354.4	2.83	2.62
1989: I.....	1,026.6	78.2	948.4	376.5	221.6	229.0	121.2	360.0	2.85	2.63
1989: II.....	1,033.9	77.4	956.5	378.2	223.8	231.3	123.3	366.6	2.82	2.61
1989: III.....	1,041.8	77.5	964.3	382.9	225.4	231.7	124.4	371.8	2.80	2.59
1989: IV <sup>4</sup> .....	1,055.3	80.0	975.3	384.2	228.1	237.3	125.8	374.6	2.82	2.60

<sup>1</sup> Inventories at end of quarter. Quarter-to-quarter change calculated from this table is not the current-dollar change in business inventories (CBI) component of GNP. The former is the difference between two inventory stocks, each valued at their respective end-of-quarter prices. The latter is the change in the physical volume of inventories valued at average prices of the quarter. In addition, changes calculated from this table are at quarterly rates, whereas CBI is stated at annual rates.

<sup>2</sup> Beginning 1959, inventories of construction establishments are included in "other" nonfarm inventories. Prior to 1959, they are included in total and total nonfarm inventories, but not in the detailed categories shown.

<sup>3</sup> Quarterly totals at monthly rates. Business final sales equals final sales less gross product of households and institutions, government, and rest of the world, and includes a small amount of final sales by farms.

<sup>4</sup> Ratio based on total business final sales, which includes a small amount of final sales by farms.

Note.—The industry classification of inventories is on an establishment basis and is based on the 1972 Standard Industrial Classification (SIC) beginning 1948 and on the 1942 SIC prior to 1948.

Source: Department of Commerce, Bureau of Economic Analysis.



TABLE C-19.—Inventories and final sales of business in 1982 dollars, 1947-89

(Billions of 1982 dollars, except as noted; seasonally adjusted)

Quarter	Inventories <sup>1</sup>							Final sales <sup>2</sup>	Inventory-final sales ratio	
	Total <sup>3</sup>	Farm	Nonfarm				Total		Non-farm <sup>4</sup>	
			Total <sup>3</sup>	Manu- facturing	Wholesale trade	Retail trade				Other
Fourth quarter:										
1947.....	251.3	43.3	208.0	105.1	39.9	39.6	23.5	74.8	3.36	2.78
1948.....	263.5	45.4	218.1	108.6	42.7	43.7	23.1	77.1	3.42	2.83
1949.....	253.9	44.4	209.5	102.9	42.8	42.8	21.1	77.3	3.28	2.71
1950.....	278.1	47.7	230.4	109.8	47.6	49.5	23.4	82.6	3.37	2.79
1951.....	308.9	51.5	257.4	133.2	49.0	49.6	25.6	90.4	3.42	2.85
1952.....	318.9	54.6	264.3	139.0	50.0	49.6	25.8	93.9	3.40	2.81
1953.....	321.6	54.3	267.4	142.7	50.4	50.8	23.5	98.0	3.28	2.73
1954.....	316.9	55.9	260.9	135.0	51.1	51.2	23.6	97.7	3.24	2.67
1955.....	333.2	56.0	277.1	142.5	54.8	57.1	22.7	102.5	3.25	2.70
1956.....	346.1	53.7	292.4	153.2	56.6	57.8	24.8	104.7	3.31	2.79
1957.....	349.1	54.9	294.2	152.1	56.0	59.8	26.3	105.9	3.30	2.78
1958.....	345.7	57.3	288.4	146.8	56.0	59.4	26.3	107.7	3.21	2.68
1959.....	362.2	58.1	304.2	153.5	60.7	61.9	28.1	111.4	3.25	2.73
1960.....	370.0	59.4	310.5	154.7	61.8	65.2	28.8	114.1	3.24	2.72
1961.....	377.2	60.8	316.5	158.8	63.1	64.2	30.3	118.7	3.18	2.67
1962.....	393.4	63.5	329.9	167.2	65.0	67.5	30.1	123.4	3.19	2.67
1963.....	410.1	65.8	344.2	172.6	68.9	70.3	32.4	130.4	3.14	2.64
1964.....	425.8	64.0	361.8	180.9	72.6	73.4	34.9	136.3	3.12	2.65
1965.....	451.0	66.3	384.7	191.6	76.5	79.2	37.4	147.7	3.05	2.60
1966.....	487.9	66.1	421.7	213.6	85.1	84.3	38.7	150.2	3.25	2.81
1967.....	516.6	67.7	449.0	229.2	90.7	84.2	45.0	156.4	3.30	2.87
1968.....	537.7	68.2	469.4	239.0	93.5	90.5	46.5	163.7	3.28	2.87
1969.....	562.8	69.0	493.8	248.5	98.9	96.4	50.0	165.4	3.40	2.98
1970.....	571.1	69.8	501.2	248.3	105.8	96.6	50.5	166.8	3.42	3.00
1971.....	590.7	73.4	517.3	246.1	110.7	107.2	53.2	172.6	3.42	3.00
1972.....	612.4	75.9	536.6	251.7	114.0	114.0	56.9	185.4	3.30	2.89
1973.....	652.5	81.4	571.0	267.9	118.4	122.1	62.6	188.9	3.45	3.02
1974.....	685.7	81.3	604.5	288.5	128.4	121.1	66.4	184.3	3.72	3.28
1975.....	673.0	82.6	590.3	281.9	124.0	115.9	68.6	191.5	3.51	3.08
1976.....	695.1	79.1	616.1	294.0	131.2	122.3	68.5	199.3	3.49	3.09
1977.....	724.2	77.2	647.0	301.9	140.5	130.9	73.7	209.0	3.47	3.10
1978.....	761.0	77.8	683.2	314.1	151.6	139.1	78.4	221.5	3.44	3.08
1979.....	776.0	82.4	693.6	324.7	156.1	136.7	76.1	225.6	3.44	3.08
1980.....	769.1	77.8	691.4	326.8	161.6	130.4	72.7	225.3	3.41	3.07
1981.....	793.0	82.6	710.3	330.3	165.0	135.5	79.5	224.6	3.53	3.16
1982.....	768.4	81.2	687.2	315.2	161.5	132.9	77.6	226.1	3.40	3.04
1983.....	762.0	74.9	687.2	309.3	157.9	142.4	77.5	235.5	3.24	2.92
1984.....	824.2	79.4	744.8	330.0	171.0	157.8	86.0	248.4	3.32	3.00
1985.....	833.3	75.2	758.2	320.6	174.3	169.1	94.1	261.2	3.19	2.90
1986.....	838.9	72.8	766.1	315.5	180.6	171.2	98.8	269.7	3.11	2.84
1987.....	862.6	70.6	792.0	318.8	185.0	186.4	101.7	279.0	3.09	2.84
1988.....	890.5	67.8	822.7	327.3	193.5	193.6	108.2	291.9	3.05	2.82
1989 <sup>p</sup> .....	915.0	71.3	843.7	334.5	196.7	199.4	113.0	297.8	3.07	2.83
1982: IV.....	768.4	81.2	687.2	315.2	161.5	132.9	77.6	226.1	3.40	3.04
1983: IV.....	762.0	74.9	687.2	309.3	157.9	142.4	77.5	235.5	3.24	2.92
1984: IV.....	824.2	79.4	744.8	330.0	171.0	157.8	86.0	248.4	3.32	3.00
1985: IV.....	833.3	75.2	758.2	320.6	174.3	169.1	94.1	261.2	3.19	2.90
1986: IV.....	838.9	72.8	766.1	315.5	180.6	171.2	98.8	269.7	3.11	2.84
1987: I.....	843.4	72.2	771.2	314.1	181.1	176.6	99.4	270.3	3.12	2.85
II.....	846.8	71.9	774.9	313.2	181.5	180.5	99.7	274.1	3.09	2.83
III.....	848.5	70.4	778.1	315.5	180.4	181.5	100.7	278.3	3.05	2.80
IV.....	862.6	70.6	792.0	318.8	185.0	186.4	101.7	279.0	3.09	2.84
1988: I.....	871.2	72.1	799.0	321.8	189.9	184.4	103.0	283.5	3.07	2.82
II.....	876.5	71.1	805.4	322.8	190.6	187.4	104.6	287.7	3.05	2.80
III.....	885.9	71.2	814.7	324.3	193.0	190.7	106.7	288.5	3.07	2.82
IV.....	890.5	67.8	822.7	327.3	193.5	193.6	108.2	291.9	3.05	2.82
1989: I.....	896.6	69.7	826.9	328.3	192.9	195.7	110.0	294.3	3.05	2.81
II.....	901.4	69.6	831.8	330.4	194.0	196.4	111.0	296.8	3.04	2.80
III.....	906.8	71.0	835.8	333.4	194.6	196.0	111.9	298.6	3.04	2.80
IV <sup>p</sup> .....	915.0	71.3	843.7	334.5	196.7	199.4	113.0	297.8	3.07	2.83

<sup>1</sup> Inventories at end of quarter. Quarter-to-quarter changes calculated from this table are at quarterly rates, whereas the constant-dollar change in business inventories component of GNP is stated at annual rates.

<sup>2</sup> Beginning 1959, inventories of construction establishments are included in "other" nonfarm inventories. Prior to 1959, they are included in total and total nonfarm inventories, but not in the detailed categories shown.

<sup>3</sup> Quarterly totals at monthly rates. Business final sales equals final sales less gross product of households and institutions, government, and rest of world, and includes a small amount of final sales by farms.

<sup>4</sup> Ratio based on total business final sales, which includes a small amount of final sales by farms.

Note.—The industry classification of inventories is on an establishment basis and is based on the 1972 Standard Industrial Classification (SIC) beginning 1948 and on the 1942 SIC prior to 1948.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE C-20.—Foreign transactions in the national income and product accounts, 1929–89

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Receipts from foreigners				Payments to foreigners								Net foreign investment	
	Total	Exports of goods and services			Capital grants received by the United States (net)	Total	Imports of goods and services			Transfer payments (net)				Interest paid by government to foreigners
		Total	Merchandise	Services			Total	Merchandise	Services	Total	From persons (net)	From government (net)		
1929.....	7.1	7.1	5.3	1.7	0	7.1	5.9	4.5	1.5	0.4	0.3	0.0	0.0	0.8
1933.....	2.4	2.4	1.7	.7	0	2.4	2.1	1.5	.6	.2	.2	.0	.0	.2
1939.....	4.6	4.6	3.3	1.3	0	4.6	3.4	2.4	1.0	.2	.2	.0	.0	1.0
1940.....	5.4	5.4	4.1	1.3	0	5.4	3.7	2.7	1.0	.2	.2	.0	.0	1.5
1941.....	6.1	6.1	4.5	1.6	0	6.1	4.7	3.4	1.3	.2	.2	.0	.0	1.3
1942.....	5.0	5.0	3.4	1.6	0	5.0	4.8	2.7	2.1	.2	.1	.1	.0	-.1
1943.....	4.6	4.6	2.9	1.7	0	4.6	6.5	3.4	3.1	.2	.2	-.1	.0	-2.1
1944.....	5.5	5.5	3.6	1.9	0	5.5	7.2	3.8	3.4	.3	.4	-.1	.0	-2.0
1945.....	7.4	7.4	5.4	2.1	0	7.4	7.9	3.9	4.0	.8	.5	.4	.0	-1.3
1946.....	15.2	15.2	11.8	3.4	0	15.2	7.3	5.1	2.3	2.9	.7	2.3	.0	4.9
1947.....	20.3	20.3	16.1	4.2	0	20.3	8.3	6.0	2.4	2.6	.7	2.0	.0	9.3
1948.....	17.5	17.5	13.3	4.3	0	17.5	10.6	7.6	3.0	4.5	.7	3.9	.0	2.4
1949.....	16.4	16.4	12.2	4.1	0	16.4	9.8	6.9	2.9	5.6	.5	5.1	.0	.9
1950.....	14.5	14.5	10.2	4.3	0	14.5	12.3	9.1	3.2	4.0	.4	3.6	.0	-1.8
1951.....	19.8	19.8	14.2	5.5	0	19.8	15.3	11.2	4.1	3.5	.4	3.1	.0	.9
1952.....	19.2	19.2	13.4	5.8	0	19.2	16.0	10.8	5.2	2.5	.4	2.1	.1	.6
1953.....	18.1	18.1	12.4	5.7	0	18.1	16.8	11.0	5.8	2.5	.5	2.0	.1	-1.3
1954.....	18.8	18.8	12.9	5.9	0	18.8	16.3	10.4	5.9	2.3	.5	1.8	.1	.2
1955.....	21.1	21.1	14.4	6.7	0	21.1	18.1	11.5	6.6	2.5	.4	2.1	.1	.4
1956.....	25.2	25.2	17.6	7.6	0	25.2	19.9	12.8	7.1	2.4	.5	1.9	.2	2.8
1957.....	28.2	28.2	19.6	8.7	0	28.2	20.9	13.3	7.6	2.3	.5	1.8	.2	4.8
1958.....	24.4	24.4	16.4	8.0	0	24.4	21.1	13.0	8.1	2.3	.4	1.8	.1	.9
1959.....	25.0	25.0	16.5	8.5	0	25.0	23.5	15.3	8.2	2.3	.4	1.9	.3	-1.2
1960.....	29.9	29.9	20.5	9.4	0	29.9	24.0	15.2	8.8	2.4	.4	1.9	.3	3.2
1961.....	31.1	31.1	20.9	10.1	0	31.1	23.9	15.1	8.8	2.7	.5	2.2	.3	4.2
1962.....	33.1	33.1	21.7	11.4	0	33.1	26.2	16.9	9.3	2.8	.5	2.3	.3	3.8
1963.....	35.7	35.7	23.3	12.3	0	35.7	27.5	17.7	9.7	2.9	.6	2.3	.4	4.9
1964.....	40.5	40.5	26.7	13.8	0	40.5	29.6	19.4	10.2	3.0	.7	2.3	.5	7.5
1965.....	42.9	42.9	27.8	15.1	0	42.9	33.2	22.2	11.0	3.0	.7	2.3	.5	6.2
1966.....	46.6	46.6	30.7	15.8	0	46.6	39.1	26.3	12.7	3.1	.7	2.4	.5	3.8
1967.....	49.5	49.5	32.2	17.3	0	49.5	42.1	27.8	14.4	3.3	.9	2.4	.6	3.5
1968.....	54.8	54.8	35.3	19.5	0	54.8	49.3	33.9	15.4	3.2	.9	2.3	.7	1.6
1969.....	60.4	60.4	38.3	22.1	0	60.4	54.7	36.8	17.9	3.2	1.0	2.2	.8	1.7
1970.....	69.8	69.8	44.5	24.4	0.9	69.8	60.5	40.9	19.6	3.5	1.2	2.3	1.0	4.8
1971.....	73.1	72.4	45.6	26.8	.7	73.1	66.1	46.6	19.5	3.9	1.2	2.7	1.8	1.3
1972.....	82.1	81.4	51.7	29.6	.7	82.1	78.2	56.9	21.3	4.1	1.1	2.9	2.7	-2.9
1973.....	114.1	114.1	73.9	40.2	0	114.1	97.3	71.8	25.5	4.3	1.3	2.9	3.8	8.8
1974.....	149.5	151.5	101.0	50.5	-2.0	149.5	135.2	104.5	30.7	4.6	1.0	3.6	4.3	5.4
1975.....	161.3	161.3	109.6	51.7	0	161.3	130.3	99.0	31.3	4.9	1.0	4.0	4.5	21.6
1976.....	177.7	177.7	117.5	60.2	0	177.7	158.9	124.3	34.6	4.1	1.0	4.4	4.5	9.0
1977.....	191.6	191.6	123.1	68.6	0	191.6	189.7	151.9	37.9	5.1	.9	4.2	5.5	-8.7
1978.....	227.5	227.5	144.7	82.8	0	227.5	223.4	176.5	46.9	5.6	.9	4.7	8.7	-10.1
1979.....	292.4	291.2	183.3	107.9	1.1	292.4	272.5	211.9	60.5	6.2	1.0	5.2	11.1	2.6
1980.....	352.1	351.0	225.1	125.9	1.2	352.1	318.9	247.5	71.4	7.7	1.1	6.5	12.6	13.0
1981.....	383.9	382.8	238.3	144.5	1.1	383.9	348.9	266.5	82.4	7.5	1.0	6.5	16.9	10.6
1982.....	361.9	361.9	214.0	148.0	0	361.9	335.6	249.5	86.1	9.0	1.3	7.8	18.3	-1.0
1983.....	352.5	352.5	206.1	146.4	0	352.5	358.7	271.3	87.3	9.5	1.0	8.5	17.8	-33.5
1984.....	383.5	383.5	224.1	159.4	0	383.5	442.4	334.3	108.2	12.3	1.5	10.7	19.8	-90.9
1985.....	370.9	370.9	220.8	150.1	0	370.9	448.9	340.9	108.0	15.1	1.7	13.4	21.3	-114.4
1986.....	396.5	396.5	224.4	172.0	0	396.5	493.8	367.8	126.1	15.9	1.9	13.9	22.6	-135.8
1987.....	448.6	448.6	255.1	193.5	0	448.6	561.2	412.4	148.8	14.3	1.9	12.4	24.1	-150.9
1988.....	547.7	547.7	322.0	225.7	0	547.7	621.3	449.0	172.3	14.7	1.9	12.9	29.1	-117.5
1989P.....	624.4	624.4	369.5	254.8	0	624.4	675.2	482.2	193.0	15.5	1.7	13.7	33.4	-99.8
1982: IV.....	335.9	335.9	196.3	139.6	0	335.9	321.9	239.9	82.0	10.6	1.1	9.5	18.9	-15.4
1983: I.....	364.7	364.7	215.6	149.1	0	364.7	390.5	298.3	92.2	13.4	1.2	12.2	18.3	-57.4
1984: IV.....	385.7	385.7	228.0	157.7	0	385.7	453.6	342.7	110.9	17.0	1.6	15.5	21.2	-106.1
1985: V.....	369.2	369.2	217.7	151.5	0	369.2	472.4	361.4	111.0	16.9	1.4	15.5	21.5	-141.6
1986: IV.....	402.4	402.4	230.4	172.0	0	402.4	511.3	381.8	129.5	16.6	2.1	14.5	22.9	-148.5
1987: I.....	416.5	416.5	234.2	182.3	0	416.5	522.5	386.8	135.6	12.6	2.0	10.6	23.8	-142.4
II.....	437.4	437.4	245.4	192.0	0	437.4	551.8	403.5	148.3	13.1	1.9	11.2	23.9	-151.4
III.....	458.0	458.0	261.9	196.1	0	458.0	573.4	422.4	150.9	13.0	2.0	11.0	23.9	-152.2
IV.....	482.6	482.6	278.9	203.7	0	482.6	597.2	436.9	160.2	18.4	1.8	16.7	24.6	-157.6
1988: I.....	521.6	521.6	305.0	216.6	0	521.6	604.3	439.0	165.3	13.5	2.1	11.4	26.6	-122.8
II.....	532.5	532.5	314.4	218.1	0	532.5	607.5	439.5	168.0	11.7	1.5	10.2	28.4	-115.0
III.....	556.8	556.8	327.5	229.3	0	556.8	623.0	448.8	174.2	13.6	1.9	11.7	30.2	-109.9
IV.....	579.7	579.7	341.0	238.6	0	579.7	650.5	468.8	181.6	20.2	1.9	18.2	31.1	-122.0
1989: I.....	605.6	605.6	358.7	246.9	0	605.6	659.6	469.8	189.8	13.8	2.2	11.5	32.5	-100.3
II.....	626.1	626.1	372.1	254.0	0	626.1	676.6	480.0	196.6	12.5	1.4	11.1	34.4	-97.5
III.....	628.5	628.5	370.4	258.1	0	628.5	673.6	482.2	191.4	15.7	1.6	14.1	33.9	-94.8
IVP.....	637.3	637.3	376.9	260.4	0	637.3	691.1	496.8	194.3	19.9	1.6	18.2	32.8	-106.5

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE C-21.—Exports and imports of goods and services in 1982 dollars, 1929-89

(Billions of 1982 dollars; quarterly data at seasonally adjusted annual rates)

Year or quarter	Exports of goods and services						Imports of goods and services							
	Total	Merchandise			Services			Total	Merchandise			Services		
		Total	Durable goods	Non-durable goods	Total	Factor income <sup>1</sup>	Other		Total	Durable goods	Non-durable goods	Total	Factor income <sup>1</sup>	Other
1929	42.1	29.7	12.3	17.5	12.3	7.6	4.8	37.4	29.3	7.4	22.0	8.0	2.6	5.4
1933	22.7	15.9	4.5	11.4	6.8	3.7	3.1	24.2	19.2	4.0	15.2	4.9	1.3	3.6
1939	36.2	26.5	13.3	13.1	9.8	5.2	4.5	30.1	24.0	6.9	17.0	6.1	2.2	4.0
1940	40.0	30.5	18.9	11.6	9.4	4.6	4.8	31.7	25.6	8.8	16.8	6.2	2.0	4.1
1941	42.0	31.7	20.2	11.6	10.3	5.2	5.1	38.2	29.4	11.0	18.4	8.8	1.9	6.9
1942	29.1	19.5	13.4	6.1	9.6	4.8	4.9	36.9	21.0	6.7	14.3	15.8	1.7	14.2
1943	25.1	15.2	10.5	4.8	9.8	4.6	5.2	48.0	25.0	6.5	18.5	23.0	1.9	21.2
1944	27.3	16.4	11.0	5.4	10.9	4.9	6.0	51.1	26.5	6.7	19.7	24.6	2.1	22.5
1945	35.2	24.0	12.6	11.3	11.2	4.8	6.5	54.1	26.0	6.9	19.1	28.2	2.5	25.7
1946	69.0	54.1	23.1	31.0	14.9	5.6	9.4	42.0	30.0	7.8	22.2	12.0	1.9	10.1
1947	82.3	65.5	34.4	31.1	16.9	7.2	9.7	39.9	29.3	7.8	21.5	10.6	2.1	8.5
1948	66.2	49.1	24.5	24.6	17.1	8.5	8.6	47.1	33.9	9.4	24.5	13.1	2.3	10.8
1949	65.0	48.4	24.1	24.2	16.7	8.2	8.5	46.2	33.3	8.9	24.4	13.0	2.6	10.4
1950	59.2	42.2	21.0	21.3	17.0	9.1	7.9	54.6	40.9	11.5	29.5	13.6	2.8	10.8
1951	72.0	51.1	23.8	27.3	20.9	10.9	10.0	57.4	40.4	11.5	28.9	17.1	3.1	14.0
1952	70.1	49.0	25.3	23.7	21.2	11.3	9.9	63.3	41.9	13.0	28.9	21.4	2.9	18.4
1953	66.9	46.4	25.8	20.6	20.5	11.0	9.5	69.7	44.6	13.7	30.9	25.1	3.1	21.9
1954	70.0	48.8	26.9	21.9	21.2	11.6	9.6	67.5	42.1	11.9	30.3	25.4	3.3	22.1
1955	76.9	53.2	30.3	22.9	23.7	13.0	10.7	76.9	48.3	14.7	33.5	28.6	3.6	25.0
1956	87.9	61.8	34.4	27.4	26.1	14.1	12.0	83.6	53.6	16.8	36.8	30.0	3.4	26.6
1957	94.9	66.6	37.2	29.4	28.3	14.8	13.5	87.9	56.1	17.1	39.0	31.4	3.4	28.4
1958	82.4	56.6	31.0	25.6	25.8	13.2	12.6	92.8	58.1	16.9	41.3	34.6	3.7	30.9
1959	83.7	56.1	30.5	25.6	27.6	14.0	13.5	101.9	68.0	22.8	45.3	33.8	4.0	29.8
1960	98.4	68.8	37.9	30.9	29.6	15.7	13.9	102.4	67.5	21.7	45.8	34.9	4.6	30.3
1961	100.7	69.1	38.0	31.1	31.6	16.9	14.7	103.3	69.0	21.1	47.9	34.3	4.8	29.6
1962	106.9	72.2	39.8	32.4	34.7	18.5	16.2	114.4	78.9	24.8	54.0	35.5	4.6	30.9
1963	114.7	77.6	42.1	35.5	37.1	20.0	17.2	116.6	81.2	26.2	55.0	35.4	5.1	30.3
1964	128.8	87.7	48.2	39.5	41.1	21.8	19.3	122.8	86.3	29.0	57.4	36.5	5.6	30.9
1965	132.0	88.2	50.0	38.2	43.8	23.2	20.6	134.7	97.0	35.6	61.4	37.7	6.2	31.6
1966	138.4	94.0	53.6	40.4	44.4	22.8	21.6	152.1	109.1	44.0	65.2	43.0	7.0	36.0
1967	143.6	96.5	58.8	37.7	47.1	23.8	23.3	160.5	113.0	48.0	65.0	47.5	7.5	40.0
1968	155.7	104.9	64.8	40.1	50.8	26.3	24.5	185.3	135.7	61.7	74.0	49.6	8.6	41.0
1969	165.0	110.0	69.5	40.5	55.0	29.0	26.0	199.9	144.6	65.6	79.0	55.2	12.0	43.2
1970	178.3	120.6	74.3	46.3	57.6	29.6	28.0	208.3	150.9	66.8	84.1	57.4	12.5	45.0
1971	179.2	119.3	72.9	46.4	59.9	30.5	29.4	218.9	166.2	74.4	91.8	52.7	9.8	42.9
1972	195.2	131.3	80.0	51.3	64.0	33.9	30.1	244.6	190.7	84.4	106.4	53.9	10.2	43.7
1973	242.3	160.6	99.3	61.3	81.7	46.2	35.4	273.8	218.2	88.9	129.4	55.6	13.9	41.7
1974	269.1	175.8	113.9	62.0	93.3	53.5	39.8	268.4	211.8	89.2	122.5	56.6	17.7	38.9
1975	259.7	171.5	112.1	59.5	88.2	45.6	42.6	240.8	187.9	72.4	115.5	52.9	16.3	36.6
1976	274.4	177.5	112.9	64.7	96.8	49.7	47.1	285.4	229.3	88.5	140.8	56.1	16.7	39.3
1977	281.6	178.1	111.2	66.9	103.6	53.5	50.1	317.1	259.4	99.3	160.1	57.7	16.1	41.6
1978	312.6	196.2	121.9	74.3	116.4	63.2	53.2	339.4	274.1	113.7	160.4	65.3	21.1	44.2
1979	356.8	218.2	136.6	81.6	138.6	86.6	52.0	353.2	277.9	115.7	162.2	75.3	30.8	44.5
1980	388.9	241.8	150.0	91.9	147.1	91.4	55.7	332.0	253.6	116.1	137.5	78.4	35.9	42.4
1981	392.7	238.5	143.8	94.6	154.3	96.3	57.9	343.4	258.7	126.1	132.6	84.7	41.1	43.6
1982	361.9	214.0	121.9	92.1	148.0	91.6	56.3	335.6	249.5	125.3	124.2	86.1	40.5	45.7
1983	348.1	207.6	119.6	88.0	140.5	85.0	55.5	368.1	282.2	150.4	131.9	85.8	37.1	46.0
1984	371.8	223.8	132.3	91.5	148.0	92.6	55.4	455.8	351.1	201.6	149.5	104.7	48.7	56.0
1985	367.2	231.6	143.7	87.9	135.6	80.0	58.6	471.4	367.9	218.7	149.3	103.5	43.1	60.4
1986	397.1	245.9	157.6	88.3	151.2	75.6	62.6	526.9	413.7	242.6	171.1	113.2	45.1	68.1
1987	450.9	285.7	185.8	99.8	165.2	81.1	84.1	566.6	440.5	261.8	178.7	126.1	54.5	71.5
1988	530.1	344.3	234.0	110.4	185.8	94.7	91.1	605.0	467.1	280.8	186.3	137.9	66.6	71.3
1989	587.6	386.9	265.3	121.6	200.7	104.8	95.9	643.9	496.3	300.8	195.5	147.6	77.7	69.9
1982: IV	336.0	199.1	110.8	88.3	136.9	83.0	53.8	324.3	242.7	117.1	125.6	81.6	35.1	46.3
1983: I	355.5	214.4	126.3	88.1	141.1	88.2	52.9	401.6	311.6	172.5	139.1	90.1	39.7	50.5
1984: IV	376.6	231.9	138.2	93.7	144.7	89.5	55.2	471.4	364.2	211.4	152.8	107.2	47.4	59.9
1985: I	367.4	231.9	143.8	88.2	135.4	79.5	55.9	492.6	387.8	226.8	161.0	104.8	41.9	62.8
1986: IV	406.5	257.2	163.8	93.3	149.3	71.6	77.7	541.9	428.7	250.0	178.8	113.2	45.7	67.4
1987: I	418.7	261.4	168.0	93.5	157.3	75.7	81.6	536.9	420.3	249.8	170.5	116.7	47.7	68.9
II	439.5	275.0	176.7	98.3	164.5	79.6	84.9	555.4	428.9	255.9	173.1	126.4	54.3	72.1
III	461.3	294.5	191.1	103.4	166.8	82.0	84.8	580.2	452.5	264.8	187.7	127.7	56.2	71.5
IV	484.1	311.7	207.6	104.1	172.3	87.1	85.3	593.9	460.4	276.8	183.6	133.5	59.8	73.7
1988: I	517.4	335.6	225.4	110.2	181.8	92.7	89.1	595.6	460.1	275.6	184.5	135.5	61.4	74.1
II	519.7	339.0	228.2	110.8	180.6	90.8	89.8	592.3	456.5	274.5	182.1	135.8	65.2	70.5
III	531.9	344.1	234.2	109.9	187.8	95.3	92.5	606.9	468.3	281.8	186.6	138.5	68.2	70.3
IV	551.4	358.6	248.0	110.5	192.8	100.0	92.8	625.2	483.4	291.3	192.1	141.9	71.4	70.4
1989: I	569.7	372.5	254.0	118.5	197.2	104.0	93.2	624.6	477.4	290.7	186.7	147.2	75.7	71.6
II	587.5	386.9	262.8	124.1	200.6	106.1	94.5	638.7	487.5	296.1	191.4	151.1	80.9	70.2
III	593.1	390.6	272.3	118.3	202.5	103.9	98.6	650.2	504.3	303.8	200.5	145.9	76.9	69.0
IV	600.2	397.6	272.2	125.4	202.6	105.3	97.3	662.0	515.9	312.4	203.4	146.1	77.3	68.9

<sup>1</sup> Factor income exports less factor income imports equals rest-of-the-world product.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE C-22.—Relation of gross national product, net national product, and national income, 1929–89

(Billions of dollars; quarterly data at seasonally adjusted annual rates)

Year or quarter	Gross national product	Less: Capital consumption allowances with capital consumption adjustment	Equals: Net national product	Less:			Plus: Subsidies less current surplus of government enterprises	Equals: National income
				Indirect business tax and nontax liability	Business transfer payments	Statistical discrepancy		
1929.....	103.9	9.9	94.0	7.1	0.6	1.5	-0.2	84.7
1933.....	56.0	7.6	48.4	7.1	.7	1.2	.0	39.4
1939.....	91.3	9.0	82.3	9.4	.5	1.7	.4	71.2
1940.....	100.4	9.4	91.1	10.1	.4	1.4	.4	79.6
1941.....	125.5	10.3	115.3	11.3	.5	.7	.1	102.8
1942.....	159.0	11.3	147.7	11.8	.5	.7	.1	136.2
1943.....	192.7	11.6	181.1	12.8	.5	-1.7	.1	169.7
1944.....	211.4	12.0	199.4	14.2	.5	2.7	.6	182.6
1945.....	213.4	12.4	201.0	15.5	.5	4.0	.7	181.6
1946.....	212.4	14.2	198.2	17.1	.5	.7	.9	180.7
1947.....	235.2	17.6	217.6	18.4	.6	1.8	-2	196.6
1948.....	261.6	20.4	241.2	20.1	.7	-1.3	-1	221.5
1949.....	260.4	22.0	238.4	21.3	.8	.8	-3	215.2
1950.....	288.3	23.6	264.6	23.4	.8	.8	.1	239.8
1951.....	333.4	27.2	306.2	25.3	.9	2.7	-1	277.3
1952.....	351.6	29.2	322.5	27.7	1.0	1.8	-3	291.6
1953.....	371.6	30.9	340.7	29.7	1.2	2.6	-5	306.6
1954.....	372.5	32.5	340.0	29.6	1.1	2.7	-3	306.3
1955.....	405.9	34.4	371.5	32.2	1.2	1.8	.0	336.3
1956.....	428.2	38.1	390.1	35.0	1.4	-1.9	.7	356.3
1957.....	451.0	41.1	409.9	37.4	1.5	-1.2	.7	372.8
1958.....	456.8	42.8	414.0	38.6	1.6	-1	1.1	375.0
1959.....	495.8	44.6	451.2	41.7	1.8	-1.5	.1	409.2
1960.....	515.3	46.4	468.9	45.3	2.0	-2.8	.4	424.9
1961.....	533.8	47.8	486.1	48.0	2.0	-1.2	1.7	439.0
1962.....	574.6	49.4	525.2	51.5	2.1	.0	1.8	473.3
1963.....	606.9	51.4	555.5	54.6	2.4	-6	1.1	500.3
1964.....	649.8	53.9	595.9	58.7	2.7	-1.4	1.7	537.6
1965.....	705.1	57.4	647.7	62.5	2.8	-1.2	1.6	585.2
1966.....	772.0	62.1	709.9	65.2	3.0	2.1	2.5	642.0
1967.....	816.4	67.4	749.0	70.1	3.1	-4	1.6	677.7
1968.....	892.7	73.9	818.7	78.7	3.4	-1.1	1.4	739.1
1969.....	963.9	81.4	882.5	86.3	3.9	-3.9	1.9	798.1
1970.....	1,015.5	88.8	926.6	94.0	4.1	-1.1	2.9	832.6
1971.....	1,102.7	97.5	1,005.1	103.4	4.4	1.8	2.6	898.1
1972.....	1,212.8	107.9	1,104.8	111.1	4.9	-1.6	3.7	994.1
1973.....	1,359.3	118.1	1,241.2	120.8	5.5	-4.3	3.5	1,122.7
1974.....	1,472.8	137.5	1,335.4	129.0	5.8	-1.7	1.2	1,203.5
1975.....	1,598.4	161.8	1,436.6	140.0	7.4	2.5	2.4	1,289.1
1976.....	1,782.8	179.2	1,603.6	151.7	7.9	3.6	1.0	1,441.4
1977.....	1,990.5	201.5	1,789.0	165.7	8.6	.0	3.0	1,617.8
1978.....	2,249.7	229.9	2,019.8	178.1	9.3	-1.9	3.9	1,838.2
1979.....	2,508.2	265.8	2,242.4	189.4	10.3	-1.0	3.5	2,047.3
1980.....	2,732.0	303.8	2,428.1	213.3	12.1	4.9	5.7	2,203.5
1981.....	3,052.6	347.8	2,704.8	251.5	12.4	4.1	6.7	2,443.5
1982.....	3,166.0	383.2	2,782.8	258.8	14.3	-1	8.7	2,518.4
1983.....	3,405.7	396.6	3,009.1	282.6	16.0	5.2	14.1	2,719.5
1984.....	3,772.2	415.5	3,356.8	313.9	18.7	5.4	9.9	3,028.6
1985.....	4,014.9	437.2	3,577.6	333.6	22.0	-4.8	7.2	3,234.0
1986.....	4,231.6	460.1	3,771.5	348.9	24.6	-1.8	12.8	3,412.6
1987.....	4,524.3	486.7	4,037.6	367.8	26.7	-4.7	17.6	3,665.4
1988.....	4,880.6	513.6	4,367.1	393.5	29.0	-9.6	18.5	3,972.6
1989 <sup>P</sup> .....	5,233.2	552.2	4,681.0	416.7	31.8	-23.4	9.1	4,265.0
1982: IV.....	3,212.5	393.2	2,819.3	264.5	15.2	6.8	15.4	2,548.2
1983: IV.....	3,545.8	400.8	3,145.0	294.1	16.5	2.5	19.6	2,851.5
1984: IV.....	3,851.8	423.5	3,428.3	322.7	20.0	-2.1	8.4	3,096.1
1985: IV.....	4,107.9	446.9	3,661.0	338.3	23.0	-7.9	5.3	3,312.8
1986: IV.....	4,297.3	470.8	3,826.5	353.1	25.5	-9.6	15.6	3,473.1
1987: I.....	4,388.8	476.9	3,911.9	357.9	26.3	1.2	24.1	3,550.5
II.....	4,475.9	483.5	3,992.4	364.5	26.6	-2.3	12.8	3,616.4
III.....	4,566.6	490.6	4,076.0	372.1	26.8	-10.5	7.2	3,694.8
IV.....	4,665.8	495.8	4,170.0	376.6	27.1	-7.4	26.2	3,799.9
1988: I.....	4,739.8	504.7	4,235.1	384.3	28.0	-13.1	17.6	3,853.6
II.....	4,838.5	510.2	4,328.2	390.1	28.7	-1	24.0	3,933.6
III.....	4,926.9	515.2	4,411.7	397.0	29.4	-8.6	11.8	4,005.7
IV.....	5,017.3	524.1	4,493.2	402.7	30.1	-16.6	20.4	4,097.4
1989: I.....	5,113.1	533.0	4,580.1	407.7	30.8	-24.1	19.5	4,185.2
II.....	5,201.7	541.0	4,660.8	413.4	31.5	-18.3	15.5	4,249.6
III.....	5,281.0	565.2	4,715.7	421.5	32.2	-25.5	-3	4,287.3
IV.....	5,337.0	569.6	4,767.4	424.2	32.9	.....	1.8	.....

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE C-23.—Relation of national income and personal income, 1929-89

(Billions of dollars; quarterly data at seasonally adjusted annual rates)

Year or quarter	National income	Less:				Plus:				Equals:
		Corporate profits with inventory valuation and capital consumption adjustments	Net interest	Contributions for social insurance	Wage accruals less disbursements	Government transfer payments to persons	Personal interest income	Personal dividend income	Business transfer payments	Personal income
1929	84.7	9.6	4.7	0.3	0.0	0.9	6.9	5.8	0.6	84.3
1933	39.4	-1.5	4.1	.3	.0	1.5	5.5	2.0	.7	46.3
1939	71.2	5.5	3.6	2.2	.0	2.5	5.3	3.8	.5	72.1
1940	79.6	8.8	3.3	2.4	.0	2.7	5.3	4.0	.4	77.6
1941	102.8	14.3	3.3	2.8	.0	2.6	5.3	4.4	.5	95.2
1942	136.2	19.7	3.1	3.5	.0	2.7	5.2	4.3	.5	122.4
1943	169.7	24.0	2.7	4.6	-.2	2.5	5.1	4.4	.5	150.7
1944	182.6	24.2	2.3	5.2	-.2	3.1	5.2	4.6	.5	164.5
1945	181.6	19.7	2.2	6.3	.0	5.6	5.8	4.6	.5	170.0
1946	180.7	17.2	1.8	7.7	.0	10.8	6.6	5.6	.5	177.6
1947	196.6	22.9	2.3	6.7	.0	11.2	7.5	6.3	.6	190.2
1948	221.5	30.3	2.4	6.0	.0	10.6	8.0	7.0	.7	209.2
1949	215.2	28.0	2.6	6.6	.0	11.7	8.7	7.2	.8	206.4
1950	239.8	34.9	3.0	7.4	.0	14.4	9.6	8.8	.8	228.1
1951	277.3	39.9	3.5	8.8	.1	11.6	10.4	8.5	.9	256.5
1952	291.6	37.5	3.9	9.3	.0	12.2	11.2	8.5	1.0	273.8
1953	306.6	37.7	4.4	9.6	-.1	13.1	12.4	8.8	1.2	290.5
1954	306.3	36.6	5.2	10.6	.0	15.3	13.7	9.1	1.1	293.0
1955	336.3	47.1	5.8	12.0	.0	16.4	14.9	10.3	1.2	314.2
1956	356.3	45.7	6.5	13.5	.0	17.5	16.6	11.1	1.4	337.2
1957	372.8	45.3	7.8	15.5	.0	20.3	18.7	11.5	1.5	356.3
1958	375.0	40.3	9.5	15.9	.0	24.7	20.3	11.3	1.6	367.1
1959	409.2	51.4	10.2	18.8	.0	25.7	22.3	12.2	1.8	390.7
1960	424.9	49.5	11.3	21.9	.0	27.5	24.9	12.9	2.0	409.4
1961	439.0	50.3	12.9	22.9	.0	31.5	26.3	13.3	2.0	426.0
1962	473.3	58.3	14.6	25.4	.0	32.6	28.9	14.4	2.1	453.2
1963	500.3	63.6	16.3	28.5	.0	34.5	32.2	15.5	2.4	476.3
1964	537.6	70.7	18.2	30.1	.0	36.0	35.5	17.3	2.7	510.2
1965	585.2	81.3	20.9	31.6	.0	39.1	39.6	19.1	2.8	552.0
1966	642.0	86.6	24.3	40.6	.0	43.6	44.2	19.4	3.0	600.8
1967	677.7	84.1	27.4	45.5	.0	52.3	48.2	20.2	3.1	644.5
1968	739.1	90.7	29.8	50.4	.0	60.6	53.2	21.9	3.4	707.2
1969	798.1	87.4	34.6	57.9	.0	67.5	60.9	22.4	3.9	772.9
1970	832.6	74.7	41.2	62.2	.0	81.8	69.3	22.2	4.1	831.8
1971	898.1	87.1	46.3	68.9	.6	97.0	74.7	22.6	4.4	894.0
1972	994.1	100.7	51.0	79.0	.0	108.4	80.8	24.1	4.9	981.6
1973	1,122.7	113.3	59.6	97.6	-.1	124.1	93.3	26.6	5.5	1,101.7
1974	1,203.5	101.7	75.5	110.5	-.5	147.4	111.9	28.9	5.8	1,210.1
1975	1,289.1	117.6	83.8	118.5	-.1	185.7	122.5	28.7	7.4	1,313.4
1976	1,441.4	145.2	88.8	134.5	-.1	202.8	134.1	33.8	7.9	1,451.4
1977	1,617.8	174.8	105.3	149.8	-.1	217.5	155.4	38.2	8.6	1,607.5
1978	1,838.2	197.2	126.3	171.7	-.3	234.8	182.5	43.0	9.3	1,812.4
1979	2,047.3	200.1	158.3	197.8	-.2	262.8	221.5	48.1	10.3	2,034.0
1980	2,203.5	177.2	200.9	216.5	.0	312.6	271.9	52.9	12.1	2,258.5
1981	2,443.5	188.0	248.1	251.2	.1	355.7	335.4	61.3	12.4	2,520.9
1982	2,518.4	150.0	272.3	269.6	.0	396.2	369.7	63.9	14.3	2,670.8
1983	2,719.5	213.7	281.0	291.0	-.4	426.6	393.1	68.7	16.0	2,838.6
1984	3,028.6	266.9	304.8	324.9	-.2	437.9	444.7	75.5	18.7	3,108.7
1985	3,234.0	282.3	319.0	354.1	-.2	467.8	478.0	78.7	22.0	3,325.3
1986	3,412.6	282.1	325.5	379.2	.0	496.8	493.2	85.8	24.6	3,526.2
1987	3,665.4	298.7	351.7	400.8	.0	521.5	523.2	92.0	26.7	3,777.6
1988	3,972.6	328.6	392.9	444.6	.0	555.7	571.1	102.2	29.0	4,064.5
1989 P	4,265.0	298.2	461.1	479.3	.0	600.3	657.8	112.4	31.8	4,428.7
1982: I	2,548.2	146.1	266.9	273.0	.0	420.2	366.2	65.4	15.2	2,729.2
1983: IV	2,851.5	248.5	290.2	299.2	.0	429.0	411.6	71.0	16.5	2,941.8
1984: I	3,096.1	266.9	313.1	331.5	.6	443.0	464.4	76.8	20.0	3,188.3
1985: IV	3,312.8	291.4	322.7	362.1	.0	474.5	485.9	79.0	23.0	3,399.1
1986: IV	3,473.1	275.2	324.0	387.7	.0	505.7	492.7	87.7	25.5	3,597.8
1987: I	3,550.5	279.9	334.2	392.8	.0	512.7	502.1	88.8	26.3	3,673.6
II	3,616.4	293.7	347.2	396.8	.0	521.0	516.2	90.3	26.6	3,732.7
III	3,694.8	313.0	355.3	402.6	-.2	524.0	527.9	93.2	26.8	3,795.5
IV	3,799.9	308.2	370.0	411.0	-.2	528.3	546.5	95.7	27.1	3,908.7
1988: I	3,853.6	318.1	376.6	434.0	.0	547.8	549.6	98.2	28.0	3,948.5
II	3,933.6	325.3	383.0	441.1	.0	553.2	560.0	100.4	28.7	4,026.6
III	4,005.7	330.9	396.4	448.2	.0	558.0	576.3	103.6	29.4	4,097.6
IV	4,097.4	340.2	415.7	455.2	.0	563.7	598.6	106.4	30.1	4,185.2
1989: I	4,185.2	316.3	436.1	469.7	.0	585.6	629.0	109.4	30.8	4,317.8
II	4,249.6	307.8	458.4	476.4	.0	595.3	655.1	111.4	31.5	4,400.3
III	4,287.3	295.2	471.5	482.0	.0	604.2	667.8	113.2	32.2	4,455.9
IV P			478.4	489.2	.0	616.1	679.5	115.7	32.9	4,540.9

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE C-24.—National income by type of income, 1929-89

(Billions of dollars; quarterly data at seasonally adjusted annual rates)

Year or quarter	National income <sup>1</sup>	Compensation of employees			Proprietors' income with inventory valuation and capital consumption adjustments							
		Total	Wages and salaries	Supplements to wages and salaries <sup>2</sup>	Total	Farm			Nonfarm			
						Total	Proprietors' income <sup>3</sup>	Capital consumption adjustment	Total	Proprietors' income	Inventory valuation adjustment	Capital consumption adjustment
1929.....	84.7	51.1	50.5	0.7	14.4	6.1	6.3	-0.2	8.3	8.8	0.1	-0.6
1933.....	39.4	29.6	29.0	.6	5.4	2.5	2.5	.0	2.9	3.9	-.5	-.5
1939.....	71.2	48.2	46.0	2.2	11.4	4.4	4.5	-.1	7.1	7.6	-.2	-.4
1940.....	79.6	52.2	49.9	2.3	12.6	4.4	4.5	-.1	8.2	8.6	.0	-.3
1941.....	102.8	64.8	62.1	2.8	17.1	6.4	6.5	-.2	10.8	11.7	-.6	-.3
1942.....	136.2	85.3	82.1	3.2	23.9	10.1	10.3	-.2	13.8	14.4	-.4	-.3
1943.....	169.7	109.6	105.8	3.8	28.8	12.0	12.2	-.2	16.8	17.1	-.2	-.2
1944.....	182.6	121.3	116.7	4.5	30.0	11.9	12.2	-.3	18.1	18.3	-.1	-.1
1945.....	181.6	123.3	117.5	5.8	31.5	12.4	12.6	-.3	19.1	19.3	-.1	-.1
1946.....	180.7	119.6	112.0	7.6	36.3	14.8	15.2	-.4	21.5	23.3	-1.7	-.1
1947.....	196.6	130.1	123.1	7.0	35.5	15.1	15.6	-.5	20.4	21.8	-1.5	-.1
1948.....	221.5	142.1	135.5	6.5	40.4	17.5	18.2	-.7	22.9	23.1	-.4	.2
1949.....	215.2	142.0	134.7	7.3	35.9	12.8	13.5	-.7	23.1	22.2	.5	.5
1950.....	239.8	155.4	147.2	8.2	38.8	13.6	14.3	-.7	25.2	25.7	-1.1	.6
1951.....	277.3	181.6	171.6	10.0	44.0	16.0	16.8	-.8	28.0	27.7	-.3	.6
1952.....	291.6	196.3	185.6	10.7	44.4	15.0	15.9	-.9	29.4	28.5	.2	.7
1953.....	306.6	210.4	199.0	11.5	43.4	13.0	13.9	-.9	30.4	29.8	-.2	.7
1954.....	306.3	209.4	197.2	12.1	43.5	12.4	13.2	-.8	31.1	30.4	.0	.8
1955.....	336.3	225.9	212.1	13.8	45.4	11.3	12.1	-.8	34.0	33.5	-.2	.7
1956.....	356.3	244.7	229.0	15.7	46.9	11.1	12.0	-.9	35.8	35.4	-.5	.9
1957.....	372.8	257.8	239.9	17.8	48.8	11.0	11.9	-.9	37.8	37.2	-.3	.9
1958.....	375.0	259.8	241.3	18.5	51.5	13.1	14.0	-.9	38.5	37.7	-.1	.9
1959.....	409.2	281.2	259.8	21.4	51.7	10.8	11.7	-.9	40.9	40.1	.0	.9
1960.....	424.9	296.7	272.8	23.8	52.1	11.6	12.4	-.8	40.5	39.7	.0	.8
1961.....	439.0	305.6	280.5	25.1	54.3	12.0	12.8	-.8	42.3	41.7	.0	.6
1962.....	473.3	327.4	299.3	28.1	56.6	12.1	12.9	-.8	44.4	43.8	.0	.6
1963.....	500.3	345.5	314.8	30.7	57.7	11.9	12.6	-.7	45.7	45.1	.0	.7
1964.....	537.6	371.0	337.7	33.2	60.5	10.7	11.4	-.7	49.8	49.1	-.1	.7
1965.....	585.2	399.8	363.7	36.1	65.1	13.0	13.7	-.7	52.1	51.8	-.2	.4
1966.....	642.0	443.0	400.3	42.7	69.6	14.0	14.8	-.8	55.5	55.5	-.2	.3
1967.....	677.7	475.5	428.9	46.6	71.1	12.7	13.6	-.8	58.4	58.4	-.2	.2
1968.....	739.1	524.7	471.9	52.8	75.4	12.8	13.7	-.9	62.6	63.1	-.4	-.1
1969.....	798.1	578.4	518.3	60.1	79.3	14.6	15.8	-.1	64.7	65.1	-.5	.1
1970.....	832.6	618.3	551.5	66.8	80.2	14.7	16.0	-1.3	65.4	66.0	-.5	.0
1971.....	898.1	659.4	584.5	74.9	86.8	15.5	16.8	-1.3	71.4	72.3	-.6	-.3
1972.....	994.1	726.2	638.7	87.6	98.3	19.4	21.1	-1.7	79.0	79.6	-.7	.1
1973.....	1,122.7	812.8	708.6	104.2	119.0	33.7	35.6	-1.9	85.3	87.2	-2.0	.1
1974.....	1,203.5	891.3	772.2	119.1	118.8	37.5	30.1	-2.6	91.3	95.3	-3.8	-.3
1975.....	1,289.1	948.7	814.7	134.0	125.4	25.4	29.0	-3.6	100.0	102.2	-1.2	-1.0
1976.....	1,441.4	1,057.9	899.6	158.3	137.7	20.6	24.6	-4.0	117.1	119.6	-1.3	-1.3
1977.....	1,617.8	1,176.6	994.0	182.6	152.9	20.5	25.1	-4.6	132.4	135.1	-1.3	-1.4
1978.....	1,838.2	1,329.2	1,119.6	209.7	176.2	27.0	32.4	-5.3	149.2	152.8	-2.3	-1.4
1979.....	2,047.3	1,491.4	1,251.9	239.5	191.9	31.7	38.0	-6.3	160.1	164.0	-2.9	-1.0
1980.....	2,203.5	1,638.2	1,372.0	266.3	180.7	20.5	28.1	-7.6	160.1	164.3	-2.9	-1.2
1981.....	2,443.5	1,807.4	1,510.4	297.1	186.8	30.7	39.4	-8.7	156.1	155.2	-1.4	2.3
1982.....	2,518.4	1,907.0	1,586.1	320.9	175.5	24.6	33.9	-9.3	150.9	148.5	-.5	2.9
1983.....	2,719.5	2,020.7	1,676.2	344.5	190.9	12.4	21.8	-9.4	178.4	167.3	-.8	12.0
1984.....	3,028.6	2,213.9	1,838.8	375.1	234.5	30.5	39.6	-9.2	204.0	182.4	-.4	22.0
1985.....	3,234.0	2,367.5	1,975.2	392.4	255.9	30.2	38.9	-8.7	225.6	194.6	-.2	31.2
1986.....	3,412.6	2,511.4	2,094.8	416.6	282.0	34.7	43.1	-8.4	247.2	210.0	-.2	37.4
1987.....	3,665.4	2,690.0	2,249.4	440.7	311.6	41.6	49.6	-8.0	270.0	238.9	-1.0	32.2
1988.....	3,972.6	2,907.6	2,429.0	478.6	327.8	39.8	47.3	-7.5	288.0	259.2	-1.5	30.3
1989 P.....	4,265.0	3,145.4	2,632.0	513.4	352.2	46.3	53.5	-7.2	305.9	280.4	-1.3	26.8
1982: IV.....	2,548.2	1,931.1	1,603.7	327.4	188.3	28.5	38.0	-9.4	159.8	156.9	-.6	3.5
1983: I.....	2,851.5	2,092.7	1,739.4	353.4	207.8	31.8	28.5	-9.3	188.6	172.7	-.7	16.5
1984: I.....	3,096.1	2,272.7	1,891.1	381.7	237.8	28.1	37.5	-9.3	209.7	182.5	-.3	26.9
1985: IV.....	3,312.8	2,426.7	2,027.4	399.3	264.2	29.2	37.8	-8.6	235.0	201.1	-.3	34.2
1986: IV.....	3,473.1	2,571.2	2,143.1	428.1	289.2	37.2	45.3	-8.1	252.0	215.5	-.3	36.8
1987: I.....	3,550.5	2,615.0	2,184.4	430.7	306.7	44.4	52.5	-8.1	262.3	227.7	-.1	34.7
II.....	3,616.4	2,656.6	2,220.6	436.0	305.8	39.8	47.9	-8.1	226.0	234.6	-1.1	32.5
III.....	3,694.8	2,709.8	2,266.6	443.2	305.2	33.6	41.7	-8.0	271.6	241.7	-1.1	30.9
IV.....	3,799.9	2,778.7	2,235.9	452.8	328.7	48.4	56.3	-7.9	280.3	251.5	-1.7	30.5
1988: I.....	3,853.6	2,819.4	2,353.4	466.0	324.0	44.0	51.9	-7.9	279.9	250.9	-1.3	30.3
II.....	3,933.6	2,878.9	2,405.4	473.5	331.8	45.4	53.0	-7.7	286.5	257.8	-1.8	30.5
III.....	4,005.7	2,935.1	2,452.2	482.9	327.0	37.7	45.0	-7.4	283.3	260.4	-1.6	30.5
IV.....	4,097.4	2,997.2	2,505.1	492.0	328.3	32.0	39.2	-7.2	296.3	267.8	-1.3	29.8
1989: I.....	4,185.2	3,061.7	2,560.7	501.0	359.3	59.0	66.2	-7.2	300.3	274.4	-2.5	28.5
II.....	4,249.6	3,118.2	2,608.8	509.4	355.5	51.3	58.4	-7.1	304.2	278.7	-1.9	27.4
III.....	4,287.3	3,171.9	2,654.7	517.2	343.3	36.1	43.5	-7.5	307.2	281.0	.0	26.2
IV P.....		3,230.1	2,704.0	526.1	350.9	38.8	45.9	-7.0	312.0	287.5	-.7	25.2

<sup>1</sup> National income is the total net income earned in production. It differs from gross national product mainly in that it excludes depreciation charges and other allowances for business and institutional consumption of durable capital goods and indirect business taxes. See Table C-22.

See next page for continuation of table.

TABLE C-24.—National income by type of income, 1929-89—Continued

(Billions of dollars; quarterly data at seasonally adjusted annual rates)

Year or quarter	Rental income of persons with capital consumption adjustment			Corporate profits with inventory valuation and capital consumption adjustments									Net interest
	Total	Rental income of persons	Capital consumption adjustment	Total	Profits with inventory valuation adjustment and without capital consumption adjustment						Inventory valuation adjustment	Capital consumption adjustment	
					Total	Profits before tax	Profits tax liability	Profits after tax					
								Total	Dividends	Undistributed profits			
1929	4.9	5.6	-0.7	9.6	10.5	10.0	1.4	8.6	5.8	2.8	0.5	-0.9	4.7
1933	2.0	2.1	-1	-1.5	-1.2	1.0	.5	.4	2.0	-1.6	-2.1	-3	4.1
1939	2.6	3.2	-5	5.5	6.5	7.2	1.4	5.7	3.8	2.0	-7	-1.0	3.6
1940	2.7	3.3	-6	8.8	9.8	10.0	2.8	7.2	4.0	3.2	-2	-1.1	3.3
1941	3.2	4.0	-8	14.3	15.4	17.9	7.6	10.3	4.4	5.8	-2.5	-1.1	3.3
1942	4.1	5.1	-9	19.7	20.5	21.7	11.4	10.3	4.3	6.0	-1.2	-8	3.1
1943	4.6	5.7	-1.1	24.0	24.5	25.3	14.1	11.2	4.4	6.7	-8	-5	2.7
1944	4.8	6.1	-1.3	24.2	24.0	24.2	12.9	11.3	4.6	6.7	-3	-2	2.3
1945	5.0	6.5	-1.5	19.7	19.3	19.8	10.7	9.1	4.6	4.5	-6	-4	2.2
1946	5.8	7.5	-1.7	17.2	19.6	24.8	9.1	15.7	5.6	10.2	-5.3	-2.4	1.8
1947	5.8	8.2	-2.4	22.9	25.9	31.8	11.3	20.5	6.3	14.2	-5.9	-2.9	2.3
1948	6.4	9.1	-2.7	30.3	33.4	35.6	12.4	23.2	7.0	16.2	-2.2	-3.2	2.4
1949	6.7	9.4	-2.7	28.0	31.1	29.2	10.2	19.0	7.2	11.8	1.9	-3.0	2.6
1950	7.7	10.5	-2.8	34.9	37.9	42.9	17.9	25.0	8.8	16.2	-5.0	-3.0	3.0
1951	8.3	11.5	-3.2	39.9	43.3	44.5	22.6	21.9	8.5	13.4	-1.2	-3.4	3.5
1952	9.4	12.7	-3.3	37.5	40.6	39.6	19.4	20.2	8.5	11.8	1.0	-3.2	3.9
1953	10.7	13.9	-3.3	37.7	40.2	41.2	20.3	20.9	8.8	12.1	-1.0	-2.5	4.4
1954	11.6	14.9	-3.2	36.6	38.4	38.7	17.6	21.1	9.1	11.9	-3	-1.8	5.2
1955	12.0	15.3	-3.3	47.1	47.5	49.2	22.0	27.2	10.3	16.9	-1.7	-4	5.8
1956	12.4	15.9	-3.5	45.7	46.9	49.6	22.0	27.6	11.1	16.6	-2.7	-1.2	6.5
1957	13.1	16.5	-3.5	45.3	46.6	48.1	21.4	26.7	11.5	15.2	-1.5	-1.3	7.8
1958	13.9	17.3	-3.4	40.3	41.6	41.9	19.0	22.9	11.3	11.6	-3	-1.3	9.5
1959	14.6	18.0	-3.4	51.4	52.3	52.6	23.6	28.9	12.2	16.7	-3	-8	10.2
1960	15.3	18.7	-3.4	49.5	49.8	49.9	22.7	27.2	12.9	14.3	-2	-3	11.3
1961	15.8	19.1	-3.3	50.3	50.1	49.8	22.8	27.1	13.3	13.7	.3	-2	12.9
1962	16.5	19.8	-3.3	58.3	55.2	55.1	24.0	31.2	14.4	16.8	.0	3.1	14.6
1963	17.1	20.3	-3.2	63.6	59.8	59.8	26.2	33.5	15.5	18.0	-1	3.8	16.3
1964	17.3	20.5	-3.2	70.7	66.2	66.7	28.0	38.7	17.3	21.4	-5	4.5	18.2
1965	18.1	21.3	-3.3	81.3	76.2	77.4	30.9	46.5	19.1	27.4	-1.2	5.2	20.9
1966	18.6	22.2	-3.6	86.6	81.2	83.3	33.7	49.6	19.4	30.2	-2.1	5.4	24.3
1967	19.6	23.5	-3.9	84.1	78.6	80.1	32.7	47.5	20.2	27.3	-1.6	5.5	27.4
1968	18.4	23.9	-4.5	90.7	85.4	89.1	39.4	49.7	22.0	27.7	-3.7	5.3	29.8
1969	18.4	24.2	-5.8	87.4	81.4	87.2	39.7	47.5	22.5	25.0	-5.9	6.1	34.6
1970	22.5	24.6	-6.4	74.7	69.5	76.0	34.4	41.7	22.5	19.2	-6.6	6.2	41.2
1971	18.6	25.9	-7.4	87.1	82.7	87.3	37.7	49.6	22.9	26.6	-4.6	4.3	46.3
1972	17.9	26.5	-8.6	100.7	94.9	101.5	41.9	59.6	24.4	35.2	-6.6	5.8	51.0
1973	18.0	28.1	-10.1	113.3	107.1	127.2	49.3	77.9	27.0	50.8	-20.0	6.2	59.6
1974	16.1	28.9	-12.7	101.7	99.4	138.9	51.8	87.1	29.7	57.3	-39.5	2.3	75.5
1975	13.5	28.6	-15.0	117.6	123.9	134.8	50.9	83.9	29.6	54.3	-11.0	-6.2	83.8
1976	11.9	28.9	-17.0	145.2	155.3	170.3	64.2	106.0	34.6	71.4	-14.9	-10.1	88.8
1977	8.2	28.8	-20.6	174.8	183.8	200.4	73.0	127.4	39.5	87.9	-16.6	-9.0	105.3
1978	9.3	34.2	-24.9	197.2	208.2	233.5	83.5	150.0	44.7	105.2	-25.3	-10.9	126.3
1979	5.6	35.7	-30.1	200.1	214.1	257.2	88.0	169.2	50.1	119.1	-43.2	-14.0	158.3
1980	6.6	41.4	-34.8	177.2	194.0	237.1	84.8	152.3	54.7	97.6	-43.1	-16.8	200.9
1981	13.3	52.2	-38.9	188.0	202.3	226.5	81.1	145.4	63.6	81.8	-24.2	-14.4	248.1
1982	13.6	54.4	-40.8	150.0	159.2	169.6	63.1	106.5	66.9	39.6	-10.4	-9.2	272.3
1983	13.2	55.0	-41.8	213.7	196.7	207.6	77.2	130.4	71.5	58.9	-10.9	17.0	281.0
1984	8.5	51.9	-43.3	266.9	234.2	240.0	93.9	146.1	79.0	67.0	-5.8	32.7	304.8
1985	9.2	54.2	-45.0	282.3	222.6	224.3	96.4	127.8	83.3	44.6	-1.7	59.7	319.0
1986	11.6	56.5	-45.0	282.1	228.3	221.6	106.3	127.3	91.3	43.0	-6.7	53.8	325.7
1987	13.4	61.2	-47.9	298.7	247.8	266.7	124.7	142.0	98.7	43.3	-18.9	50.9	351.7
1988	15.7	65.4	-49.8	328.6	281.8	306.8	137.9	168.9	110.4	58.5	-25.0	46.8	392.9
1989 <sup>a</sup>	8.0	62.9	-54.9	298.2	268.7	287.3	129.0	158.2	122.1	36.2	-18.5	29.4	461.1
1982: IV	15.8	56.5	-40.7	146.1	150.7	164.1	59.8	104.3	68.5	35.8	-13.4	-4.5	266.9
1983: IV	12.4	54.3	-41.9	248.5	223.4	231.5	88.1	143.4	73.9	69.5	-8.1	25.1	290.2
1984: IV	5.6	49.6	-44.0	266.9	224.6	226.1	87.0	139.2	80.8	58.4	-1.6	42.3	313.1
1985: IV	7.8	54.5	-46.7	291.4	228.4	235.0	99.8	135.2	84.0	51.2	-6.6	63.0	322.7
1986: IV	13.5	59.1	-45.6	275.2	226.1	234.1	113.1	121.0	93.6	27.4	-8.0	49.1	324.0
1987: I	14.7	60.9	-46.2	279.9	230.5	246.4	115.0	131.4	95.0	36.4	-15.9	49.3	334.2
II	13.0	60.2	-47.2	293.7	243.4	263.4	124.0	139.4	96.9	42.6	-20.0	50.3	347.2
III	11.5	60.3	-48.9	313.0	261.5	281.0	132.7	148.3	100.0	48.3	-19.4	51.5	355.3
IV	13.4	63.6	-49.3	308.2	255.8	276.2	127.3	148.9	102.8	46.1	-20.4	52.4	370.0
1988: I	15.6	65.4	-49.8	318.1	268.1	288.8	129.0	159.9	105.7	54.2	-20.7	49.9	376.6
II	14.6	64.3	-49.7	325.3	276.4	305.3	138.4	166.9	108.6	58.3	-28.8	48.9	383.0
III	16.3	65.8	-49.6	330.9	284.1	314.4	141.2	173.2	112.2	61.1	-30.4	46.9	396.4
IV	16.1	66.1	-49.9	340.2	298.7	318.8	143.2	175.6	115.2	60.4	-20.1	41.5	415.7
1989: I	11.8	62.9	-51.1	316.3	279.7	318.0	144.4	173.6	118.5	55.1	-38.3	36.6	436.1
II	9.8	62.5	-52.7	307.8	275.5	296.0	134.9	161.1	120.9	40.2	-20.5	32.3	458.4
III	5.4	63.8	-58.4	295.2	268.7	275.0	122.6	152.4	123.3	29.1	-6.3	26.5	471.5
IV <sup>b</sup>	5.1	62.3	-57.2					125.6			-8.9	22.4	478.4

<sup>a</sup> Consists mainly of employer contributions for social insurance and to private pension, health, and welfare funds.

<sup>b</sup> With inventory valuation adjustment.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE C-25.—Sources of personal income, 1929-89  
 [Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Personal income	Wage and salary disbursements <sup>1</sup>						Other labor income <sup>1</sup>	Proprietors' income with inventory valuation and capital consumption adjustments	
		Total	Commodity-producing industries		Distributive industries	Service industries	Government and government enterprises		Farm	Nonfarm
			Total	Manufacturing						
1929	84.3	50.5	21.5	16.1	15.6	8.4	5.0	0.5	6.1	8.3
1933	46.3	29.0	9.8	7.8	8.8	5.2	5.2	.4	2.5	2.9
1939	72.1	46.0	17.4	13.6	13.3	7.1	8.2	.6	4.4	7.1
1940	77.6	49.9	19.7	15.6	14.2	7.5	8.5	.6	4.4	8.2
1941	95.2	62.1	27.5	21.7	16.3	8.1	10.2	.7	6.4	10.8
1942	122.4	82.1	39.1	30.9	18.0	9.0	16.0	.9	10.1	13.8
1943	150.7	105.6	49.0	40.9	20.1	9.9	26.6	1.1	12.0	16.8
1944	164.5	116.9	50.4	42.9	22.7	10.9	33.0	1.5	11.9	18.1
1945	170.0	117.5	45.9	38.2	24.8	11.9	34.9	1.8	12.4	19.1
1946	177.6	112.0	46.0	36.5	31.0	14.3	20.7	2.0	14.8	21.5
1947	190.2	123.1	54.2	42.5	35.2	16.1	17.5	2.4	15.1	20.4
1948	209.2	135.5	61.1	47.1	37.5	17.9	19.0	2.7	17.5	22.9
1949	206.4	134.8	57.8	44.6	37.7	18.5	20.8	2.9	12.8	23.1
1950	228.1	147.2	64.8	50.3	39.9	19.9	22.6	3.7	13.6	25.2
1951	256.5	171.5	76.4	59.4	44.4	21.6	29.2	4.6	16.0	28.0
1952	273.8	185.6	82.1	64.2	47.0	23.2	33.3	5.2	15.0	29.4
1953	290.5	199.0	89.8	71.3	49.9	25.0	34.4	5.9	13.0	30.4
1954	293.0	197.2	85.8	67.6	50.3	26.2	34.9	6.1	12.4	31.1
1955	314.2	212.1	93.3	73.9	53.6	28.7	36.6	7.0	11.3	34.0
1956	337.2	229.0	100.8	79.5	58.0	31.5	38.8	8.0	11.1	35.8
1957	356.3	239.9	104.4	82.5	60.7	33.8	41.0	9.0	11.0	37.8
1958	367.1	241.3	100.3	78.7	61.1	35.9	44.1	9.4	13.1	38.5
1959	390.7	259.8	109.9	86.9	65.1	38.8	46.0	10.6	10.8	40.9
1960	409.4	272.8	113.4	89.8	68.6	41.7	49.2	11.2	11.6	40.5
1961	426.0	280.5	114.0	89.9	69.6	44.4	52.4	11.8	12.0	42.3
1962	453.2	299.3	122.2	96.8	73.3	47.6	56.3	13.0	12.1	44.4
1963	476.3	314.8	127.4	100.7	76.8	50.7	60.0	14.0	11.9	45.7
1964	510.2	337.7	136.0	107.3	82.0	54.9	64.9	15.7	10.7	49.8
1965	552.0	363.7	146.6	115.7	87.9	59.4	69.9	17.8	13.0	52.1
1966	600.8	400.3	161.6	128.2	95.1	65.3	78.3	19.9	14.0	55.5
1967	644.5	428.9	169.0	134.3	101.6	72.0	86.4	21.7	12.7	58.4
1968	707.2	471.9	184.1	146.0	110.8	80.4	96.6	25.2	12.8	62.6
1969	772.9	518.3	200.4	157.7	121.7	90.6	105.5	28.5	14.6	64.7
1970	831.8	551.5	203.7	158.4	131.2	99.4	117.1	32.5	14.7	65.4
1971	894.0	583.9	209.1	165.5	140.4	107.9	126.5	36.7	15.5	71.4
1972	981.6	638.7	228.2	175.6	153.3	119.7	137.4	43.0	19.4	79.0
1973	1,101.7	708.7	255.9	196.6	170.3	133.9	148.7	49.2	33.7	85.3
1974	1,210.1	772.6	276.5	211.8	186.8	148.6	160.9	56.5	27.5	91.3
1975	1,313.4	814.6	277.1	211.6	198.1	163.4	176.0	65.9	25.4	100.0
1976	1,451.4	899.5	309.7	238.0	219.5	181.6	188.6	79.3	20.6	117.1
1977	1,607.5	993.9	346.1	266.7	242.7	202.8	203.3	94.1	20.5	132.4
1978	1,812.4	1,119.3	392.3	300.1	274.6	232.9	219.4	107.7	27.0	149.2
1979	2,034.0	1,252.1	441.4	334.8	307.8	266.8	236.1	122.7	31.7	160.1
1980	2,258.5	1,372.0	470.7	355.6	335.5	305.6	260.2	138.4	20.5	160.1
1981	2,520.9	1,510.3	512.2	386.7	366.8	346.9	284.4	150.3	30.7	156.1
1982	2,670.8	1,586.1	511.7	384.0	384.2	384.4	305.9	163.6	24.6	150.9
1983	2,838.6	1,676.6	523.1	397.4	404.2	425.1	324.3	173.6	12.4	178.4
1984	3,108.7	1,838.6	577.6	439.1	442.8	472.1	346.1	182.9	30.5	204.0
1985	3,325.3	1,975.4	608.9	460.9	473.2	521.3	372.0	187.6	30.2	225.6
1986	3,526.2	2,094.8	625.6	473.2	498.8	576.7	393.7	199.3	34.7	247.2
1987	3,777.6	2,249.4	649.9	490.3	531.9	648.3	419.2	212.8	41.6	270.0
1988	4,064.5	2,429.0	696.3	524.0	571.9	714.4	446.5	228.9	39.8	288.0
1989 <sup>p</sup>	4,428.7	2,632.0	738.3	553.0	615.1	801.7	476.9	248.3	46.3	305.9
1982: IV	1,603.6	501.8	272.9	377.4	389.3	398.5	314.0	168.0	28.5	159.8
1983: IV	2,941.8	1,739.4	545.4	415.5	420.8	443.2	330.0	177.8	19.3	188.6
1984: IV	3,188.3	1,890.5	591.6	449.5	455.1	489.6	354.3	185.4	28.1	209.7
1985: IV	3,399.1	2,027.4	619.2	468.3	484.6	543.4	380.3	189.7	29.2	235.0
1986: IV	3,597.8	2,143.1	632.3	477.7	509.7	599.3	401.9	205.0	37.2	252.0
1987: I	3,673.6	2,184.4	637.9	482.4	517.6	618.7	410.2	207.6	44.4	262.3
II	3,732.7	2,220.6	641.7	483.7	526.7	636.4	415.7	210.5	39.8	266.0
III	3,795.5	2,266.3	652.9	492.7	537.2	654.3	422.0	214.3	33.6	271.6
IV	3,908.7	2,326.2	667.2	502.5	546.1	683.8	429.0	218.8	48.4	280.3
1988: I	3,948.5	2,353.4	678.2	511.4	554.0	684.3	437.0	222.3	44.0	279.9
II	4,026.6	2,405.4	690.8	519.2	568.0	703.5	443.1	225.9	45.4	286.5
III	4,097.6	2,452.2	701.6	527.2	578.0	723.0	449.6	231.1	37.7	289.3
IV	4,185.2	2,505.1	714.7	538.1	587.5	746.7	456.3	236.5	32.0	296.3
1989: I	4,317.8	2,560.7	726.6	546.3	598.8	768.4	466.9	241.3	59.0	300.3
II	4,400.3	2,608.8	733.7	549.9	610.8	790.8	473.5	246.0	51.3	304.2
III	4,455.9	2,654.7	742.6	555.7	619.4	812.4	480.2	250.7	36.1	307.2
IV <sup>p</sup>	4,540.9	2,704.0	750.4	559.9	631.2	835.3	487.1	255.3	38.8	312.0

<sup>1</sup> The total of wage and salary disbursements and other labor income differs from compensation of employees in Table C-24 in that it excludes employer contributions for social insurance and the excess of wage accruals over wage disbursements.  
 See next page for continuation of table.



TABLE C-25.—Sources of personal income, 1929-89—Continued

(Billions of dollars; quarterly data at seasonally adjusted annual rates)

Year or quarter	Rental income of persons with capital consumption adjustment	Personal dividend income	Personal interest income	Transfer payments						Less: Personal contributions for social insurance	Nonfarm personal income <sup>2</sup>	
				Total	Old-age, survivors, disability, and health insurance benefits	Government unemployment insurance benefits	Veterans benefits	Government employees retirement benefits	Aid to families with dependent children (AFDC)			Other
1929.....	4.9	5.8	6.9	1.5			0.6	0.1		0.8	0.1	
1933.....	2.0	2.0	5.5	2.1			6	2		1.4	2	
1939.....	2.6	3.8	5.3	3.0	0.0	0.4	5	3		1.7	6	
1940.....	2.7	4.0	5.3	3.1	0	5	5	3		1.7	7	
1941.....	3.2	4.4	5.3	3.1	1	4	5	3		1.8	8	
1942.....	4.1	4.3	5.2	3.1	1	4	5	3		1.8	12	
1943.....	4.6	4.4	5.1	3.0	2	1	5	4		1.8	18	
1944.....	4.8	4.6	5.2	3.6	2	1	1.0	4		2.0	22	
1945.....	5.0	4.6	5.8	6.2	3	4	3.0	5		2.0	2.3	
1946.....	5.8	5.6	6.6	11.3	4	1.1	7.0	7		2.1	2.0	159.9
1947.....	5.8	6.3	7.5	11.7	5	8	7.0	7	0.3	2.5	2.1	172.0
1948.....	6.4	7.0	8.0	11.3	6	9	5.9	7	4	2.9	2.2	188.3
1949.....	6.7	7.2	8.7	12.5	7	1.9	5.3	9	5	3.3	2.2	190.6
1950.....	7.7	8.8	9.6	15.2	1.0	1.5	7.7	1.0	6	3.5	2.9	211.2
1951.....	8.3	8.5	10.4	12.6	1.9	9	4.6	1.1	6	3.6	3.4	237.1
1952.....	9.4	8.5	11.2	13.3	2.2	1.1	4.3	1.2	5	3.9	3.8	255.4
1953.....	10.7	8.8	12.4	14.3	3.0	1.0	4.1	1.4	5	4.2	4.0	274.2
1954.....	11.6	9.1	13.7	16.3	3.6	2.2	4.2	1.5	6	4.2	4.6	277.5
1955.....	12.0	10.3	14.9	17.7	4.9	1.5	4.4	1.7	6	4.5	5.2	299.6
1956.....	12.4	11.1	16.6	18.9	5.7	1.5	4.4	1.9	6	4.8	5.8	322.8
1957.....	13.1	11.5	18.7	21.8	7.3	1.9	4.5	2.2	7	5.2	6.7	341.9
1958.....	13.9	11.3	20.3	26.3	8.5	4.1	4.7	2.5	8	5.7	6.9	350.4
1959.....	14.6	12.2	22.3	27.4	10.2	2.8	4.6	2.8	9	6.2	7.9	376.2
1960.....	15.3	12.9	24.9	29.5	11.1	3.0	4.6	3.1	1.0	6.7	9.3	393.9
1961.....	15.8	13.3	26.3	33.5	12.6	4.3	5.0	3.4	1.1	7.1	9.7	409.9
1962.....	16.5	14.4	28.9	34.7	14.3	3.1	4.7	3.7	1.3	7.6	10.3	436.7
1963.....	17.1	15.5	32.2	36.9	15.2	3.0	4.8	4.2	1.4	8.3	11.8	460.0
1964.....	17.3	17.3	35.5	38.7	16.0	2.7	4.7	4.7	1.5	9.1	12.6	494.9
1965.....	18.1	19.1	39.6	41.9	18.1	2.3	4.9	5.2	1.7	9.8	13.3	534.0
1966.....	18.6	19.4	44.2	46.6	20.8	1.9	4.9	6.1	1.9	11.2	17.8	581.5
1967.....	19.6	20.2	48.2	55.5	25.5	2.2	5.6	6.9	2.3	13.0	20.6	626.3
1968.....	18.4	21.9	53.2	64.0	30.2	2.1	5.9	7.6	2.8	15.3	22.9	688.7
1969.....	18.4	22.4	60.9	71.4	32.9	2.2	6.7	8.7	3.5	17.3	26.2	752.1
1970.....	18.2	22.2	69.3	85.9	38.5	4.0	7.7	10.2	4.8	20.7	27.9	810.4
1971.....	18.6	22.6	74.7	101.5	44.5	5.8	8.8	11.8	6.2	24.5	30.7	871.8
1972.....	17.9	24.1	80.8	113.3	49.6	5.7	9.7	13.8	6.9	27.6	34.5	955.0
1973.....	18.0	26.6	93.3	129.6	60.4	4.4	10.4	16.0	7.2	31.2	42.6	1,059.7
1974.....	16.1	28.9	111.9	153.2	70.1	6.8	11.8	19.0	7.9	37.5	47.9	1,172.6
1975.....	13.5	28.7	122.5	193.1	81.4	17.6	14.5	22.7	9.2	47.6	50.4	1,276.9
1976.....	11.9	33.8	134.1	210.7	92.9	15.8	14.4	26.1	10.1	51.5	55.5	1,417.9
1977.....	8.2	38.2	155.4	226.1	104.9	12.7	13.8	29.0	10.6	55.1	61.2	1,572.6
1978.....	9.3	43.0	182.5	244.0	116.2	9.7	13.9	32.7	10.7	60.9	69.8	1,769.3
1979.....	5.6	48.1	221.5	273.1	131.8	9.8	14.4	36.9	11.0	69.1	81.0	1,983.2
1980.....	6.6	52.9	271.9	324.7	154.2	16.1	15.0	43.0	12.4	84.0	88.6	2,215.8
1981.....	13.3	61.3	335.4	368.1	182.0	15.9	16.1	49.4	13.0	91.8	104.5	2,465.6
1982.....	13.6	63.9	369.7	410.6	204.5	25.2	16.4	54.6	13.3	96.5	112.3	2,618.7
1983.....	13.2	68.7	393.1	442.6	221.7	26.3	16.6	58.7	14.2	105.1	120.1	2,799.0
1984.....	8.5	75.5	444.7	456.6	235.7	15.8	16.4	61.4	14.8	112.6	132.7	3,052.1
1985.....	9.2	78.7	478.0	489.8	253.4	15.7	16.7	66.8	15.4	121.9	149.3	3,271.3
1986.....	11.6	85.8	493.2	521.5	269.2	16.3	16.7	70.9	16.4	131.9	161.9	3,469.4
1987.....	13.4	92.0	523.2	548.2	282.9	14.5	16.6	76.4	16.7	141.2	172.9	3,714.7
1988.....	15.7	102.2	571.1	584.7	300.5	13.0	17.0	82.7	17.2	154.3	194.9	4,003.7
1989 <sup>P</sup> .....	8.0	112.4	657.8	632.1	325.2	14.3	17.3	88.5	17.9	169.0	214.2	4,360.9
1982: IV.....	15.8	65.4	366.2	435.4	216.6	31.8	16.6	56.1	13.6	100.6	113.5	2,672.8
1983: IV.....	12.4	71.0	411.6	445.5	227.0	20.0	16.5	60.2	14.5	107.3	123.6	2,895.6
1984: IV.....	5.6	76.8	464.4	463.0	241.7	15.6	16.3	58.5	14.8	116.1	135.2	3,134.7
1985: IV.....	7.8	79.0	485.9	497.5	257.0	15.2	16.5	67.9	15.8	125.0	152.6	3,346.9
1986: IV.....	13.5	87.7	492.7	531.2	273.3	16.7	16.4	72.6	16.7	135.4	164.6	3,538.9
1987: I.....	14.7	88.8	502.1	539.0	278.3	15.5	16.6	74.1	16.6	137.9	169.7	3,607.7
1987: II.....	13.0	90.3	516.2	547.6	283.1	15.0	16.7	76.0	16.7	140.1	171.3	3,671.5
1987: III.....	11.5	93.2	527.9	550.8	284.3	14.3	16.5	77.4	16.7	141.6	173.7	3,740.6
1987: IV.....	14.3	95.7	546.5	555.5	285.7	13.2	16.5	78.1	16.7	145.1	177.0	3,839.0
1988: I.....	15.6	98.2	549.6	575.8	297.2	13.5	16.9	81.4	17.0	149.8	190.3	3,883.4
1988: II.....	14.6	100.4	560.0	581.8	299.2	13.1	16.9	83.0	17.1	152.5	193.4	3,960.2
1988: III.....	16.3	103.6	576.3	587.4	301.4	12.9	17.0	82.8	17.3	155.9	196.4	4,038.9
1988: IV.....	16.1	106.4	598.6	593.8	304.0	12.5	17.0	83.7	17.5	159.0	199.6	4,132.2
1989: I.....	11.8	109.4	629.0	616.4	316.9	13.5	17.6	86.9	17.6	163.9	210.0	4,237.7
1989: II.....	9.8	111.4	655.1	626.8	322.9	14.1	17.5	88.1	17.7	166.4	213.0	4,327.5
1989: III.....	5.4	113.2	667.8	636.4	327.9	14.5	17.3	88.9	18.0	169.7	215.4	4,398.1
1989: IV <sup>P</sup> .....	5.1	115.7	679.5	649.0	333.0	15.0	16.9	90.1	18.3	175.8	218.5	4,480.3

<sup>2</sup> Personal income exclusive of the farm component of wages and salaries, other labor income, proprietors' income, and net interest. Note.—The industry classification of wage and salary disbursements and proprietors' income is on an establishment basis and is based on the 1972 Standard Industrial Classification (SIC) beginning 1948 and on the 1942 SIC prior to 1948.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE C-26.—Disposition of personal income, 1929-89

(Billions of dollars, except as noted; quarterly data at seasonally adjusted annual rates)

Year or quarter	Personal income	Less: Personal tax and nontax payments	Equals: Disposable personal income	Less: Personal outlays				Equals: Personal saving	Percent of disposable personal income		
				Total	Personal consumption expenditures	Interest paid by consumers to business	Personal transfer payments to foreigners (net)		Personal outlays		Personal saving
									Total	Personal consumption expenditures	
1929	84.3	2.6	81.7	79.2	77.3	1.5	0.3	2.6	96.8	94.5	3.2
1933	46.3	1.4	44.9	46.5	45.8	.5	.2	-1.6	103.6	102.1	-3.6
1939	72.1	2.4	69.7	67.9	67.0	.7	.2	1.8	97.4	96.2	2.6
1940	77.6	2.6	75.0	72.0	71.0	.8	.2	3.0	96.0	94.7	4.0
1941	95.2	3.3	91.9	81.9	80.8	.9	.2	10.0	89.1	87.9	10.9
1942	122.4	5.9	116.4	89.5	88.6	.7	.1	27.0	76.8	76.1	23.2
1943	150.7	17.8	132.9	100.2	99.5	.5	.2	32.7	75.4	74.8	24.6
1944	164.5	18.9	145.6	109.0	108.2	.5	.4	36.5	74.9	74.4	25.1
1945	170.0	20.8	149.2	120.5	119.6	.5	.5	28.7	80.8	80.2	19.2
1946	177.6	18.7	158.9	145.3	143.9	.7	.7	13.6	91.4	90.6	8.6
1947	190.2	21.4	168.8	163.6	161.9	1.0	.7	5.2	96.9	95.9	3.1
1948	209.2	21.0	188.1	177.0	174.9	1.4	.7	11.1	94.1	93.0	5.9
1949	206.4	18.5	187.9	180.6	178.3	1.7	.5	7.4	96.1	94.9	3.9
1950	228.1	20.6	207.5	194.8	192.1	2.3	.4	12.6	93.9	92.6	6.1
1951	256.5	28.9	227.6	211.0	208.1	2.5	.4	16.6	92.7	91.4	7.3
1952	273.8	34.0	239.8	222.4	219.1	2.9	.4	17.4	92.7	91.4	7.3
1953	290.5	35.5	255.1	236.7	232.6	3.6	.5	18.4	92.8	91.2	7.2
1954	293.0	32.5	260.5	244.1	239.8	3.8	.5	16.4	93.7	92.0	6.3
1955	314.2	35.4	278.8	262.8	257.9	4.4	.4	16.0	94.2	92.5	5.8
1956	337.2	39.7	297.5	276.2	270.6	5.1	.5	21.3	92.8	90.9	7.2
1957	356.3	42.4	313.9	291.2	285.3	5.5	.5	22.7	92.8	90.9	7.2
1958	367.1	42.2	324.9	300.6	294.6	5.6	.4	24.3	92.5	90.7	7.5
1959	390.7	46.1	344.6	322.8	316.3	6.1	.4	21.8	93.7	91.8	6.3
1960	409.4	50.5	358.9	338.1	330.7	7.0	.4	20.8	94.2	92.1	5.8
1961	426.0	52.2	373.8	348.9	341.1	7.3	.5	24.9	93.4	91.3	6.6
1962	453.2	57.0	396.2	370.2	361.9	7.8	.5	25.9	93.5	91.4	6.5
1963	476.3	60.5	415.8	391.2	381.7	8.8	.6	24.6	94.1	91.8	5.9
1964	510.2	58.8	451.4	419.9	409.3	9.9	.7	31.5	93.0	90.7	7.0
1965	552.0	65.2	486.8	452.5	440.7	11.1	.7	34.3	93.0	90.5	7.0
1966	600.8	74.9	525.9	489.9	477.3	12.0	.7	36.0	93.2	90.8	6.8
1967	644.5	82.4	562.1	516.9	503.6	12.5	.9	45.1	92.0	89.6	8.0
1968	707.2	97.7	609.6	567.1	552.5	13.8	.9	42.5	93.0	90.6	7.0
1969	772.9	116.3	656.7	614.5	597.9	15.6	1.0	42.2	93.6	91.0	6.4
1970	831.8	116.2	715.6	657.9	640.0	16.7	1.2	57.7	91.9	89.4	8.1
1971	894.0	117.3	776.8	710.5	691.6	17.7	1.2	66.3	91.5	89.0	8.5
1972	981.6	142.0	839.6	778.2	757.6	19.5	1.1	61.4	92.7	90.2	7.3
1973	1,101.7	152.0	949.8	860.8	837.2	22.3	1.3	89.0	90.6	88.2	9.4
1974	1,210.1	171.8	1,038.4	941.7	916.5	24.1	1.0	96.7	90.7	88.3	9.3
1975	1,313.4	170.6	1,142.8	1,038.2	1,012.8	24.4	1.0	104.6	90.8	88.6	9.2
1976	1,451.4	198.7	1,252.6	1,156.9	1,129.3	26.6	1.0	95.8	92.4	90.2	7.6
1977	1,607.5	228.1	1,379.3	1,288.6	1,257.2	30.5	.9	90.7	93.4	91.1	6.6
1978	1,812.4	261.1	1,551.2	1,441.1	1,403.5	36.7	.9	110.2	92.9	90.5	7.1
1979	2,034.0	304.7	1,729.3	1,611.3	1,566.8	43.5	1.0	118.1	93.2	90.6	6.8
1980	2,258.5	340.5	1,918.0	1,781.1	1,732.6	47.4	1.1	136.9	92.9	90.3	7.1
1981	2,520.9	393.3	2,127.6	1,968.1	1,915.1	52.0	1.0	159.4	92.5	90.0	7.5
1982	2,670.8	409.3	2,261.4	2,107.5	2,050.7	55.5	1.3	153.9	93.2	90.7	6.8
1983	2,838.6	410.5	2,428.1	2,297.4	2,234.5	61.9	1.0	130.6	94.6	92.0	5.4
1984	3,108.7	440.2	2,668.6	2,504.5	2,430.5	72.5	1.5	164.1	93.9	91.1	6.1
1985	3,325.3	486.6	2,838.7	2,713.3	2,629.0	82.6	1.7	125.4	95.6	92.6	4.4
1986	3,252.3	512.9	2,739.3	2,638.5	2,594.4	89.1	1.9	124.9	95.9	92.8	4.1
1987	3,777.6	571.7	3,205.9	3,104.1	3,010.8	91.4	1.9	101.8	96.8	93.9	3.2
1988	4,064.5	586.6	3,477.8	3,333.1	3,235.1	96.1	1.9	144.7	95.8	93.0	4.2
1989 P	4,428.7	648.7	3,780.0	3,573.7	3,470.3	101.7	1.7	206.3	94.5	91.8	5.5
1982: IV	2,729.2	411.1	2,318.1	2,174.9	2,117.0	56.8	1.1	143.1	93.8	91.3	6.2
1983: IV	2,941.8	413.9	2,527.9	2,382.5	2,315.8	65.5	1.2	145.4	94.2	91.6	5.8
1984: II	3,188.3	459.7	2,728.6	2,571.3	2,493.4	76.3	1.6	157.3	94.2	91.4	5.8
1985: IV	3,399.1	499.6	2,899.5	2,787.7	2,700.4	85.9	1.4	111.7	96.1	93.1	3.9
1986: IV	3,597.8	534.4	3,063.4	2,961.4	2,868.5	90.9	2.1	102.0	96.7	93.6	3.3
1987: I	3,673.6	530.8	3,142.8	3,006.9	2,914.7	90.2	2.0	135.9	95.7	92.7	4.3
II	3,732.7	594.6	3,138.1	3,082.1	2,989.4	90.8	1.9	55.9	98.2	95.3	1.8
III	3,795.5	572.0	3,223.5	3,149.9	3,055.9	92.0	2.0	73.6	97.7	94.8	2.3
IV	3,908.7	589.2	3,319.4	3,177.6	3,083.3	92.6	1.8	141.8	95.7	92.9	4.3
1988: I	3,948.5	572.2	3,376.4	3,244.4	3,148.1	94.2	2.1	131.9	96.1	93.2	3.9
II	4,026.6	590.7	3,435.9	3,301.9	3,204.9	95.6	1.5	134.0	96.1	93.3	3.9
III	4,097.6	585.9	3,511.7	3,362.1	3,263.4	96.7	1.9	149.6	95.7	92.9	4.3
IV	4,185.2	597.8	3,587.4	3,424.0	3,324.0	98.1	1.9	163.4	95.4	92.7	4.6
1989: I	4,317.8	628.3	3,689.5	3,483.8	3,381.4	100.1	2.2	205.7	94.4	91.7	5.6
II	4,400.3	652.6	3,747.7	3,547.0	3,444.1	101.5	1.4	200.7	94.6	91.9	5.4
III	4,455.9	649.1	3,806.8	3,611.7	3,508.1	102.0	1.6	195.1	94.9	92.2	5.1
IV P	4,540.9	665.0	3,875.9	3,652.2	3,547.5	103.1	1.6	223.7	94.2	91.5	5.8

Source: Department of Commerce, Bureau of Economic Analysis.

**TABLE C-27.—Total and per capita disposable personal income and personal consumption expenditures in current and 1982 dollars, 1929–89**

(Quarterly data at seasonally adjusted annual rates, except as noted)

Year or quarter	Disposable personal income				Personal consumption expenditures				Population (thousands) <sup>1</sup>
	Total (billions of dollars)		Per capita (dollars)		Total (billions of dollars)		Per capita (dollars)		
	Current dollars	1982 dollars	Current dollars	1982 dollars	Current dollars	1982 dollars	Current dollars	1982 dollars	
1929.....	81.7	498.6	671	4,091	77.3	471.4	634	3,868	121,878
1933.....	44.9	370.8	357	2,950	45.8	378.7	365	3,013	125,690
1939.....	69.7	499.5	532	3,812	67.0	480.5	511	3,667	131,028
1940.....	75.0	530.7	568	4,017	71.0	502.6	538	3,804	132,122
1941.....	91.9	604.1	689	4,528	80.8	531.1	606	3,981	133,402
1942.....	116.4	693.0	863	5,138	88.6	527.6	657	3,912	134,860
1943.....	132.9	721.4	972	5,276	99.5	539.9	727	3,949	136,739
1944.....	145.6	749.3	1,052	5,414	108.2	557.1	782	4,026	138,397
1945.....	149.2	739.5	1,066	5,285	119.6	592.7	855	4,236	139,928
1946.....	158.9	723.3	1,124	5,115	143.9	635.0	1,018	4,632	141,389
1947.....	168.8	694.8	1,171	4,820	161.9	666.6	1,123	4,625	144,125
1948.....	188.1	733.1	1,283	5,000	174.9	681.8	1,193	4,650	146,631
1949.....	187.9	733.2	1,260	4,915	178.3	695.4	1,195	4,661	149,188
1950.....	207.5	791.8	1,368	5,220	192.1	733.2	1,267	4,834	151,684
1951.....	227.6	819.0	1,475	5,308	208.1	748.7	1,349	4,853	154,287
1952.....	239.8	844.3	1,528	5,379	219.1	771.4	1,396	4,915	156,954
1953.....	255.1	880.0	1,599	5,515	232.6	802.5	1,458	5,029	159,565
1954.....	260.5	894.0	1,604	5,505	239.8	822.7	1,477	5,066	162,391
1955.....	278.8	944.5	1,687	5,714	257.9	873.8	1,560	5,287	165,275
1956.....	297.5	989.4	1,769	5,881	270.6	899.8	1,608	5,349	168,221
1957.....	313.9	1,012.1	1,833	5,909	285.3	919.7	1,666	5,370	171,274
1958.....	324.9	1,028.8	1,865	5,908	294.6	932.9	1,692	5,357	174,141
1959.....	344.6	1,067.2	1,946	6,027	316.3	979.4	1,786	5,531	177,073
1960.....	358.9	1,091.1	1,986	6,036	330.7	1,005.1	1,829	5,561	180,760
1961.....	373.8	1,123.2	2,034	6,113	341.1	1,025.2	1,857	5,579	183,742
1962.....	396.2	1,170.2	2,123	6,271	361.9	1,069.0	1,940	5,729	186,590
1963.....	415.8	1,207.3	2,197	6,378	381.7	1,108.4	2,017	5,855	189,300
1964.....	451.4	1,291.0	2,352	6,727	409.3	1,170.6	2,133	6,099	191,927
1965.....	486.8	1,365.7	2,505	7,027	440.7	1,236.4	2,268	6,362	194,347
1966.....	525.9	1,431.3	2,675	7,280	477.3	1,298.9	2,428	6,607	196,599
1967.....	562.1	1,493.2	2,828	7,513	503.6	1,337.7	2,534	6,730	198,752
1968.....	609.6	1,551.3	3,037	7,728	552.5	1,405.9	2,752	7,003	200,745
1969.....	656.7	1,599.8	3,239	7,891	597.9	1,456.7	2,949	7,185	202,736
1970.....	715.6	1,668.1	3,489	8,134	640.0	1,492.0	3,121	7,275	205,089
1971.....	776.8	1,728.4	3,740	8,322	691.6	1,538.8	3,330	7,409	207,692
1972.....	839.6	1,797.4	4,000	8,562	757.6	1,621.9	3,609	7,726	209,924
1973.....	949.8	1,916.3	4,481	9,042	837.2	1,689.6	3,950	7,972	211,939
1974.....	1,038.4	1,896.6	4,855	8,867	916.5	1,674.0	4,285	7,826	213,898
1975.....	1,142.8	1,931.7	5,291	8,944	1,012.8	1,711.9	4,689	7,926	215,981
1976.....	1,252.6	2,001.0	5,744	9,175	1,129.3	1,803.9	5,178	8,272	218,086
1977.....	1,379.3	2,066.6	6,262	9,381	1,257.2	1,883.8	5,707	8,551	220,289
1978.....	1,551.2	2,167.4	6,968	9,735	1,403.5	1,961.0	6,304	8,808	222,629
1979.....	1,729.3	2,212.6	7,682	9,829	1,566.8	2,004.4	6,960	8,904	225,106
1980.....	1,918.0	2,214.3	8,421	9,722	1,732.6	2,000.4	7,607	8,783	227,754
1981.....	2,127.6	2,248.6	9,243	9,769	1,915.1	2,024.2	8,320	8,794	230,182
1982.....	2,261.4	2,261.5	9,724	9,725	2,050.7	2,050.7	8,818	8,818	232,549
1983.....	2,428.1	2,331.9	10,340	9,930	2,234.5	2,146.0	9,516	9,139	234,829
1984.....	2,668.6	2,469.8	11,257	10,419	2,430.5	2,249.3	10,253	9,489	237,051
1985.....	2,838.7	2,542.8	11,861	10,625	2,629.0	2,354.8	10,985	9,840	239,322
1986.....	3,013.3	2,635.3	12,469	10,905	2,797.4	2,446.4	11,576	10,123	241,660
1987.....	3,205.9	2,676.6	13,140	10,970	3,010.8	2,513.7	12,340	10,303	243,985
1988.....	3,477.8	2,793.2	14,116	11,337	3,235.1	2,598.4	13,131	10,546	246,378
1989.....	3,780.0	2,906.7	15,191	11,681	3,470.3	2,668.5	13,946	10,724	248,830
1982: IV.....	2,318.1	2,276.1	9,929	9,749	2,117.0	2,078.7	9,068	8,904	233,466
1983: I.....	2,527.9	2,392.7	10,725	10,151	2,315.8	2,191.9	9,825	9,299	235,707
1984: I.....	2,728.6	2,496.3	11,467	10,491	2,493.4	2,281.1	10,479	9,587	237,946
1985: IV.....	2,899.5	2,562.8	12,068	10,667	2,700.4	2,386.9	11,240	9,935	240,257
1986: IV.....	3,063.4	2,646.2	12,629	10,909	2,868.5	2,477.8	11,825	10,214	242,579
1987: I.....	3,142.8	2,672.3	12,928	10,993	2,914.7	2,478.3	11,990	10,195	243,093
II.....	3,138.1	2,632.5	12,880	10,805	2,989.4	2,507.7	12,270	10,293	243,636
III.....	3,223.5	2,675.6	13,196	10,953	3,055.9	2,536.5	12,510	10,384	244,274
IV.....	3,319.4	2,726.2	13,552	11,130	3,083.3	2,532.3	12,588	10,338	244,936
1988: I.....	3,376.4	2,757.2	13,754	11,232	3,148.1	2,570.8	12,824	10,473	245,476
II.....	3,435.9	2,773.3	13,966	11,273	3,204.9	2,586.8	13,028	10,515	246,008
III.....	3,511.7	2,806.4	14,235	11,377	3,263.4	2,608.1	13,229	10,572	246,685
IV.....	3,587.4	2,835.9	14,504	11,466	3,324.0	2,627.7	13,439	10,624	247,343
1989: I.....	3,689.5	2,881.7	14,884	11,625	3,381.4	2,641.0	13,641	10,654	247,890
II.....	3,747.7	2,887.6	15,084	11,622	3,444.1	2,653.7	13,862	10,681	248,456
III.....	3,806.8	2,919.2	15,280	11,717	3,508.1	2,690.1	14,081	10,798	249,143
IV.....	3,875.9	2,938.3	15,514	11,761	3,547.5	2,689.3	14,200	10,765	249,831

<sup>1</sup> Population of the United States including Armed Forces overseas; includes Alaska and Hawaii beginning 1960. Annual data are for July 1 through 1958 and are averages of quarterly data beginning 1959. Quarterly data are averages for the period.

Source: Department of Commerce (Bureau of Economic Analysis and Bureau of the Census).

TABLE C-28.—Gross saving and investment, 1929-89

(Billions of dollars; quarterly data at seasonally adjusted annual rates)

Year or quarter	Gross saving							Gross investment			Statistical discrepancy	
	Total	Gross private saving			Government surplus or deficit (-), national income and product accounts			Capital grants received by the United States (net) <sup>2</sup>	Total	Gross private domestic investment		Net foreign investment <sup>3</sup>
		Total	Personal saving	Gross business saving <sup>1</sup>	Total	Federal	State and local					
1929	15.9	14.9	2.6	12.3	1.0	1.2	-0.2	17.4	16.7	0.8	1.5	
1933	.6	1.9	-1.6	3.6	-1.4	-1.3	-1	1.7	1.6	.2	1.2	
1939	8.9	11.1	1.8	9.3	-2.2	-2.2	.0	10.6	9.5	1.0	1.7	
1940	13.6	14.3	3.0	11.3	-7	-1.3	.6	15.0	13.4	1.5	1.4	
1941	18.8	22.6	10.0	12.6	-3.8	-5.1	1.3	19.5	18.3	1.3	.7	
1942	10.9	42.3	27.0	15.3	-31.4	-33.1	1.8	10.2	10.3	-1	-7	
1943	5.8	50.0	32.7	17.3	-44.2	-46.6	2.4	4.1	6.2	-2.1	-7.7	
1944	3.0	54.9	36.5	18.4	-51.8	-54.5	2.7	5.8	7.7	-2.0	2.7	
1945	5.9	45.4	28.7	16.8	-39.5	-42.1	2.6	10.0	11.3	-1.3	4.0	
1946	35.7	30.3	13.6	16.7	5.4	3.5	1.9	36.4	31.5	4.9	7	
1947	42.5	28.1	5.2	23.0	14.4	13.4	1.0	44.3	35.0	9.3	1.8	
1948	50.8	42.4	11.1	31.3	8.4	8.3	.1	49.6	47.1	2.4	-1.3	
1949	36.5	39.9	7.4	32.5	-3.4	-2.6	-7	37.3	36.5	.9	.8	
1950	52.5	44.5	12.6	31.8	8.0	9.2	-1.2	53.2	55.1	-1.8	.8	
1951	58.7	52.6	16.6	36.0	6.1	6.5	-4	61.4	60.5	.9	2.7	
1952	52.3	56.1	17.4	38.7	-3.8	-3.7	.0	54.2	53.5	.6	1.8	
1953	51.0	58.0	18.4	39.6	-7.0	-7.1	.1	53.6	54.9	-1.3	2.6	
1954	51.6	58.8	16.4	42.3	-7.1	-6.0	-1.1	54.3	54.1	.2	2.7	
1955	68.4	65.2	16.0	49.2	3.1	4.4	-1.3	70.2	69.7	.4	1.8	
1956	77.3	72.1	21.3	50.8	5.2	6.1	-9	75.4	72.7	2.8	-1.9	
1957	77.1	76.1	22.7	53.5	.9	2.3	-1.4	75.9	71.1	4.8	-1.2	
1958	64.5	77.1	24.3	52.9	-12.6	-10.3	-2.4	64.5	63.6	.9	-1	
1959	80.5	82.1	21.8	60.3	-1.6	-1.1	-4	79.0	80.2	-1.2	-1.5	
1960	84.2	81.1	20.8	60.3	3.1	3.0	.1	81.4	78.2	3.2	-2.8	
1961	82.6	86.8	24.9	62.0	-4.3	-3.9	-4	81.3	77.1	4.2	-1.2	
1962	91.4	95.2	25.9	69.3	-3.8	-4.2	.5	91.5	87.6	3.8	.0	
1963	98.7	97.9	24.6	73.3	.7	.3	.5	98.1	93.1	4.9	-6	
1964	108.5	110.8	31.5	79.3	-2.3	-3.3	1.0	107.1	99.6	7.5	-1.4	
1965	123.5	123.0	34.3	88.7	.5	.5	.0	122.3	116.2	6.2	-1.2	
1966	130.3	131.6	36.0	95.6	-1.3	-1.8	.5	132.4	128.6	3.8	2.1	
1967	129.5	143.8	45.1	98.6	-14.2	-13.2	-1.1	129.2	125.7	3.5	-4	
1968	139.7	145.7	42.5	103.3	-6.0	-6.0	.1	138.6	137.0	1.6	-1.1	
1969	158.8	148.9	42.2	106.7	9.9	8.4	1.5	154.9	153.2	1.7	-3.9	
1970	154.7	164.5	57.7	106.7	-10.6	-12.4	1.8	0.9	153.6	148.8	4.8	-1.1
1971	171.9	190.6	66.3	124.3	-19.5	-22.0	2.6	.7	173.7	172.5	1.3	1.8
1972	200.7	203.4	61.4	142.0	-3.4	-16.8	13.5	7	199.1	202.0	-2.9	-1.6
1973	251.9	244.0	89.0	155.0	7.9	-5.6	13.5	0	247.6	238.8	8.8	-4.3
1974	247.9	254.3	96.7	157.6	-4.3	-11.6	7.2	-2.0	246.2	240.8	5.4	-1.7
1975	238.7	303.6	104.6	198.9	-64.9	-69.4	4.5	0	241.2	219.6	21.6	2.5
1976	283.0	321.4	95.8	225.6	-38.4	-53.5	15.2	0	286.6	277.7	9.0	3.6
1977	335.4	354.5	90.7	263.8	-19.1	-46.0	26.9	0	335.3	344.1	-8.7	.0
1978	408.6	409.0	110.2	298.9	-4	-29.3	28.9	0	406.7	416.8	-10.1	-1.9
1979	458.4	445.8	118.1	327.7	11.5	-16.1	27.6	1.1	457.4	454.8	2.6	-1.0
1980	445.0	478.4	136.9	341.5	-34.5	-61.3	26.8	1.2	450.0	437.0	13.0	4.9
1981	522.0	550.5	159.4	391.1	-29.7	-63.8	34.1	1.1	526.1	515.5	10.6	4.1
1982	446.4	557.1	153.9	403.2	-110.8	-145.9	35.1	0	446.3	447.3	-1.0	-1
1983	463.6	592.2	130.6	461.6	-128.6	-176.0	47.5	0	468.8	502.3	-33.5	5.2
1984	568.5	673.5	164.1	509.5	-105.0	-169.6	64.6	0	573.9	664.8	-90.9	5.4
1985	533.5	665.3	125.4	539.9	-131.8	-196.9	65.1	0	528.7	643.1	-114.4	-4.8
1986	525.3	669.5	124.9	544.6	-144.1	-206.9	62.8	0	523.6	659.4	-135.8	-1.8
1987	553.8	663.8	101.8	562.0	-110.1	-161.4	51.3	0	549.0	699.9	-150.9	-4.7
1988	642.4	738.6	144.7	593.8	-96.1	-145.8	49.7	0	632.8	750.3	-117.5	-9.6
1989 <sup>a</sup>	700.7	805.6	206.3	599.3	-104.9	-149.9	45.0	0	677.4	777.1	-99.8	-23.4
1982: IV	387.4	554.2	143.1	411.1	-166.8	-202.6	35.8	0	394.2	409.6	-15.4	6.8
1983: IV	519.9	632.8	145.4	487.3	-112.9	-169.2	56.4	0	522.4	579.8	-57.4	2.5
1984: IV	557.8	679.9	157.3	522.6	-122.1	-187.5	65.4	0	555.7	661.8	-106.1	-2.1
1985: IV	520.3	666.3	111.7	554.5	-145.9	-212.2	66.3	0	512.4	654.1	-141.6	-7.9
1986: IV	510.0	641.2	102.0	539.2	-131.3	-189.0	57.8	0	500.3	648.8	-148.5	-9.6
1987: I	529.5	682.7	135.9	546.8	-153.2	-199.4	46.3	0	530.7	673.1	-142.4	1.2
II	535.0	612.3	55.9	556.4	-77.3	-137.7	60.4	0	532.7	684.1	-151.4	-2.3
III	551.1	644.5	73.6	570.9	-93.5	-143.9	50.5	0	540.5	692.8	-152.2	-10.5
IV	599.5	715.8	141.8	574.0	-116.3	-164.4	48.0	0	592.0	749.7	-157.6	-7.4
1988: I	619.1	720.0	131.9	588.1	-101.0	-151.8	50.8	0	605.9	728.8	-122.8	-13.1
II	633.4	722.5	134.0	588.5	-89.1	-141.5	52.4	0	633.4	748.4	-115.0	-0
III	669.8	742.4	149.6	592.8	-72.7	-122.5	49.8	0	661.2	771.1	-109.9	-8.6
IV	647.4	769.3	163.4	605.9	-121.9	-167.6	45.7	0	630.8	752.8	-122.0	-16.6
1989: I	693.5	792.1	205.7	586.4	-98.7	-147.5	48.8	0	669.3	769.6	-100.3	-24.1
II	695.8	793.7	200.7	592.9	-97.9	-145.4	47.5	0	677.5	775.0	-97.5	-18.3
III	709.9	809.7	195.1	614.6	-99.8	-144.7	44.9	0	684.3	779.1	-94.8	-25.5
IV <sup>b</sup>			223.7					0	678.3	784.8	-106.5	

<sup>1</sup> Undistributed corporate profits with inventory valuation and capital consumption adjustments, corporate and noncorporate capital consumption allowances with capital consumption adjustment, and private wage accruals less disbursements.<sup>2</sup> Allocations of special drawing rights (SDRs).<sup>3</sup> Net exports of goods and services less net transfers to foreigners and interest paid by government to foreigners plus capital grants received by the United States, net.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE C-29.—Saving by individuals, 1946-89<sup>1</sup>

(Billions of dollars; quarterly data at seasonally adjusted annual rates)

Year or quarter	Increase in financial assets										Net investment in tangible assets <sup>7</sup>				Less: Net increase in debt	
	Total	Checkable deposits and currency	Time and savings deposits	Money market shares	Securities			Insurance and pension reserves <sup>5</sup>	Other financial assets <sup>6</sup>	Owner-occupied homes	Consumer durables	Non-corporate business assets <sup>8</sup>	Mortgage debt on non-farm homes	Consumer credit	Other debt <sup>9,10</sup>	
					Government securities <sup>2</sup>	Corporate equities <sup>3</sup>	Other securities <sup>4</sup>									
1946	24.9	19.5	5.6	6.3	-1.5	1.2	-0.8	5.1	3.7	3.8	6.7	2.0	4.0	2.9	0.2	
1947	19.5	12.5	.0	3.5	.5	1.1	-7	5.4	2.6	7.0	9.4	1.3	4.9	3.5	2.4	
1948	25.0	8.9	-2.9	2.3	1.0	1.0	.1	5.3	2.1	9.5	10.2	6.9	4.8	3.1	2.6	
1949	20.7	8.8	-2.0	2.6	.5	.7	-2	5.6	1.6	8.7	10.9	2.0	4.4	3.1	2.3	
1950	31.8	14.9	2.7	2.4	.9	.7	-7	6.1	2.9	12.1	14.9	7.2	7.1	4.6	5.7	
1951	35.0	18.9	4.6	4.8	-6	1.8	.3	6.3	1.6	12.1	11.4	4.4	6.6	1.4	3.8	
1952	35.9	28.7	1.6	7.8	7.4	1.5	.0	7.7	2.8	11.7	8.7	1.9	6.4	5.2	3.5	
1953	34.3	24.7	.9	8.2	3.7	1.0	.5	7.9	2.4	12.7	10.3	.8	7.6	4.1	2.5	
1954	27.4	21.2	2.1	9.2	.2	.7	-8	7.8	2.0	13.1	7.0	1.7	9.0	1.4	5.3	
1955	36.1	28.6	1.2	8.6	6.4	1.1	1.0	8.5	1.7	17.3	12.7	2.9	12.3	7.0	6.1	
1956	38.5	31.8	1.9	9.4	4.6	2.0	1.1	9.5	3.4	16.2	8.8	1.0	11.0	3.6	4.6	
1957	38.0	28.8	-4	11.9	3.7	1.5	.8	9.5	1.9	13.8	7.9	2.1	8.8	2.6	3.2	
1958	35.1	32.5	3.7	13.9	2.6	1.8	1.0	10.4	4.3	12.8	3.7	2.9	9.6	3.3	6.9	
1959	36.8	34.5	.9	11.0	-8.4	.6	-2	11.9	1.9	17.0	7.7	4.3	12.9	7.7	6.1	
1960	37.4	32.7	.9	12.2	2.1	.0	2.3	11.5	3.7	15.7	7.3	3.2	11.4	4.0	6.1	
1961	36.9	35.5	-1.0	18.3	.8	1.1	-2	12.1	4.3	13.5	4.5	4.9	12.3	2.2	7.0	
1962	43.2	39.7	-1.2	26.1	1.1	-1.4	-4	13.0	2.5	14.0	8.6	7.0	13.9	5.9	6.4	
1963	46.7	45.4	4.2	26.2	-8	-1.6	1.3	13.9	2.1	15.5	11.9	9.2	16.6	8.5	10.1	
1964	56.6	54.9	5.2	26.3	3.9	-3	.3	16.4	3.1	15.7	15.1	8.8	17.4	9.5	11.1	
1965	65.7	68.7	7.6	27.9	3.9	-1.6	.8	17.0	3.1	15.3	20.2	12.4	17.1	10.1	13.7	
1966	76.5	60.9	2.4	19.1	13.7	-1	2.4	19.3	4.1	14.5	23.2	9.9	14.3	5.9	12.5	
1967	79.0	70.1	9.9	35.4	-2.5	-3.3	5.2	18.8	6.7	12.6	21.3	10.7	12.9	5.1	17.6	
1968	79.5	71.6	11.2	30.9	2.3	-6.2	7.8	19.9	5.7	17.0	26.9	10.0	17.2	10.8	18.1	
1969	73.9	67.0	-2.4	8.9	27.0	-2.2	10.0	21.8	3.9	17.2	26.2	13.3	18.3	10.1	21.5	
1970	89.6	80.7	8.7	43.5	-5.7	-7	6.9	24.2	3.9	14.6	19.9	13.1	13.5	4.6	20.6	
1971	99.6	105.5	12.2	67.7	-11.0	-4.3	6.7	28.0	6.2	23.3	25.7	19.5	26.2	14.1	33.2	
1972	118.9	134.6	13.4	74.0	-5	-8.8	-1.0	48.5	9.2	29.2	34.8	26.6	38.8	19.0	48.4	
1973	157.4	148.4	13.1	63.5	18.6	-4.3	9.1	39.9	8.4	33.1	41.2	31.9	44.2	23.0	30.0	
1974	120.0	147.1	6.3	56.2	2.4	17.8	-2.1	43.7	9.3	27.9	29.9	14.9	34.6	9.0	56.2	
1975	159.1	176.4	6.0	77.6	1.3	17.6	-6.2	71.9	10.1	27.5	28.4	7.5	38.8	8.0	33.9	
1976	164.0	206.1	15.6	107.1	.0	8.6	-5	2.2	56.6	16.6	41.9	42.9	2.7	60.8	22.9	45.9
1977	190.3	253.4	19.7	106.6	-2	13.4	-7.3	17.2	78.6	25.4	61.0	53.3	15.2	91.5	36.7	64.4
1978	198.8	285.8	22.0	99.6	6.0	32.1	-12.5	8.7	95.0	34.9	77.8	58.8	18.9	109.4	45.1	87.9
1979	204.4	327.0	36.0	74.4	30.6	66.0	-25.5	4.8	108.1	38.8	86.4	54.0	12.4	117.1	40.5	118.2
1980	204.4	321.3	8.9	124.9	24.5	33.4	-9.9	-14.5	118.5	35.4	66.6	31.9	-6.2	96.4	2.6	110.2
1981	248.8	323.3	35.4	72.0	90.7	43.2	-35.7	-9.1	117.9	8.8	59.7	37.4	19.5	73.8	16.9	100.4
1982	263.8	379.3	24.7	119.7	32.8	69.8	-11.3	-25.8	148.0	21.3	35.6	37.2	-4.0	52.9	16.4	115.1
1983	323.1	495.4	33.4	201.8	-31.1	99.0	.5	3.8	159.2	28.9	76.2	62.7	-11.6	120.4	49.0	130.2
1984	391.4	563.7	23.0	229.6	44.0	125.9	-53.4	.3	157.7	36.6	95.4	98.8	14.4	136.7	81.6	162.7
1985	346.1	568.0	32.6	133.0	12.1	120.8	-34.3	51.2	185.6	67.0	97.1	117.6	1.0	157.0	82.5	198.0
1986	409.2	561.2	94.8	106.5	33.0	-2.4	16.4	37.2	202.9	72.9	114.6	125.4	3.2	216.8	58.0	120.5
1987	377.2	512.1	22.8	97.8	21.4	140.6	-24.8	28.9	195.2	30.2	134.0	115.7	-12.6	234.0	32.9	105.2
1988	432.5	569.2	8.4	159.0	18.1	177.7	-120.6	37.5	224.4	64.8	151.3	131.6	-26.4	229.0	51.1	113.1
1987: I	351.6	429.0	-61.0	23.1	.1	98.8	107.4	56.1	189.0	16.6	131.9	104.8	-11.8	230.1	-16.4	88.6
II	363.5	574.2	15.6	90.4	18.8	234.2	-96.3	32.6	234.5	44.3	128.7	116.0	-6.2	261.0	38.2	150.0
III	315.9	479.2	66.5	68.3	32.3	138.4	-55.9	10.4	157.7	61.4	138.9	130.5	-20.6	220.0	55.7	136.5
IV	477.8	566.1	70.1	209.5	34.4	90.8	-54.6	16.7	200.5	-1.3	136.9	111.5	-12.2	224.7	54.1	45.6
1988: I	420.2	498.8	2.4	196.2	49.7	122.8	-55.8	-55.1	190.8	47.9	144.6	129.1	-16.3	171.6	43.7	120.6
II	398.2	578.8	-16.6	138.7	-27.4	137.9	-133.9	159.6	214.9	105.5	149.2	133.1	-21.7	300.7	51.9	88.6
III	464.1	623.8	-17.9	190.4	-7.3	259.5	-100.2	66.8	168.7	63.9	154.5	126.7	-19.5	231.4	35.5	154.5
IV	447.7	575.4	65.7	110.8	57.4	190.7	-192.6	-21.5	323.0	41.8	157.6	137.3	-48.5	212.5	73.1	88.5
1989: I	412.3	516.1	-9.2	151.3	44.1	272.0	-160.5	51.5	149.8	17.2	161.8	132.1	-21.8	204.8	34.8	136.4
II	509.6	580.5	-74.7	162.8	104.9	119.0	-52.9	50.4	161.6	109.5	162.4	132.4	-39.2	187.7	46.0	96.5
III	538.2	643.2	62.7	112.5	119.8	164.2	-84.9	65.9	103.3	99.8	170.9	145.7	-52.3	196.0	30.9	142.3

<sup>1</sup> Saving by households, personal trust funds, nonprofit institutions, farms, and other noncorporate business.

<sup>2</sup> Consists of U.S. savings bonds, other U.S. Treasury securities, U.S. Government agency securities and sponsored agency securities, mortgage pool securities, and State and local obligations.

<sup>3</sup> Includes mutual fund shares.

<sup>4</sup> Corporate and foreign bonds and open-market paper.

<sup>5</sup> Private life insurance reserves, private insured and noninsured pension reserves, and government insurance and pension reserves.

<sup>6</sup> Consists of security credit, mortgages, accident and health insurance reserves, and nonlife insurance claims for households and of consumer credit, equity in sponsored agencies, and nonlife insurance claims for noncorporate business.

<sup>7</sup> Purchases of physical assets less depreciation.

<sup>8</sup> Includes data for corporate farms.

<sup>9</sup> Other debt consists of security credit, U.S. Government and policy loans, and noncorporate business debt.

Source: Board of Governors of the Federal Reserve System.

TABLE C-30.—Number and median income (in 1988 dollars) of families and persons, and poverty status, by race, 1970-88

Year	Families <sup>1</sup>						Persons below poverty level		Median income of persons 15 years old and over with income <sup>2</sup>			
	Number (millions)	Median income	Below poverty level				Number (millions)	Rate	Males		Females	
			Total		Female householder				All persons	Year-round full-time workers	All persons	Year-round full-time workers
			Number (millions)	Rate	Number (millions)	Rate						
<b>ALL RACES</b>												
1970.....	52.2	\$30,084	5.3	10.1	2.0	32.5	25.4	12.6	\$20,337	\$28,002	\$6,821	\$16,586
1971.....	53.3	30,042	5.3	10.0	2.1	33.9	25.6	12.5	20,164	28,132	7,034	16,653
1972.....	54.4	31,460	5.1	9.3	2.2	32.7	24.5	11.9	21,085	29,824	7,356	17,131
1973.....	55.1	32,109	4.8	8.8	2.2	32.2	23.0	11.1	21,465	30,556	7,450	17,287
1974 <sup>3</sup> .....	55.7	30,960	4.9	8.8	2.3	32.1	23.4	11.2	20,281	29,328	7,396	17,215
1975.....	56.2	30,166	5.5	9.7	2.4	32.5	25.9	12.3	19,467	28,902	7,443	16,973
1976.....	56.7	31,099	5.3	9.4	2.5	33.0	25.0	11.8	19,597	28,814	7,435	17,281
1977.....	57.2	31,252	5.3	9.3	2.6	31.7	24.7	11.6	19,762	29,419	7,693	17,206
1978.....	57.8	32,006	5.3	9.1	2.7	31.4	24.5	11.4	19,841	29,143	7,381	17,493
1979 <sup>4</sup> .....	59.6	31,917	5.5	9.2	2.6	30.4	26.1	11.7	19,194	28,482	7,091	17,160
1980.....	60.3	30,182	6.2	10.3	3.0	32.7	29.3	13.0	17,989	27,526	7,064	16,641
1981.....	61.0	29,136	6.9	11.2	3.3	34.6	31.8	14.0	17,534	26,929	7,103	16,212
1982.....	61.4	28,727	7.5	12.2	3.4	36.3	34.4	15.0	17,101	26,547	7,217	16,750
1983 <sup>3</sup> .....	62.0	29,307	7.6	12.3	3.6	36.0	35.3	15.2	17,414	26,732	7,608	17,208
1984.....	62.7	30,096	7.3	11.6	3.5	34.5	33.7	14.4	17,762	27,331	7,820	17,559
1985.....	63.6	30,493	7.2	11.4	3.5	34.0	33.1	14.0	17,933	27,485	7,935	17,868
1986.....	64.5	31,796	7.0	10.9	3.6	34.6	32.4	13.6	18,473	27,949	8,214	18,180
1987 <sup>3</sup> .....	65.2	32,251	7.0	10.7	3.7	34.2	32.3	13.4	18,522	27,785	8,638	18,291
1988.....	65.8	32,191	6.9	10.4	3.6	33.5	31.9	13.1	18,908	27,342	8,884	18,545
<b>WHITE</b>												
1970.....	46.5	31,209	3.7	8.0	1.1	25.0	17.5	9.9	21,376	28,804	6,909	16,879
1971.....	47.6	31,173	3.8	7.9	1.2	26.5	17.8	9.9	21,139	28,924	7,151	16,845
1972.....	48.5	32,685	3.4	7.1	1.1	24.3	16.2	9.0	22,115	30,900	7,404	17,468
1973.....	48.9	33,558	3.2	6.6	1.2	24.5	15.1	8.4	22,522	31,440	7,522	17,580
1974 <sup>3</sup> .....	49.4	32,174	3.4	6.8	1.3	24.8	15.7	8.6	21,246	30,060	7,480	17,361
1975.....	49.9	31,374	3.8	7.7	1.4	25.9	17.8	9.7	20,450	29,595	7,520	17,013
1976.....	50.1	32,303	3.6	7.1	1.4	25.2	16.7	9.1	20,660	29,673	7,497	17,414
1977.....	50.5	32,679	3.5	7.0	1.4	24.0	16.4	8.9	20,699	30,020	7,811	17,316
1978.....	50.9	33,327	3.5	6.9	1.3	23.5	16.3	8.7	20,781	29,684	7,470	17,658
1979 <sup>4</sup> .....	52.2	33,305	3.6	6.9	1.4	22.3	17.2	9.0	20,051	29,305	7,158	17,310
1980.....	52.7	31,447	4.2	8.0	1.6	25.7	19.7	10.2	19,135	28,312	7,102	16,802
1981.....	53.3	30,606	4.7	8.8	1.8	27.4	21.6	11.1	18,605	27,562	7,183	16,483
1982.....	53.4	30,161	5.1	9.6	1.8	27.9	23.5	12.0	18,080	27,254	7,315	16,975
1983 <sup>3</sup> .....	53.9	30,688	5.2	9.7	1.9	28.3	24.0	12.1	18,320	27,445	7,741	17,439
1984.....	54.4	31,523	4.9	9.1	1.9	27.1	23.0	11.5	18,749	28,267	7,912	17,734
1985.....	55.0	32,051	5.0	9.1	2.0	27.4	22.9	11.4	18,813	28,248	8,089	18,121
1986.....	55.7	33,255	4.8	8.6	2.0	28.2	22.2	11.0	19,494	28,730	8,376	18,458
1987 <sup>3</sup> .....	56.1	33,725	4.6	8.1	2.0	26.9	21.2	10.4	19,687	28,433	8,859	18,629
1988.....	56.5	33,915	4.5	7.9	1.9	26.5	20.8	10.1	19,959	28,262	9,103	18,823
<b>BLACK</b>												
1970.....	4.9	19,144	1.5	29.5	.8	54.3	7.5	33.5	12,675	19,620	6,290	13,830
1971.....	5.2	18,811	1.5	28.8	.9	53.5	7.4	32.5	12,607	19,778	6,266	14,874
1972.....	5.3	19,426	1.5	29.0	1.0	53.3	7.7	33.3	13,395	20,867	6,917	14,943
1973.....	5.4	19,368	1.5	28.1	1.0	52.7	7.4	31.4	13,623	21,190	6,789	14,907
1974 <sup>3</sup> .....	5.5	19,211	1.5	26.9	1.0	52.2	7.2	30.3	13,164	21,316	6,752	16,022
1975.....	5.6	19,304	1.5	27.1	1.0	50.1	7.5	31.3	12,226	21,655	6,832	16,254
1976.....	5.8	19,215	1.6	27.9	1.1	52.2	7.6	31.1	12,439	21,252	7,065	16,281
1977.....	5.8	18,668	1.6	28.2	1.2	51.0	7.7	31.3	12,283	20,697	6,745	16,183
1978.....	5.9	19,739	1.6	27.5	1.2	50.6	7.6	30.6	12,449	22,735	6,726	16,366
1979 <sup>4</sup> .....	6.2	18,860	1.7	27.8	1.2	49.4	8.1	31.0	12,412	21,120	6,515	15,861
1980.....	6.3	18,196	1.8	28.9	1.3	49.4	8.6	32.5	11,498	19,920	6,575	15,670
1981.....	6.4	17,265	2.0	30.8	1.4	52.9	9.2	34.2	11,063	19,501	6,381	14,886
1982.....	6.5	16,670	2.2	33.0	1.5	56.2	9.7	35.6	10,835	19,357	6,452	15,172
1983 <sup>3</sup> .....	6.7	17,295	2.2	32.3	1.5	53.7	9.9	35.7	10,714	19,568	6,615	15,480
1984.....	6.8	17,570	2.1	30.9	1.5	51.7	9.5	33.8	10,757	19,291	7,018	15,981
1985.....	6.9	18,455	2.0	28.7	1.5	50.5	8.9	31.3	11,839	19,758	6,901	16,041
1986.....	7.1	19,001	2.0	28.0	1.5	50.1	9.0	31.1	11,681	20,256	7,087	16,152
1987 <sup>3</sup> .....	7.2	19,168	2.1	29.4	1.6	51.1	9.6	32.6	11,679	20,330	7,237	16,639
1988.....	7.4	19,329	2.1	28.2	1.6	49.0	9.4	31.6	12,044	20,716	7,349	16,867

<sup>1</sup> The term "family" refers to a group of two or more persons related by blood, marriage, or adoption and residing together; all such persons are considered members of the same family. Beginning 1979, based on householder concept and restricted to primary families.

<sup>2</sup> Prior to 1979, data are for persons 14 years and over.

<sup>3</sup> Based on revised methodology; comparable with succeeding years.

<sup>4</sup> Based on 1980 census population controls; comparable with succeeding years.

Note.—The poverty level is based on the poverty index adopted by a Federal interagency committee in 1969. That index reflected different consumption requirements for families based on size and composition, sex and age of family householder, and farm-nonfarm residence. Minor revisions implemented in 1981 eliminated variations in the poverty thresholds based on two of these variables, farm-nonfarm residence and sex of householder. The poverty thresholds are updated every year to reflect changes in the consumer price index. For further details, see "Current Population Reports," Series P-60, No. 160.

Source: Department of Commerce, Bureau of the Census.

POPULATION, EMPLOYMENT, WAGES, AND PRODUCTIVITY

TABLE C-31.—Population by age groups, 1929-89

(Thousands of persons)

July 1	Total	Age (years)						
		Under 5	5-15	16-19	20-24	25-44	45-64	65 and over
1929	121,767	11,734	26,800	9,127	10,694	35,862	21,076	6,474
1933	125,579	10,612	26,897	9,302	11,152	37,319	22,933	7,363
1939	130,880	10,418	25,179	9,822	11,519	39,354	25,823	8,764
1940	132,122	10,579	24,811	9,895	11,690	39,868	26,249	9,031
1941	133,402	10,850	24,516	9,840	11,807	40,383	26,718	9,288
1942	134,860	11,301	24,231	9,730	11,955	40,861	27,196	9,584
1943	136,739	12,016	24,093	9,607	12,064	41,420	27,671	9,867
1944	138,397	12,524	23,949	9,561	12,062	42,016	28,138	10,147
1945	139,928	12,979	23,907	9,361	12,036	42,521	28,630	10,494
1946	141,389	13,244	23,103	9,119	12,004	43,027	29,064	10,828
1947	144,126	14,406	24,468	9,097	11,814	43,657	29,498	11,185
1948	146,631	14,919	25,209	8,952	11,794	44,288	29,931	11,538
1949	149,188	15,607	25,852	8,788	11,700	44,916	30,405	11,921
1950	152,271	16,410	26,721	8,542	11,680	45,672	30,849	12,397
1951	154,878	17,333	27,279	8,446	11,552	46,103	31,362	12,803
1952	157,553	17,312	28,894	8,414	11,350	46,495	31,884	13,203
1953	160,184	17,638	30,227	8,460	11,062	46,786	32,394	13,617
1954	163,026	18,057	31,480	8,637	10,832	47,001	32,942	14,076
1955	165,931	18,566	32,682	8,744	10,714	47,194	33,506	14,525
1956	168,903	19,003	33,994	8,916	10,616	47,379	34,075	14,938
1957	171,984	19,494	35,272	9,195	10,603	47,440	34,591	15,388
1958	174,882	19,887	36,445	9,543	10,756	47,337	35,109	15,806
1959	177,830	20,175	37,368	10,215	10,969	47,192	35,663	16,248
1960	180,671	20,341	38,494	10,683	11,134	47,140	36,203	16,675
1961	183,691	20,522	39,765	11,025	11,483	47,084	36,722	17,089
1962	186,538	20,469	41,205	11,180	11,959	47,013	37,255	17,457
1963	189,242	20,342	41,626	12,007	12,714	46,994	37,782	17,778
1964	191,889	20,165	42,297	12,736	13,269	46,958	38,338	18,127
1965	194,303	19,824	42,938	13,516	13,746	46,912	38,916	18,451
1966	196,560	19,208	43,702	14,311	14,050	47,001	39,534	18,755
1967	198,712	18,563	44,244	14,200	15,248	47,194	40,193	19,071
1968	200,706	17,913	44,622	14,452	15,786	47,721	40,846	19,365
1969	202,677	17,376	44,840	14,800	16,480	48,064	41,437	19,680
1970	205,052	17,166	44,816	15,289	17,202	48,473	41,999	20,107
1971	207,661	17,244	44,591	15,688	18,159	48,936	42,482	20,561
1972	209,896	17,101	44,203	16,039	18,153	50,482	42,898	21,020
1973	211,909	16,851	43,582	16,446	18,521	51,749	43,235	21,525
1974	213,854	16,487	42,989	16,769	18,975	53,051	43,522	22,061
1975	215,973	16,121	42,508	17,017	19,527	54,302	43,801	22,696
1976	218,035	15,617	42,099	17,194	19,986	55,852	44,008	23,278
1977	220,239	15,564	41,298	17,276	20,499	57,561	44,150	23,892
1978	222,585	15,735	40,428	17,288	20,946	59,400	44,286	24,502
1979	225,055	16,063	39,552	17,242	21,297	61,379	44,390	25,134
1980	227,757	16,458	38,844	17,160	21,584	63,494	44,515	25,704
1981	230,138	16,931	38,190	16,771	21,821	65,619	44,569	26,235
1982	232,520	17,298	37,877	16,255	21,807	67,856	44,602	26,825
1983	234,799	17,651	37,668	15,704	21,700	69,971	44,680	27,426
1984	237,001	17,830	37,657	15,141	21,536	72,049	44,818	27,971
1985	239,279	18,004	37,691	14,819	21,214	74,077	44,934	28,540
1986	241,625	18,152	37,706	14,802	20,608	76,124	45,055	29,167
1987	243,934	18,252	37,685	14,958	19,984	77,897	45,303	29,835
1988	246,329							
1989	248,777							

<sup>1</sup> Total revised January 1989; detail not revised.

Note.—Includes Armed Forces overseas beginning 1940. Includes Alaska and Hawaii beginning 1950.

Source: Department of Commerce, Bureau of the Census.

TABLE C-32.—Population and the labor force, 1929-89

(Monthly data seasonally adjusted, except as noted)

Year or month	Civilian noninstitutional population <sup>1</sup>	Resident Armed Forces <sup>1</sup>	Labor force including resident Armed Forces	Employment including resident Armed Forces	Civilian labor force					Unemployment rate		Civilian labor force participation rate <sup>4</sup>	Civilian employment/population ratio <sup>5</sup>
					Total	Employment			Unemployment	All workers <sup>2</sup>	Civilian workers <sup>3</sup>		
						Total	Agricultural	Non-agricultural					
	Thousands of persons 14 years of age and over					Percent							
1929					49,180	47,630	10,450	37,180	1,550		3.2		
1933					51,590	38,760	10,090	28,670	12,830		24.9		
1939					55,230	45,750	9,610	36,140	9,480		17.2		
1940	99,840				55,640	47,520	9,540	37,980	8,120	14.6	55.7	47.6	
1941	99,900				55,910	50,350	9,100	41,250	5,560	9.9	56.0	50.4	
1942	98,640				56,410	53,750	9,250	44,500	2,660	4.7	57.2	54.5	
1943	94,640				55,540	54,470	9,080	45,390	1,070	1.9	58.7	57.6	
1944	93,220				54,630	53,960	8,950	45,010	670	1.2	58.6	57.9	
1945	94,090				53,860	52,820	8,580	44,240	1,040	1.9	57.2	56.1	
1946	103,070				57,520	55,250	8,320	46,930	2,270	3.9	55.8	53.6	
1947	106,018				60,168	57,812	8,256	49,557	2,356	3.9	56.8	54.5	
	Thousands of persons 16 years of age and over												
1947	101,827				59,350	57,038	7,890	49,148	2,311	3.9	58.3	56.0	
1948	103,068				60,621	58,343	7,629	50,714	2,276	3.8	58.8	56.6	
1949	103,994				61,286	57,651	7,658	49,993	3,637	5.9	58.9	55.4	
1950	104,995	1,169	63,377	60,087	62,208	58,918	7,160	51,758	3,288	5.2	53.3	59.2	
1951	104,621	2,143	64,160	62,104	62,017	59,961	6,726	53,235	2,055	3.2	53.3	59.2	
1952	105,231	2,386	64,524	62,636	62,138	60,250	6,500	53,749	1,883	2.9	3.0	59.0	
1953 <sup>e</sup>	107,056	2,231	65,246	63,410	63,015	61,179	6,260	54,919	1,834	2.8	2.9	58.9	
1954	108,321	2,142	65,785	62,251	63,643	60,109	6,205	53,904	3,532	5.4	5.5	58.8	
1955	109,683	2,064	67,087	64,234	65,023	62,170	6,450	55,722	2,852	4.3	4.4	59.3	
1956	110,994	1,965	68,517	65,764	66,552	63,799	6,283	57,514	2,750	4.0	4.1	60.0	
1957	112,265	1,948	68,877	66,019	66,929	64,071	5,947	58,123	2,859	4.2	4.3	59.6	
1958	113,727	1,847	69,486	64,883	67,639	63,036	5,586	57,450	4,602	6.6	6.8	59.5	
1959	115,329	1,788	70,157	66,418	68,369	64,630	5,565	59,065	3,740	5.3	5.5	59.3	
1960 <sup>e</sup>	117,245	1,861	71,489	67,639	69,628	65,778	5,458	60,318	3,852	5.4	5.5	59.4	
1961	118,771	1,900	72,359	67,646	70,459	65,746	5,200	60,546	4,714	6.5	6.7	59.3	
1962 <sup>e</sup>	120,153	2,061	72,675	68,763	70,614	66,702	4,944	61,759	3,911	5.4	5.5	58.8	
1963	122,416	2,006	73,839	69,768	71,833	67,762	4,687	63,076	4,070	5.5	5.7	58.7	
1964	124,485	2,018	75,109	71,323	73,091	69,305	4,523	64,782	3,786	5.0	5.2	58.7	
1965	126,513	1,946	76,401	73,034	74,455	71,088	4,361	66,726	3,366	4.4	4.5	58.9	
1966	128,058	2,122	77,892	75,017	75,770	72,895	3,979	68,915	2,875	3.7	3.8	59.2	
1967	129,874	2,218	79,565	76,590	77,347	74,372	3,844	70,527	2,975	3.7	3.8	59.6	
1968	132,028	2,253	80,990	78,173	78,737	75,920	3,817	72,103	2,817	3.5	3.6	59.6	
1969	134,335	2,238	82,972	80,140	80,734	77,902	3,606	74,296	2,932	3.4	3.5	60.1	
1970	137,085	2,118	84,889	80,796	82,771	78,678	3,363	75,215	4,093	4.8	4.9	60.4	
1971	140,216	1,973	86,355	81,340	84,382	79,367	3,394	75,972	5,016	5.8	5.9	60.2	
1972 <sup>e</sup>	144,126	1,813	88,847	83,966	87,034	82,153	3,484	78,669	4,882	5.5	5.6	60.4	
1973 <sup>e</sup>	147,096	1,774	91,203	86,838	89,429	85,064	3,470	81,594	4,365	4.8	4.9	60.8	
1974	150,120	1,721	93,670	88,515	91,949	86,794	3,515	83,279	5,156	5.5	5.6	61.3	
1975	153,153	1,678	95,453	87,524	93,775	85,846	3,408	82,438	7,929	8.3	8.5	61.2	
1976	156,150	1,668	97,826	90,420	96,158	88,752	3,331	85,421	7,406	7.6	7.7	61.6	
1977	159,033	1,656	100,665	93,673	99,009	92,017	3,283	88,734	6,991	6.9	7.1	62.3	
1978 <sup>e</sup>	161,910	1,631	103,882	97,679	102,251	96,048	3,387	92,661	6,202	6.0	6.1	63.2	
1979	164,863	1,597	106,559	100,421	104,962	98,824	3,347	95,477	6,137	5.8	5.8	63.7	
1980	167,745	1,604	108,544	100,907	106,940	99,303	3,364	95,938	7,637	7.0	7.1	63.8	
1981	170,130	1,645	110,315	102,042	108,670	100,397	3,368	97,030	8,273	7.5	7.6	63.9	
1982	172,271	1,668	111,872	101,194	110,204	99,526	3,401	96,125	10,678	9.5	9.7	64.0	
1983	174,215	1,676	113,226	102,510	111,550	100,834	3,383	97,450	10,717	9.5	9.6	64.0	
1984	176,383	1,697	115,241	106,702	113,544	105,005	3,321	101,685	8,539	7.4	7.5	64.4	
1985	178,206	1,706	117,167	108,856	115,461	107,150	3,179	103,971	8,312	7.1	7.2	64.8	
1986 <sup>e</sup>	180,587	1,706	119,540	111,303	117,834	109,597	3,163	106,434	8,237	6.9	7.0	65.3	
1987	182,753	1,737	121,602	114,177	119,865	112,440	3,208	109,232	7,425	6.1	6.2	65.6	
1988	184,613	1,709	123,378	116,677	121,669	114,968	3,169	111,800	6,701	5.4	5.5	65.9	
1989	186,393	1,688	125,557	119,030	123,869	117,342	3,199	114,142	6,528	5.2	5.3	66.5	
1985: Jan	177,384	1,697	116,422	107,999	114,725	106,302	3,137	102,985	8,423	7.2	7.3	64.7	
Feb	177,516	1,703	116,579	108,258	114,876	106,555	3,317	103,238	8,321	7.1	7.2	64.7	
Mar	177,667	1,701	117,029	108,690	115,328	106,989	3,250	103,739	8,339	7.1	7.2	64.9	
Apr	177,799	1,702	117,033	108,638	115,331	106,936	3,306	103,630	8,395	7.2	7.3	64.9	
May	177,944	1,705	117,939	108,637	115,234	106,932	3,280	103,652	8,302	7.1	7.2	64.8	
June	178,096	1,702	116,667	108,207	114,965	106,505	3,161	103,344	8,460	7.3	7.4	64.6	
July	178,263	1,704	117,024	108,511	115,320	106,807	3,143	103,664	8,513	7.3	7.4	64.7	
Aug	178,405	1,726	117,017	108,821	115,291	107,095	3,121	103,974	8,196	7.0	7.1	64.6	
Sept	178,572	1,732	117,637	109,389	115,905	107,657	3,064	104,593	8,248	7.0	7.1	64.9	
Oct	178,770	1,700	117,845	109,547	116,145	107,847	3,051	104,796	8,298	7.0	7.1	65.0	
Nov	178,940	1,702	117,837	109,709	116,135	108,007	3,062	104,945	8,128	6.9	7.0	64.9	
Dec	179,112	1,698	118,052	109,914	116,354	108,216	3,141	105,075	8,138	6.9	7.0	65.0	

See next page for continuation of table.



TABLE C-32.—Population and the labor force, 1929-89—Continued

(Monthly data seasonally adjusted, except as noted)

Year or month	Civilian noninstitutional population <sup>1</sup>	Resident Armed Forces <sup>2</sup>	Labor force including resident Armed Forces	Employment including resident Armed Forces	Civilian labor force				Unemployment rate		Civilian labor force participation rate <sup>4</sup>	Civilian employment/population ratio <sup>5</sup>	
					Total	Employment			Unemployment	All workers <sup>2</sup>			Civilian workers <sup>3</sup>
						Total	Agricultural	Non-agricultural					
Thousands of persons 16 years of age and over											Percent		
1986: Jan <sup>6</sup> .....	179,670	1,691	118,352	110,569	116,661	108,878	3,283	105,595	7,783	6.6	6.7	64.9	60.6
Feb.....	179,821	1,691	118,585	110,163	116,894	108,472	3,082	105,390	8,422	7.1	7.2	65.0	60.3
Mar.....	179,985	1,693	118,898	110,530	117,205	108,837	3,197	105,640	8,368	7.0	7.1	65.1	60.5
Apr.....	180,148	1,695	119,029	110,649	117,334	108,954	3,162	105,792	8,380	7.0	7.1	65.1	60.5
May.....	180,311	1,687	119,233	110,787	117,546	109,100	3,163	105,937	8,446	7.1	7.2	65.2	60.5
June.....	180,503	1,680	119,770	111,279	118,090	109,599	3,203	106,396	8,491	7.1	7.2	65.4	60.7
July.....	180,682	1,672	119,823	111,496	118,151	109,824	3,139	106,685	8,327	6.9	7.0	65.4	60.8
Aug.....	180,828	1,697	119,843	111,710	118,146	110,013	3,082	106,931	8,133	6.8	6.9	65.3	60.8
Sept.....	180,997	1,716	120,099	111,788	118,383	110,072	3,164	106,908	8,311	6.9	7.0	65.4	60.8
Oct.....	181,186	1,749	120,256	112,011	118,507	110,262	3,125	107,137	8,245	6.9	7.0	65.4	60.9
Nov.....	181,363	1,751	120,377	112,216	118,626	110,465	3,219	107,246	8,161	6.8	6.9	65.4	60.9
Dec.....	181,547	1,750	120,365	112,479	118,615	110,729	3,145	107,584	7,886	6.6	6.6	65.3	61.0
1987: Jan.....	181,827	1,748	120,550	112,695	118,802	110,947	3,133	107,814	7,855	6.5	6.6	65.3	61.0
Feb.....	181,998	1,740	120,863	112,984	119,123	111,244	3,196	108,048	7,879	6.5	6.6	65.5	61.1
Mar.....	182,179	1,736	121,007	113,162	119,271	111,426	3,213	108,213	7,845	6.5	6.6	65.5	61.2
Apr.....	182,344	1,735	121,101	113,521	119,366	111,786	3,249	108,537	7,580	6.3	6.4	65.5	61.3
May.....	182,533	1,726	121,749	114,160	120,023	112,434	3,357	109,077	7,589	6.2	6.3	65.8	61.6
June.....	182,703	1,718	121,353	113,981	119,635	112,263	3,242	109,021	7,372	6.1	6.2	65.5	61.4
July.....	182,885	1,720	121,642	114,330	119,922	112,610	3,233	109,377	7,312	6.0	6.1	65.6	61.6
Aug.....	183,002	1,736	122,036	114,760	120,300	113,024	3,111	109,913	7,276	6.0	6.0	65.7	61.6
Sept.....	183,161	1,743	121,760	114,655	120,017	112,912	3,182	109,730	7,105	5.8	5.9	65.5	61.8
Oct.....	183,311	1,741	122,237	115,035	120,496	113,294	3,217	110,077	7,202	5.9	6.0	65.7	61.8
Nov.....	183,470	1,755	122,282	115,266	120,527	113,511	3,149	110,362	7,016	5.7	5.8	65.7	61.9
Dec.....	183,620	1,750	122,517	115,590	120,767	113,840	3,207	110,633	6,927	5.7	5.7	65.8	62.0
1988: Jan.....	183,822	1,749	122,665	115,755	120,916	114,006	3,234	110,772	6,910	5.6	5.7	65.8	62.0
Feb.....	183,969	1,736	122,887	115,957	121,151	114,221	3,181	111,040	6,930	5.6	5.7	65.9	62.1
Mar.....	184,111	1,736	122,664	115,803	120,928	114,067	3,167	110,900	6,861	5.6	5.7	65.7	62.0
Apr.....	184,232	1,732	123,027	116,381	121,295	114,649	3,223	111,426	6,646	5.4	5.5	65.8	62.2
May.....	184,374	1,714	122,829	116,010	121,115	114,296	3,131	111,165	6,819	5.6	5.6	65.7	62.0
June.....	184,562	1,685	123,221	116,693	121,536	115,008	3,155	111,853	6,528	5.3	5.4	65.9	62.3
July.....	184,729	1,673	123,372	116,704	121,699	115,031	3,056	111,975	6,668	5.4	5.5	65.9	62.3
Aug.....	184,830	1,692	123,766	116,911	122,074	115,219	3,116	112,103	6,855	5.5	5.6	66.0	62.3
Sept.....	184,962	1,704	123,710	117,097	122,006	115,393	3,159	112,234	6,613	5.3	5.4	66.0	62.4
Oct.....	185,114	1,687	123,852	117,334	122,165	115,647	3,222	112,425	6,518	5.3	5.3	66.0	62.5
Nov.....	185,244	1,705	124,215	117,717	122,510	116,012	3,256	112,756	6,498	5.2	5.3	66.1	62.6
Dec.....	185,402	1,696	124,346	117,837	122,650	116,141	3,192	112,949	6,509	5.2	5.3	66.2	62.6
1989: Jan.....	185,644	1,696	124,961	118,336	123,265	116,640	3,268	113,372	6,625	5.3	5.4	66.4	62.8
Feb.....	185,777	1,684	124,801	118,441	123,117	116,757	3,196	113,561	6,360	5.1	5.2	66.3	62.8
Mar.....	185,897	1,684	124,929	118,731	123,245	117,047	3,185	113,862	6,198	5.0	5.0	66.3	63.0
Apr.....	186,024	1,684	125,299	118,768	123,615	117,084	3,144	113,940	6,531	5.2	5.3	66.5	62.9
May.....	186,181	1,673	125,224	118,805	123,551	117,132	3,137	113,995	6,419	5.1	5.2	66.4	62.9
June.....	186,329	1,666	125,777	119,208	124,111	117,542	3,138	114,404	6,569	5.2	5.3	66.6	63.1
July.....	186,483	1,666	125,679	119,102	124,013	117,436	3,217	114,219	6,577	5.2	5.3	66.5	63.0
Aug.....	186,598	1,688	125,758	119,238	124,070	117,550	3,275	114,275	6,520	5.2	5.3	66.5	63.0
Sept.....	186,726	1,702	125,725	119,121	124,023	117,419	3,219	114,200	6,604	5.3	5.3	66.4	62.9
Oct.....	186,871	1,709	125,857	119,294	124,148	117,585	3,197	114,388	6,563	5.2	5.3	66.4	62.9
Nov.....	187,017	1,704	126,192	119,540	124,488	117,836	3,160	114,676	6,552	5.3	5.3	66.6	63.0
Dec.....	187,165	1,700	126,246	119,588	124,546	117,888	3,197	114,691	6,658	5.3	5.3	66.5	63.0

<sup>1</sup> Not seasonally adjusted.

<sup>2</sup> Unemployed as percent of labor force including resident Armed Forces.

<sup>3</sup> Unemployed as percent of civilian labor force.

<sup>4</sup> Civilian labor force as percent of civilian noninstitutional population.

<sup>5</sup> Civilian employment as percent of civilian noninstitutional population.

<sup>6</sup> Not strictly comparable with earlier data due to population adjustments as follows: Beginning 1953, introduction of 1950 census data added about 600,000 to population and 350,000 to labor force, total employment, and agricultural employment. Beginning 1960, inclusion of Alaska and Hawaii added about 500,000 to population, 300,000 to labor force, and 240,000 to nonagricultural employment. Beginning 1962, introduction of 1960 census data reduced population by about 50,000 and labor force and employment by 200,000. Beginning 1972, introduction of 1970 census data added about 800,000 to civilian noninstitutional population and 333,000 to labor force and employment. A subsequent adjustment based on 1970 census in March 1973 added 60,000 to labor force and to employment. Beginning 1978, changes in sampling and estimation procedures introduced into the household survey added about 250,000 to labor force and to employment. Unemployment levels and rates were not significantly affected. Beginning 1986, the introduction of revised population controls added about 400,000 to the civilian population and labor force and 350,000 to civilian employment. Unemployment levels and rates were not significantly affected.

Note.—Labor force data in Tables C-32 through C-41 are based on household interviews and relate to the calendar week including the 12th of the month. For definitions of terms, area samples used, historical comparability of the data, comparability with other series, etc., see "Employment and Earnings."

Source: Department of Labor, Bureau of Labor Statistics.

TABLE C-33.—Civilian employment and unemployment by sex and age, 1947-89

[Thousands of persons 16 years of age and over; monthly data seasonally adjusted]

Year or month	Civilian employment							Unemployment						
	Total	Males			Females			Total	Males			Females		
		Total	16-19 years	20 years and over	Total	16-19 years	20 years and over		Total	16-19 years	20 years and over	Total	16-19 years	20 years and over
1947	57,038	40,995	2,218	38,776	16,045	1,691	14,354	2,311	1,692	270	1,422	619	144	475
1948	58,343	41,725	2,344	39,382	16,617	1,682	14,936	2,276	1,559	256	1,305	717	153	564
1949	57,651	40,925	2,124	38,803	16,723	1,588	15,137	3,637	2,572	353	2,219	1,065	223	841
1950	58,918	41,578	2,186	39,394	17,340	1,517	15,824	3,288	2,239	318	1,922	1,049	195	854
1951	59,961	41,780	2,156	39,626	18,181	1,611	16,570	2,055	1,221	191	1,029	834	145	689
1952	60,250	41,682	2,107	39,578	18,568	1,612	16,958	1,883	1,185	205	980	698	140	559
1953 <sup>1</sup>	61,179	42,430	2,136	40,296	18,749	1,584	17,164	1,834	1,202	184	1,019	632	123	510
1954	60,109	41,619	1,985	39,634	18,490	1,490	17,000	3,532	2,344	310	2,035	1,188	191	997
1955	62,170	42,621	2,095	40,526	19,551	1,547	18,002	2,852	1,854	274	1,580	998	176	823
1956	63,799	43,379	2,164	41,216	20,419	1,654	18,767	2,750	1,711	269	1,442	1,039	209	832
1957	64,071	43,357	2,115	41,239	20,714	1,663	19,052	2,859	1,841	300	1,541	1,018	197	821
1958	63,036	42,423	2,012	40,411	20,613	1,570	19,043	4,602	3,098	416	2,681	1,504	262	1,242
1959	64,630	43,466	2,198	41,267	21,164	1,640	19,524	3,740	2,420	398	2,022	1,320	256	1,063
1960	65,778	43,904	2,361	41,543	21,874	1,768	20,105	3,852	2,486	426	2,060	1,366	286	1,080
1961	65,746	43,656	2,315	41,342	22,090	1,793	20,296	4,714	2,997	479	2,518	1,717	349	1,368
1962 <sup>1</sup>	66,702	44,177	2,362	41,815	22,525	1,833	20,693	3,911	2,423	408	2,016	1,488	313	1,175
1963	67,762	44,657	2,406	42,251	23,105	1,849	21,257	4,070	2,472	501	1,971	1,598	383	1,216
1964	69,305	45,474	2,518	42,886	23,831	1,929	21,903	3,786	2,205	487	1,718	1,581	385	1,195
1965	71,088	46,340	2,987	43,352	24,748	2,118	22,630	3,366	1,914	479	1,435	1,452	395	1,056
1966	72,895	46,919	3,253	43,668	25,976	2,468	23,510	2,875	1,551	432	1,120	1,324	405	921
1967	74,372	47,479	3,186	44,294	26,893	2,496	24,397	2,975	1,508	448	1,060	1,468	391	1,078
1968	75,920	48,114	3,255	44,859	27,807	2,526	25,281	2,817	1,419	426	993	1,397	412	985
1969	77,902	48,818	3,340	45,388	29,084	2,687	26,397	2,832	1,403	440	963	1,429	413	1,015
1970	78,678	48,990	3,409	45,581	29,688	2,735	26,952	4,093	2,238	599	1,638	1,855	506	1,349
1971	79,367	49,390	3,478	45,912	29,976	2,730	27,246	5,016	2,789	693	2,097	2,227	568	1,658
1972 <sup>1</sup>	82,153	50,896	3,765	47,130	31,257	2,980	28,276	4,882	2,659	711	1,948	2,222	598	1,625
1973 <sup>1</sup>	85,064	52,349	4,039	48,310	32,715	3,231	29,484	4,365	2,275	653	1,624	2,089	583	1,507
1974	86,794	53,024	4,103	48,922	33,769	3,345	30,424	5,156	2,714	757	1,957	2,441	665	1,777
1975	85,846	51,857	3,839	48,018	33,989	3,263	30,726	7,929	4,442	966	3,476	3,486	802	2,684
1976	88,752	53,138	3,947	49,190	35,615	3,389	32,226	7,406	4,036	939	3,098	3,369	780	2,588
1977	92,017	54,728	4,174	50,553	37,289	3,514	33,775	6,991	3,667	874	2,794	3,324	789	2,535
1978 <sup>1</sup>	96,048	56,479	4,336	52,143	39,569	3,734	35,836	6,202	3,142	813	2,328	3,061	769	2,292
1979	98,824	57,607	4,300	53,308	41,217	3,783	37,434	6,137	3,120	813	2,308	3,018	743	2,276
1980	99,303	57,186	4,085	53,101	42,117	3,625	38,492	7,637	4,267	911	3,353	3,370	755	2,615
1981	100,397	57,397	3,815	53,582	43,000	3,411	39,590	8,273	4,577	962	3,615	3,696	800	2,895
1982	99,526	56,271	3,719	52,891	43,256	3,170	40,086	10,678	6,179	1,090	5,089	4,499	886	3,613
1983	100,834	56,787	3,300	53,487	44,047	3,043	41,004	10,717	6,260	1,003	5,252	4,457	825	3,632
1984	105,005	59,091	3,322	55,769	45,915	3,122	42,793	8,539	4,744	812	3,937	3,794	687	3,107
1985	107,150	59,891	3,328	56,562	47,259	3,105	44,154	8,312	4,521	806	3,715	3,791	661	3,129
1986 <sup>1</sup>	109,597	60,892	3,323	57,569	48,706	3,149	45,556	8,237	4,530	779	3,751	3,707	675	3,032
1987	112,440	62,107	3,381	58,726	50,334	3,260	47,074	7,425	4,101	732	3,369	3,324	616	2,709
1988	114,968	63,273	3,492	59,781	51,696	3,313	48,383	6,701	3,655	667	2,987	3,046	558	2,487
1989	117,342	64,315	3,477	60,837	53,027	3,282	49,745	6,528	3,525	658	2,867	3,003	536	2,457
1988: Jan	114,006	62,822	3,510	59,312	51,184	3,318	47,866	6,910	3,745	678	3,067	3,165	606	2,569
Feb	114,221	62,991	3,471	59,520	51,230	3,335	47,895	6,930	3,675	640	3,035	3,255	605	2,650
Mar	114,067	62,753	3,358	59,395	51,314	3,253	48,061	6,861	3,787	727	3,060	3,074	588	2,486
Apr	114,649	65,266	3,463	59,803	51,383	3,235	48,148	6,646	3,567	655	2,912	3,079	609	2,470
May	114,296	63,109	3,482	59,627	51,187	3,204	47,983	6,819	3,761	647	3,114	3,058	575	2,483
June	115,008	63,334	3,586	59,748	51,674	3,434	48,240	6,528	3,593	655	2,938	2,935	479	2,456
July	115,031	63,375	3,512	59,863	51,656	3,390	48,266	6,668	3,630	739	2,991	3,038	520	2,518
Aug	115,219	63,396	3,547	59,849	51,823	3,307	48,516	6,855	3,804	682	3,122	3,051	588	2,463
Sept	115,393	63,541	3,526	60,015	51,852	3,353	48,499	6,613	3,590	690	2,900	3,023	561	2,461
Oct	115,647	63,492	3,425	60,067	52,155	3,330	48,825	5,579	3,579	678	2,901	2,939	521	2,418
Nov	116,012	63,621	3,378	60,083	52,391	3,283	49,108	6,498	3,543	586	2,957	2,955	506	2,449
Dec	116,141	63,611	3,538	60,133	52,530	3,331	49,199	6,509	3,550	635	2,915	2,959	545	2,414
1989: Jan	116,640	63,764	3,366	60,398	52,876	3,359	49,517	6,625	3,640	753	2,887	2,985	541	2,444
Feb	116,757	64,008	3,442	60,566	52,749	3,294	49,455	6,360	3,504	677	2,827	2,856	495	2,361
Mar	117,047	64,293	3,510	60,783	52,754	3,287	49,467	6,190	3,286	601	2,685	2,912	503	2,409
Apr	117,084	64,206	3,490	60,716	52,878	3,318	49,560	6,531	3,566	644	2,922	2,965	516	2,449
May	117,132	64,202	3,428	60,774	52,930	3,281	49,649	6,419	3,429	668	2,761	2,990	519	2,471
June	117,542	64,577	3,505	61,072	52,965	3,278	49,687	6,569	3,464	662	2,802	3,105	573	2,532
July	117,436	64,440	3,525	60,915	52,996	3,179	49,817	6,577	3,427	606	2,821	3,150	582	2,568
Aug	117,550	64,400	3,539	60,861	53,150	3,275	49,875	6,520	3,485	629	2,856	3,035	558	2,477
Sept	117,419	64,150	3,429	60,729	53,269	3,285	49,984	6,604	3,679	637	3,042	2,925	551	2,374
Oct	117,585	64,513	3,487	61,026	53,072	3,276	49,796	6,563	3,553	601	2,892	3,010	525	2,485
Nov	117,836	64,482	3,449	61,033	53,354	3,311	50,043	6,652	3,624	690	2,934	3,028	530	2,498
Dec	117,888	64,618	3,464	61,154	53,270	3,222	50,048	6,658	3,582	665	2,917	3,076	538	2,538

<sup>1</sup> See footnote 6, Table C-32.

Note.—See Note, Table C-32.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE C-34.—Civilian employment by demographic characteristic, 1954-89

(Thousands of persons 16 years of age and over; monthly data seasonally adjusted)

Year or month	All civilian workers	White				Black and other				Black			
		Total	Males	Females	Both sexes 16-19	Total	Males	Females	Both sexes 16-19	Total	Males	Females	Both sexes 16-19
1954.....	60,109	53,957	37,846	16,111	3,078	6,152	3,773	2,379	396				
1955.....	62,170	55,833	38,719	17,114	3,225	6,341	3,904	2,437	418				
1956.....	63,799	57,269	39,368	17,901	3,389	6,534	4,013	2,521	430				
1957.....	64,071	57,465	39,349	18,116	3,374	6,604	4,006	2,598	407				
1958.....	63,036	56,613	38,591	18,022	3,216	6,423	3,833	2,590	365				
1959.....	64,630	58,006	39,494	18,512	3,475	6,623	3,971	2,652	362				
1960.....	65,778	58,850	39,755	19,095	3,700	6,928	4,149	2,779	430				
1961.....	65,746	58,913	39,588	19,325	3,693	6,833	4,068	2,765	414				
1962.....	66,702	59,698	40,016	19,682	3,774	7,003	4,160	2,843	420				
1963.....	67,762	60,622	40,428	20,194	3,851	7,140	4,229	2,911	404				
1964.....	69,305	61,922	41,115	20,807	4,076	7,383	4,359	3,024	440				
1965.....	71,088	63,446	41,844	21,602	4,562	7,643	4,496	3,147	474				
1966.....	72,895	65,021	42,331	22,690	5,176	7,877	4,588	3,289	545				
1967.....	74,372	66,361	42,833	23,528	5,114	8,011	4,646	3,365	568				
1968.....	75,920	67,750	43,411	24,339	5,195	8,169	4,702	3,467	584				
1969.....	77,902	69,518	44,048	25,470	5,508	8,384	4,770	3,614	609				
1970.....	78,678	70,217	44,178	26,039	5,571	8,464	4,813	3,650	574				
1971.....	79,367	70,878	44,595	26,283	5,670	8,488	4,796	3,692	538				
1972.....	82,153	73,370	45,944	27,426	6,173	8,783	4,952	3,832	573	7,802	4,368	3,433	509
1973.....	85,064	75,708	47,085	28,623	6,623	9,356	5,265	4,092	647	8,128	4,527	3,601	570
1974.....	86,794	77,184	47,674	29,511	6,796	9,610	5,352	4,258	652	8,203	4,527	3,677	557
1975.....	85,846	76,411	46,997	29,714	6,487	9,435	5,161	4,275	615	7,894	4,275	3,618	504
1976.....	88,752	78,853	47,775	31,078	6,724	9,899	5,363	4,536	611	8,227	4,404	3,823	508
1977.....	92,017	81,700	49,150	32,550	7,068	10,317	5,579	4,739	619	8,540	4,565	3,975	508
1978.....	96,048	84,936	50,544	34,392	7,367	11,112	5,936	5,177	703	9,102	4,796	4,307	571
1979.....	98,824	87,259	51,452	35,807	7,356	11,565	6,156	5,409	727	9,359	4,923	4,436	579
1980.....	99,303	87,715	51,127	36,587	7,021	11,588	6,059	5,529	689	9,313	4,798	4,515	547
1981.....	100,397	88,709	51,315	37,394	6,588	11,688	6,083	5,606	637	9,355	4,794	4,561	505
1982.....	99,526	87,903	50,287	37,615	5,984	11,624	5,983	5,641	565	9,189	4,637	4,552	428
1983.....	100,834	88,893	50,621	38,272	5,799	11,941	6,166	5,775	543	9,375	4,753	4,622	416
1984.....	105,005	92,120	52,462	39,659	5,836	12,885	6,629	6,256	607	10,119	5,124	4,995	474
1985.....	107,150	93,736	53,046	40,690	5,768	13,414	6,845	6,569	666	10,501	5,270	5,231	532
1986.....	109,597	95,660	53,785	41,876	5,792	13,937	7,107	6,830	681	10,814	5,428	5,386	536
1987.....	112,440	97,789	54,647	43,142	5,898	14,652	7,459	7,192	742	11,309	5,661	5,648	587
1988.....	114,968	99,812	55,550	44,262	6,030	15,156	7,722	7,434	774	11,658	5,824	5,834	601
1989.....	117,342	101,584	56,352	45,232	5,946	15,757	7,963	7,795	813	11,953	5,928	6,025	625
1988: Jan.....	114,006	98,951	55,190	43,761	6,075	15,049	7,658	7,391	769	11,579	5,776	5,803	588
Feb.....	114,221	99,275	55,396	43,879	6,095	14,919	7,579	7,340	715	11,513	5,734	5,779	542
Mar.....	114,067	99,178	55,210	43,968	5,863	14,882	7,547	7,335	725	11,452	5,694	5,758	540
Apr.....	114,649	99,619	55,494	44,125	5,946	15,014	7,757	7,257	750	11,550	5,848	5,702	576
May.....	114,296	99,440	55,442	43,998	5,939	14,886	7,675	7,211	758	11,507	5,803	5,704	597
June.....	115,008	99,901	55,613	44,288	6,240	15,050	7,690	7,360	780	11,531	5,799	5,732	606
July.....	115,031	99,763	55,630	44,133	6,089	15,263	7,750	7,513	807	11,742	5,820	5,922	623
Aug.....	115,219	99,948	55,611	44,337	6,007	15,250	7,785	7,465	795	11,731	5,868	5,863	628
Sept.....	115,393	100,126	55,719	44,407	6,061	15,257	7,808	7,449	804	11,750	5,883	5,867	626
Oct.....	115,647	100,284	55,688	44,596	5,969	15,427	7,805	7,622	797	11,817	5,895	5,922	625
Nov.....	116,012	100,644	55,845	44,799	6,049	15,362	7,781	7,581	776	11,829	5,875	5,954	619
Dec.....	116,141	100,649	55,792	44,857	6,027	15,492	7,827	7,665	806	11,872	5,897	5,975	628
1989: Jan.....	116,640	101,137	56,017	45,120	5,988	15,492	7,796	7,696	761	11,867	5,878	5,989	590
Feb.....	116,757	101,187	56,140	45,047	5,945	15,571	7,869	7,702	808	11,883	5,891	5,992	624
Mar.....	117,047	101,413	56,395	45,018	6,011	15,639	7,912	7,727	772	11,952	5,939	6,013	606
Apr.....	117,084	101,400	56,294	45,106	6,002	15,676	7,898	7,778	806	11,872	5,868	6,004	611
May.....	117,132	101,432	56,268	45,164	5,942	15,719	7,928	7,791	773	11,962	5,902	6,060	611
June.....	117,542	101,683	56,511	45,172	5,967	15,767	8,021	7,746	797	11,969	5,966	6,003	624
July.....	117,436	101,546	56,393	45,153	5,838	15,895	8,051	7,844	856	12,063	6,005	6,058	687
Aug.....	117,550	101,684	56,423	45,261	5,986	15,866	7,997	7,869	800	11,961	5,924	6,037	624
Sept.....	117,419	101,579	56,167	45,412	5,906	15,847	7,975	7,872	792	11,938	5,909	6,029	585
Oct.....	117,585	101,862	56,536	45,326	5,942	15,797	7,981	7,816	832	12,023	5,922	6,001	624
Nov.....	117,836	101,991	56,496	45,495	5,923	15,861	8,007	7,854	856	11,954	5,928	6,026	645
Dec.....	117,888	102,032	56,571	45,461	5,811	15,841	8,027	7,814	879	11,920	5,926	5,994	670

Note.—See footnote 6 and Note, Table C-32.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE C-35.—Unemployment by demographic characteristic, 1954–89

[Thousands of persons 16 years of age and over; monthly data seasonally adjusted]

Year or month	All civilian workers	White				Black and other				Black			
		Total	Males	Fe-males	Both sexes 16–19	Total	Males	Fe-males	Both sexes 16–19	Total	Males	Fe-males	Both sexes 16–19
1954.....	3,532	2,859	1,913	946	423	673	431	242	79				
1955.....	2,852	2,252	1,478	774	373	601	376	225	77				
1956.....	2,750	2,159	1,366	793	382	591	345	246	95				
1957.....	2,859	2,289	1,477	812	401	570	364	206	96				
1958.....	4,602	3,680	2,489	1,191	541	923	610	313	138				
1959.....	3,740	2,946	1,903	1,043	525	793	517	276	128				
1960.....	3,852	3,065	1,988	1,077	575	788	498	290	138				
1961.....	4,714	3,743	2,398	1,345	669	971	599	372	159				
1962.....	3,911	3,052	1,915	1,137	580	861	509	352	142				
1963.....	4,070	3,208	1,976	1,232	708	863	496	367	176				
1964.....	3,786	2,999	1,779	1,220	708	787	426	361	165				
1965.....	3,366	2,691	1,556	1,135	705	678	360	318	171				
1966.....	2,875	2,255	1,241	1,014	651	622	310	312	186				
1967.....	2,975	2,338	1,208	1,130	635	638	300	338	203				
1968.....	2,817	2,226	1,142	1,084	644	590	277	313	194				
1969.....	2,832	2,260	1,137	1,123	660	571	267	304	193				
1970.....	4,093	3,339	1,857	1,482	871	754	380	374	235				
1971.....	5,016	4,085	2,309	1,777	1,011	930	481	450	249				
1972.....	4,882	3,906	2,173	1,733	1,021	977	486	491	288	906	448	458	279
1973.....	4,365	3,442	1,836	1,606	955	924	440	484	280	846	395	451	262
1974.....	5,156	4,097	2,169	1,927	1,104	1,058	544	514	318	965	494	470	297
1975.....	7,929	6,421	3,627	2,794	1,413	1,507	815	692	355	1,369	741	629	330
1976.....	7,406	5,914	3,258	2,656	1,364	1,492	779	713	355	1,334	698	637	330
1977.....	6,991	5,441	2,883	2,558	1,284	1,550	784	766	379	1,393	698	695	354
1978.....	6,202	4,698	2,411	2,287	1,189	1,505	731	774	394	1,330	641	690	360
1979.....	6,137	4,664	2,405	2,260	1,193	1,473	714	759	362	1,319	636	683	333
1980.....	7,637	5,884	3,345	2,540	1,291	1,752	922	830	377	1,553	815	738	343
1981.....	8,273	6,343	3,580	2,762	1,374	1,930	997	933	388	1,731	891	840	357
1982.....	10,678	8,241	4,846	3,395	1,534	2,437	1,334	1,104	443	2,142	1,167	975	396
1983.....	10,717	8,128	4,859	3,270	1,387	2,588	1,401	1,187	441	2,272	1,213	1,059	392
1984.....	8,539	6,372	3,650	2,772	1,116	2,167	1,144	1,022	384	1,914	1,003	911	353
1985.....	8,312	6,191	3,426	2,765	1,074	2,121	1,095	1,026	394	1,864	951	913	357
1986.....	8,237	6,140	3,433	2,708	1,070	2,097	1,097	999	383	1,840	946	894	347
1987.....	7,425	5,501	3,132	2,369	995	1,924	969	955	353	1,684	826	858	312
1988.....	6,701	4,944	2,766	2,177	910	1,757	888	869	316	1,547	771	776	288
1989.....	6,528	4,770	2,636	2,135	863	1,757	889	868	331	1,544	773	772	300
1988: Jan.....	6,910	5,129	2,871	2,258	965	1,820	903	917	328	1,575	763	812	297
Feb.....	6,930	5,107	2,721	2,386	882	1,826	962	864	353	1,601	823	778	316
Mar.....	6,861	4,981	2,855	2,126	996	1,897	975	922	335	1,653	834	819	302
Apr.....	6,646	4,813	2,668	2,145	962	1,788	874	914	292	1,590	757	833	266
May.....	6,819	4,943	2,800	2,143	880	1,845	932	913	339	1,604	805	799	307
June.....	6,528	4,835	2,709	2,126	873	1,718	883	835	274	1,506	763	743	247
July.....	6,668	4,893	2,729	2,164	895	1,726	867	859	316	1,534	756	778	293
Aug.....	6,855	5,117	2,912	2,205	950	1,734	876	858	331	1,530	757	773	302
Sept.....	6,613	4,990	2,779	2,211	953	1,626	801	825	306	1,455	714	741	290
Oct.....	6,518	4,843	2,730	2,113	897	1,675	850	825	304	1,491	762	729	277
Nov.....	6,498	4,806	2,685	2,121	800	1,706	868	838	301	1,490	756	734	283
Dec.....	6,509	4,805	2,707	2,098	866	1,713	849	864	310	1,535	755	780	278
1989: Jan.....	6,625	4,862	2,735	2,127	961	1,810	944	866	339	1,580	797	783	302
Feb.....	6,360	4,573	2,600	1,973	836	1,782	912	870	324	1,560	790	770	297
Mar.....	6,198	4,513	2,469	2,044	810	1,706	862	844	312	1,477	742	735	279
Apr.....	6,531	4,808	2,646	2,162	848	1,676	892	784	302	1,464	768	696	283
May.....	6,419	4,720	2,560	2,160	873	1,675	841	834	313	1,492	748	744	293
June.....	6,569	4,791	2,588	2,203	887	1,800	869	931	365	1,600	773	827	338
July.....	6,577	4,838	2,583	2,255	853	1,697	812	885	295	1,485	704	781	266
Aug.....	6,520	4,801	2,605	2,196	872	1,708	864	844	318	1,515	762	753	292
Sept.....	6,604	4,814	2,776	2,038	824	1,794	891	903	375	1,580	782	798	334
Oct.....	6,563	4,756	2,633	2,123	843	1,804	917	887	344	1,584	796	788	313
Nov.....	6,652	4,843	2,697	2,146	875	1,825	939	886	354	1,622	823	799	311
Dec.....	6,658	4,864	2,655	2,209	869	1,807	938	869	331	1,602	829	773	297

Note.—See footnote 6 and Note, Table C-32.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE C-36.—Labor force participation rate and employment/population ratio, 1948-89

[Percent; monthly data seasonally adjusted]

Year or month	Labor force participation rate							Employment/population ratio							
	Total <sup>1</sup>	Civilian <sup>2</sup>						Total <sup>3</sup>	Civilian <sup>4</sup>						
		Total	Males	Fe- males	Both sexes 16-19 years	White	Black and other		Black	Total	Males	Fe- males	Both sexes 16-19 years	White	Black and other
1948	58.8	86.6	32.7	52.5				56.6	83.5	31.3	47.7				
1949	58.9	86.4	33.1	52.2				55.4	81.3	31.2	45.2				
1950	59.7	86.4	33.9	51.8				56.6	82.0	32.0	45.5				
1951	60.1	86.3	34.6	52.2				58.2	84.0	33.1	47.9				
1952	60.0	86.3	34.7	51.3				58.2	83.9	33.4	46.9				
1953	59.7	86.0	34.4	50.2				58.0	83.6	33.3	46.4				
1954	59.6	85.5	34.6	48.3	58.2	64.0	56.4	55.5	81.0	34.5	42.3	55.2	58.0		
1955	60.0	85.4	35.7	48.9	58.7	64.2	57.5	56.7	81.8	34.0	43.5	56.5	58.7		
1956	60.7	85.5	36.9	50.9	59.4	64.9	58.2	57.5	82.3	35.1	45.3	57.3	59.5		
1957	60.3	84.8	36.9	49.6	59.1	64.4	57.8	57.1	81.3	35.1	43.9	56.8	59.3		
1958	60.1	84.2	37.1	47.4	58.9	64.8	56.1	55.4	78.5	34.9	39.9	55.3	56.7		
1959	59.9	83.7	37.1	46.7	58.7	64.3	56.7	56.0	79.3	35.0	39.9	55.9	57.5		
1960	60.0	83.3	37.7	47.5	58.8	64.5	56.8	56.1	78.9	35.5	40.5	55.9	57.9		
1961	60.0	82.9	38.1	46.9	58.8	64.1	56.1	55.4	77.6	35.4	39.1	55.3	56.2		
1962	59.5	82.0	37.9	46.1	58.3	63.2	56.3	55.5	77.7	35.6	39.4	55.4	56.3		
1963	59.3	81.4	38.3	45.2	58.2	63.0	56.1	55.4	77.1	35.8	37.4	55.3	56.2		
1964	59.4	81.0	38.7	44.5	58.2	63.1	56.4	55.7	77.3	36.3	37.3	55.5	57.0		
1965	59.5	80.7	39.3	45.7	58.4	62.9	56.9	56.2	77.5	37.1	38.9	56.0	57.8		
1966	59.8	80.4	40.3	48.2	58.7	63.0	57.6	56.9	77.9	38.3	42.1	56.8	58.4		
1967	60.2	80.4	41.1	48.4	59.2	62.8	58.0	57.3	78.0	39.0	42.2	57.2	58.2		
1968	60.3	80.1	41.6	48.3	59.3	62.2	58.2	57.5	77.8	39.6	42.2	57.4	58.0		
1969	60.8	79.8	42.7	49.4	59.9	62.1	58.7	58.0	77.6	40.7	43.4	58.0	58.1		
1970	61.0	79.7	43.3	49.9	60.2	61.8	58.0	57.4	76.2	40.8	42.3	57.5	58.8		
1971	60.7	79.1	43.4	49.7	60.1	60.9	57.2	56.6	74.9	40.4	41.3	56.8	54.9		
1972	60.9	78.9	43.9	51.9	60.4	60.2	59.9	57.5	75.0	41.0	43.5	57.4	54.1	53.7	
1973	61.3	78.8	44.7	53.7	60.8	60.5	60.2	58.3	75.8	42.0	45.9	58.2	55.0	54.5	
1974	61.7	78.7	45.7	54.8	61.4	60.3	59.8	58.3	74.9	42.6	46.0	58.3	54.3	53.5	
1975	61.6	77.9	46.3	54.0	61.5	59.6	58.8	56.5	71.7	42.0	43.3	56.7	51.4	50.1	
1976	62.0	77.5	47.3	54.5	61.8	59.8	59.0	57.3	72.0	43.2	44.2	57.5	52.0	50.8	
1977	62.6	77.7	48.4	56.8	62.5	60.4	59.8	58.3	72.8	44.5	46.1	58.6	52.5	51.4	
1978	63.5	77.9	50.0	57.8	63.3	62.2	61.5	59.7	73.8	46.4	48.3	60.0	54.7	53.6	
1979	64.0	77.8	50.9	57.9	63.9	62.2	61.4	60.3	73.8	47.5	48.5	60.6	55.2	53.8	
1980	64.1	77.4	51.5	56.7	64.1	61.7	61.0	59.6	72.0	47.7	46.6	60.0	53.6	52.3	
1981	64.2	77.0	52.1	55.4	64.3	61.3	60.8	59.4	71.3	48.0	44.6	60.0	52.6	51.3	
1982	64.3	76.6	52.6	54.1	64.3	61.6	61.0	58.2	70.0	47.7	41.5	58.8	50.9	49.4	
1983	64.4	76.4	52.9	53.5	64.3	62.1	61.5	58.3	69.8	48.0	41.5	58.9	51.0	49.5	
1984	64.7	76.4	53.6	53.9	64.6	62.6	62.2	59.9	70.7	49.5	43.7	60.5	53.6	52.3	
1985	65.1	76.3	54.5	54.5	65.0	63.3	62.9	60.5	60.1	70.9	50.4	44.4	61.0	54.7	53.4
1986	65.6	76.3	55.3	54.7	65.5	63.7	63.3	61.1	60.7	71.0	51.4	44.6	61.5	55.4	54.1
1987	65.9	76.2	56.0	54.7	65.8	64.3	63.8	61.9	61.5	71.5	52.5	45.5	62.3	56.8	55.6
1988	66.2	76.2	56.6	55.3	66.2	64.0	63.8	62.6	72.0	53.4	46.8	63.1	57.4	56.3	
1989	66.8	76.4	57.4	55.9	66.7	64.7	64.2	63.3	72.5	54.3	47.5	63.8	58.2	56.9	
1988: Jan	66.1	76.1	56.4	55.6	66.0	64.5	64.0	62.4	62.0	71.8	53.1	46.8	62.8	57.6	56.4
1988: Feb	66.2	76.2	56.5	55.2	66.2	63.9	63.8	62.4	62.1	72.0	53.1	46.7	62.9	57.0	56.0
1988: Mar	66.0	76.0	56.4	54.3	66.0	63.9	63.6	62.3	62.0	71.6	53.2	45.3	62.8	56.7	55.6
1988: Apr	66.2	76.2	56.4	54.5	66.1	63.9	63.7	62.6	62.2	72.2	53.2	45.9	63.1	57.1	56.0
1988: May	66.0	76.2	56.1	54.2	66.1	63.5	63.5	62.3	62.0	71.9	53.0	45.8	62.9	56.5	55.7
1988: June	66.2	76.2	56.5	56.1	66.2	63.5	63.0	62.7	62.3	72.1	53.4	48.3	63.2	57.0	55.8
1988: July	66.2	76.2	56.5	56.2	66.1	64.2	64.1	62.6	62.3	72.1	53.4	47.5	63.0	57.7	56.7
1988: Aug	66.4	76.4	56.7	56.1	66.4	64.1	64.0	62.7	62.3	72.1	53.5	47.3	63.1	57.6	56.6
1988: Sept	66.3	76.3	56.6	56.2	66.4	63.6	63.6	62.7	62.4	72.2	53.5	47.5	63.2	57.5	56.6
1988: Oct	66.3	76.1	56.8	55.0	66.3	64.3	64.0	62.8	62.5	72.1	53.8	46.7	63.3	58.0	56.9
1988: Nov	66.4	76.2	57.0	54.8	66.5	64.1	64.0	63.0	62.6	72.2	54.0	47.3	63.5	57.7	56.8
1988: Dec	66.5	76.1	57.1	55.3	66.4	64.4	64.3	63.0	62.6	72.1	54.1	47.1	63.4	58.0	57.0
1989: Jan	66.7	76.3	57.4	55.6	66.7	64.6	64.4	63.2	62.8	72.1	54.4	46.7	63.7	57.9	56.8
1989: Feb	66.6	76.3	57.1	55.0	66.5	64.7	64.3	63.2	62.8	72.4	54.2	46.9	63.7	58.0	56.8
1989: Mar	66.6	76.4	57.2	55.2	66.6	64.5	64.2	63.3	63.0	72.6	54.2	47.5	63.8	58.2	57.1
1989: Apr	66.8	76.5	57.3	55.7	66.8	64.4	64.6	63.3	62.9	72.5	54.3	47.6	63.7	58.2	56.7
1989: May	66.7	76.3	57.3	55.5	66.7	64.5	64.1	63.2	62.9	72.4	54.3	47.2	63.7	58.3	57.0
1989: June	66.9	76.7	57.5	56.4	66.8	65.0	64.6	63.4	63.1	72.8	54.3	47.7	63.8	58.3	57.0
1989: July	66.8	76.4	57.5	55.6	66.7	65.0	64.4	63.3	63.0	72.6	54.3	47.2	63.7	58.7	57.3
1989: Aug	66.8	76.4	57.5	56.5	66.8	64.8	64.0	63.3	63.0	72.5	54.4	48.1	63.8	58.5	56.8
1989: Sept	66.7	76.3	57.5	55.7	66.7	64.9	64.1	63.2	62.9	72.1	54.5	47.3	63.7	58.3	56.6
1989: Oct	66.7	76.5	57.3	56.3	66.8	64.6	64.0	63.3	62.9	72.5	54.2	47.9	63.8	58.0	56.5
1989: Nov	66.9	76.5	57.6	56.6	66.9	64.8	64.2	63.3	63.0	72.4	54.5	48.0	63.8	58.1	56.6
1989: Dec	66.8	76.5	57.5	56.1	66.9	64.6	63.9	63.3	63.0	72.5	54.4	47.5	63.8	58.0	56.3

<sup>1</sup> Labor force including resident Armed Forces as percent of noninstitutional population including resident Armed Forces.

<sup>2</sup> Civilian labor force as percent of civilian noninstitutional population in group specified.

<sup>3</sup> Employment including resident Armed Forces as percent of noninstitutional population including resident Armed Forces.

<sup>4</sup> Civilian employment as percent of civilian noninstitutional population in group specified.

Note.—Data relate to persons 16 years of age and over.

See footnote 6 and Note, Table C-32.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE C-37.—Civilian labor force participation rate by demographic characteristic, 1954-89

[Percent;<sup>1</sup> monthly data seasonally adjusted]

Year or month	All civilian workers	White						Black and other or black							
		Total	Males			Females			Total	Males			Females		
			Total	16-19 years	20 years and over	Total	16-19 years	20 years and over		Total	16-19 years	20 years and over	Total	16-19 years	20 years and over
Black and other															
1954	58.8	58.2	85.6	57.6	87.8	33.3	40.6	32.7	64.0	85.2	61.2	87.1	46.1	31.0	47.7
1955	59.3	58.7	85.4	58.6	87.5	34.5	40.7	34.0	64.2	85.1	60.8	87.8	46.1	32.7	47.5
1956	60.0	59.4	85.6	60.4	87.6	35.7	43.1	35.1	64.9	85.1	61.5	87.8	47.3	36.3	48.4
1957	59.6	59.1	84.8	59.2	86.9	35.7	42.2	35.2	64.4	84.2	58.8	87.0	47.1	33.2	48.6
1958	59.5	58.9	84.3	56.5	86.6	35.8	40.1	35.5	64.8	84.1	57.3	87.1	48.0	31.9	48.8
1959	59.3	58.7	83.8	55.9	86.3	36.0	39.6	35.6	64.3	83.4	55.5	86.7	47.7	28.2	49.8
1960	59.4	58.8	83.4	55.9	86.0	36.5	40.3	36.2	64.5	83.0	57.6	86.2	48.2	33.9	49.9
1961	59.3	58.8	83.0	54.5	85.7	36.9	40.6	36.6	64.1	82.2	55.8	85.5	48.3	32.8	50.1
1962	58.8	58.3	82.1	53.8	84.9	36.7	39.8	36.5	63.2	80.8	53.5	84.2	48.0	33.1	49.6
1963	58.7	58.2	81.5	53.1	84.4	37.2	38.7	37.0	63.0	80.2	51.5	83.9	48.1	32.6	49.9
1964	58.7	58.2	81.1	52.7	84.2	37.5	37.8	37.5	63.1	80.1	49.9	84.1	48.6	31.7	50.7
1965	58.9	58.4	80.8	54.1	83.9	38.1	39.2	38.0	62.9	79.6	51.3	83.7	48.6	29.5	51.1
1966	59.2	58.7	80.6	55.9	83.6	39.2	42.6	38.8	63.0	79.0	51.4	83.3	49.4	33.5	51.6
1967	59.6	59.2	80.6	56.3	83.5	40.1	42.5	39.8	62.8	78.5	51.1	82.9	49.5	35.2	51.6
1968	59.6	59.3	80.4	55.9	83.2	40.7	43.0	40.4	62.2	77.7	49.7	82.2	49.3	34.8	51.4
1969	60.1	59.9	80.2	56.8	83.0	41.8	44.6	41.5	62.1	76.9	49.6	81.4	49.8	34.6	52.0
1970	60.4	60.2	80.0	57.5	82.8	42.6	45.6	42.2	61.8	76.5	47.4	81.4	49.5	34.1	51.8
1971	60.2	60.1	79.6	57.9	82.3	42.6	45.4	42.3	60.9	74.9	44.7	80.0	49.2	31.2	51.8
1972	60.4	60.4	79.6	60.1	82.0	43.2	48.1	42.7	60.2	73.9	46.0	78.6	48.8	32.3	51.2
Black															
1972	60.4	60.4	79.6	60.1	82.0	43.2	48.1	42.7	59.9	73.6	46.3	78.5	48.7	32.2	51.2
1973	60.8	60.8	79.4	62.0	81.6	44.1	50.1	43.5	60.2	73.4	45.7	78.4	49.3	34.2	51.6
1974	61.3	61.4	79.4	62.9	81.4	45.2	51.7	44.4	59.8	72.9	46.7	77.6	49.0	33.4	51.4
1975	61.2	61.5	78.7	61.9	80.7	45.9	51.5	45.3	58.8	70.9	42.6	76.0	48.8	34.2	51.1
1976	61.6	61.8	78.4	62.3	80.3	46.9	52.8	46.2	59.0	70.0	41.3	75.4	49.8	32.9	52.5
1977	62.3	62.5	78.5	64.0	80.2	48.0	54.5	47.3	59.8	70.6	43.2	75.6	50.8	32.9	53.6
1978	63.2	63.3	78.6	65.0	80.1	49.4	56.7	48.7	61.5	71.5	44.9	76.2	53.1	37.3	55.5
1979	63.7	63.9	78.6	64.8	80.1	50.5	57.4	49.8	61.4	71.3	43.6	76.3	53.1	36.8	55.4
1980	63.8	64.1	78.2	63.7	79.8	51.2	56.2	50.6	61.0	70.3	43.2	75.1	53.1	34.9	55.6
1981	63.9	64.3	77.9	62.4	79.5	51.9	55.4	51.5	60.8	70.0	41.6	74.5	53.5	34.0	56.0
1982	64.0	64.3	77.4	60.0	79.2	52.4	55.0	52.2	61.0	70.1	39.8	74.7	53.7	33.5	56.2
1983	64.0	64.3	77.1	59.4	78.9	52.7	54.5	52.5	61.5	70.6	39.9	75.2	54.2	33.0	56.8
1984	64.4	64.6	77.1	59.0	78.7	53.3	55.4	53.1	62.2	70.8	41.7	74.8	55.2	35.0	57.6
1985	64.8	65.0	77.0	59.7	78.5	54.1	55.2	54.0	62.9	70.8	44.6	74.4	56.5	37.9	58.6
1986	65.3	65.5	76.9	59.3	78.5	55.0	56.3	54.9	63.3	71.2	43.7	74.8	56.9	39.1	58.9
1987	65.6	65.8	76.8	59.0	78.4	55.7	56.5	55.6	63.8	71.1	43.6	74.7	58.0	39.6	60.0
1988	65.9	66.2	76.9	60.0	78.3	56.4	57.2	56.3	63.8	71.0	43.8	74.6	58.0	37.9	60.1
1989	66.5	66.7	77.1	61.0	78.5	57.2	57.1	57.2	64.2	71.0	44.6	74.4	58.7	40.4	60.6
1988: Jan	65.8	66.0	76.8	61.0	78.2	56.1	57.4	55.9	64.0	71.0	43.1	74.6	58.4	38.5	60.6
Feb	65.9	66.2	76.8	59.5	78.3	56.3	57.9	56.2	63.8	71.0	39.7	75.2	57.8	39.3	59.8
Mar	65.7	66.0	76.7	59.4	78.2	56.1	55.9	56.1	63.6	70.6	38.7	74.8	57.9	38.6	60.0
Apr	65.8	66.1	76.8	59.4	78.3	56.3	56.8	56.2	63.7	71.4	41.1	75.3	57.5	36.3	59.8
May	65.7	66.1	76.9	58.6	78.4	56.1	56.2	56.1	63.5	71.3	46.3	74.5	57.1	36.7	59.3
June	65.9	66.2	76.9	61.2	78.2	56.4	58.6	56.2	63.0	70.6	43.9	74.1	56.8	34.4	59.2
July	65.9	66.1	76.9	60.3	78.3	56.2	57.4	56.1	64.1	70.7	45.7	73.9	58.7	38.2	60.9
Aug	66.0	66.4	77.1	60.2	78.5	56.5	57.3	56.6	64.0	71.1	44.9	74.6	58.1	40.4	60.0
Sept	66.0	66.4	77.0	60.7	78.4	56.5	58.1	56.4	63.6	70.8	44.9	74.1	57.8	39.1	59.8
Oct	66.0	66.3	76.8	59.3	78.3	56.6	57.3	56.6	64.0	71.3	46.1	74.6	58.1	36.7	60.3
Nov	66.1	66.5	76.9	60.2	78.4	56.8	56.4	56.9	64.0	71.0	45.3	74.3	58.3	37.6	60.5
Dec	66.2	66.4	76.8	60.5	78.2	56.9	57.1	56.8	64.3	71.1	43.7	74.6	58.8	39.4	60.9
1989: Jan	66.4	66.7	77.1	61.0	78.4	57.2	57.9	57.1	64.4	71.2	43.5	74.8	58.9	38.6	61.0
Feb	66.3	66.5	77.0	60.0	78.4	56.9	56.3	56.9	64.3	71.2	46.1	74.4	58.7	38.9	60.8
Mar	66.3	66.6	77.1	60.7	78.5	56.9	56.6	56.9	64.2	71.1	43.1	74.7	58.5	38.3	60.6
Apr	66.5	66.8	77.2	61.0	78.5	57.1	57.1	57.1	63.6	70.5	41.8	74.2	58.0	40.5	59.9
May	66.4	66.7	77.0	60.9	78.3	57.2	56.9	57.2	64.1	70.6	41.2	74.3	58.8	42.0	60.6
June	66.6	66.8	77.3	60.9	78.7	57.2	57.6	57.2	64.6	71.4	49.7	74.2	59.0	38.9	61.1
July	66.5	66.7	77.1	60.3	78.5	57.2	55.6	57.3	64.4	71.0	46.6	74.1	59.0	41.1	60.9
Aug	66.5	66.8	77.1	61.8	78.4	57.2	57.4	57.2	64.0	70.7	45.5	73.9	58.5	38.9	60.6
Sept	66.4	66.7	77.0	60.1	78.3	57.2	57.3	57.2	64.1	70.7	41.1	74.6	58.8	42.5	60.5
Oct	66.4	66.8	77.2	61.5	78.5	57.2	57.3	57.1	64.0	70.9	44.7	74.2	58.4	41.3	60.2
Nov	66.6	66.9	77.2	61.2	78.5	57.4	58.2	57.3	64.2	71.1	46.9	74.2	58.6	41.2	60.4
Dec	66.5	66.9	77.2	60.8	78.5	57.4	56.9	57.4	63.9	71.1	47.7	74.0	58.0	41.6	59.7

<sup>1</sup> Civilian labor force as percent of civilian noninstitutional population in group specified.

Note.—Data relate to persons 16 years of age and over.  
See footnote 6 and Note, Table C-32.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE C-38.—Civilian employment/population ratio by demographic characteristic, 1954-89

[Percent;<sup>1</sup> monthly data seasonally adjusted]

Year or month	All civilian workers	White						Black and other or black																	
		Total	Males			Females			Total	Males			Females												
			Total	16-19 years	20 years and over	Total	16-19 years	20 years and over		Total	16-19 years	20 years and over	Total	16-19 years	20 years and over										
Black and other																									
1954.....	55.5	55.2	81.5	49.9	84.0	31.4	36.4	31.1	58.0	76.5	52.4	79.2	41.9	24.7	43.7										
1955.....	56.7	56.5	82.2	52.0	84.7	33.0	37.0	32.7	58.7	77.6	52.7	80.4	42.2	26.4	43.9										
1956.....	57.5	57.3	82.7	54.1	85.0	34.2	38.9	33.8	59.5	78.4	52.2	81.3	43.0	28.0	44.7										
1957.....	57.1	56.8	81.8	52.4	84.1	34.2	38.2	33.9	59.3	77.2	48.0	80.5	43.7	26.5	45.5										
1958.....	55.4	55.3	79.2	47.6	81.8	33.6	35.0	33.5	56.7	72.5	42.0	76.0	42.8	22.8	45.0										
1959.....	56.0	55.9	79.9	48.1	82.8	34.0	34.8	34.0	57.5	73.8	41.4	77.6	43.2	20.3	45.7										
1960.....	56.1	55.9	79.4	48.1	82.4	34.6	35.1	34.5	57.9	74.1	43.8	77.9	43.6	24.8	45.8										
1961.....	55.4	55.3	78.2	45.9	81.4	34.5	34.6	34.5	56.2	71.7	41.0	75.5	42.6	23.2	44.8										
1962.....	55.5	55.4	78.4	46.4	81.5	34.7	34.8	34.7	56.3	72.0	41.7	75.7	42.7	23.1	44.9										
1963.....	55.4	55.3	77.7	44.7	81.1	35.0	32.9	35.2	56.2	71.8	37.4	76.2	42.7	21.3	45.2										
1964.....	55.7	55.5	77.8	45.0	81.3	35.5	32.2	35.8	57.0	72.9	37.8	77.7	43.4	21.8	46.1										
1965.....	56.2	56.0	77.9	47.1	81.5	36.2	33.7	36.5	57.8	73.7	39.4	78.7	44.1	20.2	47.3										
1966.....	56.9	56.8	78.3	50.1	81.7	37.5	37.5	37.5	58.4	74.0	40.5	79.2	45.1	23.1	48.2										
1967.....	57.3	57.2	78.4	50.2	81.7	38.3	37.7	38.3	58.2	73.8	38.8	79.4	45.0	24.8	47.9										
1968.....	57.5	57.4	78.3	50.3	81.6	38.9	37.8	39.1	58.0	73.3	38.7	78.9	45.2	24.7	48.2										
1969.....	58.0	58.0	78.2	51.1	81.4	40.1	39.5	40.1	58.1	72.8	39.0	78.4	45.9	25.1	48.9										
1970.....	57.4	57.5	76.8	49.6	80.1	40.3	39.5	40.4	56.8	70.9	35.5	76.8	44.9	22.4	48.2										
1971.....	56.6	56.8	75.7	49.2	79.0	39.9	38.6	40.1	54.9	68.1	31.8	74.2	43.9	20.2	47.3										
1972.....	57.0	57.4	76.0	51.5	79.0	40.7	41.3	40.6	54.1	67.3	32.4	73.2	43.3	19.9	46.7										
Black																									
1972.....	57.0	57.4	76.0	51.5	79.0	40.7	41.3	40.6	53.7	66.8	31.6	73.0	43.0	19.2	46.5										
1973.....	57.8	58.2	76.5	54.3	79.2	41.8	43.6	41.6	54.5	67.5	32.8	73.7	43.8	22.0	47.2										
1974.....	57.8	58.3	75.9	54.4	78.6	42.4	44.3	42.2	53.5	65.8	31.4	71.9	43.5	20.9	46.9										
1975.....	56.1	56.7	73.0	50.6	75.7	42.0	42.5	41.9	50.1	60.6	26.3	66.5	41.6	20.2	44.9										
1976.....	56.8	57.5	73.4	51.5	76.0	43.2	44.2	43.1	50.8	60.6	25.8	66.8	42.8	19.2	46.4										
1977.....	57.9	58.6	74.1	54.4	76.5	44.5	45.9	44.4	51.4	61.4	26.4	67.5	43.3	18.5	47.0										
1978.....	59.3	60.0	75.0	56.3	77.2	46.3	48.5	46.1	53.6	63.3	28.5	69.1	45.8	22.1	49.3										
1979.....	59.9	60.6	75.1	55.7	77.3	47.5	49.4	47.3	53.8	63.4	28.7	69.1	46.0	22.4	49.3										
1980.....	59.2	60.0	73.4	53.4	75.6	47.8	47.9	47.8	52.3	60.4	27.0	65.8	45.7	21.0	49.1										
1981.....	59.0	60.0	72.8	51.3	75.1	48.3	46.2	48.5	51.3	59.1	24.6	64.5	45.1	19.7	48.5										
1982.....	57.8	58.8	70.6	47.0	73.0	48.1	44.6	48.4	49.4	56.0	20.3	61.4	44.2	17.7	47.5										
1983.....	57.9	58.9	70.4	47.4	72.6	48.5	44.5	48.9	49.5	56.3	20.4	61.6	44.1	17.0	47.4										
1984.....	59.5	60.5	72.1	49.1	74.3	49.8	47.0	50.0	52.3	59.2	23.9	64.1	46.7	20.1	49.8										
1985.....	60.1	61.0	72.3	49.9	74.3	50.7	47.1	51.0	53.4	60.0	26.3	64.6	48.1	23.1	50.9										
1986.....	60.7	61.5	72.3	49.6	74.3	51.7	47.9	52.0	54.1	60.6	26.5	65.1	48.8	23.8	51.6										
1987.....	61.5	62.3	72.7	49.9	74.7	52.8	49.0	52.1	55.6	62.0	28.5	66.4	50.3	25.8	53.0										
1988.....	62.3	63.1	73.2	51.7	75.1	53.8	50.2	54.0	56.3	62.7	29.4	67.1	51.2	25.8	53.9										
1989.....	63.0	63.8	73.7	52.6	75.4	54.6	50.5	54.9	56.9	62.8	30.4	67.0	52.0	27.1	54.6										
1988: Jan.....	62.0	62.8	73.0	52.4	74.8	53.3	49.8	53.6	56.4	62.7	28.6	67.1	51.2	25.7	54.0										
Feb.....	62.1	62.9	73.2	52.2	75.1	53.4	50.4	53.7	56.0	62.1	23.9	67.1	51.0	25.9	53.7										
Mar.....	62.0	62.8	73.0	49.9	74.9	53.5	48.7	53.9	55.6	61.6	23.9	66.5	50.7	25.6	53.4										
Apr.....	62.2	63.1	73.3	50.8	75.2	53.7	49.3	54.0	56.0	63.2	29.8	67.6	50.2	23.2	53.1										
May.....	62.0	62.9	73.2	50.8	75.1	53.5	49.2	53.8	55.7	62.6	31.4	66.7	50.1	23.4	53.0										
June.....	62.3	63.2	73.3	53.0	75.1	53.8	52.1	53.9	55.8	62.4	30.0	66.7	50.3	25.6	53.0										
July.....	62.3	63.0	73.3	51.5	75.1	53.6	51.2	53.8	56.7	62.5	31.1	66.7	51.9	26.0	54.7										
Aug.....	62.3	63.1	73.2	51.8	75.1	53.8	49.8	54.1	56.6	63.0	30.4	67.3	51.3	27.1	53.9										
Sept.....	62.4	63.2	73.3	51.8	75.2	53.9	50.8	54.1	56.6	63.1	30.5	67.3	51.3	26.9	53.9										
Oct.....	62.5	63.3	73.2	50.7	75.2	54.1	50.7	54.3	56.9	63.2	30.9	67.4	51.7	26.4	54.4										
Nov.....	62.6	63.5	73.4	52.9	75.1	54.3	50.0	54.6	56.8	62.9	30.7	67.1	51.9	26.2	54.7										
Dec.....	62.6	63.4	73.3	52.3	75.1	54.3	50.5	54.6	57.0	63.0	30.3	67.3	52.0	27.4	54.7										
1989: Jan.....	62.8	63.7	73.5	51.3	75.4	54.6	51.2	54.9	56.8	62.7	28.0	67.2	52.1	26.3	54.8										
Feb.....	62.8	63.7	73.6	51.7	75.4	54.5	50.3	54.8	56.8	62.8	31.1	66.9	52.0	26.6	54.7										
Mar.....	63.0	63.8	73.9	52.8	75.7	54.4	50.5	54.7	57.1	63.2	30.6	67.4	52.1	25.2	55.0										
Apr.....	62.9	63.7	73.7	53.0	75.5	54.5	50.5	54.8	56.7	62.4	27.3	66.9	52.0	28.9	54.4										
May.....	62.9	63.7	73.7	52.3	75.4	54.5	50.4	54.8	57.0	62.6	26.6	67.3	52.4	29.6	54.8										
June.....	63.1	63.8	73.9	52.7	75.7	54.5	50.5	54.8	57.0	63.2	29.9	67.1	51.9	24.6	54.7										
July.....	63.0	63.7	73.7	52.6	75.4	54.5	48.6	54.9	57.3	63.6	35.8	67.1	52.3	27.5	54.9										
Aug.....	63.0	63.8	73.7	53.7	75.4	54.6	50.4	54.9	56.8	62.6	31.7	66.6	52.0	25.8	54.8										
Sept.....	62.9	63.7	73.3	52.1	75.1	54.7	50.9	55.0	56.6	62.4	27.2	67.0	51.9	26.0	54.6										
Oct.....	62.9	63.8	73.8	53.0	75.5	54.6	51.1	54.9	56.5	62.5	30.4	66.6	51.6	26.9	54.2										
Nov.....	63.0	63.8	73.7	52.5	75.4	54.8	51.6	55.0	56.6	62.5	31.7	66.4	51.8	27.7	54.2										
Dec.....	63.0	63.8	73.7	52.2	75.5	54.7	50.2	55.0	56.3	62.3	33.3	66.0	51.4	28.6	53.8										

<sup>1</sup> Civilian employment as percent of civilian noninstitutional population in group specified.

Note.—Data relate to persons 16 years of age and over. See footnote 6 and Note, Table C-32.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE C-39.—Unemployment rate, 1948-89

(Percent; monthly data seasonally adjusted)

Year or month	Unemployment rate, all workers <sup>1</sup>	Unemployment rate, civilian workers <sup>2</sup>													
		All civilian workers	Males			Females			Both sexes 16-19 years	White	Black and other	Black	Experienced wage and salary workers	Married men, spouse present <sup>3</sup>	Women who maintain families
			Total	16-19 years	20 years and over	Total	16-19 years	20 years and over							
1948		3.8	3.6	9.8	3.2	4.1	8.3	3.6	9.2	3.5	5.9		4.3		
1949		5.9	5.9	14.3	5.4	6.0	12.3	5.3	13.4	5.6	8.9		6.8	3.5	
1950	5.2	5.3	5.1	12.7	4.7	5.7	11.4	5.1	12.2	4.9	9.0		6.0	4.6	
1951	3.2	3.3	2.8	8.1	2.5	4.4	8.3	4.0	8.2	3.1	5.3		3.7	1.5	
1952	2.9	3.0	2.8	8.9	2.4	3.6	8.0	3.2	8.5	2.8	5.4		3.4	1.4	
1953	2.8	2.9	2.8	7.9	2.5	3.3	7.2	2.9	7.6	2.7	4.5		3.2	1.7	
1954	5.4	5.5	5.3	13.5	4.9	6.0	11.4	5.5	12.6	5.0	9.9		6.2	4.0	
1955	4.3	4.4	4.2	11.6	3.8	4.9	10.2	4.4	11.0	3.9	8.7		4.8	2.6	
1956	4.0	4.1	3.8	11.1	3.4	4.8	11.2	4.2	11.1	3.6	8.3		4.4	2.3	
1957	4.2	4.3	4.1	12.4	3.6	4.7	10.6	4.1	11.6	3.8	7.9		4.6	2.8	
1958	6.6	6.8	6.8	17.1	6.2	6.8	14.3	6.1	15.9	6.1	12.6		7.3	5.1	
1959	5.3	5.5	5.2	15.3	4.7	5.9	13.5	5.2	14.6	4.8	10.7		5.7	3.6	
1960	5.4	5.5	5.4	15.3	4.7	5.9	13.9	5.1	14.7	5.0	10.2		5.7	3.7	
1961	6.5	6.7	6.4	17.1	5.7	7.2	16.3	6.3	16.8	6.0	12.4		6.8	4.6	
1962	5.4	5.5	5.2	14.7	4.6	6.2	14.6	5.4	14.7	4.9	10.9		5.6	3.6	
1963	5.5	5.7	5.2	17.2	4.5	6.5	17.2	5.4	17.2	5.0	10.8		5.6	3.4	
1964	5.0	5.2	4.6	15.8	3.9	6.2	16.6	5.2	16.2	4.6	9.6		5.0	2.8	
1965	4.4	4.5	4.0	14.1	3.2	5.5	15.7	4.5	14.8	4.1	8.1		4.3	2.4	
1966	3.7	3.8	3.2	11.7	2.5	4.8	14.1	3.8	12.8	3.4	7.3		3.5	1.9	
1967	3.7	3.8	3.1	12.3	2.3	5.2	13.5	4.2	12.9	3.4	7.4		3.6	1.8	4.9
1968	3.5	3.6	2.9	11.6	2.2	4.8	14.0	3.8	12.7	3.2	6.7		3.4	1.6	4.4
1969	3.4	3.5	2.8	11.4	2.1	4.7	13.3	3.7	12.2	3.1	6.4		3.3	1.5	4.4
1970	4.8	4.9	4.4	15.0	3.5	5.9	15.6	4.8	15.3	4.5	8.2		4.8	2.6	5.4
1971	5.8	5.9	5.3	16.6	4.4	6.9	17.2	5.7	16.9	5.4	9.9		5.7	3.2	7.3
1972	5.5	5.6	5.0	15.9	4.0	6.6	16.7	5.4	16.2	5.1	10.0	10.4	5.3	2.8	7.2
1973	4.8	4.9	4.2	13.9	3.3	6.0	15.3	4.9	14.5	4.3	9.0	9.4	4.5	2.3	7.1
1974	5.5	5.6	4.9	15.6	3.8	6.7	16.6	5.5	16.0	5.0	9.9	10.5	5.3	2.7	7.0
1975	8.3	8.5	7.9	20.1	6.8	9.3	19.7	8.0	19.9	7.8	13.8	14.8	8.2	5.1	10.0
1976	7.6	7.7	7.1	19.2	5.9	8.6	18.7	7.4	19.0	7.0	13.1	14.0	7.3	4.2	10.1
1977	6.9	7.1	6.3	17.3	5.2	8.2	18.3	7.0	17.8	6.2	13.1	14.0	6.6	3.6	9.4
1978	6.0	6.1	5.3	15.8	4.3	7.2	17.1	6.0	16.4	5.2	11.9	12.8	5.6	2.8	8.5
1979	5.8	5.8	5.1	15.9	4.2	6.8	16.4	5.7	16.1	5.1	11.3	12.3	5.5	2.8	8.3
1980	7.0	7.1	6.9	18.3	5.9	7.4	17.2	6.4	17.8	6.3	13.1	14.3	6.9	4.2	9.2
1981	7.5	7.6	7.4	20.1	6.3	7.9	19.0	6.8	19.6	6.7	14.2	15.6	7.3	4.3	10.4
1982	9.5	9.7	9.9	24.4	8.8	9.4	21.9	8.3	23.2	8.6	17.3	18.9	9.3	6.5	11.7
1983	9.5	9.6	9.9	23.3	8.9	9.2	21.3	8.1	22.4	8.4	17.8	19.5	9.2	6.5	12.2
1984	7.4	7.5	7.4	19.6	6.6	7.6	18.0	6.8	18.9	6.5	14.4	15.9	7.1	4.6	10.3
1985	7.1	7.2	7.0	19.5	6.2	7.4	17.6	6.6	18.6	6.2	13.7	15.1	6.8	4.3	10.4
1986	6.9	7.0	6.9	19.0	6.1	7.1	17.6	6.2	18.3	6.0	13.1	14.5	6.6	4.4	9.8
1987	6.1	6.2	6.2	17.8	5.4	6.2	15.9	5.4	16.9	5.3	11.6	13.0	5.8	3.9	9.2
1988	5.4	5.5	5.5	16.0	4.8	5.6	14.4	4.9	15.3	4.7	10.4	11.7	5.2	3.3	8.1
1989	5.2	5.3	5.2	15.9	4.5	5.4	14.0	4.7	15.0	4.5	10.0	11.4	5.0	3.0	8.1
1988: Jan	5.6	5.7	5.6	16.2	4.9	5.8	15.4	5.1	15.8	4.9	10.8	12.0	5.4	3.5	8.7
1988: Feb	5.6	5.7	5.5	15.6	4.9	6.0	15.4	5.2	15.5	4.9	10.9	12.2	5.4	3.4	8.3
1988: Mar	5.6	5.7	5.7	17.8	4.9	5.7	15.3	4.9	16.6	4.8	11.3	12.6	5.4	3.4	7.6
1988: Apr	5.4	5.5	5.3	15.9	4.6	5.7	15.8	4.9	15.9	4.6	10.6	12.1	5.0	3.1	8.7
1988: May	5.6	5.6	5.6	15.7	5.0	5.6	15.2	4.9	15.5	4.7	11.0	12.2	5.3	3.3	8.2
1988: June	5.3	5.4	5.4	15.4	4.7	5.4	12.2	4.8	13.9	4.6	10.2	11.6	5.1	3.2	7.9
1988: July	5.4	5.5	5.4	17.4	4.6	5.6	13.3	5.0	15.4	4.7	10.2	11.6	5.1	3.1	8.3
1988: Aug	5.5	5.6	5.7	16.1	5.0	5.6	15.1	4.8	15.6	4.9	10.2	11.5	5.3	3.4	7.5
1988: Sept	5.3	5.4	5.3	16.4	4.6	5.5	14.3	4.8	15.4	4.7	9.6	11.0	5.1	3.1	8.2
1988: Oct	5.3	5.3	5.3	16.5	4.6	5.3	13.5	4.7	15.1	4.6	9.8	11.2	5.0	3.1	8.0
1988: Nov	5.2	5.3	5.3	14.2	4.7	5.3	13.4	4.8	13.8	4.6	10.0	11.2	5.1	3.2	7.6
1988: Dec	5.2	5.3	5.3	15.4	4.6	5.3	14.1	4.7	14.8	4.6	10.0	11.4	5.0	3.1	8.2
1989: Jan	5.3	5.4	5.4	18.3	4.6	5.3	13.9	4.7	16.1	4.6	10.5	11.7	5.2	3.1	7.9
1989: Feb	5.1	5.2	5.2	16.4	4.5	5.1	13.1	4.6	14.8	4.3	10.3	11.6	4.9	3.0	8.0
1989: Mar	5.0	5.0	4.9	14.6	4.2	5.2	13.3	4.6	14.0	4.3	9.8	11.0	4.8	2.9	7.9
1989: Apr	5.2	5.3	5.3	15.6	4.6	5.3	13.5	4.7	14.6	4.5	9.7	11.0	5.0	3.2	7.8
1989: May	5.1	5.2	5.1	16.3	4.3	5.3	13.7	4.7	15.0	4.4	9.6	11.1	4.9	2.9	8.2
1989: June	5.2	5.3	5.1	15.9	4.4	5.5	14.9	4.8	15.4	4.5	10.2	11.8	5.0	2.9	7.9
1989: July	5.2	5.3	5.0	14.7	4.4	5.6	15.5	4.9	15.1	4.5	9.6	11.0	5.0	3.0	8.5
1989: Aug	5.2	5.3	5.1	15.1	4.5	5.4	14.6	4.7	14.8	4.5	9.7	11.2	5.0	3.1	8.0
1989: Sept	5.3	5.3	5.4	15.7	4.8	5.2	14.4	4.5	15.0	4.5	10.2	11.7	5.0	3.3	7.7
1989: Oct	5.2	5.3	5.2	15.9	4.5	5.4	13.8	4.8	14.9	4.5	10.2	11.7	5.0	3.0	7.8
1989: Nov	5.3	5.3	5.3	16.7	4.6	5.4	13.8	4.8	15.3	4.5	10.3	11.9	5.1	3.1	8.2
1989: Dec	5.3	5.3	5.3	16.1	4.6	5.5	14.3	4.8	15.2	4.6	10.2	11.8	5.0	3.0	8.1

<sup>1</sup> Unemployed as percent of labor force including resident Armed Forces.

<sup>2</sup> Unemployed as percent of civilian labor force in group specified.

<sup>3</sup> Data for 1949 and 1951-54 are for April; 1950, for March.

Note.—Data relate to persons 16 years of age and over. See footnote 6 and Note, Table C-32.

Source: Department of Labor, Bureau of Labor Statistics.



TABLE C-40.—Civilian unemployment rate by demographic characteristic, 1948-89

(Percent; <sup>1</sup> monthly data seasonally adjusted)

Year or month	All civilian workers	White						Black and other or black								
		Total	Males			Females			Total	Males			Females			
			Total	16-19 years	20 years and over	Total	16-19 years	20 years and over		Total	16-19 years	20 years and over	Total	16-19 years	20 years and over	
Black and other																
1948	3.8	3.5	3.4				3.8									
1949	5.9	5.6	5.6				5.7						6.1	7.9		
1950	5.3	4.9	4.7				5.3						8.4			
1951	3.3	3.1	2.6				4.2						6.1			
1952	3.0	2.8	2.5				3.3						5.7			
1953	2.9	2.7	2.5				3.1						4.1			
1954	2.5	2.0	1.8				2.5						4.7			
1955	5.5	5.0	4.8	13.4	4.4		5.5	10.4	5.1	9.9	10.3	14.4	9.9	9.2	20.6	8.4
1956	4.1	3.6	3.7	11.3	3.3		4.3	9.1	3.9	8.3	7.8	13.4	8.4	8.5	19.2	7.7
1957	4.3	3.6	3.4	10.5	3.0		4.2	9.7	3.7	8.3	7.9	15.0	7.4	8.9	22.8	7.8
1958	6.8	6.1	6.1	11.5	3.2		4.3	9.5	3.8	7.9	8.3	18.4	7.6	7.3	20.2	6.4
1959	5.5	4.8	4.6	14.0	4.1		5.3	12.7	5.6	12.6	13.7	26.6	12.7	10.8	28.4	9.5
								12.0	4.7	10.7	11.5	25.2	10.5	9.4	27.7	8.3
1960	5.5	5.0	4.8	14.0	4.2		5.3	12.7	4.6	10.7	11.5	24.0	9.6	9.4	24.8	8.3
1961	6.7	6.0	5.7	15.7	5.1		6.5	14.8	5.7	12.4	12.8	26.8	11.7	11.9	29.2	10.6
1962	5.5	4.9	4.6	13.7	4.0		5.5	12.8	4.7	10.9	10.9	22.0	10.0	11.0	30.2	9.6
1963	5.7	5.0	4.7	15.9	3.9		5.8	15.1	4.8	10.8	10.5	27.3	9.2	11.2	34.7	9.4
1964	5.2	4.6	4.1	14.7	3.4		5.5	14.9	4.6	9.6	9.9	24.3	7.7	10.7	31.6	9.0
1965	4.5	4.1	3.6	12.9	2.9		5.0	14.0	4.0	8.1	7.4	23.3	6.0	9.2	31.7	7.5
1966	3.8	3.4	2.8	10.5	2.2		4.3	12.1	3.3	7.3	6.3	21.3	4.9	8.7	31.3	6.6
1967	3.8	3.4	2.7	10.7	2.1		4.6	11.5	3.8	7.4	6.0	23.9	4.3	9.1	29.6	7.1
1968	3.6	3.2	2.6	10.1	2.0		4.3	12.1	3.4	6.7	5.6	22.1	3.9	8.3	28.7	6.3
1969	3.5	3.1	2.5	10.0	1.9		4.2	11.5	3.4	6.4	5.3	21.4	3.7	7.8	27.6	5.8
1970	4.9	4.5	4.0	13.7	3.2		5.4	13.4	4.4	8.2	7.3	25.0	5.6	9.3	34.5	6.9
1971	5.9	5.4	4.9	15.1	4.0		6.3	15.1	5.3	9.9	9.1	28.8	7.3	10.9	35.4	8.7
1972	5.6	5.1	4.5	14.2	3.6		5.9	14.2	4.9	10.0	8.9	29.7	6.9	11.4	38.4	8.8
Black																
1972	5.6	5.1	4.5	14.2	3.6		5.9	14.2	4.9	10.4	9.3	31.7	7.0	11.8	40.5	9.0
1973	4.9	4.3	3.8	12.3	3.0		5.3	13.0	4.3	9.4	8.0	27.8	6.0	11.1	36.1	8.6
1974	5.6	5.0	4.4	13.5	3.5		6.1	14.5	5.1	10.5	9.8	33.1	7.4	11.3	37.4	8.8
1975	8.5	7.8	7.2	18.3	6.2		8.6	17.4	7.5	14.8	14.8	38.1	12.5	14.8	41.0	12.2
1976	7.7	7.0	6.4	17.3	5.4		7.9	16.4	6.8	14.0	13.7	37.5	11.4	14.3	41.6	11.7
1977	7.1	6.2	5.5	15.0	4.7		7.3	15.9	6.2	14.0	13.3	39.2	10.7	14.9	43.4	12.3
1978	6.1	5.2	4.6	13.5	3.7		6.2	14.4	5.2	12.8	11.8	36.7	9.3	13.8	40.8	11.2
1979	5.8	5.1	4.5	13.9	3.6		5.9	14.0	5.0	12.3	11.4	34.2	9.3	13.3	39.1	10.9
1980	7.1	6.3	6.1	16.2	5.3		6.5	14.8	5.6	14.3	14.5	37.5	12.4	14.0	39.8	11.9
1981	7.6	6.7	6.5	17.9	5.6		6.9	16.6	5.9	15.6	15.7	40.7	13.5	15.6	42.2	13.4
1982	9.6	8.6	8.8	21.7	7.8		8.3	19.0	7.3	18.9	20.1	48.9	17.8	17.6	47.1	15.4
1983	9.6	8.4	8.8	20.2	7.9		7.9	18.3	6.9	19.5	20.3	48.8	18.1	18.6	48.2	16.5
1984	7.5	6.4	6.4	16.8	5.7		6.5	15.2	5.8	15.9	16.4	42.7	14.3	15.4	42.6	13.5
1985	7.2	6.2	6.0	16.3	5.4		6.4	14.8	5.8	15.1	15.3	41.0	13.2	14.9	39.2	12.1
1986	7.0	6.0	6.0	16.3	5.3		6.1	14.9	5.4	14.5	14.8	39.3	12.9	14.2	39.2	12.4
1987	6.2	5.3	5.4	15.5	4.8		5.7	13.4	4.6	13.0	12.7	34.4	11.1	13.2	34.9	11.6
1988	5.5	4.7	4.7	13.9	4.1		4.7	12.3	4.0	11.7	11.7	32.7	10.1	11.7	32.0	10.4
1989	5.3	4.5	4.5	13.7	3.9		4.5	11.5	4.0	11.4	11.5	31.9	10.0	11.4	33.0	9.8
1988: Jan	5.7	4.9	4.9	14.1	4.3		4.9	13.3	4.2	12.0	11.7	33.7	10.0	12.3	33.4	10.8
Feb.	5.7	4.9	4.7	12.3	4.2		5.2	13.0	4.5	12.2	12.6	39.6	10.7	11.9	34.1	10.3
Mar.	5.7	4.8	4.9	16.0	4.2		4.6	12.9	4.0	12.6	12.8	38.2	11.0	12.5	33.6	11.0
Apr.	5.5	4.6	4.6	14.5	3.9		4.6	13.4	4.0	12.1	11.5	27.4	10.3	12.7	36.2	11.2
May	5.6	4.7	4.8	13.4	4.3		4.6	12.4	4.0	12.2	12.2	32.1	10.6	12.3	36.2	10.7
June	5.4	4.6	4.6	13.3	4.1		4.6	11.2	4.0	11.6	11.6	31.7	10.1	11.5	25.5	10.6
July	5.5	4.7	4.7	14.7	4.0		4.7	10.8	4.2	11.6	11.5	32.0	9.8	11.6	31.9	10.2
Aug.	5.6	4.9	5.0	14.1	4.4		4.7	13.2	4.1	11.5	11.4	32.2	9.8	11.6	32.7	10.1
Sept.	5.4	4.7	4.8	14.6	4.1		4.7	12.5	4.1	11.0	10.8	32.0	9.1	11.2	31.2	9.8
Oct.	5.3	4.6	4.7	14.5	4.0		4.5	11.6	4.0	11.2	11.4	32.9	9.7	11.0	28.1	9.8
Nov.	5.3	4.6	4.6	12.0	4.1		4.5	11.3	4.0	11.2	11.4	32.2	9.7	11.0	30.4	9.7
Dec.	5.3	4.6	4.6	13.5	4.1		4.5	11.6	3.9	11.4	11.3	30.8	9.9	11.5	30.6	10.2
1989: Jan	5.4	4.6	4.7	15.9	3.9		4.5	11.6	4.0	11.7	11.9	35.6	10.2	11.6	31.9	10.2
Feb.	5.2	4.3	4.4	13.9	3.8		4.2	10.7	3.7	11.6	11.8	32.6	10.2	11.4	31.7	10.0
Mar.	5.0	4.3	4.2	13.0	3.6		4.3	10.7	3.9	11.0	11.1	29.0	9.8	10.9	34.3	9.3
Apr.	5.3	4.5	4.5	13.2	3.9		4.6	11.5	4.1	11.0	11.6	34.8	9.9	10.4	28.5	9.1
May	5.2	4.4	4.4	14.1	3.7		4.6	11.4	4.1	11.1	11.2	35.4	9.5	10.9	29.6	9.6
June	5.3	4.5	4.4	13.5	3.8		4.7	12.3	4.1	11.8	11.5	33.8	9.6	12.1	36.8	10.5
July	5.3	4.5	4.4	12.8	3.8		4.8	12.6	4.2	11.0	10.5	23.2	9.5	11.4	33.1	9.9
Aug.	5.3	4.5	4.4	13.1	3.9		4.6	12.3	4.1	11.2	11.4	30.3	9.9	11.1	33.6	9.6
Sept.	5.3	4.5	4.7	13.3	4.2		4.3	11.1	3.8	11.7	11.7	33.8	10.1	11.7	38.8	9.7
Oct.	5.3	4.5	4.4	13.8	3.9		4.5	10.9	4.0	11.7	11.8	32.0	10.3	11.6	34.9	9.9
Nov.	5.3	4.5	4.6	14.3	3.9		4.5	11.3	4.0	11.9	12.2	32.3	10.6	11.7	32.7	10.2
Dec.	5.3	4.6	4.5	14.0	3.9		4.6	11.9	4.1	11.8	12.3	30.1	10.8	11.4	31.4	10.0

<sup>1</sup> Unemployed as percent of civilian labor force in group specified.

Note.—See footnote 6 and Note, Table C-32.

Source.—Department of Labor, Bureau of Labor Statistics.

TABLE C-41.—Unemployment by duration and reason, 1947-89

[Thousands of persons, except as noted; monthly data seasonally adjusted<sup>1</sup>]

Year or month	Unemployment	Duration of unemployment					Reason for unemployment				
		Less than 5 weeks	5-14 weeks	15-26 weeks	27 weeks and over	Average (mean) duration (weeks)	Median duration (weeks)	Job losers	Job leavers	Reentrants	New entrants
1947	2,311	1,210	704	234	164						
1948	2,276	1,300	669	193	116	8.6					
1949	3,637	1,756	1,194	428	256	10.0					
1950	3,288	1,450	1,055	425	357	12.1					
1951	2,055	1,177	574	166	137	9.7					
1952	1,883	1,135	516	148	84	8.4					
1953	1,834	1,142	482	132	78	8.0					
1954	3,532	1,605	1,116	495	317	11.8					
1955	2,852	1,335	815	366	336	13.0					
1956	2,750	1,412	805	301	232	11.3					
1957	2,859	1,408	891	321	239	10.5					
1958	4,602	1,753	1,396	785	667	13.9					
1959	3,740	1,585	1,114	469	571	14.4					
1960	3,852	1,719	1,176	503	454	12.8					
1961	4,714	1,806	1,376	728	804	15.6					
1962	3,911	1,663	1,134	534	585	14.7					
1963	4,070	1,751	1,231	535	553	14.0					
1964	3,786	1,697	1,117	491	482	13.3					
1965	3,366	1,628	983	404	351	11.8					
1966	2,875	1,573	779	287	239	10.4					
1967 <sup>a</sup>	2,975	1,634	893	271	177	8.7	1.229	438	945	396	407
1968	2,817	1,594	810	256	156	8.4	4.5	1,070	431	909	467
1969	2,832	1,629	827	242	133	7.8	4.4	1,017	436	965	413
1970	4,093	2,139	1,290	428	235	8.6	4.9	1,811	550	1,228	504
1971	5,016	2,245	1,585	668	519	11.3	6.3	2,323	590	1,472	630
1972	4,882	2,242	1,472	601	566	12.0	6.2	2,108	641	1,456	677
1973	4,365	2,224	1,314	483	343	10.0	5.2	1,694	683	1,340	649
1974	5,156	2,604	1,597	574	381	9.8	5.2	2,242	768	1,463	681
1975	7,929	2,940	2,484	1,303	1,203	14.2	8.4	4,386	827	1,892	823
1976	7,406	2,844	2,196	1,018	1,348	15.8	8.2	3,679	903	1,928	895
1977	6,991	2,919	2,132	913	1,028	14.3	7.0	3,166	909	1,963	953
1978	6,202	2,865	1,923	766	648	11.9	5.9	2,585	874	1,857	885
1979	6,137	2,950	1,946	706	535	10.8	5.4	2,635	880	1,806	817
1980	7,637	3,295	2,470	1,052	820	11.9	6.5	3,947	891	1,927	872
1981	8,273	3,449	2,539	1,122	1,162	13.7	6.9	4,267	923	2,102	981
1982	10,678	3,883	3,311	1,708	1,776	15.6	8.7	6,288	840	2,384	1,185
1983	10,717	3,570	2,937	1,652	1,559	20.0	10.1	6,258	830	2,412	1,216
1984	8,539	3,350	2,451	1,104	1,634	18.2	7.9	4,421	823	2,184	1,110
1985	8,312	3,498	2,509	1,025	1,280	15.6	6.8	4,139	877	2,256	1,039
1986	8,237	3,448	2,557	1,045	1,187	15.0	6.9	4,033	1,015	2,160	1,029
1987	7,425	3,246	2,196	943	1,040	14.5	6.5	3,566	965	1,974	920
1988	6,701	3,084	2,007	801	809	13.5	5.9	3,092	983	1,809	816
1989	6,528	3,174	1,978	730	646	11.9	4.8	2,983	1,024	1,843	677
1988: Jan	6,910	3,085	2,144	843	874	14.2	6.3	3,153	1,033	1,901	861
Feb	6,930	3,070	2,122	833	891	14.3	6.4	3,188	963	1,941	848
Mar	6,861	3,066	2,083	884	841	13.7	6.5	3,147	1,075	1,829	873
Apr	6,646	3,112	1,946	735	815	13.4	5.8	2,920	993	1,794	906
May	6,819	3,089	2,052	799	834	13.8	5.9	3,274	936	1,803	823
June	6,528	3,075	1,914	767	807	13.3	5.8	3,123	952	1,708	784
July	6,668	2,982	2,075	821	796	13.5	6.0	3,080	925	1,848	796
Aug	6,855	3,203	1,947	848	819	13.6	5.9	3,094	981	1,849	812
Sept	6,613	3,127	1,896	762	806	13.5	5.7	3,092	982	1,753	775
Oct	6,518	3,084	1,861	789	758	13.3	5.6	2,991	998	1,760	745
Nov	6,498	3,113	1,935	768	699	12.5	5.6	2,985	962	1,781	789
Dec	6,509	3,000	2,039	740	736	12.8	5.7	3,021	994	1,740	785
1989: Jan	6,625	3,140	1,998	761	738	12.6	5.6	3,088	973	1,827	768
Feb	6,360	3,212	1,894	660	640	12.3	5.4	2,879	980	1,767	757
Mar	6,198	3,072	1,849	672	663	12.4	5.5	2,852	902	1,774	713
Apr	6,591	3,113	2,006	667	724	12.6	5.4	2,932	985	1,882	692
May	6,419	3,070	1,993	711	620	11.9	5.3	2,798	1,103	1,853	696
June	6,569	3,279	2,006	684	611	11.2	5.4	2,820	1,021	1,993	726
July	6,577	3,156	1,965	838	623	11.9	5.4	2,916	1,016	1,901	723
Aug	6,520	3,125	2,002	759	579	11.4	5.0	2,964	1,031	1,772	643
Sept	6,604	3,169	2,030	769	590	11.5	5.0	2,932	1,034	1,920	648
Oct	6,563	3,166	1,995	743	635	11.7	5.0	2,979	984	1,890	685
Nov	6,652	3,258	1,991	765	657	11.6	4.8	3,082	1,049	1,845	695
Dec	6,658	3,302	2,013	730	632	11.5	4.8	3,097	1,055	1,853	686

<sup>1</sup> Because of independent seasonal adjustment of the various series, detail will not add to totals.

<sup>2</sup> Data for 1967 by reason for unemployment are not strictly comparable with those for later years and the total by reason is not equal to total unemployment.

Note.—Data relate to persons 16 years of age and over. See footnote 6 and Note, Table C-32.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE C-42.—Unemployment insurance programs, selected data, 1955-89

Year or month	All programs			State programs			Benefits paid		
	Covered employment <sup>1</sup>	Insured unemployment (weekly average) <sup>2,3</sup>	Total benefits paid (millions of dollars) <sup>2,4</sup>	Insured unemployment	Initial claims	Exhaustions <sup>5</sup>	Insured unemployment as percent of covered employment	Total (millions of dollars) <sup>4</sup>	Average weekly check (dollars) <sup>6</sup>
								Thousands	Weekly average, thousands
1955	40,018	1,399	1,560.2	1,265	226	25	3.5	1,350.3	25.04
1956	42,751	1,323	1,540.6	1,215	227	20	3.2	1,380.7	27.02
1957	43,436	1,571	1,913.0	1,446	270	23	3.6	1,733.9	28.17
1958	44,411	2,773	4,290.6	2,510	369	50	6.4	3,512.7	30.58
1959	45,728	1,860	2,854.3	1,684	277	33	4.4	2,279.0	30.41
1960	46,334	2,071	3,022.8	1,908	331	31	4.8	2,726.7	32.87
1961	46,266	2,994	4,358.1	2,290	350	46	5.6	3,422.7	33.80
1962	47,776	1,946	3,145.1	1,783	302	32	4.4	2,675.4	34.56
1963	48,434	1,973	3,025.9	1,806	298	30	4.3	2,774.7	35.27
1964	49,637	1,753	2,749.2	1,605	268	26	3.8	2,521.1	35.92
1965	51,580	1,450	2,360.4	1,328	232	21	3.0	2,166.0	37.19
1966	54,739	1,129	1,890.9	1,061	203	15	2.3	1,771.3	39.75
1967	56,342	1,270	2,221.5	1,205	226	17	2.5	2,092.3	41.25
1968	57,977	1,187	2,191.0	1,111	201	16	2.2	2,031.6	43.43
1969	59,999	1,177	2,298.6	1,101	200	16	2.1	2,127.9	46.17
1970	59,526	2,070	4,209.3	1,805	296	25	3.4	3,848.5	50.34
1971	59,375	2,608	6,154.0	2,150	295	39	4.1	4,957.0	54.02
1972	66,458	2,192	5,491.1	1,848	261	35	3.5	4,471.0	56.76
1973	69,897	1,793	4,517.3	1,632	247	29	2.7	4,007.6	59.00
1974	72,451	2,558	6,933.9	2,262	363	37	3.5	5,974.9	64.25
1975	71,037	4,937	16,802.4	3,986	478	61	6.0	11,754.7	70.23
1976	73,459	3,846	12,344.8	2,961	386	83	4.6	8,974.5	75.16
1977	76,419	3,308	10,998.9	2,655	375	55	3.9	8,357.2	78.79
1978	88,804	2,645	9,006.9	2,359	346	39	3.3	7,717.2	83.67
1979	92,062	2,592	9,401.3	2,434	388	39	2.9	8,612.9	89.67
1980	96,659	3,837	16,175.4	3,350	488	59	3.9	13,761.1	98.95
1981	93,300	3,410	15,287.1	3,047	460	57	3.5	13,262.1	106.70
1982	91,628	4,594	23,774.8	4,061	583	80	4.6	20,649.5	119.37
1983	91,898	3,775	20,206.2	3,396	438	80	3.9	17,762.8	123.59
1984	96,474	2,561	13,109.6	2,476	377	50	2.8	12,594.7	123.47
1985	99,186	2,693	14,495.1	2,611	396	50	2.9	13,977.8	128.23
1986	101,099	2,746	15,892.1	2,650	378	52	2.8	15,402.8	135.72
1987	98,757	2,401	14,670.9	2,332	328	46	2.4	13,605.4	139.90
1988	101,987	2,125	12,965.7	2,056	306	38	2.1	12,571.8	144.53
				**	**		**		
1988: Jan		2,870	1,377.5	2,222	344	42	2.3	1,340.0	145.14
Feb		2,775	1,485.6	2,179	322	41	2.2	1,445.2	147.40
Mar		2,536	1,589.0	2,114	308	43	2.2	1,545.8	147.17
Apr		2,208	1,173.8	2,087	305	44	2.1	1,140.6	145.74
May		1,949	1,044.1	2,051	311	39	2.1	1,012.7	145.10
June		1,881	1,054.6	2,050	304	39	2.1	1,019.9	143.72
July		2,052	956.0	2,082	327	38	2.1	924.9	141.75
Aug		1,914	1,109.6	2,069	305	37	2.1	1,075.4	143.36
Sept		1,734	902.9	2,025	293	32	2.1	876.4	143.84
Oct		1,677	808.9	1,972	296	33	2.0	784.3	144.31
Nov		1,857	960.5	1,989	301	34	2.0	934.2	143.04
Dec		2,205	1,092.1	2,032	309	34	2.0	1,062.3	145.59
1989: Jan		2,685	1,448.3	2,061	293	38	2.1	1,411.1	148.36
Feb		2,695	1,370.9	2,105	309	38	2.1	1,336.2	150.37
Mar		2,567	1,564.2	2,143	323	38	2.1	1,522.1	150.92
Apr		2,221	1,191.2	2,105	300	42	2.1	1,162.4	150.21
May		1,957	1,159.1	2,063	317	35	2.0	1,131.8	149.88
June		1,936	1,066.8	2,134	335	35	2.1	1,041.5	150.66
July		2,168	1,078.1	2,216	339	38	2.2	1,053.4	151.26
Aug		2,007	1,223.5	2,177	319	37	2.1	1,193.4	150.98
Sept		1,863	983.3	2,187	323	35	2.1	957.8	152.61
Oct		1,912	1,063.9	2,257	360	34	2.2	1,040.7	157.77
Nov		2,144		2,287	344	35	2.2	1,060.0	153.47
Dec				2,332	365		2.3		

\*\*Monthly data are seasonally adjusted.

<sup>1</sup> Includes persons under the State, UCFE (Federal employee, effective January 1955), and RRB (Railroad Retirement Board) programs. Beginning October 1958, also includes the UCX program (unemployment compensation for ex-servicemen).

<sup>2</sup> Includes State, UCFE, RR, UCX, UCV (unemployment compensation for veterans, October 1952-January 1960), and SRA (Servicemen's Readjustment Act, September 1944-September 1951) programs. Also includes Federal and State extended benefit programs. Does not include FSB (Federal supplemental benefits), SUA (special unemployment assistance), and Federal Supplemental Compensation programs.

<sup>3</sup> Covered workers who have completed at least 1 week of unemployment.

<sup>4</sup> Annual data are net amounts and monthly data are gross amounts.

<sup>5</sup> Individuals receiving final payments in benefit year.

<sup>6</sup> For total unemployment only.

<sup>7</sup> Programs include Puerto Rican sugarcane workers for initial claims and insured unemployment beginning July 1963.

<sup>8</sup> Latest data available for all programs combined. Workers covered by State programs account for about 97 percent of wage and salary earners.

Source: Department of Labor, Employment and Training Administration.

TABLE C-43.—Employees on nonagricultural payrolls, by major industry, 1946-89

(Thousands of persons; monthly data seasonally adjusted)

Year or month	Total	Goods-producing industries					
		Total	Mining	Con- struction	Manufacturing		
					Total	Durable goods	Nondu- rable goods
1946	41,652	17,248	862	1,683	14,703	7,742	6,962
1947	43,857	18,509	955	2,009	15,545	8,385	7,159
1948	44,866	18,774	994	2,198	15,582	8,326	7,256
1949	43,754	17,565	930	2,194	14,441	7,489	6,953
1950	45,197	18,506	901	2,364	15,241	8,094	7,147
1951	47,819	19,959	929	2,637	16,393	9,089	7,304
1952	48,793	20,198	898	2,668	16,632	9,349	7,284
1953	50,202	21,074	866	2,659	17,549	10,110	7,438
1954	48,990	19,751	791	2,646	16,314	9,129	7,185
1955	50,641	20,513	792	2,839	16,882	9,541	7,341
1956	52,369	21,104	822	3,039	17,243	9,833	7,411
1957	52,853	20,964	828	2,962	17,174	9,855	7,321
1958	51,324	19,513	751	2,817	15,945	8,829	7,116
1959	53,268	20,411	732	3,004	16,675	9,373	7,303
1960	54,189	20,434	712	2,926	16,796	9,459	7,337
1961	53,999	19,857	672	2,859	16,326	9,070	7,256
1962	55,549	20,451	650	2,948	16,853	9,480	7,373
1963	56,653	20,640	635	3,010	16,995	9,616	7,380
1964	58,283	21,005	634	3,097	17,274	9,816	7,458
1965	60,765	21,926	632	3,232	18,062	10,405	7,656
1966	63,901	23,158	627	3,317	19,214	11,282	7,930
1967	65,803	23,308	613	3,248	19,447	11,439	8,007
1968	67,897	23,737	606	3,350	19,781	11,626	8,155
1969	70,384	24,361	619	3,575	20,167	11,895	8,272
1970	70,880	23,578	623	3,588	19,367	11,208	8,158
1971	71,214	22,935	609	3,704	18,623	10,636	7,987
1972	73,675	23,668	628	3,889	19,151	11,049	8,102
1973	76,790	24,893	642	4,097	20,154	11,891	8,262
1974	78,265	24,794	697	4,020	20,077	11,925	8,152
1975	76,945	22,600	752	3,525	18,323	10,688	7,635
1976	79,382	23,352	779	3,576	18,997	11,077	7,920
1977	82,471	24,346	813	3,851	19,682	11,597	8,086
1978	86,697	25,585	851	4,229	20,505	12,274	8,231
1979	89,823	26,461	958	4,463	21,040	12,760	8,280
1980	90,406	25,658	1,027	4,346	20,285	12,187	8,098
1981	91,156	25,497	1,139	4,188	20,170	12,109	8,061
1982	89,566	23,813	1,128	3,905	18,781	11,039	7,741
1983	90,200	23,334	952	3,948	18,434	10,732	7,702
1984	94,496	24,727	966	4,383	19,378	11,505	7,873
1985	97,519	24,859	927	4,673	19,260	11,490	7,770
1986	99,525	24,558	777	4,816	18,965	11,230	7,734
1987	102,200	24,708	717	4,967	19,024	11,194	7,830
1988	105,584	25,249	721	5,125	19,403	11,437	7,967
1989 <sup>a</sup>	108,573	25,634	722	5,302	19,611	11,536	8,075
1988: Jan	103,970	24,935	721	4,959	19,255	11,325	7,930
Feb	104,414	25,033	723	5,038	19,272	11,335	7,937
Mar	104,682	25,098	723	5,088	19,287	11,349	7,938
Apr	104,901	25,161	725	5,109	19,327	11,382	7,945
May	105,091	25,179	725	5,100	19,354	11,399	7,955
June	105,561	25,265	726	5,139	19,400	11,431	7,969
July	105,768	25,323	725	5,150	19,448	11,475	7,973
Aug	105,954	25,303	725	5,153	19,425	11,462	7,963
Sept	106,207	25,313	719	5,163	19,431	11,464	7,967
Oct	106,475	25,384	717	5,162	19,507	11,509	7,996
Nov	106,824	25,460	712	5,191	19,557	11,545	8,012
Dec	107,097	25,513	711	5,213	19,589	11,565	8,024
1989: Jan	107,442	25,626	711	5,267	19,648	11,605	8,043
Feb	107,711	25,629	711	5,270	19,648	11,594	8,054
Mar	107,888	25,646	714	5,252	19,680	11,604	8,076
Apr	108,101	25,671	720	5,279	19,672	11,600	8,072
May	108,310	25,672	722	5,283	19,667	11,594	8,073
June	108,607	25,648	715	5,283	19,650	11,567	8,083
July	108,767	25,669	706	5,314	19,649	11,549	8,100
Aug	108,887	25,684	729	5,321	19,644	11,551	8,093
Sept	109,096	25,614	730	5,325	19,559	11,480	8,079
Oct	109,171	25,603	731	5,335	19,537	11,457	8,080
Nov	109,393	25,607	737	5,360	19,510	11,436	8,074
Dec	109,535	25,634	736	5,322	19,485	11,409	8,076

See next page for continuation of table.

TABLE C-43.—*Employees on nonagricultural payrolls, by major industry, 1946-89—Continued*

(Thousands of persons; monthly data seasonally adjusted)

Year or month	Service-producing industries						Government		
	Total	Transportation and public utilities	Wholesale trade	Retail trade	Finance, insurance, and real estate	Services	Total	Federal	State and local
1946.....	24,404	4,061	2,291	6,084	1,675	4,697	5,595	2,254	3,341
1947.....	25,348	4,166	2,471	6,485	1,728	5,025	5,474	1,892	3,582
1948.....	26,092	4,189	2,605	6,667	1,800	5,181	5,650	1,863	3,787
1949.....	26,189	4,001	2,602	6,662	1,828	5,240	5,856	1,908	3,948
1950.....	26,691	4,034	2,635	6,751	1,888	5,357	6,026	1,928	4,098
1951.....	27,960	4,226	2,727	7,015	1,956	5,547	6,389	2,302	4,087
1952.....	28,595	4,248	2,812	7,192	2,035	5,699	6,609	2,420	4,188
1953.....	29,128	4,290	2,854	7,393	2,111	5,835	6,645	2,305	4,340
1954.....	29,239	4,084	2,867	7,368	2,200	5,969	6,751	2,188	4,563
1955.....	30,128	4,141	2,926	7,610	2,298	6,240	6,914	2,187	4,727
1956.....	31,266	4,244	3,018	7,840	2,389	6,497	7,278	2,209	5,069
1957.....	31,889	4,241	3,028	7,858	2,438	6,708	7,616	2,217	5,399
1958.....	31,811	3,976	2,980	7,770	2,481	6,765	7,839	2,191	5,648
1959.....	32,857	4,011	3,082	8,045	2,549	7,087	8,083	2,233	5,850
1960.....	33,755	4,004	3,143	8,248	2,629	7,378	8,353	2,270	6,083
1961.....	34,142	3,903	3,133	8,204	2,688	7,620	8,594	2,279	6,315
1962.....	35,098	3,906	3,198	8,368	2,754	7,982	8,890	2,340	6,550
1963.....	36,013	3,903	3,248	8,530	2,830	8,277	9,225	2,358	6,868
1964.....	37,278	3,951	3,337	8,823	2,911	8,660	9,596	2,348	7,248
1965.....	38,839	4,036	3,466	9,250	2,977	9,036	10,074	2,378	7,696
1966.....	40,743	4,158	3,597	9,648	3,058	9,498	10,784	2,564	8,220
1967.....	42,495	4,268	3,689	9,917	3,185	10,045	11,391	2,719	8,672
1968.....	44,160	4,318	3,779	10,320	3,337	10,567	11,839	2,737	9,102
1969.....	46,203	4,442	3,907	10,798	3,512	11,169	12,195	2,758	9,437
1970.....	47,302	4,515	3,993	11,047	3,645	11,548	12,554	2,731	9,823
1971.....	48,278	4,476	4,001	11,351	3,772	11,797	12,881	2,696	10,185
1972.....	50,007	4,541	4,113	11,836	3,908	12,276	13,334	2,684	10,649
1973.....	51,897	4,656	4,277	12,329	4,046	12,857	13,732	2,663	11,068
1974.....	53,471	4,725	4,433	12,554	4,148	13,441	14,170	2,724	11,446
1975.....	54,345	4,542	4,415	12,645	4,165	13,892	14,686	2,748	11,937
1976.....	56,030	4,582	4,546	13,209	4,271	14,551	14,871	2,733	12,138
1977.....	58,125	4,713	4,708	13,808	4,467	15,303	15,127	2,727	12,399
1978.....	61,113	4,923	4,969	14,573	4,724	16,252	15,672	2,753	12,919
1979.....	63,363	5,136	5,204	14,989	4,975	17,112	15,947	2,773	13,174
1980.....	64,748	5,146	5,275	15,035	5,160	17,890	16,241	2,866	13,375
1981.....	65,659	5,165	5,358	15,189	5,298	18,619	16,031	2,772	13,259
1982.....	65,753	5,082	5,278	15,179	5,341	19,036	15,837	2,739	13,098
1983.....	66,866	4,954	5,268	15,613	5,468	19,694	15,869	2,774	13,096
1984.....	69,769	5,159	5,555	16,545	5,689	20,797	16,024	2,807	13,216
1985.....	72,660	5,238	5,717	17,356	5,955	22,000	16,394	2,875	13,519
1986.....	74,967	5,255	5,753	17,930	6,283	23,053	16,693	2,899	13,794
1987.....	77,492	5,372	5,844	18,483	6,547	24,236	17,010	2,943	14,067
1988.....	80,335	5,548	6,029	19,110	6,676	25,600	17,372	2,971	14,402
1989 P.....	82,938	5,703	6,234	19,573	6,814	26,889	17,726	2,988	14,739
1988: Jan.....	79,035	5,468	5,938	18,865	6,632	24,926	17,206	2,971	14,235
Feb.....	79,381	5,481	5,949	18,992	6,631	25,099	17,229	2,968	14,261
Mar.....	79,584	5,494	5,968	18,972	6,642	25,211	17,297	2,969	14,328
Apr.....	79,740	5,506	5,985	18,994	6,647	25,306	17,302	2,964	14,338
May.....	79,912	5,522	6,001	19,036	6,654	25,364	17,335	2,962	14,373
June.....	80,296	5,542	6,027	19,096	6,672	25,597	17,362	2,956	14,406
July.....	80,445	5,557	6,038	19,139	6,678	25,683	17,350	2,958	14,392
Aug.....	80,651	5,572	6,051	19,182	6,686	25,784	17,376	2,967	14,409
Sept.....	80,894	5,581	6,071	19,188	6,695	25,888	17,471	2,985	14,486
Oct.....	81,091	5,596	6,086	19,229	6,710	25,986	17,484	2,986	14,498
Nov.....	81,364	5,616	6,104	19,282	6,726	26,111	17,525	2,983	14,542
Dec.....	81,584	5,634	6,125	19,328	6,744	26,230	17,523	2,981	14,542
1989: Jan.....	81,816	5,654	6,146	19,407	6,746	26,318	17,545	2,978	14,567
Feb.....	82,082	5,667	6,171	19,460	6,763	26,434	17,587	2,982	14,605
Mar.....	82,242	5,666	6,197	19,488	6,774	26,520	17,597	2,982	14,615
Apr.....	82,430	5,682	6,206	19,489	6,776	26,651	17,626	2,982	14,644
May.....	82,638	5,700	6,222	19,528	6,790	26,711	17,687	2,999	14,688
June.....	82,959	5,716	6,230	19,551	6,808	26,931	17,723	2,995	14,728
July.....	83,098	5,736	6,237	19,586	6,815	26,973	17,751	3,000	14,751
Aug.....	83,193	5,618	6,256	19,621	6,836	27,058	17,804	2,999	14,805
Sept.....	83,482	5,709	6,264	19,632	6,852	27,159	17,866	2,996	14,870
Oct.....	83,568	5,729	6,278	19,679	6,851	27,188	17,843	2,984	14,859
Nov P.....	83,786	5,745	6,297	19,725	6,872	27,321	17,826	2,978	14,848
Dec P.....	83,992	5,818	6,311	19,713	6,885	27,405	17,860	2,976	14,884

Note.—Data in Tables C-43 and C-44 are based on reports from employing establishments and relate to full- and part-time wage and salary workers in nonagricultural establishments who received pay for any part of the pay period which includes the 12th of the month. Not comparable with labor force data (Tables C-32 through C-41) which include proprietors, self-employed persons, domestic servants, and unpaid family workers; which count persons as employed when they are not at work because of industrial disputes, bad weather, etc., even if they are not paid for the time off; and which are based on a sample of the working-age population. For description and details of the various establishment data, see "Employment and Earnings."

Source: Department of Labor, Bureau of Labor Statistics.

TABLE C-44.—Average weekly hours and hourly and weekly earnings in private nonagricultural industries, 1947-89

[For production or nonsupervisory workers; monthly data seasonally adjusted, except as noted]

Year or month	Average weekly hours		Average hourly earnings			Average weekly earnings					Percent change from a year earlier, total private <sup>3</sup>		
	Total private <sup>1</sup>	Manufacturing	Total private <sup>1</sup>		Manufacturing	Total private <sup>1</sup>		Manufacturing (current dollars)	Construction (current dollars)	Retail trade (current dollars)	Percent change from a year earlier, total private <sup>3</sup>		
			Current dollars	1977 dollars <sup>2</sup>		Current dollars	1977 dollars <sup>2</sup>				Current dollars	1977 dollars <sup>2</sup>	
		Total	Over-time								Current dollars	1977 dollars <sup>2</sup>	
1947.....	40.3	40.4		\$1.131	\$3.065	\$1.216	\$45.58	\$123.52	\$49.13	\$58.83	\$33.77		
1948.....	40.0	40.0		1.225	3.086	1.327	49.00	123.43	53.08	65.23	36.22	7.5	-0.1
1949.....	39.4	39.1		1.275	3.244	1.376	50.24	127.84	53.80	67.56	38.42	2.5	3.6
1950.....	39.8	40.5		1.335	3.363	1.439	53.13	133.83	58.28	69.68	39.71	5.8	4.7
1951.....	39.9	40.6		1.45	3.38	1.56	57.86	134.87	63.34	76.96	42.82	8.9	.8
1952.....	39.9	40.7		1.52	3.47	1.64	60.65	138.47	66.75	82.86	43.38	4.8	2.7
1953.....	39.6	40.5		1.61	3.65	1.74	63.76	144.58	70.47	86.41	45.36	5.1	4.4
1954.....	39.1	39.6		1.65	3.72	1.78	64.52	145.32	70.49	88.54	47.04	1.2	.5
1955.....	39.6	40.7		1.71	3.87	1.85	67.72	153.21	75.30	90.90	48.75	5.0	5.4
1956.....	39.3	40.4	2.8	1.80	4.02	1.95	70.74	157.90	78.78	96.38	50.18	4.5	3.1
1957.....	38.8	39.8	2.3	1.89	4.07	2.04	73.33	158.04	81.19	100.27	52.20	3.7	.1
1958.....	38.5	39.2	2.0	1.95	4.36	2.10	75.08	157.40	82.32	103.78	54.10	2.4	-4
1959.....	39.0	40.3	2.7	2.02	4.20	2.19	78.78	163.78	88.26	108.41	56.15	4.9	4.1
1960.....	38.6	39.7	2.5	2.09	4.27	2.26	80.67	164.97	89.72	112.67	57.76	2.4	.7
1961.....	38.6	39.8	2.4	2.14	4.33	2.32	82.60	167.21	92.34	118.08	58.66	2.4	1.4
1962.....	38.7	40.4	2.8	2.22	4.45	2.39	85.91	172.16	96.56	122.47	60.96	4.0	3.0
1963.....	38.8	40.5	2.8	2.28	4.51	2.45	88.46	175.17	99.23	127.19	62.66	3.0	1.7
1964.....	38.7	40.7	3.1	2.36	4.61	2.53	91.33	178.38	102.97	132.06	64.75	3.2	1.8
1965.....	38.8	41.2	3.6	2.46	4.72	2.61	95.45	183.21	107.53	138.38	66.61	4.5	2.7
1966.....	38.6	41.4	3.9	2.56	4.78	2.71	98.82	184.37	112.19	146.26	68.57	3.5	.6
1967.....	38.0	40.6	3.4	2.68	4.86	2.82	101.84	184.83	114.49	154.95	70.95	3.1	.2
1968.....	37.8	40.7	3.6	2.85	4.97	3.01	107.73	187.68	122.51	164.49	74.95	1.8	1.5
1969.....	37.7	40.6	3.6	3.04	5.02	3.19	114.61	189.44	129.51	181.54	78.66	6.4	.9
1970.....	37.1	39.8	3.0	3.23	5.04	3.35	119.83	186.94	133.33	195.45	82.47	4.6	-1.3
1971.....	36.9	39.9	2.9	3.45	5.16	3.57	127.31	190.58	142.44	211.67	87.62	6.2	1.9
1972.....	37.0	40.5	3.5	3.70	5.36	3.82	136.90	198.41	154.71	221.19	91.85	7.5	4.1
1973.....	36.9	40.7	3.8	3.94	5.38	4.09	145.39	198.35	166.46	235.89	96.32	6.2	.0
1974.....	36.5	40.0	3.3	4.24	5.21	4.42	154.76	190.12	176.80	249.25	102.68	6.4	-4.1
1975.....	36.1	39.5	2.6	4.53	5.10	4.83	163.53	184.16	190.79	266.08	108.86	5.7	-3.1
1976.....	36.1	40.1	3.1	4.86	5.18	5.22	175.45	186.85	209.32	283.73	114.60	7.3	1.5
1977.....	36.0	40.3	3.5	5.25	5.25	5.68	189.00	189.00	228.90	295.65	121.66	7.7	1.2
1978.....	35.8	40.4	3.6	5.69	5.29	6.17	203.70	189.31	249.27	318.69	130.20	7.8	.2
1979.....	35.7	40.2	3.3	6.16	5.14	6.70	219.91	183.41	269.34	342.99	138.62	8.0	-3.1
1980.....	35.3	39.7	2.8	6.66	4.89	7.27	235.10	172.74	288.62	367.78	147.38	6.9	-5.8
1981.....	35.2	39.8	2.8	7.25	4.83	7.99	255.20	170.13	318.00	399.26	158.03	8.5	-1.5
1982.....	34.8	38.9	2.3	7.68	4.83	8.49	267.26	168.09	330.26	426.82	163.85	4.7	-1.2
1983.....	35.0	40.1	3.0	8.02	4.89	8.83	280.70	171.26	354.08	442.97	171.05	5.0	1.9
1984.....	35.2	40.7	3.4	8.32	4.91	9.19	292.86	172.78	374.03	458.51	174.33	4.3	.9
1985.....	34.9	40.5	3.3	8.57	4.88	9.54	299.09	170.42	386.37	464.46	174.64	2.1	-1.4
1986.....	34.8	40.7	3.4	8.76	4.92	9.73	304.85	171.07	396.01	466.75	176.08	1.9	.9
1987.....	34.8	41.0	3.7	8.98	4.86	9.91	312.50	169.28	406.31	480.44	178.70	2.5	-1.0
1988.....	34.7	41.1	3.9	9.29	4.84	10.18	322.36	167.81	418.40	493.08	183.62	3.2	-9
1989 P.....	34.7	41.0	3.8	9.66	4.80	10.47	335.20	166.52	429.27	506.72	189.01	4.0	-8
1988: Jan.....	34.7	41.1	3.9	9.14	4.85	10.03	317.16	168.43	412.23	481.74	180.09	3.1	-9
Feb.....	34.8	41.0	3.7	9.13	4.84	10.04	317.72	168.28	411.64	483.54	180.42	2.8	-1.0
Mar.....	34.6	41.0	3.8	9.17	4.84	10.06	317.28	167.43	412.46	489.29	180.67	2.4	-1.3
Apr.....	34.8	41.2	3.9	9.23	4.85	10.12	321.20	168.87	416.94	491.18	182.17	4.1	.3
May.....	34.7	41.1	3.9	9.26	4.85	10.14	321.32	168.23	416.75	487.84	182.12	3.1	-7
June.....	34.7	41.1	3.9	9.27	4.84	10.18	321.67	167.89	418.40	494.16	183.33	3.3	-5
July.....	34.8	41.1	3.9	9.31	4.84	10.18	323.99	168.39	418.40	493.29	185.18	4.1	.1
Aug.....	34.6	41.0	3.9	9.32	4.82	10.21	322.47	166.82	418.61	492.53	185.57	2.8	-1.2
Sept.....	34.7	41.1	3.9	9.37	4.83	10.25	325.14	167.68	421.28	494.05	185.08	4.2	-0
Oct.....	34.8	41.2	4.0	9.43	4.80	10.29	328.16	168.55	423.95	499.66	186.30	4.1	-1
Nov.....	34.7	41.2	3.9	9.42	4.82	10.30	326.87	167.28	424.36	503.04	185.60	3.3	-9
Dec.....	34.7	41.0	3.9	9.45	4.82	10.31	327.92	167.39	422.71	497.07	187.11	3.9	-5
1989: Jan.....	34.8	41.1	3.9	9.49	4.81	10.33	330.25	167.55	424.56	496.89	187.40	4.2	-3
Feb.....	34.6	41.1	3.9	9.52	4.81	10.37	329.39	166.44	426.21	498.39	186.41	3.5	-1.2
Mar.....	34.7	41.0	4.0	9.54	4.80	10.40	331.04	166.44	426.40	501.23	186.98	4.1	-8
Apr.....	34.9	41.3	3.9	9.61	4.80	10.40	335.39	167.53	429.52	505.21	189.44	4.5	-7
May.....	34.6	41.0	3.8	9.60	4.77	10.42	332.16	165.01	422.22	494.17	187.56	3.3	-2.0
June.....	34.6	41.0	3.8	9.62	4.77	10.45	332.85	165.10	428.45	498.17	188.43	3.5	-1.6
July.....	34.8	41.0	3.9	9.69	4.79	10.48	337.21	166.85	429.68	511.30	190.97	4.2	-9
Aug.....	34.6	41.0	3.8	9.69	4.79	10.52	335.27	165.89	431.32	510.73	189.22	3.7	-9
Sept.....	34.7	41.0	3.8	9.74	4.81	10.55	337.98	166.90	432.55	510.16	189.50	3.6	-7
Oct.....	34.7	40.8	3.7	9.78	4.81	10.57	339.37	166.85	430.44	514.75	191.69	3.5	-9
Nov P.....	34.6	40.7	3.7	9.78	4.79	10.57	338.39	165.80	430.20	520.91	190.08	3.1	-1.4
Dec P.....	34.5	40.7	3.7	9.84	4.80	10.61	339.48	165.76	431.83	512.86	189.24	3.2	-1.3

<sup>1</sup> Also includes other private industry groups shown in Table C-43.

<sup>2</sup> Current dollars divided by the consumer price index for urban wage earners and clerical workers on a 1977=100 base.

<sup>3</sup> Monthly percent changes are based on data not seasonally adjusted.

Note.—See Note, Table C-43.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE C-45.—Employment cost index, private industry, 1975-89

[Not seasonally adjusted]

Year and month	Total private			Goods-producing			Service-producing			Manufacturing			Nonmanufacturing		
	Total compensation	Wages and salaries	Benefits <sup>1</sup>	Total compensation	Wages and salaries	Benefits <sup>1</sup>	Total compensation	Wages and salaries	Benefits <sup>1</sup>	Total compensation	Wages and salaries	Benefits <sup>1</sup>	Total compensation	Wages and salaries	Benefits <sup>1</sup>
Index, June 1981 = 100															
December:															
1975	65.2	65.2		64.5	64.5		65.7	65.7		64.2	64.2		65.7	65.7	
1976	69.9	69.9		69.3	69.3		70.3	70.3		69.0	69.0		70.4	70.4	
1977	74.8	74.8		74.6	74.6		74.9	74.9		74.4	74.4		74.9	74.9	
1978	80.5	80.5		80.8	80.8		80.3	80.3		80.6	80.6		80.5	80.5	
1979	86.3	87.5	83.2	86.2	87.5	83.3	86.3	87.5	83.1	86.3	87.5	83.5	86.3	87.5	82.9
1980	94.7	95.4	93.0	94.7	95.7	92.4	94.7	95.2	93.5	94.7	95.7	92.4	94.7	95.2	93.4
1981	104.0	103.8	104.3	104.1	104.0	104.2	103.9	103.7	104.3	104.0	104.0	104.1	103.9	103.8	104.4
1982	110.7	110.3	111.7	110.5	109.9	111.8	110.8	110.6	111.5	110.4	109.8	111.7	110.8	110.5	111.6
1983	117.0	115.8	120.0	115.9	114.3	119.6	117.9	117.0	120.4	116.0	114.5	119.5	117.5	116.5	120.4
1984	122.7	120.6	127.9	121.2	118.7	127.0	123.9	122.1	128.8	122.0	119.5	127.5	123.1	121.2	128.2
1985	127.5	125.6	132.4	125.3	122.9	130.8	129.4	127.8	133.9	126.0	123.8	131.0	128.4	126.6	133.3
1986	131.6	129.5	136.9	129.2	126.8	134.9	133.5	131.6	138.9	130.1	127.9	134.9	132.4	130.4	138.3
1987	136.0	133.8	141.7	133.2	130.8	138.8	138.4	136.2	144.4	134.1	132.2	138.4	137.1	134.8	143.8
1988	142.6	139.3	151.3	139.0	134.9	148.6	145.5	142.6	153.9	140.1	136.2	149.0	143.9	140.8	152.9
1989	149.4	145.1	160.6	145.0	140.1	156.7	152.9	149.0	164.2	146.4	141.5	157.8	151.0	147.0	162.4
1987: Mar	132.9	130.8	138.1	129.9	127.5	135.4	135.3	133.4	140.6	130.7	128.7	135.0	134.1	131.9	140.1
June	133.8	131.7	139.3	130.8	128.3	136.5	136.3	134.3	141.9	131.5	129.5	136.0	135.1	132.8	141.4
Sept	135.1	133.0	140.3	131.9	129.6	137.4	137.7	135.7	143.1	132.7	130.8	136.9	136.4	134.2	142.6
Dec	136.0	133.8	141.7	133.2	130.8	138.8	138.4	136.2	144.4	134.1	132.2	138.4	137.1	134.8	143.8
1988: Mar	138.1	135.1	146.1	135.6	132.0	144.1	140.2	137.5	148.1	136.8	133.3	144.5	138.9	136.0	147.2
June	139.8	136.6	148.2	137.1	133.2	146.1	142.1	139.3	150.1	138.1	134.4	146.4	140.8	137.8	149.3
Sept	141.2	137.9	149.7	137.9	133.9	147.3	143.8	141.0	151.9	139.0	135.1	147.8	142.4	139.4	150.9
Dec	142.6	139.3	151.3	139.0	134.9	148.6	145.5	142.6	153.9	140.1	136.2	149.0	143.9	140.8	152.9
1989: Mar	144.4	140.8	154.0	140.4	136.1	150.7	147.7	144.5	157.2	141.9	137.4	152.3	145.9	142.6	155.2
June	146.1	142.2	156.5	142.0	137.4	152.7	149.5	145.8	160.1	143.5	138.8	154.2	147.6	143.9	158.0
Sept	147.9	143.9	158.7	143.6	138.8	155.0	151.5	147.8	162.3	145.1	140.0	156.6	149.5	145.9	160.2
Dec	149.4	145.1	160.6	145.0	140.1	156.7	152.9	149.0	164.2	146.4	141.5	157.8	151.0	147.0	162.4
Percent change from 12 months earlier															
December:															
1976		7.2			7.5			7.0			7.5			7.1	
1977		7.0			7.6			6.5			7.8			6.5	
1978		7.7			8.3			7.3			8.3			7.4	
1979		8.7			8.3			9.0			8.6			8.8	
1980	9.8	9.0	11.8	9.8	9.3	10.9	9.7	8.7	12.5	9.8	9.4	10.7	9.8	8.8	12.7
1981	9.8	8.8	12.2	10.0	8.7	12.8	9.7	9.0	11.6	9.8	8.7	12.7	9.7	9.0	11.8
1982	6.4	6.3	7.1	6.1	5.7	7.3	6.6	6.7	6.9	6.2	5.6	7.3	6.6	6.5	6.9
1983	5.7	5.0	7.4	4.9	4.0	7.0	6.4	5.8	8.0	5.1	4.3	7.0	6.0	5.4	7.9
1984	4.9	4.1	6.6	4.6	3.8	6.2	5.1	4.4	7.0	5.2	4.4	6.7	4.8	4.0	6.5
1985	3.9	4.1	3.5	3.4	3.5	3.0	4.4	4.7	4.0	3.3	3.6	2.7	4.3	4.5	4.0
1986	3.2	3.1	3.4	3.1	3.2	3.1	3.2	3.0	3.7	3.3	3.3	3.0	3.1	3.0	3.8
1987	3.3	3.3	3.5	3.1	3.2	2.9	3.7	3.5	4.0	3.1	3.4	2.6	3.5	3.4	4.0
1988	4.9	4.1	6.8	4.4	3.1	7.1	5.1	4.7	6.6	4.5	3.0	7.7	5.0	4.5	6.3
1989	4.8	4.2	6.1	4.3	3.9	5.5	5.1	4.5	6.7	4.5	3.9	5.9	4.9	4.4	6.2
1987: Mar	3.1	3.2	2.9	2.5	2.7	2.1	3.4	3.4	3.5	2.3	2.7	1.5	3.4	3.3	3.7
June	3.0	3.0	3.3	2.3	2.3	2.3	3.6	3.4	4.1	2.2	2.4	1.9	3.4	3.2	4.1
Sept	3.3	3.3	3.1	2.6	2.8	2.4	3.8	3.7	3.8	2.6	2.8	2.0	3.6	3.5	3.9
Dec	3.3	3.3	3.5	3.1	3.2	2.9	3.7	3.5	4.0	3.1	3.4	2.6	3.5	3.4	4.0
1988: Mar	3.9	3.3	5.8	4.4	3.5	6.4	3.6	3.1	5.3	4.7	3.6	7.0	3.6	3.1	5.1
June	4.5	3.7	6.4	4.8	3.8	7.0	4.3	3.7	5.8	5.0	3.8	7.6	4.2	3.8	5.6
Sept	4.5	3.7	6.7	4.5	3.3	7.2	4.4	3.9	6.1	4.7	3.3	8.0	4.4	3.9	5.8
Dec	4.9	4.1	6.8	4.4	3.1	7.1	5.1	4.7	6.6	4.5	3.0	7.7	5.0	4.5	6.3
1989: Mar	4.6	4.2	5.4	3.5	3.1	4.6	5.3	5.1	6.1	3.7	3.1	5.4	5.0	4.9	5.4
June	4.5	4.1	5.6	3.6	3.2	4.5	5.2	4.7	6.7	3.9	3.3	5.3	4.8	4.4	5.8
Sept	4.7	4.4	6.0	4.1	3.7	5.2	5.4	4.8	6.8	4.4	3.6	6.0	5.0	4.7	6.2
Dec	4.8	4.2	6.1	4.3	3.9	5.5	5.1	4.5	6.7	4.5	3.9	5.9	4.9	4.4	6.2

<sup>1</sup> Employer costs for employee benefits.

Note.—The employment cost index is a measure of the change in the cost of labor, free from the influence of employment shifts among occupations and industries.

Data exclude farm and household workers.

Through December 1981, percent changes are based on unrounded data; thereafter changes are based on indexes as published.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE C-46.—Productivity and related data, business sector, 1947-89

[1977 = 100; quarterly data seasonally adjusted]

Year or quarter	Output per hour of all persons		Output <sup>1</sup>		Hours of all persons <sup>2</sup>		Compensation per hour <sup>3</sup>		Real compensation per hour <sup>4</sup>		Unit labor costs		Implicit price deflator <sup>5</sup>	
	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector
1947	43.8	50.3	36.2	35.2	82.7	70.0	16.2	17.7	44.0	48.0	37.0	35.1	35.5	34.0
1948	46.0	52.2	38.3	37.2	83.4	71.3	17.6	19.2	44.2	48.2	38.2	36.7	38.0	36.4
1949	46.4	53.0	37.4	36.4	80.6	68.5	17.9	19.7	47.7	45.5	38.5	37.2	37.8	36.9
1950	50.3	56.5	41.0	39.9	81.4	70.6	19.2	20.9	48.3	52.7	38.1	37.1	38.4	37.5
1951	52.4	58.2	43.9	43.0	83.7	73.8	21.1	22.8	49.2	53.1	40.2	39.1	40.8	39.6
1952	54.1	59.5	45.3	44.4	83.7	74.5	22.4	24.1	51.3	55.0	41.4	40.4	41.4	40.4
1953	56.1	60.8	47.4	46.4	84.4	76.3	24.0	25.4	54.4	57.7	42.7	41.8	41.7	41.1
1954	57.0	61.7	46.5	45.5	81.6	73.7	24.7	26.3	55.7	59.2	43.4	42.6	42.2	41.8
1955	58.7	63.5	49.7	48.7	84.7	76.7	25.4	27.2	57.3	61.5	43.2	42.8	43.2	43.1
1956	59.5	63.9	51.1	50.2	85.9	78.6	27.1	28.9	60.3	64.4	45.5	45.2	44.6	44.5
1957	61.1	65.1	51.7	50.9	84.6	78.1	28.8	30.6	62.2	65.9	47.2	46.9	46.2	46.1
1958	62.9	66.6	50.7	49.8	80.7	74.8	30.2	31.8	63.3	66.6	48.0	47.7	46.9	46.6
1959	65.0	68.8	54.4	53.7	83.7	78.0	31.5	33.1	65.6	68.9	48.4	48.1	47.8	47.8
1960	66.1	69.5	55.4	54.6	83.8	78.5	32.9	34.5	67.3	70.7	49.7	49.7	48.5	48.5
1961	68.4	71.7	56.5	55.7	82.5	77.6	34.1	35.7	69.2	72.3	49.9	49.8	48.8	48.8
1962	70.9	74.1	59.4	58.7	83.8	79.3	35.7	37.1	71.7	74.5	50.4	50.2	49.7	49.7
1963	73.8	76.7	62.1	61.5	84.2	80.1	37.1	38.5	73.5	76.2	50.3	50.1	50.2	50.2
1964	77.0	79.8	65.9	65.4	85.5	81.9	39.0	40.3	76.3	78.7	50.7	50.5	50.7	50.8
1965	79.4	81.8	70.0	69.5	88.2	85.0	40.6	41.6	78.0	80.1	51.1	50.9	51.9	51.9
1966	81.6	83.6	73.6	73.4	90.2	87.8	43.4	44.1	81.2	82.5	53.2	52.7	53.6	53.5
1967	84.1	85.8	75.6	75.3	89.9	87.8	45.9	46.7	83.3	84.7	54.6	54.4	54.9	55.0
1968	86.6	88.3	78.9	78.8	91.2	89.3	49.6	50.4	86.5	87.7	57.3	57.0	57.5	57.5
1969	86.8	88.0	81.1	80.9	93.4	91.9	53.2	53.8	87.9	88.8	61.3	61.1	60.4	60.4
1970	87.6	88.4	80.3	80.0	91.7	90.5	57.2	57.6	89.4	90.0	65.3	65.2	63.2	63.4
1971	90.4	91.0	82.5	82.2	91.3	90.3	60.9	61.3	91.1	91.8	67.4	67.4	66.4	66.6
1972	93.1	93.8	87.7	87.5	94.2	93.3	64.7	65.3	93.9	94.6	69.5	69.6	69.0	69.0
1973	95.2	95.8	92.9	92.9	97.6	97.0	70.3	70.7	96.0	96.4	73.8	73.8	73.4	72.3
1974	93.4	93.9	91.3	91.2	97.7	97.1	77.3	77.7	95.0	95.5	82.7	82.7	80.5	79.7
1975	95.4	95.7	89.4	89.1	93.7	93.1	84.9	85.3	95.6	96.1	89.0	89.1	88.7	88.3
1976	98.2	98.3	94.5	94.4	96.3	96.0	92.6	92.7	98.6	98.7	94.3	94.2	94.0	93.8
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.9	100.9	105.8	106.0	104.9	105.0	108.6	108.6	100.9	101.0	107.7	107.7	107.3	107.0
1979	99.7	99.4	107.9	107.9	108.2	108.6	119.3	119.0	99.5	99.3	119.6	119.8	117.0	116.5
1980	99.4	99.0	106.7	106.7	107.3	107.8	131.8	131.6	97.0	96.7	132.6	132.9	127.6	127.8
1981	101.0	100.0	108.9	108.5	107.9	108.5	144.1	144.0	96.1	96.0	142.7	144.0	139.8	140.3
1982	100.2	99.1	105.5	104.9	105.3	105.9	154.9	154.7	97.3	97.1	154.5	156.1	148.1	149.2
1983	102.6	102.0	109.9	110.1	107.2	108.0	160.8	160.8	97.8	97.8	156.7	157.6	153.3	154.3
1984	105.2	104.2	119.2	119.2	113.3	114.4	167.4	167.2	97.6	97.5	159.1	160.4	158.2	159.0
1985	107.3	105.6	124.2	123.9	115.7	117.4	174.8	174.0	98.4	98.0	162.8	164.9	162.2	163.8
1986	109.8	107.7	128.0	127.6	116.6	118.4	183.8	182.9	101.7	101.1	167.5	169.8	165.6	167.6
1987	111.1	108.9	133.4	133.1	120.1	122.2	191.0	189.8	101.9	101.2	171.9	174.2	170.0	172.0
1988	113.0	111.1	140.0	140.3	123.9	126.3	200.2	198.7	102.5	101.8	177.1	178.8	174.9	176.5
1982: IV	100.9	99.5	105.0	104.2	104.1	104.7	158.2	158.0	97.9	97.8	156.8	158.7	150.2	151.4
1983: IV	103.5	103.0	113.6	114.1	109.7	110.8	163.2	162.9	97.8	97.6	157.7	158.2	155.2	156.2
1984: IV	105.7	104.5	120.8	120.7	114.3	115.5	169.9	169.6	97.8	97.6	160.7	162.3	159.8	161.0
1985: IV	108.3	106.2	125.9	125.5	116.2	118.1	178.6	177.5	99.3	98.7	164.9	167.1	163.7	165.5
1986: IV	109.8	107.6	128.9	128.4	117.4	119.3	187.4	186.4	102.8	102.3	170.6	173.2	167.1	169.2
1987: I	110.0	107.7	130.4	130.0	118.6	120.7	188.3	187.1	101.9	101.3	171.2	173.6	168.2	170.3
1987: II	110.7	108.6	132.2	132.0	119.5	121.5	189.5	188.3	101.4	100.7	171.3	173.4	169.6	171.4
1987: III	111.7	109.5	134.4	134.1	120.3	122.4	191.8	190.5	101.7	101.0	171.6	173.9	170.7	172.6
1987: IV	112.5	110.2	136.7	136.4	121.5	123.7	195.1	193.8	102.5	101.8	173.5	175.8	171.3	173.4
1988: I	113.2	111.0	138.2	138.0	122.1	124.3	196.4	195.0	102.3	101.5	173.5	175.7	171.9	173.8
1988: II	112.6	110.5	139.3	139.5	123.8	126.2	199.1	197.5	102.5	101.7	176.9	178.7	174.1	176.6
1988: III	113.4	111.5	140.7	141.1	124.0	126.6	201.9	200.2	102.8	101.9	178.0	179.6	175.8	177.0
1988: IV	113.5	112.0	141.9	142.8	125.0	127.5	204.5	203.0	103.0	102.3	180.2	181.3	177.9	179.6
1989: I	113.8	111.6	143.6	143.6	126.2	128.6	206.9	205.5	102.8	102.1	181.9	184.1	179.4	180.8
1989: II	114.2	111.9	144.4	144.6	126.4	129.2	210.4	208.3	102.9	101.9	184.1	186.1	181.4	182.8
1989: III	114.7	112.6	145.6	145.9	127.0	129.6	212.8	211.0	103.5	102.7	185.5	187.4	182.4	184.1

<sup>1</sup> Output refers to gross domestic product originating in the sector in 1982 dollars.

<sup>2</sup> Hours at work of all persons engaged in the sector, including hours of proprietors and unpaid family workers. Estimates based primarily on establishment data.

<sup>3</sup> Wages and salaries of employees plus employers' contributions for social insurance and private benefit plans. Also includes an estimate of wages, salaries, and supplemental payments for the self-employed.

<sup>4</sup> Hourly compensation divided by the consumer price index for all urban consumers.

<sup>5</sup> Current dollar gross domestic product divided by constant dollar gross domestic product.

Note.—In 1989, hours of labor input were redefined as hours at the work site rather than hours paid and all historical data relating to labor input were revised.

Source: Department of Labor, Bureau of Labor Statistics.



TABLE C-47.—Changes in productivity and related data, business sector, 1948–89

(Percent change from preceding period; quarterly data at seasonally adjusted annual rates)

Year or quarter	Output per hour of all persons		Output <sup>1</sup>		Hours of all persons <sup>2</sup>		Compensation per hour <sup>3</sup>		Real compensation per hour <sup>4</sup>		Unit labor costs		Implicit price deflator <sup>5</sup>	
	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector
1948	5.1	3.8	5.9	5.6	0.8	1.8	8.5	8.5	0.4	0.4	3.3	4.6	7.2	7.2
1949	1.0	1.6	-2.3	-2.3	-3.3	-3.8	1.7	3.0	2.9	4.3	.7	1.3	-6	1.3
1950	8.5	6.5	9.5	9.7	1.0	3.0	7.4	6.1	6.1	4.8	-1.0	-3	1.5	1.8
1951	4.2	3.1	7.1	7.7	2.8	4.5	9.9	8.8	1.9	8	5.5	6.3	5.6	5.6
1952	3.2	2.2	3.2	3.2	0	1.0	6.3	5.6	4.3	3.6	3.0	3.3	1.3	2.0
1953	3.7	2.2	4.6	4.6	.8	2.4	6.8	5.8	6.0	5.0	3.0	3.5	7	1.8
1954	1.5	1.4	-1.8	-2.0	-3.3	-3.4	3.2	3.2	2.4	2.5	1.7	1.8	1.2	1.5
1955	3.1	3.0	6.9	7.1	3.7	4.0	2.5	3.6	2.9	4.0	-5	6	2.6	3.2
1956	1.4	6	1.1	1.3	1.5	2.5	6.7	6.1	5.1	4.6	5.3	5.5	3.2	3.3
1957	2.7	1.9	2.8	3.1	-1.5	-6	6.6	5.8	3.2	2.4	3.8	3.8	3.5	3.6
1958	2.7	2.3	-1.8	-2.0	-4.6	-4.2	4.6	4.0	1.7	1.1	1.6	1.7	1.6	1.2
1959	3.3	3.2	7.3	7.7	3.8	4.3	4.4	4.1	3.7	3.4	1.0	.9	2.0	2.5
1960	1.7	1.1	1.8	1.7	.1	.6	4.3	4.4	2.6	2.6	2.6	3.3	1.4	1.4
1961	3.5	3.1	1.9	2.0	-1.6	-1.1	3.9	3.3	2.8	2.2	.3	.1	.5	.6
1962	3.6	3.3	5.2	5.5	1.5	2.1	4.7	4.1	3.7	3.1	1.0	.8	1.9	2.0
1963	4.0	3.6	4.6	4.7	.5	1.1	3.8	3.5	2.4	2.2	-2	-1	.9	.9
1964	4.4	3.9	6.0	6.3	1.5	2.3	5.2	4.6	3.9	3.3	.8	.7	1.0	1.2
1965	3.0	2.6	6.3	6.4	3.1	3.7	3.9	3.4	2.2	1.7	.8	.8	2.3	2.0
1966	2.9	2.2	5.2	5.6	2.3	3.4	7.0	6.0	4.1	3.0	4.0	3.7	3.3	3.1
1967	3.0	2.6	2.7	2.5	-3	-0	5.7	5.8	2.5	2.7	2.7	3.2	2.5	2.9
1968	3.0	2.9	4.4	4.7	1.4	1.7	8.2	7.9	3.8	3.6	5.1	4.8	4.6	4.6
1969	.3	-3	2.7	2.7	2.4	3.0	7.2	6.8	1.7	1.3	6.9	7.1	5.1	5.0
1970	.9	.5	-9	-1.1	-1.8	-1.5	7.5	7.2	1.7	1.4	6.5	6.7	4.7	4.9
1971	3.2	2.9	2.7	2.7	-4	-2	6.4	6.4	1.9	1.9	3.1	3.4	4.9	5.0
1972	3.0	3.0	6.3	6.4	3.2	3.3	6.3	6.4	3.0	3.1	3.2	3.3	4.0	3.6
1973	2.3	2.1	6.0	6.2	3.6	4.0	8.6	8.2	2.3	1.9	6.2	6.0	6.4	4.8
1974	-1.9	-1.9	-1.8	-1.8	.1	.1	9.9	9.9	-1.1	-1.0	12.0	12.1	9.6	10.2
1975	2.1	1.9	-2.1	-2.3	-4.1	-4.1	9.9	9.8	.7	.6	7.7	7.8	10.3	10.8
1976	3.0	2.8	5.8	6.0	2.7	3.2	9.1	8.6	3.1	2.7	5.9	5.7	5.9	6.3
1977	1.8	1.7	5.8	5.9	3.9	4.1	8.0	7.9	1.4	1.3	6.0	6.1	6.4	6.6
1978	.9	.9	5.8	6.0	4.9	5.0	8.6	8.6	.9	1.0	7.7	7.7	7.3	7.0
1979	-1.1	-1.5	2.0	1.9	3.1	3.4	9.8	9.5	-1.4	-1.6	11.1	11.2	9.0	8.9
1980	-3	-4	-1.1	-1.2	-8	-7	10.5	10.5	-2.6	-2.6	10.9	11.0	9.0	9.7
1981	1.5	1.1	2.1	1.7	.6	.6	9.3	9.5	-9	-7	7.7	8.3	9.6	9.7
1982	-7	-9	-3.1	-3.3	-2.4	-2.4	7.5	7.4	1.2	1.1	8.3	8.4	5.9	6.3
1983	2.4	3.0	4.2	5.0	1.8	2.0	3.8	4.0	.6	.7	1.4	1.0	3.3	3.5
1984	2.6	2.1	8.4	8.3	5.7	6.0	4.1	3.9	-2	-4	1.5	1.8	3.3	3.0
1985	2.0	1.3	4.2	3.9	2.2	2.6	4.4	4.1	.8	.5	2.3	2.8	2.5	3.0
1986	2.3	2.0	3.1	3.0	.8	.9	5.2	5.1	3.3	3.2	2.8	3.0	2.1	2.3
1987	1.2	1.1	4.2	4.4	3.0	3.2	3.9	3.7	.2	.1	2.6	2.6	2.6	2.6
1988	1.7	2.0	4.9	5.4	3.2	3.4	4.8	4.7	.6	.5	3.0	2.7	2.9	2.7
1982: IV	2.6	2.0	-5	-1.2	-3.0	-3.1	4.1	4.6	2.8	3.3	1.5	2.6	2.4	3.0
1983: IV	3.3	1.6	10.4	9.8	6.8	8.1	5.7	4.4	1.6	.3	2.3	2.8	4.8	3.1
1984: IV	1.5	.9	3.5	3.1	2.0	2.2	3.5	3.5	.0	.0	2.0	2.6	2.7	3.3
1985: IV	1.5	.8	3.6	3.5	2.1	2.7	6.3	5.8	2.1	1.6	4.8	5.0	2.6	2.1
1986: IV	.8	.4	4.0	3.7	3.2	3.3	5.1	5.1	2.2	2.2	4.2	4.7	1.0	1.0
1987: I	.5	.4	4.7	5.2	4.2	4.8	1.9	1.5	-3.3	-3.8	1.4	1.1	2.5	2.8
II	2.6	3.2	5.6	6.1	2.9	2.8	2.7	2.6	-2.0	-2.1	.1	-.6	3.4	2.5
III	3.8	3.5	6.7	6.6	2.8	3.0	4.8	4.7	1.0	1.0	.9	1.2	2.6	3.0
IV	2.8	2.5	7.1	7.0	4.2	4.3	7.2	7.1	3.4	3.4	4.3	4.5	1.4	1.7
1988: I	2.5	2.8	4.4	4.8	1.9	2.0	2.6	2.5	-1.0	-1.1	.1	-.3	1.5	1.0
II	-2.1	-1.6	3.3	4.4	5.5	6.1	5.7	5.4	1.1	.8	8.0	7.1	5.1	4.3
III	3.1	3.3	4.0	4.6	.9	1.2	5.8	5.4	1.0	.7	2.6	2.0	4.1	3.2
IV	.2	1.9	3.4	4.8	3.2	2.8	5.2	5.9	.7	1.4	5.0	3.8	4.8	5.9
1989: I	1.1	-1.3	4.8	2.4	3.7	3.7	4.8	4.9	-6	-.5	3.7	6.2	3.3	2.8
II	1.6	1.1	2.3	2.8	.6	1.7	6.8	5.6	.4	-.7	5.1	4.5	4.6	4.4
III	1.7	2.5	3.6	3.7	1.9	1.3	4.7	5.3	2.3	2.8	3.0	2.8	2.4	2.9

<sup>1</sup> Output refers to gross domestic product originating in the sector in 1982 dollars.

<sup>2</sup> Hours at work of all persons engaged in the sector, including hours of proprietors and unpaid family workers. Estimates based primarily on establishment data.

<sup>3</sup> Wages and salaries of employees plus employers' contributions for social insurance and private benefit plans. Also includes an estimate of wages, salaries, and supplemental payments for the self-employed.

<sup>4</sup> Hourly compensation divided by the consumer price index for all urban consumers.

<sup>5</sup> Current dollar gross domestic product divided by constant dollar gross domestic product.

Note.—Percent changes are based on original data and therefore may differ slightly from percent changes based on indexes in Table C-46.

See Note, Table C-46.

Source: Department of Labor, Bureau of Labor Statistics.

## PRODUCTION AND BUSINESS ACTIVITY

**TABLE C-48.—Industrial production indexes, major industry divisions, 1939–89**

[1977=100; monthly data seasonally adjusted]

Year or month	Total industrial production	Manufacturing			Mining	Utilities
		Total	Durable	Non-durable		
1977 proportion .....	100.00	84.21	49.10	35.11	9.83	5.96
1939 .....	16.0	15.8	13.6	17.9	37.6	6.9
1940 .....	18.4	18.6	18.1	18.8	41.8	7.6
1941 .....	23.3	23.8	24.2	22.7	44.4	8.6
1942 .....	26.7	27.7	30.7	23.7	45.7	9.7
1943 .....	32.4	34.5	41.8	25.4	46.8	10.7
1944 .....	34.9	37.3	46.1	26.4	50.2	11.4
1945 .....	29.9	31.2	34.9	26.3	49.2	11.6
1946 .....	25.8	25.9	24.4	27.1	48.3	12.0
1947 .....	29.0	28.9	29.0	28.2	54.6	13.0
1948 .....	30.2	30.0	30.3	29.2	57.4	14.5
1949 .....	28.6	28.3	27.5	28.7	50.9	15.5
1950 .....	33.1	33.0	33.5	31.9	56.9	17.6
1951 .....	35.9	35.6	37.7	33.0	62.4	20.1
1952 .....	37.2	37.1	40.0	33.6	61.9	21.8
1953 .....	40.4	40.4	45.2	35.0	63.5	23.6
1954 .....	38.2	37.8	39.9	35.2	62.3	25.4
1955 .....	43.0	42.6	45.6	39.1	69.5	28.4
1956 .....	44.9	44.4	47.1	41.1	73.1	31.2
1957 .....	45.5	44.9	47.4	41.8	73.2	33.3
1958 .....	42.6	41.7	41.5	42.1	67.1	34.9
1959 .....	47.7	47.0	47.7	46.3	70.2	38.4
1960 .....	48.8	48.0	48.5	47.4	71.6	41.1
1961 .....	49.1	48.1	47.6	48.8	72.1	43.4
1962 .....	53.2	52.4	52.8	51.8	74.1	46.6
1963 .....	56.3	55.5	56.3	54.6	77.1	49.8
1964 .....	60.1	59.3	60.3	58.2	80.2	54.1
1965 .....	66.1	65.7	68.6	62.1	83.1	57.4
1966 .....	72.0	71.7	76.2	66.0	87.6	61.8
1967 .....	73.5	73.1	77.0	68.1	89.3	64.9
1968 .....	77.6	77.2	80.8	72.5	92.7	70.2
1969 .....	81.2	80.6	84.0	76.3	96.4	76.4
1970 .....	78.5	77.0	77.6	76.3	98.9	81.1
1971 .....	79.6	78.2	77.3	79.4	96.4	85.0
1972 .....	87.3	86.4	86.3	86.5	98.4	90.4
1973 .....	94.4	94.0	96.3	90.8	99.3	94.0
1974 .....	93.0	92.6	94.3	90.2	98.8	92.8
1975 .....	84.8	83.4	82.6	84.5	96.6	93.7
1976 .....	92.6	91.9	91.1	93.1	97.4	97.4
1977 .....	100.0	100.0	100.0	100.0	100.0	100.0
1978 .....	106.5	107.1	108.2	105.5	103.6	103.1
1979 .....	110.7	111.5	113.9	108.2	106.4	105.9
1980 .....	108.6	108.2	109.1	107.0	112.4	107.3
1981 .....	111.0	110.5	111.1	109.7	117.5	107.1
1982 .....	103.1	102.2	99.9	105.5	109.3	104.8
1983 .....	109.2	110.2	107.7	113.7	102.9	105.2
1984 .....	121.4	123.4	124.2	122.3	111.1	110.7
1985 .....	123.7	126.4	127.6	124.6	108.9	111.1
1986 .....	125.1	129.1	128.4	130.1	100.4	108.5
1987 .....	129.8	134.7	133.1	136.8	100.7	110.3
1988 .....	137.2	142.7	141.9	143.9	103.4	114.3
1989 p.....	141.8	148.2	146.6	150.5	102.6	115.9
1988: Jan .....	134.4	139.4	137.9	141.4	103.3	115.2
Feb .....	134.4	139.5	138.4	141.1	101.5	115.6
Mar .....	134.7	140.0	138.8	141.7	102.7	113.3
Apr .....	135.4	140.8	139.7	142.3	104.7	111.0
May .....	136.1	141.8	141.5	142.1	102.6	111.6
June .....	136.5	142.1	141.7	142.6	103.0	113.2
July .....	138.0	143.6	142.9	144.6	104.3	114.4
Aug .....	138.5	144.0	143.2	145.1	103.8	117.8
Sept .....	138.6	144.4	143.8	145.3	103.7	113.0
Oct .....	139.4	145.3	144.6	146.3	103.1	113.9
Nov .....	139.9	145.8	145.2	146.7	104.7	113.7
Dec .....	140.4	146.3	145.7	147.1	104.9	115.4
1989: Jan .....	140.8	147.2	146.2	148.5	103.0	114.0
Feb .....	140.5	146.8	145.9	148.1	100.9	116.5
Mar .....	140.7	147.0	145.8	148.6	101.5	117.5
Apr .....	141.7	148.0	146.9	149.6	102.4	117.1
May .....	141.6	148.1	147.1	149.5	102.0	115.6
June .....	142.0	148.7	147.4	150.5	101.5	114.3
July .....	141.9	148.5	146.8	150.8	102.1	114.0
Aug .....	142.5	149.2	147.8	151.1	102.4	113.3
Sept .....	142.3	148.8	147.2	151.1	103.5	114.5
Oct .....	141.8	148.0	145.0	152.2	104.2	115.9
Nov p.....	142.3	148.6	145.7	152.7	104.4	115.5
Dec p.....	142.8	148.8	146.2	152.6	103.2	122.7

Source: Board of Governors of the Federal Reserve System.

TABLE C-49.—Industrial production indexes, market groupings, 1947-89

[1977 = 100; monthly data seasonally adjusted]

Year or month	Total industrial production	Final products							Intermediate products	Materials		
		Total	Consumer goods			Equipment				Total <sup>3</sup>	Durable goods	Non-durable goods
			Total <sup>1</sup>	Auto-motive products	Home goods	Total <sup>2</sup>	Business	Defense and space				
1977 proportion.....	100.00	44.77	25.52	2.98	3.91	19.25	14.34	3.67	12.94	42.28	20.50	10.09
1947.....	29.0	29.0	29.9	25.8	26.1	25.5	25.9	15.2	29.9	28.8	28.5	.....
1948.....	30.2	30.1	30.8	27.0	27.2	26.8	27.0	17.8	31.6	30.0	29.3	.....
1949.....	28.6	28.1	30.6	26.7	25.2	24.0	23.6	18.6	29.9	27.3	26.3	.....
1950.....	33.1	32.9	35.0	33.6	34.7	26.0	25.2	21.9	34.8	32.7	33.1	.....
1951.....	35.9	35.5	34.6	29.8	29.9	36.1	30.8	53.8	36.5	36.2	37.6	.....
1952.....	37.2	38.1	35.4	26.8	29.9	43.3	34.9	75.7	36.3	36.7	38.4	.....
1953.....	40.4	40.7	37.5	33.9	33.9	47.0	36.3	90.6	38.8	40.8	44.9	.....
1954.....	38.2	38.5	37.3	31.5	31.3	41.1	31.9	79.8	38.7	37.7	38.7	29.1
1955.....	43.0	41.6	41.6	41.9	36.9	42.0	34.6	73.1	43.9	44.6	47.4	33.3
1956.....	44.9	44.1	43.1	34.5	38.8	46.1	40.1	71.4	45.9	45.7	47.6	34.8
1957.....	45.5	45.4	44.2	36.1	38.0	48.0	41.7	74.6	45.9	45.7	47.5	34.7
1958.....	42.6	43.3	43.8	28.7	35.8	42.9	35.2	74.9	44.9	41.1	40.0	34.5
1959.....	47.7	47.5	48.0	36.0	41.1	47.2	39.5	78.9	49.6	47.4	47.7	39.4
1960.....	48.8	49.1	49.8	41.2	41.4	48.4	40.6	81.1	49.9	48.1	48.3	40.1
1961.....	49.1	49.5	50.9	37.6	42.7	47.8	39.4	82.4	50.9	48.1	47.1	41.7
1962.....	53.2	53.7	54.3	45.6	46.4	53.2	42.8	95.4	54.0	52.4	52.4	45.2
1963.....	56.3	56.7	57.3	49.9	50.0	56.3	44.9	102.9	57.0	55.8	55.9	47.9
1964.....	60.1	59.9	60.5	52.3	54.6	59.6	50.3	99.6	60.7	60.3	60.9	52.1
1965.....	66.1	65.8	65.3	64.4	61.9	67.3	57.6	110.3	64.6	67.2	69.8	57.2
1966.....	72.0	72.1	68.6	64.2	68.2	78.4	66.7	129.6	68.6	73.2	76.9	61.8
1967.....	73.5	75.0	70.3	56.4	69.1	83.4	68.0	147.8	71.4	72.5	74.2	62.9
1968.....	77.6	78.6	74.5	67.2	74.0	85.8	71.0	148.1	75.5	77.3	78.6	69.1
1969.....	81.2	81.1	77.3	67.5	78.9	88.1	75.6	141.0	79.6	81.9	82.7	74.8
1970.....	78.5	78.2	76.4	56.8	76.5	81.8	72.9	119.4	78.4	79.0	75.1	75.2
1971.....	79.6	78.9	80.8	72.4	81.0	76.6	69.3	107.3	80.8	80.2	75.4	78.4
1972.....	87.3	85.6	87.3	78.1	92.7	83.8	79.0	104.3	90.2	88.4	85.2	86.4
1973.....	94.4	92.0	91.2	86.2	98.1	93.6	92.4	101.9	96.0	96.8	97.4	92.7
1974.....	93.0	91.7	88.4	74.5	90.7	96.6	96.5	100.4	92.6	94.8	94.6	93.2
1975.....	84.8	86.3	84.9	70.2	79.9	88.5	86.1	98.5	83.6	83.2	78.8	82.9
1976.....	92.6	92.4	93.3	87.1	89.5	91.5	89.3	100.1	92.1	93.0	90.2	93.9
1977.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978.....	106.5	106.9	104.3	102.4	104.7	110.3	112.2	101.2	106.9	105.9	108.8	105.6
1979.....	110.7	111.0	103.9	94.9	103.7	120.4	124.7	105.6	110.8	110.3	114.4	109.3
1980.....	108.6	112.2	102.7	76.1	97.7	124.7	125.1	115.4	106.9	105.3	106.1	103.4
1981.....	111.0	115.2	104.1	78.8	98.1	129.9	127.6	119.8	107.3	107.7	109.7	107.1
1982.....	103.1	109.5	101.4	78.1	86.5	120.2	113.6	133.0	101.7	96.7	94.2	96.6
1983.....	109.2	114.7	109.3	95.1	101.1	121.7	115.4	143.1	111.2	102.8	103.7	106.2
1984.....	121.4	127.3	118.0	109.4	114.3	139.6	134.2	156.4	124.7	114.2	121.5	111.4
1985.....	123.7	131.0	119.8	114.1	111.2	145.8	140.2	171.4	129.3	114.3	121.7	112.1
1986.....	125.1	132.5	124.0	115.3	115.8	143.6	139.5	182.0	136.2	113.8	120.0	117.5
1987.....	129.8	136.8	127.8	118.5	121.6	148.9	144.5	188.9	143.4	118.2	125.0	125.9
1988.....	137.2	144.3	133.9	124.9	125.6	158.2	157.6	185.8	151.5	125.2	135.4	132.0
1989 P.....	141.8	150.2	139.4	125.5	132.6	164.5	167.8	180.0	157.5	128.1	139.2	137.5
1988: Jan.....	134.4	141.1	131.2	118.7	124.0	154.3	151.2	190.6	148.1	123.0	131.8	129.9
Feb.....	134.4	141.6	131.3	117.6	122.8	155.3	152.4	191.0	149.4	122.1	131.4	128.1
Mar.....	134.7	141.8	131.2	120.6	120.2	155.9	153.3	189.9	149.9	122.5	131.3	130.1
Apr.....	135.4	142.5	131.9	121.9	124.3	156.5	156.6	187.9	149.6	123.6	132.7	131.1
May.....	136.1	143.5	132.7	127.1	124.4	157.7	156.9	185.5	150.4	123.9	134.8	130.1
June.....	136.5	144.0	133.0	127.1	123.9	158.5	158.1	184.6	150.0	124.5	134.9	130.1
July.....	138.0	145.0	134.2	124.4	125.9	159.4	159.3	184.9	151.6	126.4	136.8	132.8
Aug.....	138.5	145.8	135.0	124.2	126.8	160.1	160.2	184.9	152.3	126.5	136.6	133.1
Sept.....	138.6	145.8	134.8	126.4	126.2	160.4	160.8	184.5	152.9	126.5	137.8	132.6
Oct.....	139.4	146.4	136.4	128.9	129.7	159.7	160.2	184.0	154.0	127.5	138.9	134.7
Nov.....	139.9	146.8	136.8	129.5	128.9	159.9	161.2	182.2	154.2	128.3	139.8	135.1
Dec.....	140.4	147.7	138.2	134.5	130.0	160.4	162.6	180.5	155.0	128.3	139.0	136.3
1989: Jan.....	140.8	148.2	138.5	132.5	130.7	161.1	163.8	180.0	156.8	128.1	139.4	137.1
Feb.....	140.5	148.6	138.7	131.6	131.6	161.6	165.0	179.3	155.1	127.4	138.6	135.9
Mar.....	140.7	148.9	138.4	128.9	131.1	162.8	166.3	178.7	156.1	127.3	137.9	136.0
Apr.....	141.7	150.2	139.5	131.7	132.6	164.3	167.8	179.9	156.5	128.2	139.0	137.1
May.....	141.6	150.4	139.2	128.6	133.3	165.4	169.1	180.7	156.3	127.9	138.7	136.8
June.....	142.0	151.2	139.9	125.6	134.8	166.1	169.6	181.1	157.0	127.7	139.4	137.3
July.....	141.9	150.2	138.7	120.2	132.7	165.5	168.5	182.0	157.5	128.3	139.9	138.5
Aug.....	142.5	151.1	139.3	122.3	133.5	166.8	169.9	182.7	157.5	128.8	140.9	138.3
Sept.....	142.3	150.8	139.0	120.6	133.4	166.5	169.6	182.1	157.8	128.6	140.4	136.7
Oct.....	141.8	149.4	139.9	118.9	134.2	162.0	165.2	176.0	158.9	128.6	139.2	138.5
Nov P.....	142.3	150.1	139.8	119.3	132.5	163.7	167.2	176.9	160.1	128.6	139.0	138.6
Dec P.....	142.8	151.6	140.6	121.9	132.1	166.1	169.9	179.6	160.5	128.2	137.7	138.7

<sup>1</sup> Includes clothing and consumer staples, not shown separately.

<sup>2</sup> Two components—oil and gas well drilling and manufactured homes—are included in total equipment, but not in detail shown.

<sup>3</sup> Includes energy materials, not shown separately.

Source: Board of Governors of the Federal Reserve System.

TABLE C-50.—Industrial production indexes, selected manufactures, 1947-89

[1977 = 100; monthly data seasonally adjusted]

Year or month	Durable manufactures							Nondurable manufactures					Foods
	Primary metals		Fabricated metal products	Non-electrical machinery	Electrical machinery	Transportation equipment		Lumber and products	Apparel products	Textile mill products	Printing and publishing	Chemicals and products	
	Total	Iron and steel				Total	Motor vehicles and parts						
1977 proportion...	5.33	3.49	6.46	9.54	7.15	9.13	5.25	2.30	2.79	2.29	4.54	8.05	7.96
1947.....	57.8	70.4	40.4	26.7	14.5	26.6	28.8	47.2	47.0	38.5	34.3	10.4	41.9
1948.....	60.1	73.6	41.2	26.8	15.1	29.0	31.2	49.1	49.1	41.1	36.0	11.3	41.5
1949.....	50.5	62.9	37.2	22.9	14.1	29.2	32.0	43.3	48.6	38.0	37.0	11.1	41.9
1950.....	63.6	77.5	45.5	25.7	19.4	34.9	41.2	52.7	52.3	43.2	38.8	13.9	43.4
1951.....	69.2	86.6	48.6	32.6	19.5	38.9	37.8	52.5	51.3	42.8	39.5	15.7	44.3
1952.....	63.2	76.2	47.4	35.5	22.3	45.2	32.4	51.8	54.0	42.4	39.4	16.5	45.2
1953.....	71.6	87.9	53.5	36.9	25.6	56.8	40.8	54.8	54.7	43.5	41.2	17.8	46.1
1954.....	57.9	68.3	48.2	31.6	22.8	49.4	35.1	54.5	54.1	40.7	42.9	18.1	47.0
1955.....	75.3	90.8	55.0	34.6	26.1	56.8	47.1	60.8	59.7	46.4	47.2	21.1	49.8
1956.....	74.8	89.1	55.8	39.7	28.3	55.1	38.2	60.1	61.1	47.7	50.2	22.6	52.6
1957.....	71.6	85.9	57.2	39.6	28.1	59.0	40.1	55.2	60.9	45.5	51.9	23.9	53.4
1958.....	56.8	64.7	51.3	33.2	25.7	46.5	29.6	56.0	59.2	44.8	50.7	24.7	54.7
1959.....	66.4	74.5	57.6	38.8	31.2	52.7	38.5	63.6	65.2	50.7	54.1	28.8	57.4
1960.....	66.1	75.7	57.6	39.0	33.8	54.6	43.4	59.8	66.5	49.8	56.3	29.9	59.0
1961.....	64.9	72.3	56.2	37.9	35.9	51.3	38.1	62.6	66.9	51.2	56.5	31.4	60.7
1962.....	69.6	75.3	61.1	42.5	41.3	59.3	46.3	66.1	69.6	54.7	58.6	34.8	62.6
1963.....	75.1	82.1	63.1	45.4	42.4	65.1	51.3	69.2	72.5	56.7	61.7	38.1	64.9
1964.....	84.7	93.4	67.0	51.7	44.9	66.8	52.7	74.3	75.0	61.2	65.5	41.7	67.8
1965.....	93.2	102.4	73.6	58.2	53.5	79.4	67.3	77.2	79.3	66.6	69.7	46.5	69.4
1966.....	98.9	105.5	78.8	67.6	64.2	85.1	66.2	80.1	81.3	70.7	75.0	50.7	72.0
1967.....	91.4	97.5	82.5	68.9	64.5	83.2	58.2	79.3	80.9	70.7	79.1	53.0	75.2
1968.....	94.7	100.7	86.9	69.5	68.1	90.4	69.7	81.6	82.9	78.9	80.4	59.6	77.2
1969.....	101.9	109.7	88.4	75.2	72.5	89.7	70.0	81.5	85.6	83.0	84.3	64.5	79.8
1970.....	94.8	102.1	81.9	72.8	69.3	75.3	56.3	81.1	82.2	81.2	82.0	67.1	81.0
1971.....	89.9	93.4	81.5	67.6	69.6	81.5	70.6	83.2	83.2	85.7	82.7	71.4	83.6
1972.....	100.7	103.8	89.4	78.5	79.7	87.0	77.1	95.3	88.3	93.9	88.2	80.3	88.0
1973.....	114.3	118.2	99.4	91.7	90.7	99.1	89.8	95.6	89.0	97.8	90.6	87.8	89.8
1974.....	110.7	114.5	95.4	97.7	89.8	90.1	77.5	86.8	85.0	89.0	89.2	91.0	91.0
1975.....	85.2	92.0	82.7	84.5	77.2	81.0	65.7	80.8	77.6	84.8	83.5	82.9	90.4
1976.....	98.7	101.4	91.6	88.8	86.8	92.2	86.5	91.9	91.5	94.2	91.2	82.8	95.6
1977.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978.....	107.0	107.5	105.7	111.7	112.9	106.3	104.6	102.4	103.1	102.8	107.8	106.8	104.3
1979.....	108.5	108.0	109.4	122.6	125.7	108.3	95.9	102.0	98.3	104.4	112.7	111.4	106.7
1980.....	90.4	86.3	101.8	123.3	130.3	96.9	71.1	92.9	97.3	100.8	115.1	106.4	111.4
1981.....	95.0	92.5	101.6	129.8	134.1	95.1	71.6	90.1	96.1	98.1	118.6	112.6	113.7
1982.....	65.8	57.5	86.6	115.6	128.4	87.6	66.8	82.8	87.3	89.2	120.2	103.8	114.9
1983.....	73.0	66.1	89.1	118.3	143.8	99.2	85.8	100.2	95.3	100.9	129.8	114.0	120.4
1984.....	82.3	73.4	102.6	141.8	170.5	112.2	104.4	109.1	102.7	104.2	146.5	121.6	126.9
1985.....	80.4	70.4	107.1	146.2	168.3	122.8	111.9	114.3	100.4	102.2	151.4	126.4	130.5
1986.....	75.1	63.4	108.0	145.0	165.7	127.5	111.5	124.1	103.1	109.2	160.9	132.0	134.4
1987.....	81.3	70.6	111.0	152.7	172.3	129.2	111.8	130.3	107.4	115.9	172.1	140.2	137.8
1988.....	89.2	78.1	120.9	170.8	180.1	132.1	117.2	137.3	109.1	116.2	184.2	151.9	142.7
1989 <sup>p</sup> .....	88.6	.....	124.6	185.7	181.8	132.5	116.5	.....	.....	.....	200.9	.....	.....
1988: Jan.....	86.5	77.8	117.1	162.9	177.4	128.6	109.7	136.3	108.7	116.2	177.5	147.9	141.2
Feb.....	86.4	77.4	117.6	163.6	177.8	128.4	109.3	139.0	108.5	115.3	178.7	145.4	141.9
Mar.....	85.1	74.2	118.8	164.6	176.6	130.0	113.0	137.8	108.7	117.0	180.4	146.4	141.1
Apr.....	85.3	74.5	118.8	167.2	178.7	130.4	114.8	138.0	109.2	117.3	181.8	148.9	140.3
May.....	89.2	78.6	119.8	170.3	179.1	133.1	119.6	139.8	108.6	114.6	180.7	149.1	141.0
June.....	87.5	74.2	120.4	171.2	179.5	132.8	119.1	136.4	109.3	114.3	182.3	150.5	141.3
July.....	91.5	80.2	121.7	173.1	181.5	131.9	116.6	136.6	109.4	117.1	184.9	153.4	143.3
Aug.....	90.8	78.9	122.1	174.1	182.2	131.8	117.5	133.8	108.9	116.4	186.7	154.8	143.3
Sept.....	93.1	81.4	122.5	174.8	181.8	132.7	118.5	135.5	109.9	116.2	180.0	155.3	143.2
Oct.....	94.2	83.1	122.6	173.8	183.0	134.8	121.7	137.5	109.5	117.0	188.1	156.7	144.0
Nov.....	92.7	80.8	124.6	175.4	182.2	135.2	122.9	139.4	110.1	117.2	188.5	157.5	145.7
Dec.....	90.0	77.6	125.1	177.8	180.9	136.8	125.5	143.0	108.8	117.9	188.0	158.1	145.8
1989: Jan.....	93.2	82.2	124.5	178.7	180.9	136.7	124.9	139.9	110.2	120.2	193.0	159.0	146.6
Feb.....	91.1	79.1	124.5	180.8	181.7	136.4	123.4	132.8	110.2	119.4	194.6	158.5	146.3
Mar.....	88.4	75.9	123.8	183.0	181.6	134.8	120.4	133.4	109.9	119.7	198.5	159.2	145.4
Apr.....	90.1	77.0	123.1	184.7	182.2	136.4	122.0	135.1	111.3	122.5	200.1	159.3	146.6
May.....	87.2	73.2	124.8	186.5	181.6	135.5	119.7	135.5	111.5	123.6	199.0	158.2	147.2
June.....	87.3	72.9	125.2	187.5	181.9	134.2	116.4	137.2	111.9	123.8	200.5	159.9	147.9
July.....	89.2	75.4	125.4	186.7	181.4	131.3	110.4	136.9	111.4	123.5	199.9	162.2	147.3
Aug.....	90.3	75.9	125.5	187.8	183.7	133.2	114.2	136.5	111.1	123.2	200.6	161.5	148.3
Sept.....	89.2	75.4	124.4	188.2	182.7	131.9	112.7	135.7	111.2	123.2	203.1	159.3	148.8
Oct.....	88.9	76.4	124.2	184.9	181.8	123.8	110.1	137.6	110.8	123.0	203.8	161.5	150.1
Nov <sup>p</sup> .....	85.1	72.1	125.2	188.5	181.5	125.0	110.5	138.9	110.1	121.7	205.6	162.8	150.7
Dec <sup>p</sup> .....	82.8	.....	124.6	189.4	180.9	129.7	110.4	.....	.....	.....	206.6	.....	.....

Source: Board of Governors of the Federal Reserve System.

TABLE C-51.—Capacity utilization rates, 1948-89

[Percent; monthly data seasonally adjusted]

Year or month	Total industry	Manufacturing				Mining	Utilities	Industrial materials
		Total	Durable goods	Non-durable goods	Primary processing			
1948		82.5			87.3	80.0		
1949		74.2			76.2	73.2		
1950		82.8			88.5	79.8		
1951		85.8			90.2	83.4		
1952		85.4			84.9	85.9		
1953		89.3			89.4	89.3		
1954		80.1			80.6	80.0		
1955		87.0			92.0	84.2		
1956		86.1			89.4	84.4		
1957		83.6			84.7	83.1		
1958		75.0			75.4	74.9		
1959		81.6			83.0	81.1		
1960		80.1			79.8	80.5		
1961		77.3			77.9	77.2		
1962		81.4			81.5	81.6		
1963		83.5			83.8	83.4		
1964		85.6			87.8	84.6		
1965		89.5			91.0	88.8		
1966		91.1			91.4	91.1		
1967	87.1	86.7	87.0	86.7	85.3	87.6	82.9	93.2
1968	87.4	87.0	86.7	87.7	86.9	87.0	84.6	93.9
1969	87.4	86.7	86.1	88.0	87.7	86.1	87.0	95.6
1970	80.9	79.2	76.1	83.9	80.9	78.3	89.0	95.1
1971	79.0	77.4	73.3	83.5	79.5	76.1	87.3	93.7
1972	84.0	82.8	79.7	87.4	86.4	81.1	90.2	94.5
1973	87.9	87.0	86.2	88.1	91.3	85.1	91.4	92.8
1974	83.6	82.6	81.6	84.2	85.4	81.5	91.1	86.8
1975	74.1	72.3	69.6	76.3	72.2	72.6	89.2	84.3
1976	78.8	77.4	74.8	81.4	79.3	76.8	89.7	85.3
1977	82.4	81.4	79.4	84.5	83.1	80.5	89.9	85.1
1978	84.8	84.2	82.9	86.1	86.0	83.1	90.3	85.0
1979	85.2	84.6	84.1	85.3	86.6	83.5	90.7	85.6
1980	80.9	79.3	77.9	81.3	77.9	80.0	93.2	85.4
1981	79.9	78.2	76.7	80.6	78.1	78.3	92.9	84.2
1982	72.1	70.3	66.9	75.4	67.5	71.7	83.4	81.4
1983	74.6	73.9	70.3	79.4	73.9	74.0	77.9	80.0
1984	81.0	80.5	78.7	83.3	80.9	80.3	84.0	83.0
1985	80.4	80.1	78.5	82.4	80.9	79.7	82.4	82.3
1986	79.4	79.7	77.2	83.5	81.8	78.8	76.4	79.1
1987	80.7	81.1	78.4	84.9	84.6	79.4	77.8	79.5
1988	83.3	83.5	81.8	86.1	87.3	81.8	81.7	81.3
1989	83.7	83.9	82.3	86.3	86.4	82.8	82.4	81.9
1988: Jan	82.5	82.7	80.3	86.2	87.1	80.7	80.7	82.4
Feb	82.4	82.6	80.5	85.7	86.6	80.7	79.5	82.6
Mar	82.4	82.7	80.6	85.8	86.9	80.7	80.6	81.0
Apr	82.7	82.9	80.9	85.9	86.9	81.2	82.3	79.3
May	82.9	83.3	81.8	85.4	87.0	81.7	80.8	79.7
June	83.0	83.3	81.7	85.5	86.6	81.7	81.2	80.8
July	83.7	84.0	82.3	86.4	87.8	82.2	82.5	81.5
Aug	83.8	84.0	82.3	86.4	87.4	82.4	82.2	83.9
Sept	83.7	84.0	82.5	86.2	87.2	82.4	82.3	80.4
Oct	84.0	84.3	82.8	86.4	87.9	82.6	81.9	81.0
Nov	84.1	84.4	83.0	86.4	88.1	82.6	83.3	80.8
Dec	84.3	84.4	83.1	86.3	87.9	82.8	83.6	82.0
1989: Jan	84.3	84.7	83.2	86.8	88.4	83.1	82.2	80.9
Feb	83.9	84.3	82.9	86.3	87.0	83.0	80.6	82.6
Mar	83.8	84.1	82.6	86.3	86.4	83.0	81.2	83.3
Apr	84.2	84.5	83.0	86.5	86.8	83.5	82.0	82.9
May	84.0	84.3	82.9	86.2	86.2	83.4	81.8	81.8
June	84.0	84.4	82.9	86.4	86.2	83.5	81.5	80.8
July	83.7	84.0	82.4	86.3	86.7	82.9	82.1	80.5
Aug	83.9	84.2	82.8	86.2	86.6	83.2	82.4	80.0
Sept	83.6	83.7	82.2	85.9	85.8	82.6	83.4	80.8
Oct	83.1	83.1	80.9	86.2	86.2	81.7	84.0	81.7
Nov	83.1	83.2	81.0	86.2	85.7	81.9	84.3	81.3
Dec	83.3	83.1	81.1	85.8	84.5	82.2	83.4	86.3

Source: Board of Governors of the Federal Reserve System.

TABLE C-52.—New construction activity, 1929-89

[Value put in table, billions of dollars; monthly data at seasonally adjusted annual rates]

Year or month	Total new construction	Private construction							Public construction		
		Total	Residential buildings <sup>1</sup>		Nonresidential buildings and other construction <sup>2</sup>				Total	Federal	State and local <sup>3</sup>
			Total <sup>2</sup>	New housing units	Total	Commer- cial <sup>3</sup>	Indus- trial	Other <sup>4</sup>			
1929	10.8	8.3	3.6	3.0	4.7	1.1	0.9	2.6	2.5	0.2	2.3
1933	2.9	1.2	.5	.3	.8	.1	.2	.5	1.6	.5	1.1
1939	8.2	4.4	2.7	2.3	1.7	.3	.3	1.2	3.8	.8	3.1
1940	8.7	5.1	3.0	2.6	2.1	.3	.4	1.3	3.6	1.2	2.4
1941	12.0	6.2	3.5	3.0	2.7	.4	.8	1.5	5.8	3.8	2.0
1942	14.1	3.4	1.7	1.4	1.7	.2	.3	1.2	10.7	9.3	1.3
1943	8.3	2.0	.9	.7	1.1	.0	.2	.9	6.3	5.6	.7
1944	5.3	2.2	.8	.6	1.4	.1	.2	1.1	3.1	2.5	.6
1945	5.8	3.4	1.3	.7	2.1	.2	.6	1.3	2.4	1.7	.7
1946	14.3	12.1	6.2	4.8	5.8	1.2	1.7	3.0	2.2	.9	1.4
<b>New series</b>											
1947	20.0	16.7	9.9	7.8	6.9	1.0	1.7	4.2	3.3	.8	2.5
1948	26.1	21.4	13.1	10.5	8.2	1.4	1.4	5.5	4.7	1.2	3.5
1949	26.7	20.5	12.4	10.0	8.0	1.2	1.0	5.9	6.3	1.5	4.8
1950	33.6	26.7	18.1	15.6	8.6	1.4	1.1	6.1	6.9	1.6	5.2
1951	35.4	26.2	15.9	13.2	10.3	1.5	2.1	6.7	9.3	3.0	6.3
1952	36.8	26.0	15.8	12.9	10.2	1.1	2.3	6.8	10.8	4.2	6.5
1953	39.1	27.9	16.6	13.4	11.3	1.8	2.2	7.3	11.2	4.1	7.1
1954	41.4	29.7	18.2	14.9	11.5	2.2	2.0	7.2	11.7	3.4	8.3
1955	46.5	34.8	21.9	18.2	12.9	3.2	2.4	7.3	11.7	2.8	8.9
1956	47.6	34.9	20.2	16.1	14.7	3.6	3.1	8.0	12.7	2.7	10.0
1957	49.1	35.1	19.0	14.7	16.1	3.6	3.6	9.0	14.1	3.0	11.1
1958	50.0	34.6	19.8	15.4	14.8	3.6	2.4	8.8	15.5	3.4	12.1
1959	55.4	39.3	24.3	19.2	15.1	3.9	2.1	9.0	16.1	3.7	12.3
1960	54.7	38.9	23.0	17.3	15.9	4.2	2.9	8.9	15.9	3.6	12.2
1961	56.4	39.3	23.1	17.1	16.2	4.7	2.8	8.7	17.1	3.9	13.3
1962	60.2	42.3	25.2	19.4	17.2	5.1	2.8	9.2	17.9	3.9	14.0
1963	64.8	45.5	27.9	21.7	17.6	5.0	2.9	9.7	19.4	4.0	15.4
<b>New series</b>											
1964	72.6	52.4	30.5	24.1	21.8	6.8	3.6	11.5	20.2	3.7	16.5
1965	78.5	56.6	30.2	23.8	26.3	8.1	5.1	13.1	21.9	3.9	18.0
1966	81.8	58.0	28.6	21.8	29.4	8.1	6.6	14.7	23.8	3.8	20.0
1967	83.5	58.1	28.7	21.5	29.4	8.0	6.0	15.4	25.4	3.3	22.1
1968	93.2	65.7	34.2	26.7	31.6	9.0	6.0	16.6	27.4	3.2	24.2
1969	100.5	72.7	37.2	29.2	35.5	10.7	6.8	17.9	27.8	3.2	24.6
1970	101.3	73.4	35.9	27.1	37.5	11.1	6.5	19.9	27.9	3.1	24.8
1971	117.9	88.2	48.5	38.7	39.7	13.0	5.4	21.3	29.7	3.8	25.9
1972	133.9	103.9	60.7	50.1	43.2	15.4	4.7	23.1	30.0	4.2	25.8
1973	147.4	115.0	65.1	54.6	49.9	17.7	6.2	26.0	32.3	4.7	27.6
1974	147.8	109.6	56.0	43.4	53.7	17.6	7.9	28.2	38.1	5.1	33.0
1975	144.4	102.7	51.6	36.3	51.2	13.9	8.0	29.3	41.7	6.1	35.6
1976	163.1	122.2	68.3	50.8	54.0	13.7	7.2	33.1	40.9	6.8	34.1
1977	188.2	148.8	92.0	72.2	56.8	15.7	7.7	33.3	39.4	7.1	32.4
1978	226.2	178.7	109.8	85.6	68.8	19.7	11.0	38.1	47.5	8.1	39.3
1979	253.0	201.3	116.4	89.3	84.9	27.1	15.0	42.8	51.7	8.6	43.1
1980	252.8	194.3	100.4	69.6	93.9	32.9	13.8	47.2	58.5	9.6	48.8
1981	261.3	204.7	99.2	69.4	105.5	38.0	17.0	50.5	56.5	10.4	46.1
1982	248.0	194.3	84.7	57.0	109.6	41.4	17.3	50.9	53.7	10.0	43.7
1983	282.4	228.7	125.5	94.6	103.1	41.0	12.9	49.3	53.8	10.6	43.2
1984	329.6	271.9	153.8	113.8	118.0	54.9	13.7	49.4	57.7	11.2	46.4
1985	356.6	292.6	158.5	114.7	134.1	66.9	15.8	51.4	64.1	12.0	52.1
1986	387.0	315.3	187.1	133.2	128.2	64.2	13.7	50.2	71.7	12.4	59.3
1987	397.7	320.1	194.7	139.9	125.5	62.8	13.7	48.9	77.6	14.1	63.6
1988	409.7	328.7	198.1	138.9	130.6	64.9	14.9	50.8	80.9	12.2	68.7

See next page for continuation of table.

TABLE C-52.—New construction activity, 1929-89—Continued

[Value put in place, billions of dollars; monthly data at seasonally adjusted annual rates]

Year or month	Total new construction	Private construction						Public construction			
		Total	Residential buildings <sup>1</sup>		Nonresidential buildings and other construction <sup>1</sup>				Total	Federal	State and local <sup>5</sup>
			New housing units	Total <sup>2</sup>	Total	Commer- cial <sup>3</sup>	Indus- trial	Other <sup>4</sup>			
1988: Jan .....	396.9	321.4	193.9	138.3	127.5	63.0	13.8	50.7	75.6	11.1	64.5
Feb .....	397.3	319.6	192.2	137.0	127.4	62.6	14.3	50.6	77.7	11.0	66.7
Mar .....	411.1	327.9	198.6	139.9	129.3	63.9	14.9	50.5	83.2	13.1	70.1
Apr .....	408.3	327.0	198.5	139.4	128.5	65.2	14.7	48.5	81.3	11.8	69.6
May .....	408.0	327.6	197.0	138.3	130.6	66.0	15.0	49.6	80.4	11.7	68.7
June .....	408.7	328.0	196.2	137.5	131.8	66.5	15.5	49.9	80.8	13.2	67.6
July .....	410.7	328.1	196.8	137.0	131.3	66.5	14.8	49.9	82.5	12.7	69.9
Aug .....	408.1	329.2	197.6	137.0	131.6	65.7	15.0	51.0	78.9	12.6	66.2
Sept .....	411.5	329.8	198.3	138.0	131.5	64.8	14.9	51.9	81.7	14.7	67.0
Oct .....	411.1	331.4	200.8	139.8	130.6	63.6	15.5	51.5	79.7	11.0	68.7
Nov .....	415.4	332.8	202.0	141.9	130.8	63.4	15.4	51.9	82.6	11.1	71.5
Dec .....	425.0	336.3	202.5	143.3	133.8	65.5	15.0	53.2	88.8	12.1	76.7
1989: Jan .....	423.0	337.7	202.9	145.6	134.8	66.7	15.9	52.2	85.3	10.5	74.8
Feb .....	416.6	333.2	200.5	145.3	132.7	66.0	15.1	51.6	83.4	11.8	71.6
Mar .....	416.8	338.1	202.1	143.2	136.0	68.5	15.7	51.8	78.7	12.6	66.2
Apr .....	411.9	332.5	200.7	141.8	131.8	63.1	16.2	52.5	79.4	9.4	70.0
May .....	416.5	330.6	197.0	138.2	133.6	64.2	15.9	53.5	85.9	14.5	71.4
June .....	412.5	329.0	194.2	136.5	134.8	65.3	16.3	53.2	83.5	13.6	69.9
July .....	410.3	328.8	195.2	136.6	133.6	64.5	16.4	52.7	81.5	11.6	69.8
Aug .....	416.3	331.9	194.4	135.8	137.5	65.8	17.5	54.2	84.4	13.0	71.4
Sept .....	416.2	329.6	192.8	134.0	136.8	65.3	17.9	53.6	86.6	14.9	71.8
Oct <sup>p</sup> .....	415.6	330.2	193.2	134.0	137.0	66.2	17.8	53.0	85.4	13.2	72.2
Nov <sup>p</sup> .....	421.7	330.3	194.4	136.7	135.9	64.6	18.1	53.2	91.4	13.6	77.9

<sup>1</sup> Beginning 1960, farm residential buildings included in residential buildings; prior to 1960, included in nonresidential buildings and other construction.

<sup>2</sup> Includes residential improvements, not shown separately. Prior to 1964, also includes nonhousekeeping units (hotels, motels, etc.).

<sup>3</sup> Office buildings, warehouses, stores, restaurants, garages, etc., and, beginning 1964, hotels and motels; prior to 1964 hotels and motels are included in total residential.

<sup>4</sup> Religious, educational, hospital and institutional, miscellaneous nonresidential, farm (see also footnote 1), public utilities, and all other private.

<sup>5</sup> Includes Federal grants-in-aid for State and local projects.

Source: Department of Commerce, Bureau of the Census.

TABLE C-53.—New housing units started and authorized, 1959-89

[Thousands of units]

Year or month	New housing units started						New private housing units authorized <sup>2</sup>			
	Private and public <sup>1</sup>		Private (farm and nonfarm) <sup>1</sup>			Total	Type of structure			
	Total (farm and nonfarm)	Nonfarm	Total	Type of structure			1 unit	2 to 4 units	5 units or more	
				1 unit	2 to 4 units					5 units or more
1959.....	1,553.7	1,531.3	1,517.0	1,234.0	283.0	1,208.3	938.3	77.1	192.9	
1960.....	1,296.1	1,274.0	1,252.2	994.7	257.4	998.0	746.1	64.6	187.4	
1961.....	1,365.0	1,336.8	1,313.0	974.3	338.7	1,064.2	722.8	67.6	273.8	
1962.....	1,492.5	1,468.7	1,462.9	991.4	471.5	1,186.6	716.2	87.1	383.3	
1963.....	1,634.9	1,614.8	1,603.2	1,012.4	590.8	1,334.7	750.2	118.9	465.6	
1964.....	1,561.0	1,534.0	1,528.8	970.5	108.4	1,285.8	720.1	100.8	464.9	
1965.....	1,509.7	1,487.5	1,472.8	963.7	86.6	1,239.8	709.9	84.8	445.1	
1966.....	1,195.8	1,172.8	1,164.9	778.6	61.1	971.9	563.2	61.0	347.7	
1967.....	1,321.9	1,298.8	1,291.6	843.9	71.6	1,141.0	650.6	73.0	417.5	
1968.....	1,545.4	1,521.4	1,507.6	899.4	80.9	1,353.4	694.7	84.3	574.4	
1969.....	1,499.5	1,482.3	1,466.8	810.6	85.0	1,232.7	625.9	85.2	612.7	
1970.....	1,469.0	(*)	1,433.6	812.9	84.8	1,351.5	646.8	88.1	616.7	
1971.....	2,084.5	(*)	2,052.2	1,151.0	120.3	1,924.6	906.1	132.9	885.7	
1972.....	2,378.5	(*)	2,356.6	1,309.2	141.3	2,218.9	1,033.1	148.6	1,037.2	
1973.....	2,057.5	(*)	2,045.3	1,132.0	118.3	1,819.5	882.1	117.0	820.5	
1974.....	1,352.5	(*)	1,337.7	888.1	68.1	1,074.4	643.8	64.3	366.2	
1975.....	1,171.4	(*)	1,160.4	892.2	64.0	939.2	675.5	63.9	199.8	
1976.....	1,547.6	(*)	1,537.5	1,162.4	85.9	1,296.2	893.6	93.1	309.5	
1977.....	2,001.7	(*)	1,987.1	1,450.9	121.7	1,690.0	1,126.1	121.3	442.7	
1978.....	2,036.1	(*)	2,020.3	1,433.3	125.0	1,800.5	1,182.6	130.6	487.3	
1979.....	1,760.0	(*)	1,745.1	1,194.1	122.0	1,551.8	981.5	125.4	444.8	
1980.....	1,312.6	(*)	1,292.2	852.2	109.5	1,190.6	710.4	114.5	365.7	
1981.....	1,100.3	(*)	1,084.2	705.4	91.1	985.5	564.3	101.8	319.4	
1982.....	1,072.1	(*)	1,062.2	662.6	80.0	1,000.5	546.4	88.3	365.8	
1983.....	1,712.5	(*)	1,703.0	1,067.6	113.5	1,605.2	901.5	133.6	570.1	
1984.....	1,755.8	(*)	1,749.5	1,084.2	121.4	1,681.8	922.4	142.6	616.8	
1985.....	1,745.0	(*)	1,741.8	1,072.4	93.4	1,733.3	956.6	120.1	656.6	
1986.....	1,807.1	(*)	1,805.4	1,179.4	84.0	1,769.4	1,077.6	108.4	583.5	
1987.....	1,622.7	(*)	1,620.5	1,146.4	65.3	1,534.8	1,024.4	89.3	421.1	
1988.....	(*)	(*)	1,488.1	1,081.3	58.8	1,455.6	993.8	75.7	386.1	
1989 <sup>p</sup> .....	(*)	(*)	1,374.3	1,001.9	55.3	1,340.6	937.8	70.0	332.9	
Seasonally adjusted annual rates										
1988: Jan.....	105.1	(*)	1,391	1,021	53	317	1,264	916	69	279
Feb.....	102.8	(*)	1,511	1,095	58	358	1,444	1,002	72	370
Mar.....	141.3	(*)	1,528	1,169	57	302	1,500	1,025	83	392
Apr.....	159.6	(*)	1,576	1,087	58	431	1,431	954	72	405
May.....	158.3	(*)	1,392	1,001	53	338	1,448	982	76	390
June.....	163.2	(*)	1,463	1,088	62	313	1,485	997	76	412
July.....	152.7	(*)	1,478	1,067	50	361	1,425	976	77	372
Aug.....	143.9	(*)	1,459	1,076	59	324	1,466	1,007	70	389
Sept.....	152.3	(*)	1,463	1,039	62	362	1,432	980	74	378
Oct.....	135.2	(*)	1,532	1,136	63	333	1,526	1,029	81	416
Nov.....	113.2	(*)	1,567	1,138	68	361	1,508	1,027	77	404
Dec.....	(*)	(*)	1,577	1,141	65	371	1,518	1,058	75	385
1989: Jan.....	(*)	(*)	1,678	1,199	66	413	1,486	1,052	75	359
Feb.....	(*)	(*)	1,465	1,029	62	374	1,403	989	88	326
Mar.....	(*)	(*)	1,409	981	50	378	1,230	870	72	288
Apr.....	(*)	(*)	1,343	1,029	62	252	1,334	954	71	309
May.....	(*)	(*)	1,308	977	42	289	1,347	905	65	377
June.....	(*)	(*)	1,406	972	55	379	1,308	874	66	368
July.....	(*)	(*)	1,420	1,026	57	337	1,281	906	73	302
Aug.....	(*)	(*)	1,329	990	56	283	1,328	927	77	324
Sept.....	(*)	(*)	1,264	971	57	236	1,319	946	66	307
Oct.....	(*)	(*)	1,423	1,023	60	340	1,356	961	64	331
Nov <sup>p</sup> .....	(*)	(*)	1,342	1,003	47	292	1,342	979	64	299
Dec <sup>p</sup> .....	(*)	(*)	1,235	904	53	278	1,376	970	65	341

<sup>1</sup> Units in structures built by private developers for sale upon completion to local public housing authorities under the Department of Housing and Urban Development "Turnkey" program are classified as private housing. Military housing starts, including those financed with mortgages insured by FHA under Section 803 of the National Housing Act, are included in publicly owned starts and excluded from total private starts.

<sup>2</sup> Authorized by issuance of local building permit: in 17,000 permit-issuing places beginning 1984; in 16,000 places for 1978-83; in 14,000 places for 1972-77; in 13,000 places for 1967-71; in 12,000 places for 1963-66; and in 10,000 places prior to 1963.

<sup>3</sup> Not available separately beginning January 1970.

<sup>4</sup> Series discontinued December 1988.

Source: Department of Commerce, Bureau of the Census.



TABLE C-54.—Business expenditures for new plant and equipment, 1947-90

(Billions of dollars; quarterly data at seasonally adjusted annual rates)

Year or quarter	Industries surveyed quarterly									Addenda				
	All industries	Manufacturing			Nonmanufacturing					Total non-farm business <sup>2</sup>	Manufacturing	Nonmanufacturing		
		Total	Durable goods	Non-durable goods	Total <sup>1</sup>	Mining	Transportation	Public utilities	Commercial and other			Total	Surveyed quarterly	Surveyed annually <sup>3</sup>
1947	20.11	8.73	3.39	5.34	11.38	0.69	2.69	1.64	6.38	22.27	8.73	13.54	11.38	2.16
1948	22.78	9.25	3.54	5.71	13.53	.93	3.17	2.67	6.77	25.97	9.25	16.73	13.53	3.19
1949	20.28	7.32	2.67	4.64	12.96	.88	2.80	3.28	6.01	24.03	7.32	16.72	12.96	3.76
1950	21.56	7.73	3.22	4.51	13.83	.84	2.87	3.42	6.70	25.81	7.73	18.08	13.83	4.25
1951	26.81	11.07	5.12	5.95	15.74	1.11	3.60	3.75	7.29	31.38	11.07	20.31	15.74	4.57
1952	28.16	12.12	5.75	6.37	16.04	1.21	3.56	3.96	7.31	32.16	12.12	20.04	16.04	4.00
1953	29.96	12.43	5.71	6.72	17.53	1.25	3.58	4.61	8.09	34.20	12.43	21.77	17.53	4.23
1954	28.86	12.00	5.49	6.51	16.85	1.29	2.91	4.23	8.42	33.62	12.00	21.62	16.85	4.76
1955	30.94	12.50	5.87	6.62	18.44	1.31	3.10	4.26	9.77	37.08	12.50	24.58	18.44	6.14
1956	37.90	16.33	8.19	8.15	21.57	1.64	3.56	4.78	11.59	45.25	16.33	28.91	21.57	7.35
1957	40.54	17.50	8.59	8.91	23.04	1.69	3.84	5.95	11.56	48.62	17.50	31.11	23.04	8.08
1958	33.84	12.98	6.21	6.77	20.86	1.43	2.72	5.74	10.97	42.55	12.98	29.57	20.86	8.72
1959	35.88	13.76	6.67	7.04	22.12	1.35	3.47	5.46	11.84	45.17	13.76	31.41	22.12	9.29
1960	39.44	16.36	8.28	8.08	23.08	1.29	3.54	5.40	12.86	48.99	16.36	32.63	23.08	9.55
1961	38.34	15.53	7.43	8.10	22.80	1.26	3.14	5.20	13.21	48.14	15.53	32.60	22.80	9.80
1962	40.86	16.03	7.81	8.22	24.83	1.41	3.59	5.12	14.71	51.61	16.03	35.58	24.83	10.75
1963	43.67	17.27	8.64	8.63	26.40	1.26	3.64	5.33	16.17	53.59	17.27	36.33	26.40	9.93
1964	51.26	21.23	10.98	10.25	30.04	1.33	4.71	5.80	18.20	62.02	21.23	40.80	30.04	10.76
1965	59.52	25.41	13.49	11.92	34.12	1.36	5.66	6.49	20.60	70.79	25.41	45.39	34.12	11.27
1966	70.40	31.37	17.23	14.15	39.03	1.42	6.68	7.82	23.11	82.62	31.37	51.25	39.03	12.22
1967	72.75	32.25	17.83	14.42	40.50	1.38	6.57	9.33	23.22	83.82	32.25	51.57	40.50	11.07
1968	76.42	32.34	17.93	14.40	44.08	1.44	6.91	10.52	25.22	88.92	32.34	56.58	44.08	12.50
1969	85.74	36.27	19.97	16.31	49.47	1.77	7.23	11.70	28.77	100.02	36.27	63.74	49.47	14.27
1970	91.91	36.99	19.80	17.19	54.92	2.02	7.17	13.03	32.71	106.15	36.99	69.16	54.92	14.24
1971	92.91	33.60	16.78	16.82	59.31	2.67	6.42	14.70	35.52	109.18	33.60	75.58	59.31	16.26
1972	103.40	35.42	18.22	17.20	67.98	2.88	7.14	16.26	41.69	120.91	35.42	85.49	67.98	17.51
1973	120.03	42.35	26.63	19.72	77.67	3.30	8.00	17.99	48.39	139.26	42.35	96.91	77.67	19.24
1974	139.67	52.48	26.77	25.71	87.19	4.58	9.16	19.96	53.49	159.83	52.48	107.35	87.19	20.16
1975	142.42	53.66	25.37	28.28	88.76	6.12	9.95	20.23	52.47	162.60	53.66	108.95	88.76	20.19
1976	158.44	58.53	27.50	31.03	99.91	7.63	11.10	22.90	58.29	179.91	58.53	121.38	99.91	21.47
1977	184.82	67.48	32.77	34.71	117.34	9.81	12.20	27.83	67.51	208.15	67.48	140.67	117.34	23.33
1978	217.76	78.58	39.46	39.13	139.18	11.22	13.36	31.50	83.09	245.34	78.58	166.76	139.18	27.58
1979	254.96	95.92	48.57	47.42	159.04	12.81	16.05	35.63	94.56	286.94	95.92	189.02	159.04	29.98
1980	282.80	112.33	55.36	56.96	170.47	15.99	16.60	37.74	100.14	314.47	112.33	202.15	170.47	31.68
1981	315.22	126.54	59.81	66.73	188.68	21.39	15.84	41.21	110.24	349.26	126.54	222.72	188.68	34.04
1982	310.58	120.68	55.35	65.33	189.89	20.05	14.79	45.43	109.63	347.47	120.68	226.79	189.89	36.89
1983	304.78	116.20	53.08	63.12	188.58	15.19	13.97	44.96	114.45	343.35	116.20	227.15	188.58	38.56
1984	354.44	138.82	66.24	72.58	215.61	16.86	16.52	47.48	134.75	398.99	138.82	260.16	215.61	44.55
1985	387.13	153.48	73.27	80.21	233.65	15.88	18.02	48.81	150.94	431.94	153.48	278.46	233.65	44.81
1986	379.47	142.69	69.14	73.56	236.78	11.22	18.80	46.38	160.38	427.23	142.69	284.54	236.78	47.75
1987	389.67	145.90	71.01	74.88	243.78	11.39	18.85	44.88	168.65	440.66	145.90	294.77	243.78	50.99
1988	430.76	166.32	78.30	88.01	264.44	12.66	21.34	46.67	183.76	483.48	166.32	317.17	264.44	52.73
1989 <sup>4</sup>	475.18	183.16	83.05	100.11	292.02	12.50	25.24	50.06	204.22	.....	183.16	.....	292.02	.....
1990 <sup>4</sup>	505.49	190.16	83.22	106.94	315.33	12.01	26.41	50.14	226.78	.....	190.16	.....	315.33	.....
1988: I	413.34	157.97	75.28	82.69	255.37	12.61	20.35	45.05	177.37	.....	157.97	.....	255.37	.....
II	427.54	162.62	77.38	85.24	264.92	13.15	20.95	45.60	185.21	.....	162.62	.....	264.92	.....
III	435.61	168.76	79.15	89.62	266.85	12.53	22.02	46.69	185.61	.....	168.76	.....	266.85	.....
IV	442.11	173.32	80.56	92.76	268.79	12.38	22.04	48.73	185.65	.....	173.32	.....	268.79	.....
1989: I	459.47	175.22	81.26	93.96	284.24	12.15	23.13	50.81	198.15	.....	175.22	.....	284.24	.....
II	470.86	181.53	82.97	98.57	289.33	12.70	24.26	52.01	200.36	.....	181.53	.....	289.33	.....
III	484.93	187.66	85.66	102.00	297.28	12.59	28.53	49.57	206.59	.....	187.66	.....	297.28	.....
IV <sup>4</sup>	485.45	188.21	82.30	105.90	297.25	12.58	25.04	47.86	211.76	.....	188.21	.....	297.25	.....
1990: I <sup>4</sup>	503.46	193.76	86.84	106.92	309.70	12.23	26.61	51.89	218.97	.....	193.76	.....	309.70	.....
II <sup>4</sup>	518.27	198.70	88.43	110.27	319.57	12.83	27.56	53.11	226.07	.....	198.70	.....	319.57	.....

<sup>1</sup> Excludes forestry, fisheries, and agricultural services; professional services; social services and membership organizations; and real estate, which, effective with the April-May 1984 survey, are no longer surveyed quarterly. See last column ("nonmanufacturing surveyed annually") for data for these industries.

<sup>2</sup> "All industries" plus the part of nonmanufacturing that is surveyed annually.

<sup>3</sup> Consists of forestry, fisheries, and agricultural services; professional services; social services and membership organizations; and real estate.

<sup>4</sup> Planned capital expenditures as reported by business in October and November 1989, corrected for biases.

Source: Department of Commerce, Bureau of the Census.

TABLE C-55.—*Manufacturing and trade sales and inventories, 1948-89*

[Amounts in millions of dollars; monthly data seasonally adjusted]

Year or month	Total manufacturing and trade			Manufacturing			Merchant wholesalers			Retail trade		
	Sales <sup>1</sup>	Inventories <sup>2</sup>	Ratio <sup>3</sup>	Sales <sup>1</sup>	Inventories <sup>2</sup>	Ratio <sup>3</sup>	Sales <sup>1</sup>	Inventories <sup>2</sup>	Ratio <sup>3</sup>	Sales <sup>1</sup>	Inventories <sup>2</sup>	Ratio <sup>3</sup>
1948.....	35,260	52,507	1.42	17,316	28,543	1.57	6,808	7,957	1.13	11,135	16,007	1.39
1949.....	33,788	49,497	1.53	16,126	26,321	1.75	6,514	7,706	1.19	11,149	15,470	1.41
1950.....	38,596	59,822	1.36	18,634	31,078	1.48	7,695	9,284	1.07	12,268	19,460	1.38
1951.....	43,356	70,242	1.55	21,714	39,306	1.66	8,597	9,886	1.16	13,046	21,050	1.64
1952.....	44,840	72,377	1.58	22,529	41,136	1.78	8,782	10,210	1.12	13,529	21,031	1.52
1953.....	47,987	76,122	1.58	24,843	43,948	1.76	9,052	10,686	1.17	14,091	21,488	1.53
1954.....	46,443	73,175	1.60	23,355	41,612	1.81	8,993	10,637	1.18	14,095	20,926	1.51
1955.....	51,694	79,516	1.47	26,480	45,069	1.62	9,893	11,678	1.13	15,321	22,769	1.43
1956.....	54,063	87,304	1.55	27,740	50,642	1.73	10,513	13,260	1.19	15,811	23,402	1.47
1957.....	55,879	89,052	1.59	28,736	51,871	1.80	10,475	12,730	1.23	16,667	24,451	1.44
1958.....	54,201	87,132	1.61	27,247	50,280	1.85	10,257	12,739	1.24	16,696	24,113	1.44
1959.....	59,729	92,166	1.54	30,286	52,982	1.75	11,491	13,879	1.21	17,951	25,305	1.41
1960.....	60,827	94,756	1.56	30,879	53,823	1.74	11,656	14,120	1.21	18,294	26,813	1.47
1961.....	61,159	95,628	1.56	30,923	54,919	1.78	11,988	14,488	1.21	18,249	26,221	1.44
1962.....	65,662	101,091	1.54	33,357	58,214	1.75	12,674	14,936	1.18	19,630	27,941	1.42
1963.....	68,995	105,515	1.53	35,058	60,081	1.71	13,382	16,048	1.20	20,556	29,386	1.43
1964.....	73,682	111,534	1.51	37,331	63,440	1.70	14,529	17,000	1.17	21,823	31,094	1.42
1965.....	80,283	120,947	1.51	40,995	68,225	1.66	15,611	18,317	1.17	23,677	34,405	1.45
1966.....	87,187	136,838	1.57	44,870	78,000	1.74	16,987	20,765	1.22	25,330	38,073	1.50
1967.....	90,765	144,866	1.60	46,487	84,662	1.82	19,520	24,955	1.28	24,758	35,249	1.42
1968.....	98,607	155,770	1.58	50,228	90,617	1.80	20,926	26,268	1.26	27,453	38,885	1.42
1969.....	105,585	169,419	1.60	53,501	98,202	1.84	22,694	28,762	1.27	29,390	42,455	1.44
1970.....	108,100	177,492	1.64	52,805	101,652	1.93	24,031	32,199	1.34	31,264	43,641	1.40
1971.....	116,769	187,724	1.61	55,906	102,658	1.84	26,350	35,210	1.34	34,513	49,856	1.44
1972.....	130,931	201,865	1.54	63,027	108,240	1.72	29,695	38,816	1.31	38,209	54,809	1.43
1973.....	153,762	233,175	1.52	72,931	124,630	1.71	38,173	45,556	1.19	42,658	62,989	1.48
1974.....	177,946	285,884	1.61	84,790	157,793	1.86	47,989	57,239	1.19	45,167	70,852	1.57
1975.....	182,402	288,414	1.58	86,589	159,932	1.85	46,803	56,972	1.22	49,010	71,510	1.46
1976.....	204,381	318,647	1.56	98,797	175,195	1.77	50,885	64,365	1.26	54,699	79,087	1.45
1977.....	229,773	351,164	1.53	113,202	189,214	1.67	56,364	72,801	1.29	60,207	89,149	1.48
1978.....	260,592	399,220	1.53	126,905	210,509	1.66	66,669	86,405	1.30	67,018	102,306	1.53
1979.....	298,144	451,166	1.51	143,936	241,100	1.68	79,472	99,262	1.25	74,737	110,804	1.48
1980.....	327,874	508,327	1.55	154,391	264,281	1.71	93,704	122,979	1.31	79,779	121,067	1.52
1981.....	356,700	545,613	1.53	168,129	282,645	1.68	102,013	130,275	1.28	86,558	132,693	1.53
1982.....	348,747	574,491	1.65	163,350	311,827	1.91	96,290	128,196	1.33	89,107	134,468	1.51
1983.....	368,813	590,358	1.60	171,242	312,647	1.83	100,244	130,334	1.30	97,328	147,377	1.51
1984.....	407,869	644,306	1.58	187,869	334,767	1.78	113,195	142,380	1.26	106,805	167,159	1.57
1985.....	418,151	655,066	1.57	190,016	327,496	1.72	114,315	146,745	1.28	113,821	180,825	1.59
1986.....	423,700	653,853	1.54	188,360	316,182	1.68	115,677	152,447	1.32	119,663	185,224	1.55
1987.....	449,536	700,761	1.56	199,170	331,132	1.66	123,581	162,648	1.32	126,785	206,981	1.63
1988.....	485,756	753,718	1.55	217,632	354,163	1.63	132,361	178,313	1.35	135,763	221,242	1.63
1988: Jan.....	462,173	704,033	1.52	206,283	333,374	1.62	125,526	164,697	1.31	130,364	205,962	1.58
Feb.....	466,052	707,886	1.52	206,932	335,416	1.62	127,274	166,857	1.31	131,846	205,693	1.56
Mar.....	474,260	710,937	1.50	211,778	336,695	1.59	128,685	168,265	1.31	133,797	205,977	1.54
Apr.....	475,218	714,590	1.50	213,036	337,936	1.59	129,105	170,032	1.32	133,077	206,622	1.55
May.....	478,467	718,506	1.50	215,777	340,074	1.58	128,687	170,086	1.32	134,003	208,346	1.55
June.....	486,226	724,515	1.49	218,881	341,963	1.56	132,285	172,079	1.30	135,060	210,473	1.56
July.....	486,289	729,786	1.50	216,698	343,788	1.59	133,850	174,466	1.30	135,741	211,532	1.56
Aug.....	491,892	747,413	1.50	221,715	345,798	1.56	134,377	176,415	1.31	135,800	215,200	1.58
Sept.....	491,565	743,967	1.51	221,395	347,785	1.57	134,749	177,029	1.31	135,421	219,153	1.62
Oct.....	498,635	743,005	1.49	222,917	349,412	1.57	137,459	177,159	1.29	138,259	216,434	1.57
Nov.....	501,333	746,363	1.49	224,632	351,603	1.57	137,140	177,061	1.29	139,561	217,699	1.56
Dec.....	506,142	753,718	1.49	230,827	354,163	1.53	136,170	178,313	1.31	139,145	221,242	1.59
1989: Jan.....	511,881	759,803	1.48	231,485	357,458	1.54	140,356	179,761	1.28	140,040	222,584	1.59
Feb.....	507,328	763,051	1.50	228,353	359,056	1.57	139,547	179,810	1.29	139,428	224,185	1.61
Mar.....	507,555	765,504	1.51	228,048	361,130	1.58	139,991	179,681	1.28	139,516	224,693	1.61
Apr.....	517,745	771,340	1.49	234,042	363,458	1.55	142,290	181,226	1.27	141,413	226,656	1.60
May.....	518,088	778,933	1.50	233,071	365,055	1.57	142,474	182,615	1.28	142,543	230,423	1.62
June.....	515,695	780,802	1.51	231,236	366,492	1.58	141,959	182,548	1.29	142,500	231,762	1.63
July.....	511,144	787,584	1.54	225,922	370,803	1.64	141,667	183,950	1.30	143,555	232,831	1.62
Aug.....	526,290	790,368	1.50	238,150	371,489	1.56	143,280	183,529	1.28	144,860	235,350	1.62
Sept.....	522,760	790,572	1.51	233,562	370,890	1.59	143,905	182,891	1.27	145,293	236,791	1.63
Oct.....	519,975	793,157	1.53	231,995	371,712	1.60	144,554	186,119	1.29	143,426	235,326	1.64
Nov.....	523,276	796,637	1.52	232,785	372,852	1.60	146,307	187,095	1.28	144,184	236,690	1.64

<sup>1</sup> Monthly average for year and total for month.

<sup>2</sup> Seasonally adjusted, end of period. Inventories beginning January 1982 for manufacturing and December 1980 for wholesale and retail trade are not comparable with earlier periods.

<sup>3</sup> Inventory/sales ratio. Beginning 1958 annual data are based on December inventories and monthly average sales for the year. For earlier periods, data are weighted averages. For monthly data, ratio of inventories at end of month to sales for month.

Note.—Earlier data are not strictly comparable with data beginning 1958 for manufacturing and beginning 1967 for wholesale and retail trade.

Source: Department of Commerce, Bureau of the Census.

TABLE C-56.—Manufacturers' shipments and inventories, 1947-89

(Millions of dollars; monthly data seasonally adjusted)

Year or month	Shipments <sup>1</sup>			Inventories <sup>2</sup>										
	Total	Durable goods industries	Non-durable goods industries	Total	Durable goods industries				Nondurable goods industries					
					Total	Materials and supplies	Work in process	Finished goods	Total	Materials and supplies	Work in process	Finished goods		
1947	15,513	6,694	8,819	25,897	13,061					12,836				
1948	17,316	7,579	9,738	28,543	14,662					13,881				
1949	16,126	7,191	8,935	26,321	13,060					13,261				
1950	18,634	8,845	9,789	31,078	15,539					15,539				
1951	21,714	10,493	11,221	39,306	20,991					18,315				
1952	22,529	11,313	11,216	41,136	23,731					17,405				
1953	24,843	13,349	11,494	43,948	25,878	8,966	10,720	6,206	18,070	8,317	2,472	7,409		
1954	23,355	11,828	11,527	41,612	23,710	7,894	9,721	6,040	17,902	8,167	2,440	7,415		
1955	26,480	14,071	12,409	45,069	26,405	9,194	10,756	6,348	18,664	8,556	2,571	7,666		
1956	27,740	14,715	13,025	50,642	30,447	10,417	12,317	7,565	20,195	8,971	2,721	8,622		
1957	28,736	15,237	13,499	51,871	31,728	10,608	12,837	8,125	20,143	8,775	2,864	8,624		
1958	27,247	13,563	13,684	50,280	30,282	10,043	12,392	7,847	19,998	8,669	2,832	8,497		
1959	30,286	15,609	14,677	52,982	32,099	10,783	13,070	8,246	20,883	9,083	2,947	8,853		
1960	30,879	15,883	14,966	53,823	32,399	10,361	12,783	9,255	21,424	9,088	2,950	9,386		
1961	30,923	15,616	15,307	54,919	32,563	10,290	13,204	9,069	22,356	9,502	3,109	9,745		
1962	33,357	17,262	16,095	58,214	34,647	10,824	14,156	9,667	23,567	9,819	3,298	10,450		
1963	35,058	18,280	16,778	60,081	35,889	11,080	14,874	9,935	24,192	9,984	3,407	10,801		
1964	37,331	19,637	17,694	63,440	38,528	11,981	16,192	10,355	24,912	10,134	3,517	11,261		
1965	40,995	22,221	18,774	68,225	42,286	13,341	18,077	10,868	25,939	10,453	3,811	11,675		
1966	44,870	24,649	20,220	78,000	49,950	15,503	21,939	12,508	28,050	11,159	4,207	12,684		
1967	46,487	25,267	21,220	84,662	55,005	16,455	25,004	13,546	29,657	11,714	4,421	13,522		
1968	50,228	27,659	22,570	90,617	58,876	17,376	27,335	14,165	31,741	12,290	4,848	14,603		
1969	53,501	29,437	24,064	98,202	64,738	18,693	30,408	15,637	33,464	12,725	5,122	15,617		
1970	52,805	28,188	24,617	101,652	66,781	19,182	29,848	17,751	34,871	13,150	5,274	16,447		
1971	55,906	29,954	25,952	102,658	66,289	19,759	28,650	17,880	36,369	13,683	5,665	17,021		
1972	63,027	34,027	29,000	108,240	70,250	20,860	30,788	18,602	37,990	14,676	5,982	17,332		
1973	72,931	39,681	33,250	124,630	81,399	26,029	35,546	19,824	43,231	18,132	6,707	18,392		
1974	84,790	44,230	40,560	157,793	101,741	35,151	42,603	23,987	56,052	23,700	8,175	24,177		
1975	86,589	43,659	42,931	159,932	102,871	33,920	43,369	25,582	57,061	23,542	8,837	24,682		
1976	98,797	50,700	48,097	175,195	112,584	37,548	46,344	28,692	62,611	25,832	9,933	26,846		
1977	113,202	59,267	53,935	189,214	121,601	40,251	50,620	30,730	67,613	27,398	11,003	29,212		
1978	126,905	67,848	59,057	210,509	137,891	45,252	58,634	34,005	72,618	29,317	11,907	31,394		
1979	143,936	76,060	67,876	241,100	160,533	52,687	69,254	38,592	80,567	32,451	13,741	34,375		
1980	154,391	77,550	76,841	264,281	174,620	55,121	76,997	42,502	89,661	36,206	15,732	37,723		
1981	168,129	83,872	84,257	282,645	186,347	57,927	81,105	47,315	96,298	37,758	16,074	42,466		
1982	163,350	79,352	83,998	311,827	200,825	58,960	87,223	54,642	111,002	43,915	18,585	48,502		
1983	171,242	84,956	86,286	312,647	200,406	60,203	87,643	52,560	112,241	44,643	18,842	48,756		
1984	187,869	96,623	91,246	334,767	218,771	64,881	97,750	56,140	115,996	44,917	18,978	52,101		
1985	190,016	99,019	90,996	327,496	214,066	62,229	97,253	54,584	113,430	42,964	18,926	51,540		
1986	188,360	99,989	88,371	316,182	208,313	60,218	94,466	53,629	107,869	41,540	17,360	48,969		
1987	199,170	105,291	93,879	331,132	216,598	61,255	99,952	55,391	114,534	44,354	18,752	51,428		
1988	217,632	115,684	101,948	354,163	233,666	65,252	108,392	60,022	120,497	47,294	19,291	53,912		
1988: Jan	206,283	109,125	97,158	333,374	218,507	61,753	100,751	56,003	114,867	44,694	18,759	51,414		
Feb	206,932	109,829	97,103	335,416	219,913	61,830	101,955	56,128	115,503	44,858	18,610	52,035		
Mar	211,778	112,744	99,034	336,695	220,523	62,552	101,709	56,262	116,172	45,458	18,891	51,823		
Apr	213,036	112,521	100,515	337,936	221,405	62,541	102,665	56,199	116,531	45,578	19,061	51,892		
May	215,777	114,751	101,026	340,074	222,948	63,105	103,678	56,165	117,126	45,790	19,075	52,261		
June	218,881	116,522	102,359	341,963	224,000	63,522	104,112	56,366	117,963	46,255	19,050	52,658		
July	216,698	113,122	103,576	343,788	225,467	64,138	104,257	57,072	118,321	46,350	19,218	52,753		
Aug	221,715	117,866	103,849	345,798	226,600	64,998	103,927	57,675	119,198	46,931	19,163	53,104		
Sept	221,395	118,030	103,365	347,785	228,214	65,253	104,440	58,521	119,571	47,364	19,110	53,097		
Oct	222,917	118,439	104,478	349,412	229,735	65,324	105,239	59,172	119,677	47,611	19,172	52,894		
Nov	224,632	119,874	104,758	351,603	231,766	65,298	106,884	59,584	119,837	47,664	19,071	53,102		
Dec	230,827	124,175	106,652	354,163	233,666	65,252	108,392	60,022	120,497	47,294	19,291	53,912		
1989: Jan	231,485	123,578	107,907	357,458	236,810	66,273	109,309	61,228	120,648	46,963	19,532	54,153		
Feb	228,353	120,924	107,429	359,056	238,165	66,852	110,118	61,195	120,891	46,900	19,522	54,569		
Mar	228,048	120,432	107,616	361,130	239,330	67,278	111,555	60,497	121,800	46,858	20,075	54,867		
Apr	234,042	123,331	110,711	363,458	240,486	66,887	113,381	60,218	122,972	46,750	20,493	55,699		
May	233,071	122,962	110,109	365,055	241,689	66,748	114,291	60,650	123,366	46,679	20,290	56,397		
June	231,236	121,720	109,516	366,492	242,295	66,681	114,668	60,946	124,197	46,673	20,254	56,900		
July	225,922	117,114	108,808	370,803	245,813	67,565	116,487	61,761	124,990	46,891	20,837	57,262		
Aug	238,150	128,347	109,803	371,489	246,378	67,746	116,560	62,072	125,111	47,073	20,919	57,119		
Sept	233,562	124,393	109,169	370,890	245,621	67,611	115,477	62,533	125,269	46,643	20,985	57,641		
Oct	231,995	121,840	110,155	371,712	246,427	68,010	115,756	62,661	125,285	46,769	21,405	57,111		
Nov	232,785	123,180	109,605	372,852	247,649	68,166	116,895	62,588	125,203	47,027	21,150	57,026		

<sup>1</sup> Monthly average for year and total for month.

<sup>2</sup> Seasonally adjusted, end of period. Data beginning 1982 are not comparable with data for prior periods.

Note.—Data beginning 1958 are not strictly comparable with earlier data.

Source: Department of Commerce, Bureau of the Census.

TABLE C-57.—Manufacturers' new and unfilled orders, 1947-89

(Amounts in millions of dollars; monthly data seasonally adjusted)

Year or month	New orders <sup>1</sup>			Unfilled orders <sup>2</sup>			Unfilled orders—shipments ratio <sup>3</sup>			
	Total	Durable goods industries		Non-durable goods industries	Total	Durable goods industries	Non-durable goods industries	Total	Durable goods industries	Non-durable goods industries
		Total	Capital goods industries, non-defense							
1947	15,256	6,388		8,868	34,473	28,579	5,894			
1948	17,693	8,126		9,566	30,736	26,619	4,117			
1949	15,614	6,633		8,981	24,045	19,622	4,423			
1950	20,110	10,165		9,945	41,456	35,435	6,021			
1951	23,907	12,841		11,066	67,266	63,394	3,872			
1952	23,204	12,061		11,143	75,857	72,680	3,177			
1953	23,586	12,147		11,439	61,178	58,637	2,541			
1954	22,335	10,768		11,566	48,266	45,250	3,016			0.96
1955	27,465	14,996		12,469	60,004	56,241	3,763	3.42	4.12	1.12
1956	28,368	15,365		13,003	67,375	63,880	3,495	3.87	4.55	1.04
1957	27,559	14,111		13,448	53,183	50,352	2,831	3.35	4.00	.85
1958	27,191	13,397		13,795	46,806	43,991	2,815	3.05	3.64	.86
1959	30,731	16,010		14,721	52,242	48,878	3,364	2.98	3.50	.94
1960	30,240	15,308		14,932	44,666	42,097	2,569	2.75	3.33	.72
1961	31,106	15,761		15,345	47,016	43,979	3,037	2.61	3.10	.79
1962	33,432	17,370		16,062	48,124	45,509	2,615	2.66	3.20	.68
1963	35,536	18,721		16,815	54,019	50,956	3,063	2.78	3.35	.73
1964	38,339	20,633		17,706	66,347	63,152	3,195	3.08	3.69	.72
1965	42,111	23,288		18,824	79,685	75,906	3,779	3.31	3.93	.80
1966	46,402	26,176		20,225	97,991	94,160	3,831	3.79	4.53	.76
1967	47,056	25,825		21,231	104,548	100,578	3,970	3.70	4.40	.73
1968	50,687	28,116	6,915	22,571	109,923	105,947	3,976	3.85	4.65	.69
1969	53,950	29,871	7,660	24,080	115,424	111,253	4,171	3.75	4.50	.69
1970	52,038	27,388	6,738	24,650	106,156	101,565	4,591	3.65	4.39	.77
1971	55,984	29,998	7,444	25,986	107,145	102,118	5,027	3.38	4.06	.77
1972	64,173	35,069	8,622	29,104	121,060	114,724	6,336	3.31	3.90	.88
1973	76,056	42,726	10,971	33,330	158,885	151,506	7,379	3.86	4.56	.93
1974	87,245	46,836	12,673	40,409	188,468	182,926	5,542	4.13	4.96	.64
1975	85,220	42,099	11,011	43,122	172,037	164,139	7,898	3.76	4.52	.84
1976	99,532	51,404	12,791	48,129	180,564	172,274	8,290	3.30	3.94	.76
1977	115,103	61,128	15,242	53,975	204,946	196,244	8,702	3.29	3.90	.72
1978	131,650	72,416	19,420	59,234	262,415	251,525	10,890	3.62	4.25	.83
1979	147,574	79,586	23,221	67,987	306,540	294,272	12,268	3.93	4.66	.83
1980	156,318	79,482	23,242	76,836	329,884	317,677	12,207	3.88	4.62	.76
1981	167,883	83,657	24,012	84,226	327,356	315,529	11,827	3.87	4.67	.69
1982	162,273	78,338	21,661	83,935	314,270	303,187	11,083	3.88	4.78	.63
1983	174,122	87,600	22,098	86,522	349,419	335,367	14,052	3.59	4.34	.70
1984	189,791	98,581	26,243	91,209	372,586	358,899	13,687	3.64	4.41	.65
1985	190,918	99,843	27,067	91,075	383,181	388,427	14,754	3.72	4.51	.69
1986	188,663	100,166	26,551	88,497	387,065	370,700	16,365	3.63	4.43	.71
1987	201,966	107,770	29,707	94,197	421,243	400,720	20,523	3.65	4.41	.83
1988	221,627	119,634	35,028	101,993	468,860	447,868	20,992	3.66	4.43	.78
1988: Jan	210,202	113,069	33,867	97,133	425,162	404,664	20,498	3.71	4.52	.82
Feb	211,283	114,155	33,819	97,128	429,513	408,990	20,523	3.74	4.55	.82
Mar	211,799	113,063	31,924	98,736	429,534	409,309	20,225	3.66	4.44	.80
Apr	217,029	116,836	33,746	100,193	433,527	413,624	19,903	3.68	4.50	.77
May	216,398	115,369	31,522	101,029	434,148	414,242	19,906	3.64	4.42	.77
June	228,090	125,442	35,458	102,648	443,357	423,162	20,195	3.67	4.44	.79
July	219,877	116,112	36,213	103,765	446,536	426,152	20,384	3.73	4.55	.79
Aug	227,009	122,806	38,808	104,203	451,830	431,092	20,738	3.68	4.46	.79
Sept	222,669	119,321	34,858	103,348	453,103	432,382	20,721	3.66	4.43	.79
Oct	227,095	122,791	34,623	104,304	457,281	436,734	20,547	3.70	4.49	.78
Nov	228,153	123,035	35,825	105,118	460,802	439,895	20,907	3.69	4.48	.78
Dec	238,886	132,149	39,432	106,737	468,860	447,868	20,992	3.66	4.43	.78
1989: Jan	236,075	128,479	40,352	107,596	473,450	452,769	20,681	3.71	4.51	.77
Feb	231,306	124,107	37,189	107,199	476,403	455,952	20,451	3.78	4.61	.75
Mar	233,011	125,377	38,137	107,634	481,366	460,897	20,469	3.83	4.65	.77
Apr	239,907	129,372	40,389	110,535	487,231	466,938	20,293	3.79	4.61	.74
May	233,753	123,524	37,290	110,229	487,913	467,500	20,413	3.80	4.62	.75
June	235,157	125,137	39,146	110,020	491,834	470,917	20,917	3.84	4.66	.77
July	230,447	122,031	41,445	108,416	496,359	475,834	20,525	3.95	4.83	.76
Aug	236,793	126,766	37,130	110,027	495,002	474,253	20,749	3.74	4.52	.76
Sept	234,354	125,227	35,341	109,127	495,794	475,087	20,707	3.79	4.59	.76
Oct	234,067	124,262	35,975	109,805	497,866	477,509	20,357	3.87	4.71	.74
Nov	239,816	130,307	38,823	109,509	504,897	484,636	20,261	3.91	4.77	.73

<sup>1</sup> Monthly average for year and total for month.

<sup>2</sup> Seasonally adjusted, end of period.

<sup>3</sup> Ratio of unfilled orders at end of period to shipments for period; excludes industries with no unfilled orders. Annual figures relate to seasonally adjusted data for December.

Note.—Data beginning 1958 are not strictly comparable with earlier data.

Source: Department of Commerce, Bureau of the Census.

PRICES

TABLE C-58.—Consumer price indexes, major expenditure classes, 1946-89

[1982-84=100]

Year or month	All items	Food and beverages		Housing				Apparel and upkeep	Transportation	Medical care	Entertainment	Other goods and services	Energy <sup>3</sup>
		Total <sup>1</sup>	Food	Total	Shelter	Fuel and other utilities <sup>2</sup>	Household furnishings and operation						
1946	19.5		19.8					34.4	16.7	12.5			
1947	22.3		24.1					39.9	18.5	13.5			
1948	24.1		26.1					42.5	20.6	14.4			
1949	23.8		25.0					40.8	22.1	14.8			
1950	24.1		25.4					40.3	22.7	15.1			
1951	26.0		28.2					43.9	24.1	15.9			
1952	26.5		28.7					43.5	25.7	16.7			
1953	26.7		28.3		22.0	22.5		43.1	26.5	17.3			
1954	26.9		28.2		22.5	22.6		43.1	26.1	17.8			
1955	26.8		27.8		22.7	23.0		42.9	25.8	18.2			
1956	27.2		28.0		23.1	23.6		43.7	26.2	18.9			
1957	28.1		28.9		24.0	24.3		44.5	27.7	19.7			21.5
1958	28.9		30.2		24.5	24.8		44.6	28.6	20.6			21.5
1959	29.1		29.7		24.7	25.4		45.0	29.8	21.5			21.9
1960	29.6		30.0		25.2	26.0		45.7	29.8	22.3			22.4
1961	29.9		30.4		25.4	26.3		46.1	30.1	22.9			22.5
1962	30.2		30.6		25.8	26.3		46.3	30.8	23.5			22.6
1963	30.6		31.1		26.1	26.6		46.9	30.9	24.1			22.6
1964	31.0		31.5		26.5	26.6		47.3	31.4	24.6			22.5
1965	31.5		32.2		27.0	26.6		47.8	31.9	25.2			22.9
1966	32.4		33.8		27.8	26.7		49.0	32.3	26.3			23.3
1967	33.4	35.0	34.1	30.8	28.8	27.1	42.0	51.0	33.3	28.2	40.7	35.1	23.8
1968	34.8	36.2	35.3	32.0	30.1	27.4	43.6	53.7	34.3	29.9	43.0	36.9	24.2
1969	36.7	38.1	37.1	34.0	32.6	28.0	45.2	56.8	35.7	31.9	45.2	38.7	24.8
1970	38.8	40.1	39.2	36.4	35.5	29.1	46.8	59.2	37.5	34.0	47.5	40.9	25.5
1971	40.5	41.4	40.4	38.0	37.0	31.1	48.6	61.1	39.5	36.1	50.0	42.9	26.5
1972	41.8	43.1	42.1	39.4	38.7	32.5	49.7	62.3	39.9	37.3	51.5	44.7	27.2
1973	44.4	48.8	48.2	41.2	40.5	34.3	51.1	64.6	41.2	38.8	52.9	46.4	29.4
1974	49.3	55.5	55.1	45.8	44.4	40.7	56.8	69.4	45.8	42.4	56.9	49.8	38.1
1975	53.8	60.2	59.8	50.7	48.8	45.4	63.4	72.5	50.1	47.5	62.0	53.9	42.1
1976	56.9	62.1	61.6	53.8	51.5	49.4	67.3	75.2	55.1	52.0	65.1	57.0	45.1
1977	60.6	65.8	65.5	57.4	54.9	54.7	70.4	78.6	59.0	57.0	68.3	60.4	49.4
1978	65.2	72.2	72.0	62.4	60.5	58.5	74.7	81.4	61.7	61.8	71.9	64.3	52.5
1979	72.6	79.9	79.9	70.1	68.9	64.8	79.9	84.9	70.5	67.5	76.7	68.9	65.7
1980	82.4	86.7	86.8	81.1	81.0	75.4	86.3	90.9	83.1	74.9	83.6	75.2	86.0
1981	90.9	93.5	93.6	90.4	90.5	86.4	93.0	95.3	93.2	82.9	90.1	82.6	97.7
1982	96.5	97.3	97.4	96.9	96.9	94.9	98.0	97.8	97.0	92.5	96.0	91.1	99.2
1983	99.6	99.5	99.4	99.5	99.1	100.2	100.2	100.2	99.3	100.6	100.1	101.1	99.9
1984	103.9	103.2	103.2	103.6	104.0	104.8	101.9	102.1	103.7	106.8	103.8	107.9	100.9
1985	107.6	105.6	105.6	107.7	109.8	106.5	103.8	105.0	106.4	113.5	107.9	114.5	101.6
1986	109.6	109.1	109.0	110.9	115.8	104.1	105.2	105.9	102.3	122.0	111.6	121.4	88.2
1987	113.6	113.5	113.5	114.2	121.3	103.0	107.1	110.6	105.4	130.1	115.3	128.5	88.6
1988	118.3	118.2	118.2	118.5	127.1	104.4	109.4	115.4	108.7	138.6	120.3	137.0	89.3
1989	124.0	124.9	125.1	123.0	132.8	107.8	111.2	118.6	114.1	149.3	126.5	147.7	94.3
1988: Jan	115.7	115.7	115.7	116.2	124.6	102.4	107.5	110.4	107.1	134.4	118.1	133.4	87.4
Feb	116.0	115.8	115.7	116.6	125.0	102.8	107.7	110.2	106.8	135.5	118.3	134.2	87.0
Mar	116.5	116.0	115.9	117.0	125.6	102.7	108.3	114.3	106.5	136.3	119.0	134.6	86.5
Apr	117.1	116.7	116.6	117.3	125.8	102.8	109.1	117.0	107.2	136.9	119.6	134.8	87.3
May	117.5	117.1	117.0	117.7	126.2	103.5	109.3	116.3	108.1	137.5	119.7	135.1	88.7
June	118.0	117.6	117.6	118.6	126.6	105.9	109.6	114.6	108.5	138.2	120.1	135.5	91.0
July	118.5	118.8	118.8	119.1	127.4	106.0	109.8	112.7	108.9	139.3	120.5	136.5	91.4
Aug	119.0	119.4	119.4	119.5	128.2	106.1	109.7	112.6	109.6	139.9	120.7	137.5	92.3
Sept.	119.8	120.1	120.2	119.9	128.4	106.4	110.1	117.8	109.7	140.4	121.3	140.0	91.9
Oct	120.2	120.3	120.3	119.9	128.8	105.4	110.3	120.7	110.0	141.2	121.8	140.6	89.9
Nov	120.3	120.2	120.2	119.9	129.1	104.3	110.6	119.9	110.7	141.8	122.2	141.0	88.9
Dec	120.5	120.6	120.7	120.2	129.3	105.0	110.6	118.0	110.8	142.3	122.8	141.3	88.7
1989: Jan	121.1	122.0	122.2	120.7	129.8	106.0	110.9	115.3	111.1	143.8	123.8	143.4	89.0
Feb	121.6	122.7	122.9	121.1	130.3	105.9	110.9	115.3	111.6	145.2	124.3	144.1	89.3
Mar	122.3	123.3	123.5	121.5	131.2	105.9	110.5	119.3	111.9	146.1	124.7	144.4	89.8
Apr	123.1	124.0	124.2	121.6	131.2	106.2	110.7	120.9	114.6	146.8	125.4	144.7	94.9
May	123.8	124.7	124.9	122.1	131.8	107.0	110.8	120.4	116.0	147.5	125.5	145.4	97.4
June	124.1	124.9	125.0	122.9	132.3	109.2	111.1	117.8	115.9	148.5	126.2	146.3	99.0
July	124.4	125.4	125.5	123.9	133.6	109.7	111.4	115.0	115.4	149.7	126.9	147.3	98.5
Aug	124.6	125.6	125.8	124.2	134.1	109.7	111.4	115.0	114.3	150.7	127.3	148.7	97.0
Sept.	125.0	125.9	126.1	124.3	134.1	109.7	111.7	120.0	113.7	151.7	127.8	151.2	95.9
Oct	125.6	126.3	126.5	124.4	134.8	108.0	111.9	122.7	114.5	152.7	128.4	151.8	94.6
Nov	125.9	126.7	126.9	124.5	135.2	107.5	111.9	122.1	115.0	153.9	128.6	151.9	93.2
Dec	126.1	127.2	127.4	124.9	135.6	108.4	111.7	119.2	115.2	154.4	129.1	152.9	93.2

<sup>1</sup> Includes alcoholic beverages, not shown separately.

<sup>2</sup> See table C-59 for components.

<sup>3</sup> See tables C-60 for definition and C-59 for components.

Note.—Data beginning 1978 are for all urban consumers; earlier data are for urban wage earners and clerical workers. Data beginning 1983 incorporate a rental equivalence measure for homeowners' costs and therefore are not strictly comparable with earlier figures.

TABLE C-59.—Consumer price indexes, selected expenditure classes, 1946-89

[1982-84=100, except as noted]

Year or month	Food and beverages			Shelter				Fuel and other utilities						
	Total <sup>1</sup>	Food		Total	Renters' costs			Total	Household fuels			Other utilities and public services		
		Total	At home		Away from home	Total <sup>2</sup>	Rent, residential		Home-owners' costs <sup>2</sup>	Home maintenance and repairs	Total		Fuel oil and other household fuel commodities	Gas (piped) and electricity
1946	19.8					25.0					7.9	18.3		
1947	24.1	25.8				25.8					9.0	18.2		
1948	26.1	28.0				27.5					10.6	18.7		
1949	25.0	26.9				28.7					10.9	19.2		
1950	25.4	27.3				29.7					11.3	19.2		
1951	28.2	30.3				30.9					11.8	19.3		
1952	28.7	30.8				32.2					12.1	19.5		
1953	28.3	30.3	21.5	22.0		33.9		20.5	22.5		12.6	19.9		
1954	28.2	30.1	21.9	22.5		35.1		20.9	22.6		12.6	20.2		
1955	27.8	29.5	22.1	22.7		35.6		21.4	23.0		12.7	20.7		
1956	28.0	29.6	22.6	23.1		36.3		22.3	23.6		13.3	20.9		
1957	28.9	30.6	23.4	24.0		37.0		23.2	24.3		14.0	21.1		
1958	30.2	32.0	24.1	24.5		37.6		23.6	24.8		13.7	21.9		
1959	29.7	31.2	24.8	24.7		38.2		24.0	25.4		13.9	22.4		
1960	30.0	31.5	25.4	25.2		38.7		24.4	26.0		13.8	23.3		
1961	30.4	31.8	26.0	25.4		39.2		24.8	26.3		14.1	23.5		
1962	30.6	32.0	26.7	25.8		39.7		25.0	26.3		14.2	23.5		
1963	31.1	32.4	27.3	26.1		40.1		25.3	26.6		14.4	23.5		
1964	31.5	32.7	27.8	26.5		40.5		25.8	26.6		14.4	23.5		
1965	32.2	33.5	28.4	27.0		40.9		26.3	26.6		14.6	23.5		
1966	33.8	35.2	29.7	27.8		41.5		27.5	26.7		15.0	23.6		
1967	35.0	34.1	35.1	31.3	28.8	42.2		28.9	27.1	21.4	15.5	23.7	46.6	
1968	36.2	35.3	36.3	32.9	30.1	43.3		30.6	27.4	21.7	16.0	23.9	47.1	
1969	38.1	37.1	38.0	34.9	32.6	44.7		33.2	28.0	22.1	16.3	24.3	48.4	
1970	40.1	39.2	39.9	37.5	35.5	46.5		35.8	29.1	23.1	17.0	25.4	50.0	
1971	41.4	40.4	40.9	39.4	37.0	48.7		38.6	31.1	24.7	18.2	27.1	53.4	
1972	43.1	42.1	42.7	41.0	38.7	50.4		40.6	32.5	25.7	18.3	28.5	56.2	
1973	48.8	48.2	49.7	44.2	40.5	52.5		43.6	34.3	27.5	21.1	29.9	57.8	
1974	55.5	55.1	57.1	49.8	44.4	55.2		49.5	40.7	34.4	33.2	34.5	60.7	
1975	60.2	59.8	61.8	54.5	48.8	58.0		54.1	45.4	39.4	36.4	40.1	63.9	
1976	62.1	61.6	63.1	58.2	51.5	61.1		57.6	49.4	43.3	38.8	44.7	67.7	
1977	65.8	65.5	66.8	62.6	54.9	64.8		62.0	54.7	49.0	43.9	50.5	70.8	
1978	72.2	72.0	73.8	68.3	60.5	69.3		67.2	58.5	53.0	46.2	55.0	73.7	
1979	79.9	79.9	81.8	75.9	68.9	74.3		74.0	64.8	61.3	62.4	61.0	74.3	
1980	86.7	86.8	88.4	83.4	81.0	80.9		82.4	75.4	74.8	86.1	71.4	77.0	
1981	93.5	93.6	94.8	90.9	90.5	87.9		90.7	86.4	87.2	104.6	81.9	84.3	
1982	97.3	97.4	98.1	95.9	96.9	94.6		96.4	94.9	95.6	103.4	93.2	93.3	
1983	99.5	99.4	99.1	100.0	99.1	100.1	102.5	99.9	100.2	100.5	97.2	101.5	99.5	
1984	103.2	103.2	102.8	104.2	104.0	108.6	103.3	103.7	104.8	104.0	99.4	105.4	107.2	
1985	105.6	105.6	104.3	108.3	109.8	115.4	111.8	113.1	106.5	106.5	104.5	95.9	107.1	112.1
1986	109.1	109.0	107.3	112.5	115.8	121.9	118.3	119.4	107.9	104.1	99.2	77.6	105.7	117.9
1987	113.5	113.5	111.9	117.0	121.3	128.1	123.1	124.8	111.8	103.0	97.3	77.9	103.8	120.1
1988	118.2	118.2	116.6	121.8	127.1	133.6	127.8	131.1	114.7	104.4	98.0	78.1	104.6	122.9
1989	124.9	125.1	124.2	127.4	132.8	138.9	132.8	137.3	118.0	107.8	100.9	81.7	107.5	127.1
1988: Jan	115.7	115.7	114.1	119.3	124.6	130.8	126.0	128.5	113.7	102.4	95.6	80.8	101.5	121.3
Feb	115.8	115.7	113.9	119.7	125.0	131.3	126.3	129.0	114.3	102.8	96.0	80.9	101.9	121.8
Mar	116.0	115.9	113.9	120.2	125.6	132.9	126.4	129.2	113.3	102.7	95.8	80.5	101.7	121.7
Apr	116.7	116.6	114.6	120.7	125.8	132.9	126.6	129.4	115.3	102.8	95.7	80.2	101.6	122.3
May	117.1	117.0	115.1	121.0	126.2	133.1	126.9	129.9	114.3	103.5	96.5	80.0	102.6	122.6
June	117.6	117.6	115.8	121.5	126.6	133.7	127.3	130.4	114.7	105.9	100.8	79.1	107.8	122.3
July	118.8	118.8	117.3	121.1	127.4	134.7	127.8	131.0	114.5	106.0	100.8	76.9	108.1	122.4
Aug	119.4	119.4	118.1	122.5	128.2	135.6	128.4	131.8	115.0	106.1	100.9	76.3	108.3	122.6
Sept	120.1	120.2	119.0	123.0	128.4	134.7	129.1	132.6	115.3	106.4	101.0	75.9	108.5	123.3
Oct	120.3	120.3	119.0	123.4	128.8	134.8	129.4	133.1	115.0	105.4	98.6	74.6	105.8	124.5
Nov	120.2	120.2	118.7	123.7	129.1	134.2	129.8	133.8	115.4	104.3	96.8	75.0	103.7	124.4
Dec	120.6	120.7	119.1	124.1	129.3	134.1	130.1	134.0	115.8	105.0	97.4	76.8	104.1	125.5
1989: Jan	122.0	122.2	121.2	124.7	129.8	135.2	130.5	134.4	116.1	106.0	98.7	80.5	105.1	125.9
Feb	122.7	122.9	122.0	125.2	130.3	136.3	130.9	134.7	117.1	105.9	98.6	81.4	104.9	126.0
Mar	123.3	123.5	122.7	125.7	131.2	138.6	131.1	135.0	117.1	105.9	98.5	81.5	104.8	125.9
Apr	124.0	124.2	123.5	126.2	131.2	137.9	131.4	122.4	117.3	106.2	98.8	82.5	105.0	126.2
May	124.7	124.9	124.4	126.7	131.8	137.8	131.7	136.2	117.4	107.0	99.6	81.5	106.1	127.0
June	124.9	125.0	124.3	127.1	132.3	138.7	132.3	136.5	118.3	109.2	103.2	80.2	110.5	127.1
July	125.4	125.5	124.8	127.8	133.6	141.5	133.0	137.3	118.4	109.7	103.7	79.7	111.1	127.7
Aug	125.6	125.8	124.9	128.1	134.1	141.5	133.5	138.1	118.5	109.7	103.7	78.9	111.3	127.8
Sept	125.9	126.1	125.0	128.8	134.1	139.4	133.9	138.9	118.6	109.7	103.5	79.3	111.0	128.1
Oct	126.3	126.5	125.4	129.1	134.8	140.0	134.7	139.7	118.6	108.0	101.0	82.0	107.6	127.6
Nov	126.7	126.9	125.8	129.5	135.2	140.1	135.2	140.3	119.3	107.5	99.9	83.9	106.1	127.9
Dec	127.2	127.4	126.5	129.8	135.6	140.1	135.5	140.9	119.5	108.4	101.2	88.7	107.0	128.2

<sup>1</sup> Includes alcoholic beverages, not shown separately.  
<sup>2</sup> December 1982=100.  
 See next page for continuation of table.

TABLE C-59.—Consumer price indexes, selected expenditure classes, 1946-89—Continued

[1982-84=100, except as noted]

Year or month	Transportation							Medical care		
	Total	Private transportation					Public transportation	Total	Medical care commodities	Medical care services
		Total*	New cars	Used cars	Motor fuel*	Auto-mobile maintenance and repairs				
1946	16.7	18.3			14.5	15.8	9.4	12.5	34.2	10.4
1947	18.5	20.8	34.1		16.4	17.1	9.9	13.5	36.7	11.3
1948	20.6	23.0	37.3		18.6	18.1	11.2	14.4	38.6	12.1
1949	22.1	24.4	40.8		19.1	18.6	12.4	14.8	39.2	12.5
1950	22.7	24.5	41.1		19.0	18.9	13.4	15.1	39.7	12.8
1951	24.1	25.6	43.1		19.5	20.4	14.8	15.9	40.8	13.4
1952	25.7	27.3	46.8		20.0	20.8	15.8	16.7	41.2	14.3
1953	26.5	27.8	47.2	26.7	21.2	22.0	16.8	17.3	41.5	14.8
1954	26.1	27.1	46.5	22.7	21.8	22.7	18.0	17.8	42.0	15.3
1955	25.8	26.7	44.8	21.5	22.1	23.2	18.5	18.2	42.5	15.7
1956	26.2	27.1	46.1	20.7	22.8	24.2	19.2	18.9	43.4	16.3
1957	27.7	28.6	48.5	23.2	23.8	25.0	19.9	19.7	44.6	17.0
1958	28.6	29.5	50.0	24.0	23.4	25.4	20.9	20.6	46.1	17.9
1959	29.8	30.8	52.2	26.8	23.7	26.0	21.5	21.5	46.8	18.7
1960	29.8	30.6	51.5	25.0	24.4	26.5	22.2	22.3	46.9	19.5
1961	30.1	30.8	51.5	26.0	24.1	27.1	23.2	22.9	46.3	20.2
1962	30.8	31.4	51.3	28.4	24.3	27.5	24.0	23.5	45.6	20.9
1963	30.9	31.6	51.0	28.7	24.2	27.8	24.3	24.1	45.2	21.5
1964	31.4	32.0	50.9	30.0	24.1	28.2	24.7	24.6	45.1	22.0
1965	31.9	32.5	49.7	29.8	25.1	28.7	25.2	25.2	45.0	22.7
1966	32.3	32.9	48.8	29.0	25.6	29.2	26.1	26.3	45.1	23.9
1967	33.3	33.8	49.3	29.9	26.4	30.4	37.9	27.4	28.2	44.9
1968	34.3	34.8	50.7	(*)	26.8	32.1	39.2	28.7	29.9	45.0
1969	35.7	36.0	51.5	30.9	27.6	34.1	41.6	30.9	31.9	45.4
1970	37.5	37.5	53.0	31.2	27.9	36.6	45.2	35.2	34.0	46.5
1971	39.5	39.4	55.2	33.0	28.1	39.3	48.6	37.8	36.1	47.3
1972	39.9	39.7	54.7	33.1	28.4	41.1	48.9	39.3	37.3	47.4
1973	41.2	41.0	54.8	35.2	31.2	43.2	48.4	39.7	38.8	47.5
1974	45.8	46.2	57.9	36.7	42.2	47.6	50.2	40.6	42.4	49.2
1975	50.1	50.6	62.9	43.8	45.1	53.7	53.5	43.5	47.5	53.3
1976	55.1	55.6	66.9	50.3	47.0	57.6	61.8	47.8	52.0	56.5
1977	59.0	59.7	70.4	54.7	49.7	61.9	67.2	50.0	57.0	60.2
1978	61.7	62.5	75.8	55.8	51.8	67.0	69.9	51.5	61.8	64.4
1979	70.5	71.7	81.8	60.2	70.1	73.7	75.2	54.9	67.5	69.0
1980	83.1	84.2	88.4	62.3	97.4	81.5	84.3	69.0	74.9	75.4
1981	93.2	93.8	93.7	76.9	108.5	89.2	91.4	85.6	82.9	83.7
1982	97.0	97.1	97.4	88.8	102.8	96.0	97.7	94.9	92.5	92.3
1983	99.3	99.3	99.9	98.7	99.4	100.3	98.8	99.5	100.6	100.7
1984	103.7	103.6	102.8	112.5	97.9	103.8	103.5	105.7	106.8	107.5
1985	106.4	106.2	106.1	113.7	98.7	106.8	109.0	110.5	113.5	113.2
1986	102.3	101.2	110.6	108.8	77.1	110.3	115.1	117.0	122.0	122.8
1987	105.4	104.2	114.6	113.1	80.2	114.8	120.8	121.1	130.1	130.0
1988	108.7	107.6	116.9	118.0	80.9	119.7	127.9	123.3	138.6	139.9
1989	114.1	112.9	119.2	120.4	88.5	124.9	135.8	129.5	149.3	150.8
1988: Jan	107.1	106.0	116.2	116.0	79.7	117.2	124.7	121.8	134.4	135.4
Feb	106.8	105.7	116.2	116.0	78.3	117.7	125.0	120.8	135.5	136.1
Mar	106.5	105.4	116.0	116.1	77.5	118.5	124.9	121.4	136.3	137.0
Apr	107.2	106.0	115.9	116.6	79.4	118.8	125.0	122.4	136.9	138.1
May	108.1	107.0	116.3	117.0	81.4	119.3	126.3	122.4	137.5	139.0
June	108.5	107.4	116.5	117.6	81.4	119.7	127.2	123.2	138.2	139.4
July	108.9	107.8	116.5	117.9	82.3	120.0	127.5	123.7	139.3	140.5
Aug	109.6	108.6	116.3	119.2	84.1	120.3	128.7	123.7	139.9	141.1
Sept	109.7	108.6	116.8	119.4	83.1	120.9	129.3	124.0	140.4	142.0
Oct	110.0	109.0	117.7	119.9	81.6	121.1	131.0	124.2	141.2	143.2
Nov	110.7	109.6	118.7	119.7	81.5	121.5	132.1	125.3	141.8	143.3
Dec	110.8	109.6	119.1	120.2	80.3	121.5	132.5	126.5	142.3	144.2
1989: Jan	111.1	109.8	119.5	120.5	79.6	122.4	133.5	127.5	143.8	145.0
Feb	111.6	110.3	119.6	120.5	80.3	123.3	134.3	128.1	145.2	145.8
Mar	111.9	110.7	119.6	120.5	81.5	123.5	134.5	128.2	146.1	147.2
Apr	114.6	113.6	119.4	120.7	92.1	123.8	134.7	128.4	146.8	148.4
May	116.0	115.0	119.5	121.0	96.6	124.3	135.6	128.9	147.5	150.0
June	115.9	114.9	119.1	121.3	96.0	124.5	135.9	129.6	148.5	151.0
July	115.4	114.3	118.6	121.1	94.4	124.8	135.6	129.7	149.7	151.4
Aug	114.3	113.1	117.7	120.3	91.0	125.4	135.7	130.1	150.7	152.1
Sept	113.7	112.4	117.0	119.8	88.8	126.2	135.7	130.1	151.7	153.3
Oct	114.5	113.3	118.6	119.7	88.9	126.7	137.1	130.6	152.7	154.1
Nov	115.0	113.7	120.5	120.1	87.2	126.7	138.2	131.3	153.9	155.3
Dec	115.2	113.9	121.8	119.7	85.8	126.9	139.0	131.7	154.4	156.0

\* Includes direct pricing of new trucks and motorcycles beginning September 1982.

† Includes direct pricing of diesel fuel and gasohol beginning September 1981.

‡ Not available.

Note.—Data beginning 1978 are for all urban consumers; earlier data are for urban wage earners and clerical workers. See also Note, Table C-58.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE C-60.—Consumer price indexes, commodities, services, and special groups, 1946-89

[1982-84=100]

Year or month	Commodities						Services			Special indexes			
	All items	All commodities	Food	Commodities less food			All services	Medical care services	Services less medical care	All items less food	All items less energy	All items less food and energy	Energy <sup>1</sup>
				All	Durable	Non-durable							
1946.....	19.5	22.9	19.8	26.3	29.2	23.6	14.1	10.4	19.8				
1947.....	22.3	27.6	24.1	29.7	31.7	27.1	14.7	11.3	21.7				
1948.....	24.1	29.6	26.1	31.9	34.0	29.2	15.6	12.1	23.3				
1949.....	23.8	28.8	25.0	31.5	34.5	28.7	16.4	12.5	23.5				
1950.....	24.1	29.0	25.4	31.4	34.9	28.6	16.9	12.8	23.8				
1951.....	26.0	31.6	28.2	33.8	37.5	30.8	17.8	13.4	25.3				
1952.....	26.5	32.0	28.7	34.1	38.0	31.0	18.6	14.3	25.9				
1953.....	26.7	31.9	28.3	34.2	37.7	31.2	19.4	14.8	26.4				
1954.....	26.9	31.6	28.2	33.8	36.8	31.4	20.0	15.3	26.6				
1955.....	26.8	31.3	27.8	33.6	36.1	31.4	20.4	15.7	26.6				
1956.....	27.2	31.6	28.0	33.9	36.1	32.0	20.9	16.3	27.1				
1957.....	28.1	32.6	28.9	34.9	37.2	32.9	21.8	17.0	22.8	28.0	28.9	28.9	
1958.....	28.9	33.3	30.2	35.3	37.8	33.1	22.6	17.9	23.6	28.6	29.7	29.6	
1959.....	29.1	33.3	29.7	35.8	38.4	33.5	23.3	18.7	24.2	29.2	29.9	30.2	
1960.....	29.6	33.6	30.0	36.0	38.1	34.1	24.1	19.5	25.0	29.7	30.4	30.6	
1961.....	29.9	33.8	30.4	36.1	38.1	34.3	24.5	20.2	25.4	30.0	30.7	31.0	
1962.....	30.2	34.1	30.6	36.3	38.5	34.5	25.0	20.9	25.9	30.3	31.1	31.4	
1963.....	30.6	34.4	31.1	36.6	38.6	34.8	25.5	21.5	26.3	30.7	31.5	31.8	
1964.....	31.0	34.8	31.5	36.9	39.0	35.1	26.0	22.0	26.8	31.1	32.0	32.3	
1965.....	31.5	35.2	32.2	37.2	38.8	35.6	26.6	22.7	27.4	31.6	32.5	32.7	
1966.....	32.4	36.1	33.8	37.7	38.9	36.4	27.6	23.9	28.3	32.3	33.5	33.5	
1967.....	33.4	36.8	34.1	38.6	39.4	37.6	28.8	26.0	29.3	33.4	34.4	34.7	
1968.....	34.8	38.1	35.3	40.0	40.7	39.1	30.3	27.9	30.8	34.9	35.9	36.3	
1969.....	36.7	39.9	37.1	41.7	42.2	40.9	32.4	30.2	32.9	36.8	38.0	38.4	
1970.....	38.8	41.7	39.2	43.4	44.1	42.5	35.0	32.3	35.6	39.0	40.3	40.5	
1971.....	40.5	43.2	40.4	45.1	46.0	44.0	37.0	34.7	37.5	40.8	42.0	42.7	
1972.....	41.8	44.5	42.1	46.1	46.9	45.0	38.4	35.9	38.9	42.0	43.4	44.0	
1973.....	44.4	47.8	48.2	47.7	48.1	46.9	40.1	37.5	40.6	43.7	46.1	45.6	
1974.....	49.3	53.5	55.1	52.8	51.5	52.9	43.8	41.4	44.3	48.0	50.6	49.4	
1975.....	53.8	58.2	59.8	57.6	57.4	57.0	48.0	46.6	48.3	52.5	55.1	53.9	
1976.....	56.9	60.7	61.6	60.5	60.9	59.5	52.0	51.3	52.2	56.0	58.2	57.4	
1977.....	60.6	64.2	65.5	63.8	64.4	62.5	56.0	56.4	55.9	59.6	61.9	61.0	
1978.....	65.2	68.8	72.0	67.5	68.6	65.5	60.8	61.2	60.7	63.9	66.7	65.5	
1979.....	72.6	76.6	79.9	75.3	75.4	74.6	67.5	67.2	67.5	71.2	73.4	71.9	
1980.....	82.4	86.0	86.8	85.7	83.0	88.4	77.9	74.8	78.2	81.5	81.9	80.8	
1981.....	90.9	93.2	93.6	93.1	89.6	96.7	88.1	82.8	88.7	90.4	90.1	89.2	
1982.....	96.5	97.0	97.4	96.9	95.1	98.3	96.0	92.6	96.4	96.3	96.1	95.8	
1983.....	99.6	99.8	99.4	100.0	99.8	100.0	99.4	100.7	99.2	99.7	99.6	99.6	
1984.....	103.9	103.2	103.2	103.1	105.1	101.7	104.6	106.7	104.4	104.0	104.3	104.6	
1985.....	107.6	105.4	105.6	105.2	106.8	104.1	109.9	113.2	109.6	108.0	108.4	109.1	
1986.....	109.6	104.4	109.0	101.7	106.6	98.5	115.4	121.9	114.6	109.8	111.6	113.5	
1987.....	113.6	107.7	113.5	104.3	108.2	101.8	120.2	130.0	119.1	113.6	117.2	118.2	
1988.....	118.3	111.5	118.2	107.7	110.4	105.8	125.7	138.3	124.3	118.3	122.3	123.4	
1989.....	124.0	116.7	125.1	112.0	112.2	111.7	131.9	148.9	130.1	123.7	128.1	129.0	
1988: Jan.....	115.7	109.2	115.7	105.5	109.4	102.8	122.9	134.1	121.7	115.7	119.7	120.8	
Feb.....	116.0	109.1	115.7	105.4	109.4	102.7	123.4	135.3	122.1	116.0	120.0	121.1	
Mar.....	116.5	109.8	115.9	106.3	109.5	104.1	123.8	136.1	122.4	116.6	120.6	121.9	
Apr.....	117.1	110.7	116.6	107.3	109.7	105.6	124.1	136.6	122.8	117.2	121.2	122.4	
May.....	117.5	111.1	117.0	107.6	109.9	106.0	124.6	137.2	123.2	117.6	121.5	122.7	
June.....	118.0	111.1	117.6	107.4	110.2	105.5	125.5	137.9	124.1	118.1	121.8	123.0	
July.....	118.5	111.5	118.8	107.4	110.3	105.4	126.1	139.0	124.7	118.4	122.3	123.3	
Aug.....	119.0	111.9	119.4	107.7	110.3	105.9	126.7	139.6	125.3	118.9	122.8	123.8	
Sept.....	119.8	113.0	120.2	108.9	110.6	107.7	127.3	140.1	125.9	119.7	123.8	124.7	
Oct.....	120.2	113.5	120.3	109.5	111.1	108.3	127.6	140.8	126.2	120.2	124.4	125.5	
Nov.....	120.3	113.5	120.2	109.7	111.8	108.2	127.8	141.5	126.3	120.3	124.7	125.8	
Dec.....	120.5	113.5	120.7	109.4	112.2	107.5	128.1	141.9	126.6	120.4	124.8	126.0	
1989: Jan.....	121.1	113.9	122.2	109.2	112.5	107.1	128.9	143.5	127.3	120.8	125.5	126.4	
Feb.....	121.6	114.3	122.9	109.5	112.4	107.6	129.4	145.1	127.8	121.3	126.0	126.9	
Mar.....	122.3	115.2	123.5	110.5	111.9	109.4	130.0	145.9	128.3	122.0	126.7	127.6	
Apr.....	123.1	116.7	124.2	112.5	111.8	112.8	130.2	146.4	128.5	122.9	127.1	128.0	
May.....	123.8	117.5	124.9	113.2	111.9	113.9	130.8	146.9	129.1	123.5	127.6	128.3	
June.....	124.1	117.2	125.0	112.8	112.1	113.1	131.6	147.9	129.9	123.9	127.7	128.5	
July.....	124.4	117.0	125.5	112.1	111.9	112.2	132.5	149.3	130.8	124.2	128.2	129.0	
Aug.....	124.6	116.7	125.8	111.6	111.4	111.5	133.1	150.4	131.3	124.3	128.5	129.3	
Sept.....	125.0	117.3	126.1	112.4	111.3	112.9	133.4	151.3	131.6	124.8	129.1	130.0	
Oct.....	125.6	118.1	126.5	113.4	112.1	114.1	133.7	152.3	131.8	125.4	129.9	130.9	
Nov.....	125.9	118.3	126.9	113.4	113.0	113.6	134.1	153.6	132.1	125.6	130.4	131.3	
Dec.....	126.1	118.2	127.4	113.0	113.5	112.6	134.6	154.1	132.6	125.8	130.6	131.5	

<sup>1</sup> Household fuels—gas (piped), electricity, fuel oil, etc.—and motor fuel. Motor oil, coolant, etc. also included through 1982. Note.—Data beginning 1978 are for all urban consumers; earlier data are for urban wage earners and clerical workers. See also Note, Table C-58.

Source: Department of Labor, Bureau of Labor Statistics.



TABLE C-61.—Changes in special consumer price indexes, 1958-89

(Percent change)

Year or month	All items		All items less food		All items less energy		All items less food and energy		All items less food, shelter, and energy	
	Dec. to Dec. <sup>1</sup>	Year to year	Dec. to Dec. <sup>1</sup>	Year to year	Dec. to Dec. <sup>1</sup>	Year to year	Dec. to Dec. <sup>1</sup>	Year to year	Dec. to Dec. <sup>1</sup>	Year to year
1958	1.8	2.8	1.8	2.1	2.1	2.8	1.7	2.4		
1959	1.7	.7	2.1	2.1	1.3	.7	2.0	2.0		
1960	1.4	1.7	1.0	1.7	1.3	1.7	1.0	1.3		
1961	.7	1.0	1.3	1.0	.7	1.0	1.3	1.3		
1962	1.3	1.0	1.0	1.0	1.3	1.3	1.3	1.3		
1963	1.6	1.3	1.6	1.3	1.9	1.3	1.6	1.3		
1964	1.0	1.3	1.0	1.3	1.3	1.6	1.2	1.6		
1965	1.9	1.6	1.6	1.6	1.9	1.6	1.5	1.2		
1966	3.5	2.9	3.5	2.2	3.4	3.1	3.3	2.4		
1967	3.0	3.1	3.3	3.4	3.2	2.7	3.8	3.6		
1968	4.7	4.2	5.0	4.5	4.9	4.4	5.1	4.6	4.6	4.7
1969	6.2	5.5	5.6	5.4	6.5	5.8	6.2	5.8	5.1	4.7
1970	5.6	5.7	6.6	6.0	5.4	6.1	6.6	6.3	5.8	5.2
1971	3.3	4.4	3.0	4.6	3.4	4.2	3.1	4.7	3.1	4.9
1972	3.4	3.2	2.9	2.9	3.5	3.3	3.0	3.0	2.7	2.4
1973	8.7	6.2	5.6	4.0	8.2	6.2	4.7	3.6	3.5	2.9
1974	12.3	11.0	12.2	9.8	11.7	9.8	11.1	8.3	11.3	7.7
1975	6.9	9.1	7.3	9.4	6.6	8.9	6.7	9.1	6.4	8.9
1976	4.9	5.8	6.1	6.7	4.8	5.6	6.1	6.5	6.9	7.1
1977	6.7	6.5	6.4	6.4	6.7	6.4	6.5	6.3	5.3	6.0
1978	9.0	7.6	8.3	7.2	9.1	7.8	8.5	7.4	6.4	5.6
1979	13.3	11.3	14.0	11.4	11.1	10.0	11.3	9.8	7.3	6.9
1980	12.5	13.5	13.0	14.5	11.7	11.6	12.2	12.4	9.8	8.8
1981	8.9	10.3	9.8	10.9	8.5	10.0	9.5	10.4	9.4	9.6
1982	3.8	6.2	4.1	6.5	4.2	6.7	4.5	7.4	6.1	7.7
1983	3.8	3.2	4.1	3.5	4.5	3.6	4.8	4.0	5.0	5.2
1984	3.9	4.3	3.9	4.3	4.4	4.7	4.7	5.0	4.3	5.0
1985	3.8	3.6	4.1	3.8	4.0	3.9	4.3	4.3	3.7	3.8
1986	1.1	1.9	.5	1.7	3.8	3.9	3.8	4.0	3.3	3.4
1987	4.4	3.6	4.6	3.5	4.1	4.1	4.2	4.1	3.8	3.8
1988	4.4	4.1	4.2	4.1	4.7	4.4	4.7	4.4	4.7	4.2
1989	4.6	4.8	4.5	4.6	4.6	4.7	4.4	4.5	4.1	4.4
Change from preceding period										
	Unad-justed	Seasonally ad-justed	Unad-justed	Seasonally ad-justed	Unad-justed	Seasonally ad-justed	Unad-justed	Seasonally ad-justed	Unad-justed	Seasonally ad-justed
1988: Jan	0.3	0.4	0.2	0.4	0.4	0.5	0.3	0.5	0.1	0.4
Feb	.3	.2	.3	.3	.3	.2	.2	.3	.3	.3
Mar	.4	.3	.5	.4	.5	.5	.7	.5	.8	.5
Apr	.5	.4	.5	.4	.5	.4	.4	.4	.6	.5
May	.3	.4	.3	.3	.2	.4	.2	.3	.2	.4
June	.4	.3	.4	.3	.2	.3	.2	.3	.1	.2
July	.4	.4	.3	.3	.4	.4	.2	.3	.1	.3
Aug	.4	.3	.4	.3	.4	.3	.4	.2	.2	.2
Sept	.7	.4	.7	.3	.8	.5	.7	.5	1.1	.5
Oct	.3	.4	.4	.4	.5	.4	.6	.5	.8	.7
Nov	.1	.3	.1	.3	.2	.3	.2	.3	.2	.3
Dec	.2	.3	.1	.3	.1	.4	.2	.4	.1	.3
1989: Jan	.5	.6	.3	.5	.6	.6	.3	.5	.3	.6
Feb	.4	.4	.4	.4	.4	.4	.4	.4	.4	.3
Mar	.6	.5	.6	.5	.6	.5	.6	.4	.5	.4
Apr	.7	.7	.7	.7	.3	.3	.3	.2	.4	.2
May	.6	.6	.5	.6	.4	.5	.2	.5	.2	.5
June	.2	.2	.3	.1	.1	.1	.2	.2	0	.2
July	.2	.2	.2	.3	.4	.4	.4	.4	0	.2
Aug	.2	0	.1	-.1	.2	.2	.2	.2	.2	.1
Sept	.3	.2	.4	.2	.5	.2	.5	.2	.9	.4
Oct	.5	.5	.5	.5	.6	.5	.7	.5	.7	.5
Nov	.2	.4	.2	.4	.4	.4	.3	.4	.4	.4
Dec	.2	.4	.2	.3	.2	.2	.2	.4	0	.3

<sup>1</sup> Changes from December to December are based on unadjusted indexes.

Note.—Data beginning 1978 are for all urban consumers; earlier data are for urban wage earners and clerical workers. See also Note, Table C-58.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE C-62.—Changes in consumer price indexes, commodities and services, 1929–89

[Percent change]

Year	All items		Commodities						Services				Energy <sup>2</sup>	
	Dec. to Dec. <sup>1</sup>	Year to year	Total		Food		Commodities less food		Total		Medical care services		Dec. to Dec. <sup>1</sup>	Year to year
			Dec. to Dec. <sup>1</sup>	Year to year	Dec. to Dec. <sup>1</sup>	Year to year	Dec. to Dec. <sup>1</sup>	Year to year	Dec. to Dec. <sup>1</sup>	Year to year	Dec. to Dec. <sup>1</sup>	Year to year		
1929	0.6	0			2.5	1.2								
1933	.8	-5.1			6.9	-2.8								
1939	0	-1.4	-0.7	-2.0	-2.5	-2.5	0.5	-1.6	0	0	1.2	1.2		
1940	.7	.7	1.4	.7	2.5	1.7	.5	.5	.8	.8	0	0		
1941	9.9	5.0	13.3	6.7	15.7	9.2	10.7	5.4	2.4	.8	1.2	0		
1942	9.0	10.9	12.9	14.5	17.9	17.6	6.3	10.8	2.3	3.1	3.5	3.5		
1943	3.0	6.1	4.2	9.3	3.0	11.0	5.5	4.6	2.3	2.3	5.6	4.5		
1944	2.3	1.7	2.0	1.0	0	-1.2	4.7	5.3	2.2	2.2	3.2	4.3		
1945	2.2	2.3	2.9	3.0	3.5	2.4	3.3	4.2	.7	1.5	3.1	3.1		
1946	18.1	8.3	24.8	10.6	31.3	14.5	12.7	6.0	3.6	1.4	9.0	5.1		
1947	8.8	14.4	10.3	20.5	11.3	21.7	9.2	12.9	5.6	4.3	6.4	8.7		
1948	3.0	8.1	1.7	7.2	-.8	8.3	5.2	7.4	5.9	6.1	6.9	7.1		
1949	-2.1	-1.2	-4.1	-2.7	-3.9	-4.2	-4.6	-1.3	3.7	5.1	1.6	3.3		
1950	5.9	1.3	7.8	.7	9.8	1.6	5.5	-.3	3.6	3.0	4.0	2.4		
1951	6.0	7.9	5.9	9.0	7.1	11.0	4.9	7.6	5.2	5.3	5.3	4.7		
1952	.8	1.9	-.9	1.3	-1.0	1.8	-.6	-.9	4.4	4.5	5.8	6.7		
1953	-.7	.8	-.3	-.3	-1.1	-1.4	.3	.3	4.2	4.3	3.4	3.5		
1954	-.7	.7	-1.6	-.9	-1.8	-.4	-1.5	-1.2	2.0	3.1	2.6	3.4		
1955	.4	-.4	-.3	-.9	-.7	-1.4	0	-.6	2.0	2.0	3.2	2.6		
1956	3.0	1.5	2.6	1.0	2.9	.7	2.7	-.9	3.4	2.5	3.8	3.8		
1957	2.9	3.3	2.8	3.2	2.8	3.2	2.0	2.9	4.2	4.3	4.8	4.3		
1958	1.8	2.8	1.2	2.1	2.4	4.5	.8	1.1	2.7	3.7	4.6	5.3	-0.9	0
1959	1.7	.7	.6	0	-1.0	-1.7	1.4	1.4	3.9	3.1	4.9	4.5	4.7	1.9
1960	1.4	1.7	1.2	.9	3.1	1.0	-.3	.6	2.5	3.4	3.7	4.3	1.3	2.3
1961	.7	1.0	0	.6	-.7	1.3	.8	.3	2.1	1.7	3.5	3.6	-1.3	.4
1962	1.3	1.0	.9	.9	1.3	.7	.6	.6	1.6	2.0	2.9	3.5	2.2	.4
1963	1.6	1.3	1.5	.9	2.0	1.6	1.4	.8	2.4	2.0	2.8	2.9	-.9	0
1964	1.0	1.3	.9	1.2	1.3	1.3	.3	.8	1.6	2.0	2.3	2.3	0	-.4
1965	1.9	1.6	1.4	1.1	3.5	2.2	.8	.8	2.7	2.3	3.6	3.2	1.8	1.8
1966	3.5	2.9	2.5	2.6	4.0	5.0	1.9	1.3	4.8	3.8	8.3	5.3	1.7	1.7
1967	3.0	3.1	2.5	1.9	1.2	.9	3.1	2.4	4.3	4.3	8.0	8.8	1.7	2.1
1968	4.7	4.2	4.0	3.5	4.4	3.5	3.6	3.6	5.8	5.2	7.1	7.3	1.7	1.7
1969	6.2	5.5	5.4	4.7	7.0	5.1	4.7	4.3	7.7	6.9	7.3	8.2	2.9	2.5
1970	5.6	5.7	3.9	4.5	2.3	5.7	4.7	4.1	8.1	8.0	8.1	7.0	4.8	2.8
1971	3.3	4.4	2.8	3.6	4.3	3.1	2.2	3.9	4.1	5.7	5.4	7.4	3.1	3.9
1972	3.4	3.2	3.4	3.0	4.6	4.2	2.6	2.2	3.4	3.8	3.7	3.5	2.6	2.6
1973	8.7	6.2	10.4	7.4	20.3	14.5	4.9	3.5	6.2	4.4	6.0	4.5	17.0	8.1
1974	12.3	11.0	12.8	11.9	12.0	14.3	13.2	10.7	11.4	9.2	13.2	10.4	21.6	29.6
1975	6.9	9.1	6.2	8.8	6.6	8.5	6.1	9.1	8.2	9.6	10.3	12.6	11.4	10.5
1976	4.9	5.8	3.3	4.3	.5	3.0	5.1	5.0	7.2	8.3	10.8	10.1	7.1	7.1
1977	6.7	6.5	6.1	5.8	8.1	6.3	4.8	5.5	8.0	7.7	9.0	9.9	7.2	9.5
1978	9.0	7.6	8.8	7.2	11.8	9.9	7.7	5.8	9.3	8.6	9.3	8.5	7.9	6.3
1979	13.3	11.3	13.0	11.3	10.2	11.0	14.3	11.6	13.6	11.0	10.5	9.8	37.5	25.1
1980	12.5	13.5	11.0	12.3	10.2	8.6	11.5	13.8	14.2	15.4	10.1	11.3	18.0	30.9
1981	8.9	10.3	6.0	8.4	4.3	7.8	6.7	8.6	13.0	13.1	12.6	10.7	11.9	13.6
1982	3.8	6.2	3.6	4.1	3.1	4.1	3.6	4.1	4.3	9.0	11.2	11.8	1.3	1.5
1983	3.8	3.2	2.9	2.9	2.7	2.1	3.1	3.2	4.8	3.5	6.2	8.7	-.5	.7
1984	3.9	4.3	2.7	3.4	3.8	3.8	2.1	3.1	5.4	5.2	5.8	6.0	2	1.0
1985	3.8	3.6	2.5	2.1	2.6	2.3	2.4	2.0	5.1	5.1	6.8	6.1	1.8	.7
1986	1.1	1.9	-2.0	-.9	3.8	3.2	-5.3	-3.3	4.5	5.0	7.9	7.7	-19.7	-13.2
1987	4.4	3.6	4.6	3.2	3.5	4.1	5.1	2.6	4.3	4.2	5.6	6.6	8.2	.5
1988	4.4	4.1	3.8	3.5	5.2	4.1	3.2	3.3	4.8	4.6	6.9	6.4	.5	.8
1989	4.6	4.8	4.1	4.7	5.6	5.8	3.3	4.0	5.1	4.9	8.6	7.7	5.1	5.6

<sup>1</sup> Changes from December to December are based on unadjusted indexes.

<sup>2</sup> Household fuels—gas (piped) electricity, fuel oil, etc.—and motor fuel. Motor oil, coolant, etc. also included through 1982.

Note.—Data beginning 1978 are for all urban consumers; earlier data are for urban wage earners and clerical workers. See also Note, Table C-58.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE C-63.—*Producer price indexes by stage of processing, 1947-89*

[1982=100]

Year or month	Finished goods									Total finished consumer goods
	Total finished goods	Consumer foods			Finished goods excluding consumer foods					
		Total	Crude	Processed	Total	Consumer goods			Capital equipment	
						Total	Durable	Non-durable		
1947.....	26.4	31.9	39.3	31.1	27.4	32.9	24.2	19.8	28.6	
1948.....	28.5	34.9	42.4	34.0	29.2	35.2	25.7	21.6	30.8	
1949.....	27.7	32.1	40.1	31.1	28.6	36.1	24.7	22.7	29.4	
1950.....	28.2	32.7	36.5	32.4	29.0	36.5	25.1	23.2	29.9	
1951.....	30.8	36.7	41.9	36.2	31.1	38.9	27.0	25.5	32.7	
1952.....	30.6	36.4	44.6	35.4	30.7	39.2	26.3	25.9	32.3	
1953.....	30.3	34.5	41.6	33.6	31.0	39.5	26.6	26.3	31.7	
1954.....	30.4	34.2	37.5	34.0	31.1	39.8	26.7	26.7	31.7	
1955.....	30.5	33.4	39.1	32.7	31.3	40.2	26.8	27.4	31.5	
1956.....	31.3	33.3	39.1	32.7	32.1	41.6	27.3	29.5	32.0	
1957.....	32.5	34.4	38.5	34.1	32.9	42.8	27.9	31.3	32.9	
1958.....	33.2	36.5	41.0	36.1	32.9	43.4	27.8	32.1	33.6	
1959.....	33.1	34.8	37.3	34.7	33.3	43.9	28.2	32.7	33.3	
1960.....	33.4	35.5	39.8	35.2	33.5	43.8	28.4	32.8	33.6	
1961.....	33.4	35.4	38.0	35.3	33.4	43.6	28.4	32.9	33.6	
1962.....	33.5	35.7	38.4	35.6	33.4	43.4	28.4	33.0	33.7	
1963.....	33.4	35.3	37.8	35.2	33.4	43.1	28.5	33.1	33.5	
1964.....	33.5	35.4	38.9	35.2	33.3	43.3	28.4	33.4	33.6	
1965.....	34.1	36.8	39.0	36.8	33.6	43.2	28.8	33.8	34.2	
1966.....	35.2	39.2	41.5	39.2	34.1	43.4	29.3	34.6	35.4	
1967.....	35.6	38.5	39.6	38.8	35.0	34.7	44.1	30.0	35.6	
1968.....	36.6	40.0	42.5	40.0	35.9	35.5	45.1	30.6	37.0	
1969.....	38.0	42.4	45.9	42.3	36.9	36.3	45.9	31.5	38.3	
1970.....	39.3	43.8	46.0	43.9	38.2	37.4	47.2	32.5	40.1	
1971.....	40.5	44.5	45.8	44.7	39.6	38.7	48.9	33.5	41.7	
1972.....	41.8	46.9	48.0	47.2	40.4	39.4	50.0	34.1	42.8	
1973.....	45.6	56.5	63.6	55.8	42.0	41.2	50.9	36.1	44.2	
1974.....	52.6	64.4	71.6	63.9	48.8	48.2	55.5	44.0	50.5	
1975.....	58.2	69.8	71.7	70.3	54.7	53.2	61.0	48.9	58.2	
1976.....	60.8	69.6	76.7	69.0	58.1	56.5	63.7	52.4	62.1	
1977.....	64.7	73.3	79.5	72.7	62.2	60.6	67.4	56.8	66.1	
1978.....	69.8	79.9	85.8	79.4	66.7	64.9	73.6	60.0	71.3	
1979.....	77.6	87.3	92.3	86.8	74.6	73.5	80.8	69.3	77.5	
1980.....	88.0	92.4	93.9	92.3	86.7	87.1	91.0	85.1	85.8	
1981.....	96.1	97.8	104.4	97.2	95.6	96.1	96.4	95.8	94.6	
1982.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
1983.....	101.6	101.0	102.4	100.9	101.8	101.2	102.8	100.5	102.8	
1984.....	103.7	105.4	111.4	104.9	103.2	102.2	104.5	101.1	105.2	
1985.....	104.7	104.6	102.9	104.8	104.6	103.3	106.5	101.7	107.5	
1986.....	103.2	107.3	105.6	107.4	101.9	98.5	108.9	93.3	109.7	
1987.....	105.4	109.5	107.1	109.6	104.0	100.7	111.5	94.9	111.7	
1988.....	108.0	112.6	109.8	112.7	106.5	103.1	113.8	97.3	114.3	
1989.....	113.5	118.7	119.9	118.6	111.8	108.9	117.6	103.8	118.7	
1988: Jan.....	106.3	110.5	115.3	110.1	104.9	101.5	112.6	95.5	112.9	
Feb.....	106.1	109.4	101.0	110.0	105.0	101.5	112.8	95.5	113.2	
Mar.....	106.3	110.1	103.4	110.5	105.1	101.5	112.6	95.6	113.2	
Apr.....	107.0	110.3	101.4	110.9	105.9	102.6	112.8	97.0	113.6	
May.....	107.5	111.2	100.8	112.0	106.2	103.0	113.1	97.4	113.8	
June.....	107.7	112.3	101.4	113.0	106.1	102.8	113.2	97.1	113.9	
July.....	108.6	113.6	111.1	113.7	106.9	103.8	113.6	98.3	114.2	
Aug.....	108.7	113.6	111.1	113.7	107.1	103.9	113.8	98.4	114.5	
Sept.....	108.6	115.1	118.6	114.7	106.4	103.0	112.8	97.6	114.3	
Oct.....	109.4	114.6	115.8	114.4	107.7	104.1	116.4	97.7	116.0	
Nov.....	109.8	114.9	120.1	114.5	108.1	104.6	116.1	98.4	116.1	
Dec.....	110.0	115.1	117.5	114.9	108.3	104.8	116.1	98.7	116.4	
1989: Jan.....	111.1	116.7	119.6	116.4	109.2	105.8	116.6	100.0	117.1	
Feb.....	111.7	117.2	123.8	116.7	109.9	106.6	117.0	100.9	117.5	
Mar.....	112.1	118.3	128.3	117.5	110.0	106.8	116.6	101.3	117.5	
Apr.....	113.0	117.7	119.6	117.5	111.4	108.8	116.4	104.2	117.6	
May.....	114.2	119.1	128.9	118.3	112.6	110.3	117.1	106.0	118.3	
June.....	114.3	118.6	119.0	118.5	112.8	110.4	117.5	106.0	118.8	
July.....	114.1	119.0	119.0	119.0	112.4	109.8	116.9	105.3	118.7	
Aug <sup>1</sup> .....	113.4	118.7	113.0	119.0	111.7	108.5	117.0	103.5	119.0	
Sept.....	113.5	118.5	109.5	119.1	111.9	109.0	116.7	104.4	118.8	
Oct.....	114.8	119.5	120.3	119.3	113.3	110.3	120.1	104.8	120.3	
Nov.....	114.8	120.2	117.5	120.3	113.0	109.8	119.7	104.2	120.6	
Dec.....	115.3	120.9	119.9	121.0	113.5	110.4	119.8	105.1	120.7	

See next page for continuation of table.

TABLE C-63.—Producer price indexes by stage of processing, 1947-89—Continued

[1982=100]

Year or month	Intermediate materials, supplies, and components							Crude materials for further processing					
	Total	Foods and feeds <sup>a</sup>	Other	Materials and components		Processed fuels and lubricants	Containers	Supplies	Total	Food-stuffs and feed-stuffs	Other		
				For manufacturing	For construction						Total	Fuel	Other
1947.....	23.3	.....	22.2	24.9	22.5	14.4	23.4	28.5	31.7	45.1	.....	7.5	24.0
1948.....	25.2	.....	24.1	26.8	24.9	16.4	24.4	29.8	34.7	48.8	.....	8.9	26.7
1949.....	24.2	.....	23.5	25.7	24.9	14.9	24.5	28.0	30.1	40.5	.....	8.8	24.3
1950.....	25.3	.....	24.6	26.9	26.2	15.2	25.2	29.0	32.7	43.4	.....	8.8	27.8
1951.....	28.4	.....	27.6	30.5	28.7	15.9	29.6	32.6	37.6	50.2	.....	9.0	32.0
1952.....	27.5	.....	26.7	29.3	28.5	15.7	28.0	32.6	34.5	47.3	.....	9.0	27.8
1953.....	27.7	.....	27.0	29.7	29.0	15.8	28.0	31.0	31.9	42.3	.....	9.3	26.6
1954.....	27.9	.....	27.2	29.8	29.1	15.8	28.5	31.7	31.6	42.3	.....	8.9	26.1
1955.....	28.4	.....	28.0	30.5	30.3	15.8	28.9	31.2	30.4	38.4	.....	8.9	27.5
1956.....	29.6	.....	29.3	32.0	31.8	16.3	31.0	32.0	30.6	37.6	.....	9.5	28.6
1957.....	30.3	.....	30.1	32.7	32.0	17.2	32.4	32.3	31.2	39.2	.....	10.1	28.2
1958.....	30.4	.....	30.1	32.8	32.0	16.2	33.2	33.1	31.9	41.6	.....	10.2	27.1
1959.....	30.8	.....	30.5	33.3	32.9	16.2	33.0	33.5	31.1	38.8	.....	10.4	28.1
1960.....	30.8	.....	30.7	33.3	32.7	16.6	33.4	33.3	30.4	38.4	.....	10.5	26.9
1961.....	30.6	.....	30.3	32.9	32.2	16.8	33.2	33.7	30.2	37.9	.....	10.5	27.2
1962.....	30.6	.....	30.2	32.7	32.1	16.7	33.6	34.5	30.5	38.6	.....	10.4	27.1
1963.....	30.7	.....	30.1	32.7	32.2	16.6	33.2	35.0	29.9	37.5	.....	10.5	26.7
1964.....	30.8	.....	30.3	33.1	32.5	16.2	32.9	34.7	29.6	36.6	.....	10.5	27.2
1965.....	31.2	.....	30.7	33.6	32.8	16.5	33.5	35.0	31.1	39.2	.....	10.6	27.7
1966.....	32.0	.....	31.3	34.3	33.6	16.8	34.5	36.5	33.1	42.7	.....	10.9	28.3
1967.....	32.2	41.8	31.7	34.5	34.0	16.9	35.0	36.8	31.3	40.3	21.1	11.3	26.5
1968.....	33.0	41.5	32.5	35.3	35.7	16.5	35.9	37.1	31.8	40.9	21.6	11.5	27.1
1969.....	34.1	42.9	33.6	36.5	37.7	16.6	37.2	37.8	33.9	44.1	22.5	12.0	28.4
1970.....	35.4	45.6	34.8	38.0	38.3	17.7	39.0	39.7	35.2	45.2	23.8	13.8	29.1
1971.....	36.8	46.7	36.2	38.9	40.8	19.5	40.8	40.8	36.0	46.1	24.7	15.7	29.4
1972.....	38.2	49.5	37.7	40.4	43.0	20.1	42.7	42.5	39.9	51.5	27.0	16.8	32.3
1973.....	42.4	70.3	40.6	44.1	46.5	22.2	45.2	51.7	54.5	72.6	34.3	18.6	42.9
1974.....	52.5	83.6	50.5	56.0	55.0	33.6	53.3	56.8	61.4	76.4	44.1	24.8	54.5
1975.....	58.0	81.6	56.6	61.7	60.1	39.4	60.0	61.8	61.6	77.4	43.7	30.6	50.0
1976.....	60.9	77.4	60.0	64.0	64.1	42.3	63.1	65.8	63.4	76.8	48.2	34.5	54.9
1977.....	64.9	79.6	64.1	67.4	69.3	47.7	65.9	69.3	65.5	77.5	51.7	42.0	56.3
1978.....	69.5	84.8	68.6	72.0	76.5	49.9	71.0	72.9	73.4	87.3	57.5	48.2	61.9
1979.....	78.4	94.5	77.4	80.9	84.2	61.6	79.4	80.2	85.9	100.0	69.6	57.3	75.5
1980.....	90.3	105.5	89.4	91.7	91.3	85.0	89.1	89.9	95.3	104.6	84.6	69.4	91.8
1981.....	98.6	104.6	98.2	98.7	97.9	100.6	96.7	96.9	103.0	103.9	101.8	84.8	109.8
1982.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983.....	100.6	103.6	100.5	101.2	102.8	95.4	100.4	101.8	101.3	101.8	100.7	105.1	98.8
1984.....	103.1	105.7	103.0	104.1	105.6	95.7	105.9	104.1	103.5	104.7	102.2	105.1	101.0
1985.....	102.7	97.3	103.0	103.3	107.3	92.8	109.0	104.4	95.8	94.8	96.9	102.7	94.3
1986.....	99.1	96.2	99.3	102.2	108.1	72.7	110.3	105.6	87.7	93.2	81.6	92.2	76.0
1987.....	101.5	99.2	101.7	105.3	109.8	73.3	114.5	107.7	93.7	96.2	87.9	84.1	88.5
1988.....	107.1	109.5	106.9	113.2	116.1	71.2	120.1	113.7	96.0	106.1	85.5	82.1	85.9
1989 <sup>1</sup> .....	112.0	113.8	111.9	118.2	121.2	76.5	125.5	118.1	103.0	111.1	93.4	85.3	95.8
1988: Jan.....	104.2	102.9	104.2	109.5	113.6	70.7	116.6	110.5	93.7	97.2	87.3	83.5	87.9
Feb.....	104.3	101.9	104.4	109.9	113.8	70.2	116.9	110.6	94.7	99.7	87.4	82.6	88.5
Mar.....	104.7	102.0	104.8	110.5	114.4	69.6	117.4	111.1	94.1	99.8	86.4	82.8	86.9
Apr.....	105.6	103.4	105.7	111.6	115.0	70.5	118.4	111.7	95.6	101.1	88.0	84.5	88.4
May.....	106.3	104.8	106.4	112.3	115.4	71.5	119.5	112.3	97.2	104.7	88.2	82.2	89.8
June.....	107.4	111.8	107.2	112.9	115.8	73.9	120.0	113.8	97.9	108.6	87.0	80.1	88.9
July.....	108.2	116.6	107.8	114.0	116.5	73.6	120.5	115.2	97.3	110.1	85.1	81.7	85.5
Aug.....	108.4	114.5	108.1	114.3	116.7	73.5	121.3	115.1	96.9	110.4	84.4	80.0	85.2
Sept.....	108.7	115.5	108.3	114.9	117.1	72.6	122.3	115.6	96.7	112.0	83.0	80.3	83.2
Oct.....	108.6	114.7	108.3	115.5	117.5	69.7	122.4	116.0	95.9	111.9	81.9	82.9	80.5
Nov.....	108.9	113.4	108.7	116.2	118.1	69.0	122.6	116.2	94.5	108.0	82.0	82.0	81.0
Dec.....	109.4	113.0	109.2	116.8	118.7	69.8	122.7	116.2	97.3	109.5	85.4	83.0	85.5
1989: Jan.....	110.6	115.6	110.4	118.0	119.4	71.6	123.1	117.2	101.4	112.5	90.0	85.6	90.9
Feb.....	110.1	114.0	110.8	118.3	119.9	72.1	123.9	117.4	101.2	111.0	90.7	86.7	91.3
Mar.....	111.5	115.2	111.4	118.7	120.5	73.2	124.4	118.0	102.2	113.7	92.2	83.8	94.6
Apr.....	112.4	113.7	112.3	118.9	121.1	76.7	125.1	118.0	104.4	111.6	95.3	84.8	98.7
May.....	112.7	114.2	112.6	118.9	121.5	78.1	125.3	118.2	106.1	114.9	96.0	86.3	99.0
June.....	112.7	112.9	112.7	118.4	121.5	79.3	125.6	118.1	104.1	111.7	94.7	86.1	97.3
July.....	112.5	114.5	112.4	118.1	121.6	78.7	126.0	118.5	103.9	110.1	95.4	86.6	98.1
Aug <sup>1</sup> .....	112.0	113.1	112.0	117.7	121.6	77.3	126.0	118.3	101.1	110.0	91.1	83.6	93.3
Sept.....	112.4	114.0	112.3	117.8	121.8	78.6	126.5	118.4	102.0	108.3	93.5	85.6	95.8
Oct.....	112.3	112.4	112.3	117.9	122.2	77.8	126.9	118.3	101.8	107.2	93.9	84.1	97.0
Nov.....	112.2	113.3	112.1	117.9	121.9	77.0	126.7	118.3	102.3	109.4	93.4	84.5	96.1
Dec.....	112.0	113.0	112.0	117.3	121.5	78.1	126.9	118.3	104.0	112.3	94.2	85.4	96.9

<sup>1</sup> Data have been revised through August 1989 to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

<sup>2</sup> Intermediate materials for food manufacturing and feeds.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE C-64.—*Producer price indexes by stage of processing, special groups, 1974-89*

[1982=100]

Year or month	Finished goods					Intermediate materials, supplies, and components				Crude materials for further processing				
	Total	Foods	Energy	Excluding foods and energy			Total	Foods and feeds <sup>1</sup>	Energy	Other	Total	Food-stuffs and feed-stuffs	Energy	Other
				Total	Cap-ital equip-ment	Con-sumer goods exclud-ing foods and energy								
1974.....	52.6	64.4	26.2	53.6	50.5	55.5	52.5	83.6	33.1	54.0	61.4	76.4	27.8	83.3
1975.....	58.2	69.8	30.7	59.7	58.2	60.6	58.0	81.6	38.7	60.2	61.6	77.4	33.3	69.3
1976.....	60.8	69.6	34.3	63.1	62.1	63.7	60.9	77.4	41.5	63.8	63.4	76.8	35.3	80.2
1977.....	64.7	73.3	39.7	66.9	66.1	67.3	64.9	79.6	46.8	67.6	65.5	77.5	40.4	79.8
1978.....	69.8	79.9	42.3	71.9	71.3	72.2	69.5	84.8	49.1	72.5	73.4	87.3	45.2	87.8
1979.....	77.6	87.3	57.1	78.3	77.5	78.8	78.4	94.5	61.1	80.7	85.9	100.0	54.9	106.2
1980.....	88.0	92.4	85.2	87.1	85.8	87.8	90.3	105.5	84.9	90.3	95.3	104.6	73.1	113.1
1981.....	96.1	97.8	101.5	94.6	94.6	94.6	98.6	104.6	100.5	97.7	103.0	103.9	97.7	111.7
1982.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983.....	101.6	101.0	95.2	103.0	102.8	103.1	100.6	103.6	95.3	101.6	101.3	101.8	98.7	105.3
1984.....	103.7	105.4	91.2	105.5	105.2	105.7	103.1	105.7	95.5	104.7	103.0	104.7	98.0	111.7
1985.....	104.7	104.6	87.6	108.1	107.5	108.4	102.7	97.3	92.6	105.2	95.8	94.8	93.3	104.9
1986.....	103.2	107.3	63.0	110.6	109.7	111.1	99.1	96.2	72.6	104.9	87.7	93.2	71.8	103.1
1987.....	105.4	109.5	61.8	113.3	111.7	114.2	101.5	99.2	73.0	107.8	93.7	96.2	75.0	115.7
1988.....	108.0	112.6	59.8	117.0	114.3	118.5	107.1	109.5	70.9	115.2	96.0	106.1	67.7	133.0
1989 <sup>2</sup> .....	113.5	118.7	65.7	122.1	118.7	124.0	112.0	113.8	76.2	120.2	103.0	111.1	75.9	137.8
1988: Jan.....	106.3	110.5	59.2	115.2	112.9	116.5	104.2	102.9	70.5	111.8	93.7	97.2	70.8	129.2
Feb.....	106.1	109.4	58.5	115.5	113.2	116.8	104.3	101.9	70.0	112.2	94.7	99.7	70.4	131.6
Mar.....	106.3	110.1	58.2	115.7	113.2	117.1	104.7	102.0	69.3	112.9	94.1	99.8	68.7	133.4
Apr.....	107.0	110.3	60.9	115.9	113.6	117.3	105.6	103.4	70.2	113.8	95.6	101.1	70.6	133.1
May.....	107.5	111.2	61.6	116.2	113.8	117.6	106.3	104.8	71.2	114.4	97.2	104.7	71.4	131.3
June.....	107.7	112.3	60.3	116.4	113.9	117.9	107.4	111.8	73.5	114.9	97.9	108.6	70.0	131.2
July.....	108.6	113.6	61.3	117.1	114.2	118.8	108.2	116.6	73.3	115.7	97.3	110.1	67.3	132.9
Aug.....	108.7	113.6	61.1	117.4	114.5	119.1	108.4	114.5	73.1	116.1	96.9	110.4	66.1	133.9
Sept.....	108.6	115.1	58.8	117.2	114.3	118.9	108.7	115.5	72.3	116.7	96.7	112.0	64.7	133.4
Oct.....	109.4	114.6	58.7	118.8	116.0	120.5	108.6	114.7	69.4	117.3	95.9	111.9	63.3	133.4
Nov.....	109.8	114.9	60.0	118.9	116.1	120.6	108.9	113.4	68.7	118.0	94.5	108.0	62.9	135.6
Dec.....	110.0	115.1	59.2	119.4	116.4	121.2	109.4	113.0	69.5	118.6	97.3	109.5	66.6	136.9
1989: Jan.....	111.1	116.7	60.8	120.1	117.1	121.9	110.6	115.6	71.2	119.6	101.4	112.5	71.2	140.3
Feb.....	111.7	117.2	61.8	120.7	117.5	122.6	111.0	114.0	71.8	119.9	101.2	111.0	72.0	140.3
Mar.....	112.1	118.3	62.3	120.7	117.5	122.6	111.5	115.2	72.9	120.3	103.2	113.7	73.5	141.3
Apr.....	113.0	117.7	68.4	120.8	117.6	122.7	112.4	113.7	76.4	120.7	104.4	111.6	77.3	141.2
May.....	114.2	119.1	71.8	121.4	118.3	123.3	112.7	114.2	77.7	120.8	106.1	114.9	78.3	140.3
June.....	114.3	118.6	70.2	122.1	118.8	124.1	112.7	112.9	78.9	120.5	104.1	111.7	77.5	137.9
July.....	114.1	119.0	68.4	122.1	118.7	124.1	112.5	114.5	78.3	120.2	103.9	110.1	78.9	135.5
Aug <sup>2</sup> .....	113.4	118.7	63.6	122.4	119.0	124.5	112.0	113.1	76.9	120.0	101.1	110.0	73.5	136.6
Sept.....	113.5	118.5	65.7	122.2	118.8	124.2	112.4	114.0	78.2	120.1	102.0	108.3	76.2	137.2
Oct.....	114.8	119.5	65.7	123.9	120.3	126.0	112.3	112.4	77.4	120.3	101.8	107.2	76.6	137.4
Nov.....	114.8	120.2	64.5	123.9	120.6	125.9	112.2	113.3	76.7	120.1	102.3	109.4	76.8	134.3
Dec.....	115.3	120.9	64.9	124.4	120.7	126.6	112.0	113.0	77.7	119.7	104.0	112.3	78.5	131.7

<sup>1</sup> Intermediate materials for food manufacturing and feeds.

<sup>2</sup> Data have been revised through August 1989 to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE C-65.—*Producer price indexes for major commodity groups, 1947-89*

[1982=100]

Year or month	Farm products and processed foods and feeds			Industrial commodities				
	Total	Farm products	Processed foods and feeds	Total	Textile products and apparel	Hides, skins, leather, and related products	Fuels and related products, and power <sup>1</sup>	Chemicals and allied products <sup>1</sup>
1947.....	37.9	45.1	33.0	22.7	50.6	31.7	11.1	32.1
1948.....	40.8	48.5	35.3	24.6	52.8	32.1	13.1	32.8
1949.....	36.0	41.9	32.1	24.1	48.3	30.4	12.4	30.0
1950.....	37.7	44.0	33.2	25.0	50.2	32.9	12.6	30.4
1951.....	43.0	51.2	36.9	27.6	56.0	37.7	13.0	34.8
1952.....	41.3	48.4	36.4	26.9	50.5	30.5	13.0	33.0
1953.....	38.6	43.8	34.8	27.2	49.3	31.0	13.4	33.4
1954.....	38.5	43.2	35.4	27.2	48.2	29.5	13.2	33.8
1955.....	36.6	40.5	33.8	27.8	48.2	29.4	13.2	33.7
1956.....	36.4	40.0	33.8	29.1	48.2	31.2	13.6	33.9
1957.....	37.7	41.1	34.8	29.9	48.3	31.2	14.3	34.6
1958.....	39.4	42.9	36.5	30.0	47.4	31.6	13.7	34.9
1959.....	37.6	40.2	35.6	30.5	48.1	35.9	13.7	34.8
1960.....	37.7	40.1	35.6	30.5	48.6	34.6	13.9	34.8
1961.....	37.7	39.7	36.2	30.4	47.8	34.9	14.0	34.5
1962.....	38.1	40.4	36.5	30.4	48.2	35.3	14.0	33.9
1963.....	37.7	39.6	36.8	30.3	48.2	34.3	13.9	33.5
1964.....	37.5	39.0	36.7	30.5	48.5	34.4	13.5	33.6
1965.....	39.0	40.7	38.0	30.9	48.8	35.9	13.8	33.9
1966.....	41.6	43.7	40.2	31.5	48.9	39.4	14.1	34.0
1967.....	40.2	41.3	39.8	32.0	48.9	38.1	14.4	34.2
1968.....	41.1	42.3	40.6	32.8	50.7	39.3	14.3	34.1
1969.....	43.4	45.0	42.7	33.9	51.8	41.5	14.6	34.2
1970.....	44.9	45.8	44.6	35.2	52.4	42.0	15.3	35.0
1971.....	45.8	46.6	45.5	36.5	53.3	43.4	16.6	35.6
1972.....	49.2	51.6	48.0	37.8	55.5	50.0	17.1	35.6
1973.....	63.9	72.7	58.9	40.3	60.5	54.5	19.4	37.6
1974.....	71.3	77.4	68.0	49.2	68.0	55.2	30.1	50.2
1975.....	74.0	77.0	72.6	54.9	67.4	56.5	35.4	62.0
1976.....	73.6	78.8	70.8	58.4	72.4	63.9	38.3	64.0
1977.....	75.9	79.4	74.0	62.5	75.3	68.3	43.6	65.9
1978.....	83.0	87.7	80.6	67.0	78.1	76.1	46.5	68.0
1979.....	92.3	99.6	88.5	75.7	82.5	96.1	58.9	76.0
1980.....	98.3	102.9	95.9	88.0	89.7	94.7	82.8	89.0
1981.....	101.1	105.2	98.9	97.4	97.6	99.3	100.2	98.4
1982.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983.....	102.0	102.4	101.8	101.1	100.3	103.2	95.9	100.3
1984.....	105.5	105.5	105.4	103.3	102.7	109.0	94.8	102.9
1985.....	100.7	95.1	103.5	103.7	102.9	108.9	91.4	103.7
1986.....	101.2	92.9	105.4	100.0	103.2	113.0	69.8	102.6
1987.....	103.7	95.5	107.9	102.6	105.1	120.4	70.2	106.4
1988.....	110.0	104.9	112.7	106.3	109.2	131.4	66.7	116.3
1989 <sup>a</sup> .....	115.3	110.7	117.8	111.6	112.3	136.3	72.9	123.1
1988: Jan.....	105.3	97.3	109.3	104.4	107.6	128.4	67.2	110.6
Feb.....	105.3	97.9	109.1	104.6	108.1	129.1	66.7	111.6
Mar.....	105.8	98.2	109.6	104.7	108.4	132.6	65.9	112.7
Apr.....	106.4	99.2	110.1	105.6	108.7	134.2	67.6	113.8
May.....	108.1	102.2	111.2	106.1	108.9	134.6	68.4	114.6
June.....	111.2	106.8	113.5	106.4	109.3	131.2	68.6	115.3
July.....	112.9	109.1	115.0	106.8	109.5	130.1	68.0	117.4
Aug.....	112.7	109.3	114.5	107.0	109.6	131.6	67.6	118.2
Sept.....	114.0	111.6	115.4	106.8	109.8	132.5	66.1	119.1
Oct.....	113.5	110.9	115.0	107.1	110.0	131.9	64.5	119.9
Nov.....	112.4	107.9	114.8	107.5	110.2	130.4	64.4	121.1
Dec.....	112.9	108.9	115.0	108.1	110.5	130.1	65.6	121.7
1989: Jan.....	115.0	112.0	116.6	109.6	111.0	131.2	68.1	123.7
Feb.....	114.6	110.8	116.6	110.1	111.3	133.2	68.9	124.3
Mar.....	116.1	113.8	117.5	110.5	111.2	136.8	69.9	124.5
Apr.....	115.0	111.0	117.2	111.8	111.6	136.1	74.2	124.9
May.....	116.8	115.1	117.9	112.4	111.8	134.8	76.0	124.9
June.....	115.4	111.8	117.4	112.4	112.2	135.2	75.8	124.1
July.....	115.5	110.5	118.1	112.2	112.6	136.9	75.5	123.1
Aug <sup>a</sup> .....	115.0	109.3	117.9	111.4	112.9	137.2	72.0	121.9
Sept.....	114.4	107.3	118.1	111.9	113.0	137.9	73.9	121.8
Oct.....	114.3	106.9	118.1	112.4	113.2	138.4	73.7	121.5
Nov.....	115.4	108.5	119.0	112.2	113.5	138.2	73.0	121.4
Dec.....	116.5	111.1	119.3	112.3	113.6	139.7	74.1	120.9

<sup>1</sup> Prices for some items in this grouping are lagged and refer to 1 month earlier than the index month.

See next page for continuation of table.

TABLE C-65.—*Producer price indexes for major commodity groups, 1947-89—Continued*

[1982=100]

Year or month	Industrial commodities—Continued								Miscellaneous products	
	Rubber and plastic products	Lumber and wood products	Pulp, paper, and allied products	Metals and metal products	Machinery and equipment	Furniture and household durables	Non-metallic mineral products	Transportation equipment		
								Total		Motor vehicles and equipment
1947.....	29.2	25.8	25.1	18.2	19.3	37.2	20.7	.....	25.5	26.6
1948.....	30.2	29.5	26.2	20.7	20.9	39.4	22.4	.....	28.2	27.7
1949.....	29.2	27.3	25.1	20.9	21.9	40.1	23.0	.....	30.1	28.2
1950.....	35.6	31.4	25.7	22.0	22.6	40.9	23.5	.....	30.0	28.6
1951.....	43.7	34.1	30.5	24.5	25.3	44.4	25.0	.....	31.6	30.3
1952.....	39.6	33.2	29.7	24.5	25.3	43.5	25.0	.....	33.4	30.2
1953.....	36.9	33.1	29.6	25.3	25.9	44.4	26.0	.....	33.3	31.0
1954.....	37.5	32.5	29.6	25.5	26.3	44.9	26.6	.....	33.4	31.3
1955.....	42.4	34.1	30.4	27.2	27.2	45.1	27.3	.....	34.3	31.3
1956.....	43.0	34.6	32.4	29.6	29.3	46.3	28.5	.....	36.3	31.7
1957.....	42.8	32.8	33.0	30.2	31.4	47.5	29.6	.....	37.9	32.6
1958.....	42.8	32.5	33.4	30.0	32.1	47.9	29.9	.....	39.0	33.3
1959.....	42.6	34.7	33.7	30.6	32.8	48.0	30.3	.....	39.9	33.4
1960.....	42.7	33.5	34.0	30.6	33.0	47.8	30.4	.....	39.3	33.6
1961.....	41.1	32.0	33.0	30.5	33.0	47.5	30.5	.....	39.2	33.7
1962.....	39.9	32.2	33.4	30.2	33.0	47.2	30.5	.....	39.2	33.9
1963.....	40.1	32.8	33.1	30.3	33.1	46.9	30.3	.....	38.9	34.2
1964.....	39.6	33.5	33.0	31.1	33.3	47.1	30.4	.....	39.1	34.4
1965.....	39.7	33.7	33.3	32.0	33.7	46.8	30.4	.....	39.2	34.7
1966.....	40.5	35.2	34.2	32.8	34.7	47.4	30.7	.....	39.2	35.3
1967.....	41.4	35.1	34.6	33.2	35.9	48.3	31.2	.....	39.8	36.2
1968.....	42.8	39.8	35.0	34.0	37.0	49.7	32.4	.....	40.9	37.0
1969.....	43.6	44.0	36.0	36.0	38.2	50.7	33.6	40.4	41.7	38.1
1970.....	44.9	39.9	37.5	38.7	40.0	51.9	35.3	41.9	43.3	39.8
1971.....	45.2	44.7	38.1	39.4	41.4	53.1	38.2	44.2	45.7	40.8
1972.....	45.3	50.7	39.3	40.9	42.3	53.8	39.4	45.5	47.0	41.5
1973.....	46.6	62.2	42.3	44.0	43.7	55.7	40.7	46.1	47.4	43.3
1974.....	56.4	64.5	52.5	57.0	50.0	61.8	47.8	50.3	51.4	48.1
1975.....	62.2	62.1	59.0	61.5	57.9	67.5	54.4	56.7	57.6	53.4
1976.....	66.0	72.2	62.1	65.0	61.3	70.3	58.2	60.5	61.2	55.6
1977.....	69.4	83.0	64.6	69.3	65.2	73.2	62.6	64.6	65.2	59.4
1978.....	72.4	96.9	67.7	75.3	70.3	77.5	69.6	69.5	70.0	66.7
1979.....	80.5	105.5	75.9	86.0	76.7	82.8	77.6	75.3	75.8	75.5
1980.....	90.1	101.5	86.3	95.0	86.0	90.7	88.4	82.9	83.1	93.6
1981.....	96.4	102.8	94.8	99.6	94.4	95.9	96.7	94.3	94.6	96.1
1982.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983.....	100.8	107.9	103.3	101.8	102.7	103.4	101.6	102.8	102.2	104.8
1984.....	102.3	108.0	110.3	104.8	105.1	105.7	105.4	105.2	104.1	107.0
1985.....	101.9	106.6	113.3	104.4	107.2	107.1	108.6	107.9	106.4	109.4
1986.....	101.9	107.2	116.1	103.2	108.8	108.2	110.0	110.5	109.1	111.6
1987.....	103.0	112.8	121.8	107.1	110.4	109.9	110.0	112.5	111.7	114.9
1988.....	109.3	118.9	130.4	118.7	113.2	113.1	111.2	114.3	113.1	120.2
1989 *.....	112.6	126.7	137.8	124.1	117.4	116.9	112.6	117.7	116.1	126.5
1988: Jan.....	106.2	117.8	126.6	114.4	111.9	111.6	110.8	113.2	112.0	118.7
Feb.....	106.9	118.4	127.3	114.7	112.2	111.9	110.9	113.2	111.9	119.2
Mar.....	107.7	118.9	128.0	115.4	112.3	112.3	110.9	113.1	111.8	119.1
Apr.....	108.2	119.2	128.9	116.9	112.5	112.5	111.0	113.5	112.0	119.4
May.....	108.8	119.1	129.6	117.4	112.9	112.8	111.2	113.7	112.3	119.4
June.....	109.1	119.3	130.0	118.0	112.9	112.7	111.3	114.0	112.4	119.4
July.....	109.8	120.0	131.0	119.2	113.2	113.1	111.1	113.9	112.6	120.9
Aug.....	110.6	118.8	131.3	119.8	113.6	113.4	111.1	114.0	112.8	120.7
Sept.....	111.0	118.9	132.1	120.2	113.9	113.7	111.3	113.2	110.9	120.7
Oct.....	111.1	118.7	132.8	121.4	114.2	113.9	111.4	116.6	116.9	121.1
Nov.....	111.2	118.8	133.1	122.8	114.5	114.3	111.5	116.3	116.1	121.2
Dec.....	111.3	119.0	133.5	124.0	114.8	114.5	111.7	116.3	116.0	122.6
1989: Jan.....	111.9	120.1	135.1	125.3	115.6	115.0	111.8	116.8	116.2	124.0
Feb.....	112.2	122.0	136.3	125.1	116.0	115.3	111.8	117.1	116.5	124.2
Mar.....	112.7	123.2	136.9	125.6	116.3	115.7	112.0	116.8	115.5	124.5
Apr.....	113.0	125.2	137.4	125.6	116.5	116.2	112.6	116.4	114.8	124.6
May.....	113.0	126.5	137.8	125.2	116.9	116.5	112.7	117.2	115.6	125.2
June.....	112.8	127.4	137.9	124.0	117.3	117.0	112.8	117.6	115.9	126.7
July.....	112.8	128.9	138.0	123.0	117.8	117.5	112.8	116.9	114.5	127.2
Aug *.....	112.6	129.0	138.4	123.0	118.0	117.9	112.8	117.1	114.5	127.4
Sept.....	112.4	128.7	138.5	123.5	118.1	118.0	112.9	116.6	113.7	127.7
Oct.....	112.4	130.7	139.1	123.8	118.3	118.0	112.9	119.9	119.4	128.1
Nov.....	112.5	129.8	139.2	122.9	118.6	118.0	113.1	119.9	118.6	128.2
Dec.....	112.5	128.3	139.3	121.6	118.9	118.2	113.1	119.8	118.4	129.8

\* Data have been revised through August 1989 to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE C-66.—Changes in producer price indexes for finished goods, 1955–89

[Percent change]

Year or month	Total finished goods		Finished consumer foods		Finished goods excluding consumer foods						Finished energy goods		Finished goods excluding goods and energy	
	Dec. to Dec. 1	Year to year	Dec. to Dec. 1	Year to year	Total		Consumer goods		Capital equipment		Dec. to Dec. 1	Year to year	Dec. to Dec. 1	Year to year
					Dec. to Dec. 1	Year to year	Dec. to Dec. 1	Year to year	Dec. to Dec. 1	Year to year				
1955.....	1.0	0.3	-3.0	-2.3			1.6	0.6	5.6	2.6				
1956.....	4.2	2.6	3.7	-3			2.5	2.6	8.1	7.7				
1957.....	3.4	3.8	5.1	3.3			1.5	2.5	4.6	6.1				
1958.....	.3	2.2	.6	6.1			.3	0	1.2	2.6				
1959.....	-.3	-.3	-3.7	-4.7			.9	1.2	.9	1.9				
1960.....	1.8	.9	5.3	2.0			.3	.6	.3	.3				
1961.....	-.6	0	-1.9	-3			-.3	-.3	0	.3				
1962.....	-.3	.3	.6	.8			0	0	0	.3				
1963.....	-.3	-.3	-1.4	-1.1			0	0	.6	.3				
1964.....	.6	.3	.6	.3			.3	-.3	.9	.9				
1965.....	3.3	1.8	9.1	4.0			.9	.9	1.5	1.2				
1966.....	2.0	3.2	1.3	6.5			1.8	1.5	3.8	2.4				
1967.....	1.7	1.1	-.3	-1.8			2.0	1.8	3.1	3.5				
1968.....	3.1	2.8	4.6	3.9	2.5	2.6	2.0	2.3	3.0	3.4				
1969.....	4.9	3.8	8.1	6.0	3.3	2.8	2.8	2.3	4.8	3.5				
1970.....	2.1	3.4	-2.3	3.3	4.3	3.5	3.8	3.0	4.8	4.7				
1971.....	3.3	3.1	5.8	1.6	2.0	3.7	2.1	3.5	2.4	4.0				
1972.....	3.9	3.2	7.9	5.4	2.3	2.0	2.1	2.0	2.1	2.6				
1973.....	11.7	9.1	22.7	20.5	6.6	4.0	7.5	4.6	5.1	3.3				
1974.....	18.3	15.4	12.8	14.0	21.1	16.2	20.3	17.0	22.7	14.3			17.7	11.4
1975.....	6.6	10.6	5.6	8.4	7.2	12.1	6.8	10.4	8.1	15.2	16.3	17.2	6.0	11.4
1976.....	3.8	4.5	-2.5	-3	6.2	6.2	6.0	6.2	6.5	6.7	11.6	11.7	5.7	5.7
1977.....	6.7	6.4	6.9	5.3	6.8	7.1	6.7	7.3	7.2	6.4	12.0	15.7	6.2	6.0
1978.....	9.3	7.9	11.7	9.0	8.3	7.2	8.5	7.1	8.0	7.9	8.5	6.5	8.4	7.5
1979.....	12.8	11.2	7.4	9.3	14.8	11.8	17.6	13.3	8.8	8.7	58.1	35.0	9.4	8.9
1980.....	11.8	13.4	7.5	5.8	13.4	16.2	14.1	18.5	11.4	10.7	27.9	49.2	10.8	11.2
1981.....	7.1	9.2	1.5	5.8	8.7	10.3	8.6	10.3	9.2	10.3	14.1	19.1	7.7	8.6
1982.....	3.6	4.1	2.0	2.2	4.2	4.6	4.2	4.1	3.9	5.7	-.1	-1.5	4.9	5.7
1983.....	.6	1.6	2.3	1.0	0	1.8	-.9	1.2	2.0	2.8	-9.2	-4.8	1.9	3.0
1984.....	1.7	2.1	3.5	4.4	1.1	1.4	.8	1.0	1.8	2.3	-4.2	-4.2	2.0	2.4
1985.....	1.8	1.0	.6	-.8	2.2	1.4	2.1	1.1	2.7	2.2	-.2	-3.9	2.7	2.5
1986.....	-2.3	-1.4	2.8	2.6	-4.0	-2.6	-6.6	-4.6	2.1	2.0	-38.1	-28.1	2.7	2.3
1987.....	2.2	2.1	-.2	2.1	3.2	2.1	4.1	2.2	1.3	1.8	11.2	-1.9	2.1	2.4
1988.....	4.0	2.5	5.7	2.8	3.2	2.4	3.1	2.4	3.6	2.3	-3.6	-3.2	4.3	3.3
1989 <sup>a</sup> .....	4.8	5.1	5.0	5.4	4.8	5.0	5.3	5.6	3.7	3.8	9.6	9.9	4.2	4.4
Percent change from preceding month														
	Unadjusted	Seasonally adjusted	Unadjusted	Seasonally adjusted	Unadjusted	Seasonally adjusted	Unadjusted	Seasonally adjusted	Unadjusted	Seasonally adjusted	Unadjusted	Seasonally adjusted	Unadjusted	Seasonally adjusted
1988: Jan.....	0.5	0.7	1.5	1.5	0	0.3	-0.1	0.2	0.4	0.5	-3.6	-1.5	0.6	0.5
Feb.....	-.2	0	-1.0	-.4	.1	.3	0	.2	-.3	.1	-1.2	-.3	.3	.3
Mar.....	-.2	.4	.6	.5	.1	.2	0	.3	0	.1	-.5	0	.2	.3
Apr.....	.7	.3	.2	.8	.8	.4	1.1	.5	.4	.2	4.6	2.0	.2	.1
May.....	.5	.3	.8	.5	.3	.2	.4	.2	.2	.3	1.1	-.7	.3	.3
June.....	-.2	.2	1.0	.8	-.1	0	-.2	-.2	.1	.3	-2.1	-2.6	.2	.3
July.....	.8	.6	1.2	.7	.8	.5	1.0	.6	.3	.3	1.7	1.2	.6	.4
Aug.....	.1	.3	.0	.6	.2	.3	.1	.2	-.3	.3	-.3	-1.0	.3	.4
Sept.....	-.1	.6	1.3	.9	-.7	.4	-.9	.2	-.2	.9	-3.8	-.8	-.2	.6
Oct.....	-.7	.1	-.4	-.1	1.2	.1	1.1	.1	1.5	-.1	-.2	0	1.4	.1
Nov.....	.4	.3	.3	.3	.4	.3	.5	.3	.1	.2	2.2	.8	.1	.2
Dec.....	.2	.4	.2	.1	.2	.5	.2	.6	.3	.3	-1.3	-.5	.4	.6
1989: Jan.....	1.0	1.1	1.4	1.3	.8	1.0	1.0	1.2	.6	.6	2.7	4.9	.6	.5
Feb.....	.5	.9	.4	.9	.6	.7	.8	1.0	-.3	.4	1.6	2.4	.5	.6
Mar.....	.4	.4	.9	.8	.1	.4	.2	.4	0	-.1	.8	1.4	0	.2
Apr.....	.8	.4	-.5	-.6	1.3	.8	1.9	1.4	.1	-.1	9.8	7.0	.1	-.1
May.....	1.1	.9	1.2	.8	1.1	1.0	1.4	1.0	.6	.7	5.0	2.9	.5	.7
June.....	.1	.1	-.4	-.6	.2	.2	.1	.1	.4	.5	-2.2	-2.7	.6	.7
July.....	-.2	-.5	.3	-.1	-.4	-.5	-.5	-.9	-.1	0	-2.6	-3.2	0	-.2
Aug <sup>a</sup> .....	-.6	-.4	-.3	-.3	-.6	-.6	-1.2	-1.0	-.3	.3	-7.0	-7.3	-.2	.4
Sept.....	.1	.8	-.2	-.5	.2	1.3	.5	1.5	-.2	.8	3.3	6.5	-.2	.6
Oct.....	1.1	.4	.8	1.4	1.3	0	1.2	.3	1.3	-.3	0	-.2	1.4	.1
Nov.....	0	-.1	.6	.8	-.3	-.3	-.5	-.6	-.2	.3	-1.8	-3.3	0	-.2
Dec.....	.4	.7	.6	.5	.4	.7	-.5	.9	.1	.2	.6	1.4	.4	.6

<sup>1</sup> Changes from December to December are based on unadjusted indexes.

<sup>2</sup> Data have been revised through August 1989 to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

Source: Department of Labor, Bureau of Labor Statistics.



# MONEY STOCK, CREDIT, AND FINANCE

**TABLE C-67.—Money stock, liquid assets, and debt measures, 1959–89**

(Averages of daily figures; billions of dollars, seasonally adjusted)

Year and month	M1	M2	M3	L	Debt <sup>1</sup>	Percent change from year or 6 months earlier <sup>2</sup>			
	Sum of currency, demand deposits, travelers checks, and other checkable deposits (OCDs)	M1 plus overnight RPs and Eurodollars, MMMF balances (general purpose and broker/dealer), MMDAs, and savings and small time deposits	M2 plus large time deposits, term RPs, term Eurodollars, and institution-only MMMF balances	M3 plus other liquid assets	Debt of domestic nonfinancial sectors (monthly average)	M1	M2	M3	Debt
December:									
1959	140.0	297.8	299.8	388.7	682.4				7.7
1960	140.7	312.4	315.3	403.7	717.1	0.5	4.9	5.2	5.1
1961	145.2	335.5	341.1	430.8	759.5	3.2	7.4	8.2	5.9
1962	147.9	362.7	371.5	466.1	811.6	1.9	8.1	8.9	6.9
1963	153.4	393.3	406.1	503.8	866.6	3.7	8.4	9.3	6.8
1964	160.4	424.8	442.5	540.4	929.7	4.6	8.0	9.0	7.3
1965	167.9	459.4	482.3	584.5	997.9	4.7	8.1	9.0	7.3
1966	172.1	480.0	505.1	614.8	1,065.5	2.5	4.5	4.7	6.8
1967	183.3	524.4	557.1	666.6	1,140.9	6.5	9.2	10.3	7.1
1968	197.5	566.4	606.3	729.0	1,234.3	7.7	8.0	8.8	8.2
1969	204.0	589.6	615.1	763.6	1,324.7	3.3	4.1	1.5	7.3
1970	214.5	628.1	677.4	816.2	1,414.8	5.1	6.5	10.1	6.8
1971	228.4	712.7	776.2	903.1	1,546.3	6.5	13.5	14.6	9.3
1972	249.4	805.3	886.1	1,023.1	1,701.5	9.2	13.0	14.2	10.0
1973	263.0	861.0	985.1	1,142.6	1,889.8	5.5	6.9	11.2	11.1
1974	274.4	908.5	1,070.4	1,250.3	2,061.2	4.3	5.5	8.7	9.1
1975	287.6	1,023.2	1,172.2	1,367.0	2,241.9	4.8	12.6	9.5	8.8
1976	306.5	1,163.7	1,311.9	1,516.7	2,480.7	6.6	13.7	11.9	10.7
1977	331.5	1,286.8	1,472.9	1,705.5	2,793.4	8.2	10.6	12.3	12.6
1978	358.8	1,389.2	1,647.1	1,911.2	3,166.1	8.2	8.0	11.8	13.3
1979	386.1	1,500.3	1,806.7	2,119.6	3,546.1	7.6	8.0	9.7	12.0
1980	412.2	1,633.3	1,991.1	2,327.8	3,881.9	6.8	8.9	10.2	9.5
1981	439.1	1,795.9	2,236.9	2,599.4	4,269.0	6.5	10.0	12.3	10.0
1982	476.4	1,954.5	2,443.8	2,853.5	4,660.0	8.5	8.8	9.2	9.2
1983	522.1	2,186.0	2,694.3	3,155.5	5,185.4	9.6	11.8	10.3	11.3
1984	551.9	2,367.2	2,982.3	3,523.4	5,932.7	5.7	8.3	10.7	14.4
1985	620.5	2,567.4	3,201.7	3,830.6	6,741.5	12.4	8.5	7.4	13.6
1986	725.9	2,811.2	3,494.9	4,137.1	7,597.0	17.0	9.5	9.2	12.7
1987	752.3	2,909.9	3,677.8	4,336.8	8,316.1	3.6	3.5	5.2	9.5
1988	790.3	3,069.6	3,915.6	4,672.3	9,082.2	5.1	5.5	6.5	9.2
1989 <sup>3</sup>	797.6	3,217.0	4,039.6			.9	4.8	3.2	
1988: Jan	758.4	2,930.5	3,702.5	4,373.2	8,359.0	4.2	5.2	6.3	9.3
Feb	760.1	2,950.8	3,732.8	4,403.5	8,415.6	3.9	5.7	6.8	9.2
Mar	763.8	2,969.5	3,757.4	4,433.4	8,482.7	4.3	5.8	7.0	9.0
Apr	771.2	2,990.3	3,780.7	4,472.0	8,550.2	3.7	6.0	6.9	8.9
May	771.1	2,999.8	3,795.6	4,500.1	8,620.6	4.4	6.6	6.8	8.7
June	776.5	3,013.1	3,816.6	4,517.3	8,690.8	6.4	7.1	7.5	9.0
July	782.5	3,023.9	3,839.4	4,561.3	8,755.3	6.4	6.4	7.4	9.5
Aug	782.4	3,029.8	3,851.6	4,580.0	8,820.2	5.9	5.4	6.4	9.6
Sept	783.7	3,035.1	3,861.2	4,588.3	8,883.0	5.2	4.4	5.5	9.4
Oct	785.4	3,042.3	3,878.1	4,609.4	8,943.8	3.7	3.5	5.2	9.2
Nov	786.6	3,059.5	3,898.3	4,635.6	9,018.7	4.0	4.0	5.4	9.2
Dec	790.3	3,069.6	3,915.6	4,672.3	9,082.2	3.6	3.8	5.2	9.0
1989: Jan	786.3	3,065.9	3,920.2	4,676.2	9,138.9	1.0	2.8	4.2	8.8
Feb	787.5	3,069.4	3,929.5	4,689.4	9,207.0	1.3	2.6	4.0	8.8
Mar	786.3	3,078.5	3,951.0	4,724.6	9,269.2	-.7	2.9	4.7	8.7
Apr	783.2	3,080.9	3,957.7	4,750.5	9,327.6	-.6	2.5	4.1	8.6
May	773.4	3,072.6	3,951.1	4,747.0	9,389.3	-3.4	-.9	2.7	8.2
June	770.3	3,088.2	3,966.9	4,760.0	9,444.1	-5.1	1.2	2.6	8.0
July	777.2	3,116.8	3,993.4	4,792.0	9,494.4	-2.3	3.3	3.7	7.8
Aug	777.4	3,135.8	3,999.6	4,807.5	9,558.9	-2.6	4.3	3.6	7.6
Sept	781.1	3,153.5	4,001.0	4,813.9	9,615.3	-1.3	4.9	2.5	7.5
Oct	787.7	3,173.6	4,010.6	4,826.2	9,677.9	1.1	6.0	2.7	7.5
Nov	789.6	3,196.2	4,027.3	4,838.7	9,744.2	4.2	8.0	3.9	7.6
Dec <sup>4</sup>	797.6	3,217.0	4,039.6			7.1	8.3	3.7	

<sup>1</sup> Consists of outstanding credit market debt of the U.S. Government, State and local governments, and private nonfinancial sectors; data from flow of funds accounts.

<sup>2</sup> Annual changes are from December to December; monthly changes are from 6 months earlier at a simple annual rate.

Note.—The nontransactions portion of M2 is seasonally adjusted as a whole to reduce distortions caused by substantial portfolio shifts arising from regulatory and financial changes in recent years, especially shifts to MMDAs in 1983. A similar procedure is used to seasonally adjust the remaining nontransactions balances in M3. See Table C-68 for components.

Source: Board of Governors of the Federal Reserve System.

TABLE C-68.—Components of money stock measures and liquid assets, 1959-89

[Averages of daily figures; billions of dollars, seasonally adjusted, except as noted]

Year and month	Currency	Travelers checks	Demand deposits	Other checkable deposits (OCDs)	Overnight repurchase agreements (RPs) net, plus overnight Eurodollars	Money market mutual fund (MMMF) balances		Money market deposit accounts (MMDAs)	Savings deposits
						General purpose and broker/dealer	Institution only		
						NSA	NSA		
December:									
1959	28.8	0.4	110.8	0.0	0.0	0.0	0.0	0.0	146.4
1960	28.7	.4	111.6	.0	.0	.0	.0	.0	159.1
1961	29.3	.4	115.5	.0	.0	.0	.0	.0	175.5
1962	30.3	.4	117.1	.0	.0	.0	.0	.0	194.8
1963	32.2	.5	120.6	.1	.0	.0	.0	.0	214.4
1964	33.9	.5	125.8	.1	.0	.0	.0	.0	235.2
1965	36.0	.6	131.3	.1	.0	.0	.0	.0	256.9
1966	38.0	.6	133.4	.1	.0	.0	.0	.0	253.1
1967	40.0	.7	142.5	.1	.0	.0	.0	.0	263.7
1968	43.0	.8	153.6	.1	.0	.0	.0	.0	268.9
1969	45.7	.8	157.3	.2	2.2	.0	.0	.0	263.7
1970	48.6	1.0	164.7	.1	1.3	.0	.0	.0	261.0
1971	52.0	1.1	175.1	.2	2.3	.0	.0	.0	292.2
1972	56.3	1.3	191.6	.2	2.8	.0	.0	.0	321.4
1973	60.8	1.5	200.3	.3	5.3	.1	.0	.0	326.7
1974	67.0	1.8	205.1	.4	5.6	1.7	.2	.0	338.5
1975	72.8	2.3	211.6	.9	5.8	2.7	.4	.0	388.8
1976	79.5	2.8	221.6	2.7	10.6	2.4	.6	.0	453.1
1977	87.4	3.1	236.8	4.2	14.7	2.4	.9	.0	492.1
1978	96.1	3.5	250.6	8.5	20.3	6.4	3.1	.0	481.9
1979	104.9	3.8	257.7	19.9	21.2	33.4	9.5	.0	423.8
1980	115.2	4.2	261.5	31.3	28.3	61.6	15.2	0.0	400.2
1981	122.5	4.4	231.5	80.8	35.9	150.6	38.0	0.0	344.0
1982	132.6	4.3	234.2	105.3	38.8	185.2	51.1	43.2	356.9
1983	146.3	4.9	238.7	132.2	53.8	138.2	43.2	379.2	305.6
1984	156.1	5.2	244.2	146.4	56.3	167.5	62.7	416.9	285.4
1985	167.8	5.9	267.3	179.5	70.2	176.5	64.5	513.5	301.6
1986	180.5	6.5	303.2	235.8	78.3	208.0	84.4	572.5	371.0
1987	196.4	7.1	288.3	260.4	78.3	221.1	89.6	526.3	416.4
1988	211.8	7.6	288.6	282.3	78.5	239.4	87.6	502.7	431.3
1989	222.1	7.5	281.2	286.8	72.8	309.1	102.8	486.5	411.8
1988: Jan	198.5	7.2	289.4	263.4	82.8	225.2	94.4	525.0	417.0
Feb	199.4	7.3	288.1	265.4	77.9	231.0	98.7	523.6	418.8
Mar	200.7	7.2	288.4	267.5	74.5	234.8	97.4	525.5	421.5
Apr	202.4	7.2	290.3	271.2	75.6	235.8	91.9	524.2	423.3
May	203.4	7.3	288.1	272.2	80.3	231.8	90.0	520.5	424.2
June	204.7	7.3	289.8	274.7	80.8	228.9	86.3	523.2	427.6
July	206.4	7.2	290.4	278.5	77.6	229.6	84.8	522.0	429.7
Aug	207.0	7.2	289.9	278.3	79.9	230.8	84.0	517.7	430.9
Sept	208.6	7.3	288.8	279.0	77.3	231.0	83.7	511.4	430.5
Oct	209.7	7.4	288.9	279.4	76.1	231.3	84.6	507.5	429.2
Nov	210.5	7.5	287.7	281.0	75.7	237.4	87.4	506.7	431.8
Dec	211.8	7.6	288.6	282.3	78.5	239.4	87.6	502.7	431.3
1989: Jan	213.4	7.6	284.0	281.3	81.8	241.7	89.3	495.2	427.8
Feb	214.3	7.5	284.8	280.9	79.0	247.2	89.6	485.3	424.6
Mar	215.6	7.3	284.3	279.1	77.4	255.5	87.6	480.3	420.8
Apr	216.0	7.3	281.4	278.5	74.5	259.3	87.7	471.3	412.8
May	216.5	7.3	278.2	271.4	73.5	259.3	91.6	457.0	404.7
June	217.3	7.2	275.0	270.7	76.0	265.3	95.1	456.9	402.0
July	218.0	7.1	278.8	273.2	77.6	273.9	98.2	459.8	401.5
Aug	218.4	7.2	277.5	274.4	74.9	284.7	100.6	465.4	402.3
Sept	219.4	7.2	277.3	277.3	72.3	292.4	99.1	469.1	404.3
Oct	219.7	7.3	280.4	280.3	72.9	298.4	98.7	473.0	405.8
Nov	220.2	7.5	278.9	283.0	71.8	306.5	102.0	481.7	409.3
Dec	222.1	7.5	281.2	286.8	72.8	309.1	102.8	486.5	411.8

See next page for continuation of table.

TABLE C-68.—Components of money stock measures and liquid assets, 1959-89—Continued

[Averages of daily figures; billions of dollars, seasonally adjusted, except as noted]

Year and month	Small denomination time deposits <sup>1</sup>	Large denomination time deposits <sup>1</sup>	Term repurchase agreements (RPs)	Term Euro-dollars	Savings bonds	Short-term Treasury securities	Bankers acceptances	Commercial paper
			NSA	NSA				
December:								
1959:								
1959.....	11.4	1.2	0.0	0.7	46.1	38.6	0.6	3.6
1960.....	12.5	2.0	.0	.8	45.7	36.7	.9	5.1
1961.....	14.8	3.9	.0	1.5	46.5	37.0	1.1	5.2
1962.....	20.1	7.0	.0	1.6	46.9	39.8	1.1	6.8
1963.....	25.5	10.8	.0	1.9	48.1	40.7	1.2	7.7
1964.....	29.2	15.2	.0	2.4	49.0	38.5	1.3	9.1
1965.....	34.5	21.2	.0	1.8	49.6	40.7	1.6	10.2
1966.....	55.0	23.1	.0	2.2	50.2	43.2	1.8	14.4
1967.....	77.8	30.9	.0	2.2	51.2	38.7	1.8	17.8
1968.....	100.5	37.4	.0	2.9	51.8	46.1	2.3	22.5
1969.....	120.4	20.4	2.7	2.7	51.7	59.5	3.3	34.0
1970.....	151.1	45.3	1.6	2.2	52.0	48.8	3.5	34.5
1971.....	189.7	57.7	2.7	2.7	54.3	36.0	3.8	32.7
1972.....	231.6	73.3	3.5	3.6	57.6	40.7	3.5	35.2
1973.....	265.8	111.1	6.8	5.5	60.4	49.3	5.0	42.8
1974.....	287.9	144.8	7.9	8.1	63.3	52.8	12.6	51.2
1975.....	337.9	129.7	8.2	9.8	67.2	68.4	10.7	48.5
1976.....	390.7	118.1	14.0	14.8	71.8	69.8	10.8	52.5
1977.....	445.4	145.2	19.1	20.2	76.4	78.1	14.1	64.1
1978.....	521.0	195.6	26.6	31.8	80.3	81.1	22.0	80.7
1979.....	634.3	223.0	29.5	44.7	79.6	107.8	27.2	98.3
1980.....	728.6	260.1	34.0	50.3	72.3	133.5	32.1	98.8
1981.....	823.2	302.5	36.0	67.5	67.8	149.4	40.0	105.3
1982.....	851.0	326.8	34.5	81.7	68.0	183.6	44.5	113.6
1983.....	784.0	327.4	51.8	91.5	71.1	211.9	45.0	133.2
1984.....	886.3	417.2	61.9	82.9	74.2	260.7	45.4	160.7
1985.....	882.6	436.6	65.6	76.5	79.4	300.1	42.0	207.4
1986.....	853.9	439.0	84.6	83.8	91.7	282.3	37.2	231.0
1987.....	914.1	487.4	109.1	90.8	100.4	257.5	44.7	260.3
1988.....	1,025.2	537.8	124.1	106.0	109.1	271.3	40.6	335.8
1989 <sup>p</sup> .....	1,135.7	554.2	100.0	83.9				
1988: Jan.....	925.4	487.0	109.9	86.2	101.3	260.6	43.7	269.0
Feb.....	942.4	492.3	114.2	86.9	102.5	256.9	41.0	274.2
Mar.....	952.8	496.3	112.0	91.1	103.4	255.1	41.1	280.3
Apr.....	963.4	499.2	114.7	90.1	104.4	261.8	41.4	287.6
May.....	971.0	502.4	121.0	92.8	105.3	260.5	41.1	297.8
June.....	975.7	507.8	124.4	93.9	106.0	253.6	40.7	300.4
July.....	981.0	514.0	125.7	97.3	106.8	264.6	40.7	309.8
Aug.....	988.3	519.4	124.1	103.0	107.4	268.6	41.2	311.3
Sept.....	998.7	526.7	122.8	102.9	107.9	268.8	41.7	308.8
Oct.....	1,009.7	532.0	125.4	100.3	108.4	269.3	41.3	312.3
Nov.....	1,017.8	534.4	128.3	101.8	108.7	264.5	40.5	323.7
Dec.....	1,025.2	537.8	124.1	106.0	109.1	271.3	40.6	335.8
1989: Jan.....	1,035.7	544.4	125.2	100.6	109.7	270.9	40.6	334.9
Feb.....	1,048.3	551.6	128.4	100.0	110.6	265.2	39.9	344.2
Mar.....	1,061.0	558.8	130.9	105.6	111.5	271.7	41.2	349.2
Apr.....	1,083.1	567.6	128.8	100.2	112.3	279.5	41.4	359.5
May.....	1,105.7	572.1	129.2	96.6	112.9	289.5	41.1	352.3
June.....	1,118.5	573.1	129.3	92.6	113.8	286.8	41.1	351.4
July.....	1,126.3	573.1	124.5	91.3	114.6	290.7	42.0	351.3
Aug.....	1,132.1	569.2	118.0	89.0	115.2	294.6	42.8	355.3
Sept.....	1,132.3	563.9	113.7	84.9	115.7	307.5	41.4	348.3
Oct.....	1,132.6	560.7	110.0	80.7	116.1	314.4	40.2	344.8
Nov.....	1,133.1	559.2	110.6	81.3	116.5	306.8	40.6	347.5
Dec <sup>p</sup> .....	1,135.7	554.2	100.0	83.9				

<sup>1</sup> Small denomination and large denomination deposits are those issued in amounts of less than \$100,000 and more than \$100,000, respectively.

Note.—NSA indicates data are not seasonally adjusted.  
See also Table C-67.

Source: Board of Governors of the Federal Reserve System.

TABLE C-69.—Aggregate reserves of depository institutions and monetary base, 1959-89

[Averages of daily figures<sup>1</sup>; millions of dollars; seasonally adjusted, except as noted]

Year and month	Adjusted for changes in reserve requirements <sup>2</sup>					Borrowings of depository institutions from the Federal Reserve, NSA		
	Reserves of depository institutions				Monetary base	Total	Seasonal	Extended credit
	Total	Nonborrowed	Nonborrowed plus extended credit	Required				
December:								
1959.....	14,668	13,727	13,727	14,162	44,380	941		
1960.....	14,833	14,759	14,759	14,089	44,330	74		
1961.....	15,308	15,175	15,175	14,724	45,400	133		
1962.....	15,595	15,334	15,334	15,023	46,665	260		
1963.....	15,925	15,592	15,592	15,435	48,943	332		
1964.....	16,449	16,185	16,185	16,043	51,335	264		
1965.....	17,039	16,596	16,596	16,616	54,552	444		
1966.....	17,043	16,511	16,511	16,704	56,135	532		
1967.....	18,553	18,325	18,325	18,178	59,651	228		
1968.....	19,506	18,761	18,761	19,081	63,781	746		
1969.....	19,812	18,693	18,693	19,526	66,944	1,119		
1970.....	20,785	20,453	20,453	20,536	71,032	332		
1971.....	22,128	22,002	22,002	21,946	75,818	126		
1972.....	24,357	23,307	23,307	24,073	82,524	1,050		
1973.....	25,448	24,150	24,150	25,144	89,119	1,298		
1974.....	26,783	26,055	26,202	26,524	96,409	727	41	147
1975.....	26,934	26,804	26,816	26,668	102,556	130	14	12
1976.....	27,522	27,469	27,469	27,248	110,160	53	13	
1977.....	28,646	28,076	28,076	28,456	119,356	569	55	
1978.....	30,033	29,165	29,165	29,801	130,031	868	135	
1979.....	31,406	29,934	29,934	30,965	141,068	1,473	82	
1980.....	33,401	31,711	31,714	32,887	152,525	1,690	116	3
1981.....	35,315	34,679	34,827	34,996	161,043	636	54	148
1982.....	37,388	36,754	36,940	36,888	173,011	634	33	186
1983.....	39,184	38,410	38,412	38,623	188,303	774	96	2
1984.....	42,321	39,134	41,739	41,468	201,889	3,186	113	2,604
1985.....	48,493	47,175	47,674	47,436	219,510	1,318	56	499
1986.....	58,140	57,313	57,616	56,771	241,448	827	38	303
1987.....	58,693	57,916	58,399	57,665	257,991	777	93	483
1988.....	60,706	58,990	60,234	59,666	275,503	1,716	130	1,244
1989 <sup>P</sup> .....	59,991	59,725	59,745	59,068	285,221	265	84	20
1988: Jan.....	59,473	58,392	58,763	58,178	260,982	1,082	59	372
Feb.....	59,516	59,120	59,325	58,383	262,019	396	75	205
Mar.....	59,663	57,911	59,389	58,734	263,288	1,752	119	1,478
Apr.....	60,363	57,369	59,993	59,503	265,631	2,993	146	2,624
May.....	60,422	57,845	59,951	59,382	266,761	2,578	246	2,107
June.....	60,576	57,493	60,047	59,688	268,205	3,083	311	2,554
July.....	61,058	57,618	60,157	60,051	270,308	3,440	376	2,538
Aug.....	60,903	57,663	60,316	59,950	270,979	3,241	423	2,653
Sept.....	60,824	57,985	60,043	59,852	272,420	2,839	421	2,059
Oct.....	60,862	58,562	60,343	59,800	273,659	2,299	332	1,781
Nov.....	60,853	57,991	60,314	59,733	274,381	2,861	186	2,322
Dec.....	60,706	58,990	60,234	59,666	275,503	1,716	130	1,244
1989: Jan.....	60,370	58,708	59,754	59,226	276,815	1,662	76	1,046
Feb.....	60,260	58,773	59,823	59,106	277,598	1,487	97	1,050
Mar.....	59,854	58,041	59,376	58,896	278,676	1,813	139	1,334
Apr.....	59,463	57,174	58,881	58,687	278,753	2,289	213	1,707
May.....	58,740	57,020	58,217	57,709	278,427	1,720	345	1,197
June.....	58,350	56,860	57,776	57,445	279,060	1,490	431	917
July.....	58,698	58,004	58,110	57,733	280,014	694	497	106
Aug.....	58,753	58,079	58,120	57,869	280,288	675	490	41
Sept.....	59,223	58,530	58,552	58,285	282,045	693	452	22
Oct.....	59,621	59,066	59,087	58,602	282,703	555	330	21
Nov.....	59,566	59,217	59,238	58,621	283,001	349	134	21
Dec <sup>P</sup> .....	59,991	59,725	59,745	59,068	285,221	265	84	20

<sup>1</sup> Data are prorated averages of biweekly (maintenance period) averages of daily figures.

<sup>2</sup> Aggregate reserves incorporate adjustments for discontinuities associated with the implementation of the Monetary Control Act and other regulatory changes to reserve requirements. For details on aggregate reserves series see *Federal Reserve Bulletin*.

Note.—NSA indicates data are not seasonally adjusted.

Source: Board of Governors of the Federal Reserve System.

TABLE C-70.—Commercial bank loans and securities, 1972–89

[Monthly average; billions of dollars, seasonally adjusted <sup>1</sup>]

Year and month	Total loans and securities <sup>a</sup>	U.S. Government securities	Other securities	Loans and leases														
				Total <sup>a</sup>	Commercial and industrial	Real estate	Individual	Secur-ity	Non-bank financial institutions	Agricul-tural	State and political subdivisions	For-eign banks	For-eign official institutions	Lease financ-ing receiv-ables	Other			
December:																		
1972	572.5	89.0	93.4	390.1	137.1	98.1	86.3	15.6	21.7	14.3		3.9	1.6	1.4	10.1			
1973	647.9	88.2	99.4	460.3	165.0	117.3	98.6	12.9	28.5	17.2		6.2	2.1	2.1	10.3			
1974	713.9	86.3	107.5	520.0	196.7	130.1	102.4	12.7	34.5	18.3		8.3	2.2	3.2	11.6			
1975	745.3	116.7	111.2	517.3	189.3	134.4	104.9	13.5	28.9	20.1		9.0	2.4	4.0	10.9			
1976	804.9	136.3	113.6	555.1	190.9	148.8	116.3	17.7	26.4	23.2		11.7	2.8	5.1	12.2			
1977	891.9	136.6	122.7	632.6	211.0	175.2	138.3	21.0	25.8	25.8		13.7	2.7	5.7	13.3			
1978	1,014.4	137.6	129.3	747.6	246.2	210.5	164.7	19.7	26.2	28.2		21.5	4.9	7.4	18.2			
1979	1,136.2	144.3	142.0	849.8	291.3	241.9	184.5	18.7	29.3	31.1		18.6	6.9	9.3	18.2			
1980	1,239.2	170.6	154.7	913.9	325.7	262.6	179.2	18.0	29.2	31.6		23.8	11.5	10.9	21.5			
1981	1,307.7	179.3	160.9	967.5	355.4	284.1	182.5	21.5	29.9	33.1		18.1	7.2	12.7	23.1			
1982	1,401.5	201.7	165.7	1,034.1	392.6	299.8	188.2	25.4	31.3	36.2		14.8	5.9	13.3	26.6			
1983	1,553.6	259.2	170.6	1,123.9	414.1	330.8	212.9	28.1	30.5	39.2		13.4	9.4	13.7	31.8			
1984	1,723.7	260.2	142.6	1,321.0	472.9	376.3	253.8	34.3	31.4	40.1	46.0	11.1	7.9	16.0	31.2			
1985	1,911.4	270.7	181.4	1,459.3	499.7	425.8	294.8	42.7	32.5	36.1	56.7	9.7	6.0	19.0	36.3			
1986	2,094.5	309.6	196.5	1,588.4	536.2	494.0	315.9	40.1	35.0	31.6	58.4	9.6	5.9	22.3	39.4			
1987	2,239.6	335.5	195.3	1,708.8	562.7	589.0	329.5	34.4	31.9	29.4	52.5	7.5	5.3	24.5	42.1			
1988	2,417.2	361.4	194.0	1,861.9	601.9	672.0	355.5	38.5	30.0	30.7	46.7	7.6	4.9	29.2	44.9			
1989 P	2,577.4	396.9	181.3	1,999.2	634.2	754.8	378.1	37.8	32.2	30.5	41.0	9.1	3.8	31.1	46.5			
1988: Jan	2,252.4	336.9	192.6	1,722.9	565.0	595.1	331.7	36.8	31.2	29.5	51.8	7.6	5.4	25.0	43.8			
Feb	2,269.8	337.8	194.8	1,737.1	568.8	601.2	334.4	41.4	31.5	29.4	51.1	7.6	5.1	25.4	41.2			
Mar	2,286.8	341.4	196.3	1,749.1	570.4	607.2	338.0	40.2	31.0	29.4	50.3	7.9	5.1	25.7	43.9			
Apr	2,306.1	344.0	196.6	1,765.5	577.3	614.4	341.0	39.5	30.5	29.4	49.8	8.3	5.1	26.0	44.3			
May	2,328.5	346.7	196.4	1,785.5	584.1	622.4	343.0	39.7	30.7	29.5	49.5	8.0	5.1	26.5	47.0			
June	2,346.8	349.1	196.7	1,801.0	588.5	629.3	344.5	39.5	30.7	29.6	49.2	8.1	5.0	27.2	49.4			
July	2,362.7	349.6	196.8	1,816.3	595.0	635.8	345.6	38.9	31.1	29.6	48.8	8.1	5.0	28.0	50.3			
Aug	2,377.6	350.9	196.5	1,830.1	597.4	643.0	347.7	39.6	31.1	29.6	48.2	8.0	5.1	28.1	52.2			
Sept	2,381.5	353.1	195.2	1,833.2	598.1	650.3	350.2	36.5	30.7	29.6	48.0	7.2	5.0	28.5	49.1			
Oct	2,401.4	355.6	196.8	1,848.9	601.6	659.8	351.6	38.5	30.4	29.8	48.5	7.6	4.9	28.9	47.5			
Nov	2,410.2	358.8	195.9	1,855.6	601.8	665.3	353.0	38.2	30.2	30.3	47.7	8.1	4.9	29.1	47.0			
Dec	2,417.2	361.4	194.0	1,861.9	601.9	672.0	355.5	38.5	30.0	30.7	46.7	7.6	4.9	29.2	44.9			
1989: Jan	2,422.8	360.4	189.6	1,872.9	606.6	678.9	357.9	37.6	30.1	30.7	44.2	7.8	4.8	29.4	44.8			
Feb	2,451.9	361.8	190.4	1,899.7	619.0	685.6	358.9	44.7	30.5	30.7	44.3	8.5	4.8	29.6	43.1			
Mar	2,464.9	368.8	189.7	1,906.5	617.8	691.8	360.6	43.5	29.6	30.7	44.3	8.2	4.8	29.6	45.6			
Apr	2,470.9	370.7	187.2	1,913.1	620.6	699.5	362.9	39.9	29.1	30.4	44.4	8.4	4.9	29.8	43.2			
May	2,486.3	373.5	186.4	1,926.5	626.3	705.5	365.4	38.1	28.6	30.3	44.4	9.4	4.9	30.0	43.7			
June	2,496.8	373.8	185.8	1,937.3	624.9	712.0	366.0	41.2	30.2	30.3	44.2	9.3	4.7	29.9	44.5			
July	2,518.1	374.4	184.6	1,959.1	632.1	719.9	367.0	40.0	31.2	30.4	43.9	8.9	4.5	30.3	50.8			
Aug	2,534.4	376.6	182.8	1,974.9	637.3	729.0	369.3	39.3	31.1	30.3	43.6	9.3	4.3	30.3	51.1			
Sept	2,544.1	378.8	182.9	1,982.4	636.9	734.4	372.1	39.9	31.3	30.2	43.5	8.5	4.3	31.0	50.2			
Oct	2,575.5	391.7	182.7	2,001.1	641.1	741.1	374.4	41.4	32.4	30.1	42.9	9.7	4.0	31.6	52.3			
Nov	2,583.9	397.5	180.3	2,006.1	641.6	747.7	376.9	40.6	33.1	30.3	42.3	9.0	3.8	31.6	49.2			
Dec P	2,577.4	396.9	181.3	1,999.2	634.2	754.8	378.1	37.8	32.2	30.5	41.0	9.1	3.8	31.1	46.5			

<sup>1</sup> Data are prorated averages of Wednesday figures for domestically chartered banks and averages of weekly data for foreign-related institutions beginning July 1981. Prior to July 1981, data for foreign-related institutions are averages of current and previous month-end data. Lease financing receivables are included in total loans and investments and in total loans.

<sup>a</sup> Excludes loans to commercial banks in the United States.

Note.—Data are not strictly comparable because of breaks in the series.

Source: Board of Governors of the Federal Reserve System.

TABLE C-71.—Bond yields and interest rates, 1929–89

[Percent per annum]

Year and month	U.S. Treasury securities				Corporate bonds (Moody's)		High-grade municipal bonds (Standard & Poor's)	New-home mortgage yields <sup>a</sup>	Commercial paper, 6 months <sup>c</sup>	Prime rate charged by banks <sup>b</sup>	Discount rate, Federal Reserve Bank of New York <sup>d</sup>	Federal funds rate <sup>e</sup>
	Bills (new issues) <sup>1</sup>		Constant maturities <sup>2</sup>		Aaa <sup>a</sup>	Baa						
	3-month	6-month	3-year	10-year								
1929					4.73	5.90	4.27		5.85	5.50-6.00	5.16	
1933	0.515				4.49	7.76	4.71		1.73	1.50-4.00	2.56	
1939	.023				3.01	4.96	2.76		.59	1.50	1.00	
1940	.014				2.84	4.75	2.50		.56	1.50	1.00	
1941	.103				2.77	4.33	2.10		.53	1.50	1.00	
1942	.326				2.83	4.28	2.36		.66	1.50	1.00	
1943	.373				2.73	3.91	2.06		.69	1.50	1.00	
1944	.375				2.72	3.61	1.86		.73	1.50	1.00	
1945	.375				2.62	3.29	1.67		.75	1.50	1.00	
1946	.375				2.53	3.05	1.64		.81	1.50	1.00	
1947	.594				2.61	3.24	2.01		1.03	1.50-1.75	1.00	
1948	1.040				2.82	3.47	2.40		1.44	1.75-2.00	1.34	
1949	1.102				2.66	3.42	2.21		1.49	2.00	1.50	
1950	1.218				2.62	3.24	1.98		1.45	2.07	1.59	
1951	1.552				2.86	3.41	2.00		2.16	2.56	1.75	
1952	1.766				2.96	3.52	2.19		2.33	3.00	1.75	
1953	1.931		2.47	2.85	3.20	3.74	2.72		2.52	3.17	1.99	
1954	.953		1.63	2.40	2.90	3.51	2.37		1.58	3.05	1.60	
1955	1.753		2.47	2.82	3.06	3.53	2.53		2.18	3.16	1.89	1.78
1956	2.658		3.19	3.18	3.36	3.88	2.93		3.31	3.77	2.77	2.73
1957	3.267		3.98	3.65	3.89	4.71	3.60		3.81	4.20	3.12	3.11
1958	1.839		2.84	3.32	3.79	4.73	3.56		2.46	3.83	2.15	1.57
1959	3.405	3.832	4.46	4.33	4.38	5.05	3.95		3.97	4.48	3.36	3.30
1960	2.928	3.247	3.98	4.12	4.41	5.19	3.73		3.85	4.82	3.53	3.22
1961	2.378	2.605	3.54	3.88	4.35	5.08	3.46		2.97	4.50	3.00	1.96
1962	2.778	2.908	3.47	3.95	4.33	5.02	3.18		3.26	4.50	3.00	2.68
1963	3.157	3.253	3.67	4.00	4.26	4.86	3.23	5.89	3.55	4.50	3.23	3.18
1964	3.549	3.686	4.03	4.19	4.40	4.83	3.22	5.82	3.97	4.50	3.55	3.50
1965	3.954	4.055	4.22	4.28	4.49	4.87	3.27	5.81	4.38	4.54	4.04	4.07
1966	4.881	5.082	5.23	4.92	5.13	5.67	3.82	6.25	5.55	5.63	4.50	5.11
1967	4.321	4.630	5.03	5.07	5.51	6.23	3.98	6.46	5.10	5.61	4.19	4.22
1968	5.339	5.470	5.68	5.65	6.18	6.94	4.51	6.97	5.90	6.30	5.16	5.66
1969	6.677	6.853	7.02	6.67	7.03	7.81	5.81	7.80	7.83	7.96	5.87	8.20
1970	6.458	6.562	7.29	7.35	8.04	9.11	6.51	8.45	7.71	7.91	5.95	7.18
1971	4.348	4.511	5.65	6.16	7.39	8.56	5.70	7.74	5.11	5.72	4.88	4.66
1972	4.071	4.466	5.72	6.21	7.21	8.16	5.27	7.60	4.73	5.25	4.50	4.43
1973	7.041	7.178	6.95	6.84	7.44	8.24	5.18	7.96	8.15	8.03	6.44	8.73
1974	7.886	7.926	7.82	7.56	8.57	9.50	6.09	8.92	9.84	10.81	7.83	10.50
1975	5.838	6.122	7.49	7.99	8.83	10.61	6.89	9.00	6.32	7.86	6.25	5.82
1976	4.989	5.266	6.77	7.61	8.43	9.75	6.49	9.00	5.34	6.84	5.50	5.04
1977	5.265	5.510	6.69	7.42	8.02	8.97	5.56	9.02	5.61	6.83	5.46	5.54
1978	7.221	7.572	8.29	8.41	8.73	9.49	5.90	9.56	7.99	9.06	7.46	7.93
1979	10.041	10.017	9.71	9.44	9.63	10.69	6.39	10.78	10.91	12.67	10.28	11.19
1980	11.506	11.374	11.55	11.46	11.94	13.67	8.51	12.66	12.29	15.27	11.77	13.36
1981	14.029	13.776	14.44	13.91	14.17	16.04	11.23	14.70	14.76	18.87	13.42	16.38
1982	10.686	11.084	12.92	13.00	13.79	16.11	11.57	15.14	11.89	14.86	11.02	12.26
1983	8.63	8.75	10.45	11.10	12.04	13.55	9.47	12.57	8.89	10.79	8.50	9.09
1984	9.58	9.80	11.89	12.44	12.71	14.19	10.15	12.38	10.16	12.04	8.80	10.23
1985	7.48	7.66	9.64	10.62	11.37	12.72	9.18	11.55	8.01	9.93	7.69	8.10
1986	5.98	6.03	7.06	7.68	9.02	10.39	7.38	10.17	6.39	8.33	6.33	6.81
1987	5.82	6.05	7.68	8.39	9.38	10.58	7.73	9.31	6.85	8.21	5.66	6.66
1988	6.69	6.92	8.26	8.85	9.71	10.83	7.76	9.19	7.68	9.32	6.20	7.57
1989	8.12	8.04	8.55	8.49	9.26	10.18	7.24	10.13	8.80	10.87	6.93	9.21
										High-low	High-low	
1984:												
Jan	8.93	9.06	10.93	11.67	12.20	13.65	9.61	12.29	9.18	11.00-11.00	8.50- 8.50	9.56
Feb	9.03	9.13	11.05	11.84	12.08	13.59	9.63	12.23	9.31	11.00-11.00	8.50- 8.50	9.59
Mar	9.44	9.58	11.59	12.32	12.57	13.99	9.92	12.02	9.86	11.50-11.00	8.50- 8.50	9.91
Apr	9.69	9.83	11.98	12.63	12.81	14.31	9.98	12.04	10.22	12.00-11.50	9.00- 8.50	10.29
May	9.90	10.31	12.75	13.41	13.28	14.74	10.55	12.18	10.87	12.50-12.00	9.00- 9.00	10.32
June	9.94	10.55	13.18	13.56	13.55	15.05	10.71	12.10	11.23	13.00-12.50	9.00- 9.00	11.06
July	10.13	10.58	13.08	13.36	13.44	15.15	10.50	12.50	11.34	13.00-13.00	9.00- 9.00	11.23
Aug	10.49	10.65	12.50	12.72	12.87	14.63	10.03	12.43	11.16	13.00-13.00	9.00- 9.00	11.64
Sept	10.41	10.51	12.34	12.52	12.66	14.35	10.17	12.53	10.94	13.00-12.75	9.00- 9.00	11.30
Oct	9.97	10.05	11.85	12.16	12.63	13.94	10.34	12.77	10.16	12.75-12.00	9.00- 9.00	9.99
Nov	8.79	8.99	10.90	11.57	12.29	13.48	10.27	12.75	9.06	12.00-11.25	9.00- 8.50	9.43
Dec	8.16	8.36	10.56	11.50	12.13	13.40	10.04	12.55	8.55	11.25-10.75	8.50- 8.00	8.38

<sup>1</sup> Rate on new issues within period; bank-discount basis.

<sup>2</sup> Yields on the more actively traded issues adjusted to constant maturities by the Treasury Department.

<sup>3</sup> Series excludes public utility issues for January 17, 1984 through October 11, 1984 due to lack of appropriate issues.

<sup>4</sup> Effective rate (in the primary market) on conventional mortgages, reflecting fees and charges as well as contract rate and assuming, on the average, repayment at end of 10 years. Rates beginning January 1973 not strictly comparable with prior rates. (This series now published by the Federal Housing Finance Board; it was formerly published by the Department of the Treasury (Office of Thrift Supervision) and by the Federal Home Loan Bank Board.)

See next page for continuation of table.

TABLE C-71.—Bond yields and interest rates, 1929-89—Continued

(Percent per annum)

Year and month	U.S. Treasury securities				Corporate bonds (Moody's)		High-grade municipal bonds (Standard & Poor's)	New-home mortgage yields <sup>a</sup>	Commercial paper, 6 months <sup>a</sup>	Prime rate charged by banks <sup>b</sup>	Discount rate, Federal Reserve Bank of New York <sup>c</sup>		Federal funds rate <sup>d</sup>
	Bills (new issues) <sup>e</sup>		Constant maturities <sup>e</sup>		Aaa <sup>a</sup>	Baa					High-low	High-low	
	3-month	6-month	3-year	10-year									
1985:													
Jan.....	7.76	8.03	10.43	11.38	12.08	13.26	9.55	12.27	8.15	10.75-10.50	8.00- 8.00	8.35	
Feb.....	8.22	8.34	10.55	11.51	12.13	13.23	9.66	12.21	8.69	10.50-10.50	8.00- 8.00	8.50	
Mar.....	8.57	8.92	11.05	11.86	12.56	13.69	9.79	11.92	9.23	10.50-10.50	8.00- 8.00	8.58	
Apr.....	8.00	8.31	10.49	11.43	12.23	13.51	9.48	12.05	8.47	10.50-10.50	8.00- 8.00	8.27	
May.....	7.56	7.75	9.75	10.85	11.72	13.15	9.08	12.01	7.88	10.50-10.00	8.00- 7.50	7.97	
June.....	7.01	7.16	9.05	10.16	10.94	12.40	8.78	11.75	7.38	10.00- 9.50	7.50- 7.50	7.53	
July.....	7.05	7.16	9.18	10.31	10.97	12.43	8.90	11.34	7.57	9.50- 9.50	7.50- 7.50	7.88	
Aug.....	7.18	7.35	9.31	10.33	11.05	12.50	9.18	11.24	7.74	9.50- 9.50	7.50- 7.50	7.90	
Sept.....	7.08	7.27	9.37	10.37	11.07	12.48	9.37	11.17	7.86	9.50- 9.50	7.50- 7.50	7.92	
Oct.....	7.17	7.32	9.25	10.24	11.02	12.36	9.24	11.09	7.79	9.50- 9.50	7.50- 7.50	7.99	
Nov.....	7.20	7.26	8.88	9.78	10.55	11.99	8.64	11.01	7.69	9.50- 9.50	7.50- 7.50	8.05	
Dec.....	7.07	7.09	8.40	9.26	10.16	11.58	8.51	10.94	7.62	9.50- 9.50	7.50- 7.50	8.27	
1986:													
Jan.....	7.04	7.13	8.41	9.19	10.05	11.44	8.06	10.89	7.62	9.50- 9.50	7.50- 7.50	8.14	
Feb.....	7.03	7.08	8.10	8.70	9.67	11.11	7.44	10.68	7.54	9.50- 9.50	7.50- 7.50	7.86	
Mar.....	6.59	6.60	7.30	7.78	9.00	10.49	7.07	10.50	7.08	9.50- 9.00	7.50- 7.00	7.48	
Apr.....	6.06	6.07	6.86	7.30	8.79	10.19	7.32	10.27	6.47	9.00- 8.50	7.00- 6.50	6.99	
May.....	6.12	6.16	7.27	7.71	9.09	10.29	7.67	10.22	6.53	8.50- 8.50	6.50- 6.50	6.85	
June.....	6.21	6.28	7.41	7.80	9.13	10.34	7.98	10.15	6.63	8.50- 8.50	6.50- 6.50	6.92	
July.....	5.84	5.85	6.86	7.30	8.88	10.16	7.62	10.30	6.24	8.50- 8.00	6.50- 6.00	6.56	
Aug.....	5.57	5.58	6.49	7.17	8.72	10.18	7.31	10.26	5.83	8.00- 7.50	6.00- 5.50	6.17	
Sept.....	5.19	5.31	6.62	7.45	8.89	10.21	7.14	10.17	5.61	7.50- 7.50	5.50- 5.50	5.89	
Oct.....	5.18	5.26	6.56	7.43	8.86	10.24	7.12	10.02	5.61	7.50- 7.50	5.50- 5.50	5.85	
Nov.....	5.35	5.42	6.46	7.25	8.68	10.07	6.86	9.91	5.69	7.50- 7.50	5.50- 5.50	6.04	
Dec.....	5.49	5.53	6.43	7.11	8.49	9.97	6.93	9.69	5.88	7.50- 7.50	5.50- 5.50	6.91	
1987:													
Jan.....	5.45	5.47	6.41	7.08	8.36	9.72	6.63	9.51	5.76	7.50- 7.50	5.50- 5.50	6.43	
Feb.....	5.59	5.60	6.56	7.25	8.38	9.65	6.66	9.23	5.99	7.50- 7.50	5.50- 5.50	6.10	
Mar.....	5.56	5.56	6.58	7.25	8.36	9.61	6.71	9.14	6.10	7.50- 7.50	5.50- 5.50	6.13	
Apr.....	5.76	5.93	7.32	8.02	8.85	10.04	7.62	9.21	6.50	7.75- 7.75	5.50- 5.50	6.37	
May.....	5.75	6.11	8.02	8.61	9.33	10.51	8.10	9.37	7.04	8.25- 8.00	5.50- 5.50	6.85	
June.....	5.69	5.99	7.82	8.40	9.32	10.52	7.89	9.45	7.00	8.25- 8.25	5.50- 5.50	6.73	
July.....	5.78	5.86	7.74	8.45	9.42	10.61	7.83	9.41	6.72	8.25- 8.25	5.50- 5.50	6.88	
Aug.....	6.00	6.14	8.03	8.76	9.67	10.80	7.90	9.38	6.81	8.25- 8.25	5.50- 5.50	6.73	
Sept.....	6.32	6.57	8.67	9.42	10.18	11.31	8.36	9.37	7.55	8.75- 8.25	6.00- 5.50	7.22	
Oct.....	6.40	6.86	8.75	9.52	10.52	11.62	8.84	9.25	7.96	9.25- 8.75	6.00- 6.00	7.29	
Nov.....	5.81	6.23	7.99	8.86	10.01	11.23	8.09	9.30	7.17	9.00- 8.75	6.00- 6.00	6.69	
Dec.....	5.80	6.36	8.13	8.99	10.11	11.29	8.07	9.15	7.49	8.75- 8.75	6.00- 6.00	6.77	
1988:													
Jan.....	5.90	6.31	7.87	8.67	9.88	11.07	7.81	9.10	6.92	8.75- 8.75	6.00- 6.00	6.83	
Feb.....	5.69	5.96	7.38	8.21	9.40	10.62	7.55	9.12	6.58	8.75- 8.50	6.00- 6.00	6.58	
Mar.....	5.69	5.91	7.50	8.37	9.39	10.57	7.80	9.15	6.64	8.50- 8.50	6.00- 6.00	6.58	
Apr.....	5.92	6.21	7.83	8.72	9.67	10.90	7.91	9.13	6.92	8.50- 8.50	6.00- 6.00	6.87	
May.....	6.27	6.53	8.24	9.09	9.90	11.04	8.01	8.95	7.31	9.00- 8.50	6.00- 6.00	7.09	
June.....	6.50	6.76	8.22	8.92	9.86	11.00	7.86	9.26	7.53	9.00- 9.00	6.00- 6.00	7.51	
July.....	6.73	6.97	8.44	9.06	9.96	11.11	7.87	9.17	7.90	9.50- 9.00	6.00- 6.00	7.75	
Aug.....	7.02	7.36	8.77	9.26	10.11	11.21	7.86	9.06	8.36	10.00- 9.50	6.50- 6.00	8.01	
Sept.....	7.23	7.43	8.57	8.98	9.82	10.90	7.71	9.26	8.23	10.00- 10.00	6.50- 6.50	8.19	
Oct.....	7.34	7.50	8.43	8.80	9.51	10.41	7.54	9.10	8.24	10.00- 10.00	6.50- 6.50	8.30	
Nov.....	7.68	7.76	8.72	8.96	9.45	10.48	7.58	9.43	8.55	10.50- 10.00	6.50- 6.50	8.35	
Dec.....	8.09	8.24	9.11	9.11	9.57	10.65	7.66	9.39	8.97	10.50- 10.50	6.50- 6.50	8.76	
1989:													
Jan.....	8.29	8.38	9.20	9.09	9.62	10.65	7.41	9.52	9.02	10.50- 10.50	6.50- 6.50	9.12	
Feb.....	8.48	8.49	9.32	9.17	9.64	10.61	7.47	9.82	9.35	11.50- 10.50	7.00- 6.50	9.36	
Mar.....	8.83	8.87	9.61	9.36	9.80	10.67	7.61	9.99	9.97	11.50- 11.50	7.00- 7.00	9.85	
Apr.....	8.70	8.73	9.40	9.18	9.79	10.61	7.49	10.17	9.78	11.50- 11.50	7.00- 7.00	9.84	
May.....	8.40	8.39	8.98	8.86	9.57	10.46	7.25	10.18	9.29	11.50- 11.50	7.00- 7.00	9.81	
June.....	8.22	8.00	8.37	8.28	9.10	10.03	6.97	10.42	8.80	11.50- 11.00	7.00- 7.00	9.53	
July.....	7.92	7.63	7.83	8.02	8.93	9.87	6.97	10.48	8.35	11.00- 10.50	7.00- 7.00	9.24	
Aug.....	7.91	7.72	8.13	8.11	8.96	9.88	7.08	10.22	8.32	10.50- 10.50	7.00- 7.00	8.99	
Sept.....	7.72	7.74	8.26	8.19	9.01	9.91	7.27	10.24	8.50	10.50- 10.50	7.00- 7.00	9.02	
Oct.....	7.63	7.61	8.02	8.01	8.92	9.81	7.22	10.11	8.24	10.50- 10.50	7.00- 7.00	8.84	
Nov.....	7.65	7.46	7.80	7.87	8.89	9.81	7.13	10.09	8.00	10.50- 10.50	7.00- 7.00	8.55	
Dec.....	7.64	7.45	7.77	7.84	8.86	9.82	7.01	10.07	7.93	10.50- 10.50	7.00- 7.00	8.45	

<sup>a</sup> Bank-discount basis; prior to November 1979, data are for 4-6 months paper.

<sup>b</sup> For monthly data, high and low for the period. Prime rate for 1929-33 and 1947-48 are ranges of the rate in effect during the period.

<sup>c</sup> Since July 19, 1975, the daily effective rate is an average of the rates on a given day weighted by the volume of transactions at these rates. Prior to that date, the daily effective rate was the rate considered most representative of the day's transactions, usually the one at which most transactions occurred.

<sup>d</sup> From October 30, 1942, to April 24, 1946, a preferential rate of 0.50 percent was in effect for advances secured by Government securities maturing in 1 year or less.

Sources: Department of the Treasury, Board of Governors of the Federal Reserve System, Federal Housing Finance Board, Moody's Investors Service, and Standard & Poor's Corporation.

TABLE C-72.—Total funds raised in credit markets by nonfinancial sectors, 1980-89

(Billions of dollars; quarterly data at seasonally adjusted annual rates)

Item	1980	1981	1982	1983	1984	1985	1986	1987	1988
<b>Net credit market borrowing by nonfinancial sectors</b>									
Total net borrowing by domestic nonfinancial sectors.....	337.4	382.4	395.3	536.8	750.7	846.3	831.1	693.2	767.0
U.S. Government.....	79.2	87.4	161.3	186.6	198.8	223.6	215.0	144.9	157.5
Treasury issues.....	79.8	87.8	162.1	186.7	199.0	223.7	214.7	143.4	140.0
Agency issues and mortgages.....	-6	-5	-9	-1	-2	-1	.4	1.5	17.4
Private domestic nonfinancial sectors.....	258.3	295.0	234.1	350.2	551.9	622.7	616.1	548.3	609.6
Debt capital instruments.....	185.2	165.7	157.2	247.2	320.0	451.4	460.3	458.5	462.6
Tax-exempt obligations.....	24.7	33.7	50.4	43.3	51.0	135.4	22.7	34.1	34.0
Corporate bonds.....	27.7	22.8	18.7	16.0	46.1	73.8	121.3	99.9	120.9
Mortgages.....	132.9	109.2	88.2	187.9	222.8	242.2	316.3	324.5	307.7
Home mortgages.....	95.3	72.4	53.4	120.4	136.7	156.8	218.7	234.9	229.1
Multi-family residential.....	7.6	4.8	5.4	14.1	25.2	29.8	33.5	24.4	18.9
Commercial.....	19.2	22.2	25.2	51.0	62.2	62.2	73.6	71.6	61.7
Farm.....	10.7	9.7	4.1	2.4	-1.2	-6.6	-9.5	-6.4	-2.1
Other debt instruments.....	73.0	129.3	76.9	103.0	231.9	171.3	155.8	89.7	147.0
Consumer credit.....	2.6	16.9	16.4	49.0	81.6	82.5	58.0	32.9	51.1
Bank loans n.e.c.....	36.4	49.2	50.9	23.6	66.3	38.6	66.7	10.8	38.4
Open-market paper.....	4.0	14.7	-6.1	-8	21.7	14.6	-9.3	2.3	11.6
Other.....	30.0	48.5	15.8	31.3	62.2	35.6	40.5	43.8	45.9
By borrowing sector.....	258.3	295.0	234.1	350.2	551.9	622.7	616.1	548.3	609.6
State and local governments.....	11.6	17.1	27.7	23.6	28.1	90.9	36.2	33.6	29.8
Households.....	117.3	113.9	84.0	186.1	231.5	284.6	289.2	271.9	287.9
Nonfinancial business.....	129.3	164.0	122.4	140.5	292.3	247.2	290.7	242.8	291.8
Farm.....	15.8	16.3	6.7	3.9	-4	-14.5	-16.3	-10.6	-7.5
Nonfarm noncorporate.....	55.8	44.4	71.8	81.9	123.2	129.3	103.2	107.9	91.9
Corporate.....	57.8	103.3	43.9	54.8	169.6	132.4	203.7	145.5	207.5
Foreign net borrowing in United States.....	24.2	23.5	16.0	17.3	8.4	1.2	9.7	4.9	6.9
Bonds.....	1.2	5.5	6.6	3.1	3.8	3.8	3.1	7.4	6.9
Bank loans n.e.c.....	11.8	3.0	-5.5	3.6	-6.6	-2.8	-1.0	-3.6	-1.8
Open-market paper.....	2.4	3.9	1.9	6.5	6.2	6.2	11.5	2.1	9.6
U.S. Government and other loans.....	8.8	11.1	13.0	4.1	5.0	-6.0	-3.9	-1.0	-7.8
Total domestic plus foreign.....	361.6	405.9	411.3	554.1	759.1	847.5	840.9	698.1	773.9
<b>Direct and indirect supply of funds to credit markets</b>									
Total funds supplied to domestic nonfinancial sectors.....	337.4	382.4	395.3	536.8	750.7	846.3	831.1	693.2	767.0
Private domestic nonfinancial sectors.....	233.0	289.0	303.9	381.4	492.5	491.4	384.8	349.8	464.2
Deposits and currency.....	190.9	217.1	206.1	238.4	326.1	224.6	283.0	160.2	221.8
Checkable deposits and currency.....	17.4	28.3	27.2	44.0	38.9	54.2	109.4	16.0	27.0
Time and savings deposits.....	127.4	84.2	134.8	207.1	233.6	145.9	109.2	102.7	163.0
Money market fund shares.....	28.5	102.2	33.5	-39.0	49.0	8.9	38.3	27.2	22.8
Security repurchase agreements.....	14.8	4.2	11.1	23.1	9.8	17.7	20.2	17.2	21.2
Foreign deposits.....	2.8	-1.7	-4	3.1	-5.1	-2.1	5.9	-2.8	-12.1
Credit market instruments.....	42.1	71.8	97.8	143.0	166.4	266.8	101.8	189.6	242.3
Foreign funds.....	.2	2.9	-8.6	38.2	66.7	82.0	110.7	106.4	111.7
At banks.....	-25.1	-22.6	-32.3	14.6	8.8	19.7	12.9	43.7	9.3
Credit market instruments.....	25.3	25.5	23.7	23.7	57.9	62.3	97.8	62.7	102.3
U.S. Government and related loans, net.....	3.9	10.2	8.3	9.0	16.5	37.0	18.6	9.4	-9.1
U.S. Government cash balances.....	-2.6	-1.1	6.1	-5.3	4.0	10.3	1.7	-5.8	7.3
Private insurance and pension reserves.....	86.1	83.4	114.7	115.0	124.0	131.9	149.3	176.1	186.8
Other sources.....	16.9	-2.0	-29.0	-1.5	47.0	93.8	166.1	57.4	6.1

See next page for continuation of table.



TABLE C-72.—Total funds raised in credit markets by nonfinancial sectors, 1980-89—Continued

(Billions of dollars; quarterly data at seasonally adjusted annual rates)

Item	1988				1989		
	I	II	III	IV	I	II	III
<b>Net credit market borrowing by nonfinancial sectors</b>							
Total net borrowing by domestic nonfinancial sectors .....	728.2	827.2	754.4	758.3	792.2	658.9	688.1
U.S. Government .....	211.6	113.7	162.5	142.1	199.9	70.9	149.0
Treasury issues .....	212.0	106.0	141.6	100.5	201.1	65.8	149.1
Agency issues and mortgages .....	-.5	7.7	20.9	41.6	-1.2	5.1	-.2
Private domestic nonfinancial sectors .....	516.6	713.4	592.0	616.3	592.3	588.0	539.1
Debt capital instruments .....	386.5	561.0	463.9	438.9	427.8	394.1	412.6
Tax-exempt obligations .....	29.1	37.9	34.8	34.3	29.3	20.6	32.6
Corporate bonds .....	118.8	143.9	115.9	104.9	111.6	138.5	113.6
Mortgages .....	238.7	379.2	313.2	299.7	286.9	234.9	266.4
Home mortgages .....	170.7	300.7	231.0	214.0	205.2	186.1	191.9
Multi-family residential .....	24.2	14.7	19.5	17.3	27.2	8.1	21.3
Commercial .....	48.5	65.4	65.4	67.7	58.8	38.7	53.2
Farm .....	-4.7	-1.6	-2.6	-.7	-4.4	2.1	.0
Other debt instruments .....	130.1	152.4	128.1	177.3	164.5	193.9	126.5
Consumer credit .....	43.7	51.9	35.5	73.1	34.8	46.0	30.9
Bank loans n.e.c. .....	20.8	58.8	7.3	66.6	23.1	29.9	21.6
Open-market paper .....	2.4	6.8	17.1	20.0	44.1	44.9	20.4
Other .....	63.2	34.8	68.1	17.6	62.5	73.1	53.6
By borrowing sector: .....	516.6	713.4	592.0	616.3	592.3	588.0	539.1
State and local governments .....	23.4	37.0	28.1	30.6	29.7	27.7	29.5
Households .....	230.2	346.7	291.6	283.3	263.1	227.1	254.8
Nonfinancial business .....	263.0	329.7	272.3	302.4	299.4	333.3	254.9
Farm .....	-12.7	-3.3	-2.2	-11.8	-2.2	.3	2.8
Nonfarm noncorporate .....	85.2	83.6	100.5	98.2	91.1	70.0	81.7
Corporate .....	190.5	249.4	174.0	216.0	210.6	263.0	170.4
Foreign net borrowing in United States .....	4.8	5.4	4.1	13.3	-1.1	-3.9	28.7
Bonds .....	14.2	2.6	5.9	5.1	3.2	11.1	9.1
Bank loans n.e.c. .....	1.7	-3.3	.0	-5.7	4.9	1.7	.0
Open-market paper .....	.7	6.5	10.3	21.0	12.1	-8.1	20.4
U.S. Government and other loans .....	-11.8	-.4	-12.1	-7.1	-21.4	-8.6	-.9
Total domestic plus foreign .....	733.0	832.6	758.5	771.7	791.1	655.0	716.8
<b>Direct and indirect supply of funds to credit markets</b>							
Total funds supplied to domestic nonfinancial sectors .....	728.2	827.2	754.4	758.3	792.2	658.9	688.1
Private domestic nonfinancial sectors .....	393.0	467.2	581.9	414.7	479.4	438.6	532.9
Deposits and currency .....	313.5	110.0	215.7	248.2	211.2	231.1	273.2
Checkable deposits and currency .....	14.4	-16.7	7.9	102.4	-35.2	-70.4	46.8
Time and savings deposits .....	216.4	127.0	209.7	98.8	138.3	157.1	103.7
Money market fund shares .....	57.6	-21.0	-3.5	58.1	51.1	111.8	124.3
Security repurchase agreements .....	27.9	26.5	7.0	23.3	31.6	27.5	19.4
Foreign deposits .....	-2.7	-5.9	-5.5	-34.4	25.5	5.1	-20.9
Credit market instruments .....	79.5	357.2	366.2	166.5	268.1	207.5	259.7
Foreign funds .....	108.1	177.0	4.9	156.7	90.9	-4.1	137.8
At banks .....	-60.6	94.5	-42.1	45.5	-28.4	-16.0	10.6
Credit market instruments .....	168.6	82.5	47.0	111.2	119.3	11.9	127.2
U.S. Government and related loans, net .....	-23.6	-6.6	1.5	-7.7	14.4	-87.1	-25.9
U.S. Government cash balances .....	44.2	-16.3	5.6	-4.1	-21.6	26.6	-6.4
Private insurance and pension reserves .....	190.1	184.0	109.8	263.3	133.0	151.5	88.7
Other sources .....	16.4	21.9	50.7	-64.5	96.0	133.4	-39.0

Source: Board of Governors of the Federal Reserve System.

TABLE C-73.—Mortgage debt outstanding by type of property and of financing, 1939-89

[Billions of dollars]

End of year or quarter	All properties	Farm properties	Nonfarm properties				Nonfarm properties by type of mortgage				
			Total	1-to 4-family houses	Multi-family properties	Commercial properties	Government underwritten			Conventional <sup>2</sup>	
							Total <sup>1</sup>	FHA insured	VA guaranteed	Total	1-to 4-family houses
1939	35.5	6.6	28.9	16.3	5.6	7.0	1.8	1.8	1.8	27.1	14.5
1940	36.5	6.5	30.0	17.4	5.7	6.9	2.3	2.3	2.3	27.7	15.1
1941	37.6	6.4	31.2	18.4	5.9	7.0	3.0	3.0	3.0	28.2	15.4
1942	36.7	6.0	30.8	18.2	5.8	6.7	3.7	3.7	3.7	27.1	14.5
1943	35.3	5.4	29.9	17.8	5.8	6.3	4.1	4.1	4.1	25.8	13.7
1944	34.7	4.9	29.7	17.9	5.6	6.2	4.2	4.2	4.2	25.5	13.7
1945	35.5	4.8	30.8	18.6	5.7	6.4	4.3	4.3	4.1	26.5	14.3
1946	41.8	4.9	36.9	23.0	6.1	7.7	6.3	6.1	3.7	30.6	16.9
1947	48.9	5.1	43.9	28.2	6.6	9.1	9.8	9.3	3.8	34.1	18.9
1948	56.2	5.3	50.9	33.3	7.5	10.2	13.6	12.5	5.3	37.3	20.8
1949	62.7	5.6	57.1	37.6	8.6	10.8	17.1	15.0	6.9	40.0	22.6
1950	72.8	6.1	66.7	45.2	10.1	11.5	22.1	18.8	8.5	44.7	26.3
1951	82.3	6.7	75.6	51.7	11.5	12.5	26.6	22.9	9.7	49.1	28.9
1952	91.4	7.2	84.2	58.5	12.3	13.4	29.3	25.4	10.8	54.9	33.2
1953	101.3	7.7	93.6	66.1	12.9	14.5	32.1	28.1	12.0	61.5	38.0
1954	113.7	8.2	105.4	75.7	13.5	16.3	36.2	32.1	12.8	69.3	43.6
1955	129.9	9.0	120.9	88.2	14.3	18.3	42.9	38.9	14.3	78.0	49.3
1956	144.5	9.8	134.6	99.0	14.9	20.7	47.8	43.9	15.5	86.8	55.1
1957	156.5	10.4	146.1	107.6	15.3	23.2	51.6	47.2	16.5	94.6	60.4
1958	171.8	11.1	160.7	117.7	16.8	26.1	55.2	50.1	19.7	105.5	67.6
1959	190.8	12.1	178.7	130.9	18.7	29.2	59.3	53.8	23.8	30.0	119.4
1960	207.5	12.8	194.7	141.9	20.3	32.4	62.3	56.4	26.7	132.3	85.5
1961	228.0	13.9	214.1	154.6	23.0	36.5	65.6	59.1	29.5	148.5	95.5
1962	251.4	15.2	236.2	169.3	25.8	41.1	69.4	62.2	32.3	166.9	107.1
1963	278.5	16.8	261.7	186.4	29.0	46.2	73.4	65.9	35.0	188.2	120.5
1964	305.9	18.9	287.0	203.4	33.6	50.0	77.2	69.2	38.3	209.8	134.1
1965	333.3	21.2	312.1	220.5	37.2	54.5	81.2	73.1	42.0	231.0	147.4
1966	356.5	23.1	333.4	232.9	40.3	60.1	84.1	76.1	44.8	249.3	156.9
1967	381.2	25.1	356.1	247.3	43.9	64.8	88.2	79.9	47.4	267.9	167.4
1968	411.1	27.5	383.5	264.8	47.3	71.4	93.4	84.4	50.6	33.8	290.1
1969	441.6	29.4	412.2	283.2	52.2	76.9	100.2	90.2	54.5	35.7	312.0
1970	473.7	30.5	443.2	297.4	60.1	85.6	109.2	97.3	59.9	37.3	333.9
1971	524.2	32.4	491.8	325.9	70.1	95.9	120.7	105.2	65.7	39.5	371.1
1972	597.4	35.4	562.0	366.5	82.8	112.7	131.1	113.0	68.2	44.7	430.9
1973	672.6	39.8	632.8	407.9	93.1	131.7	135.0	116.2	66.2	50.0	497.7
1974	732.5	44.9	687.5	440.7	100.0	146.9	140.2	121.3	65.1	56.2	547.3
1975	791.9	49.9	742.0	482.1	100.6	159.3	147.0	127.7	66.1	61.6	595.0
1976	878.6	55.4	823.2	546.3	105.7	171.2	154.1	133.5	66.5	67.0	669.0
1977	1,010.3	63.9	946.4	642.7	114.0	189.7	161.7	141.6	68.0	73.6	784.6
1978	1,163.0	72.8	1,090.2	753.5	124.9	211.8	176.4	153.4	71.4	82.0	913.9
1979	1,328.4	86.8	1,241.7	870.5	134.9	236.3	199.0	172.9	81.0	92.0	1,042.7
1980	1,460.4	97.5	1,362.9	965.1	142.3	255.5	225.1	195.2	93.6	101.6	1,137.8
1981	1,566.7	107.2	1,459.5	1,039.8	142.1	277.5	238.9	207.6	101.3	106.2	1,220.6
1982	1,637.9	111.3	1,526.6	1,080.0	145.7	300.9	248.9	217.9	108.0	109.9	1,277.8
1983	1,832.4	113.7	1,718.7	1,205.5	160.7	352.4	279.8	248.8	127.4	121.4	1,438.9
1984	2,061.1	112.4	1,948.7	1,344.0	185.4	419.3	294.8	265.9	136.7	129.1	1,653.9
1985	2,303.3	105.9	2,197.4	1,501.4	214.5	481.5	328.3	288.8	153.0	135.8	1,869.1
1986	2,618.3	95.8	2,522.5	1,719.7	247.8	555.0	370.5	328.6	185.5	143.1	2,152.0
1987	2,977.3	88.9	2,888.4	1,959.6	274.0	654.9	431.4	387.9	235.5	152.4	2,457.0
1988	3,265.5	86.8	3,178.7	2,187.0	290.8	701.0	459.7	414.2	258.8	155.4	2,719.0
1987: I	2,722.6	92.8	2,629.8	1,770.6	258.2	601.0	386.0	344.0	196.6	147.4	2,243.7
1987: II	2,819.9	91.3	2,728.7	1,844.7	263.9	620.1	403.3	360.5	211.6	148.8	2,325.4
1987: III	2,895.2	90.0	2,805.3	1,901.1	268.9	635.3	421.2	378.1	226.9	151.2	2,384.1
1987: IV	2,977.3	88.9	2,888.4	1,959.6	274.0	654.9	431.4	387.9	235.5	152.4	2,457.0
1988: I	3,023.7	88.0	2,935.7	1,993.0	276.9	665.8	438.9	395.2	241.7	153.6	2,496.7
1988: II	3,118.7	87.8	3,030.9	2,069.3	280.4	681.2	443.1	399.0	245.3	153.7	2,587.8
1988: III	3,186.4	87.0	3,099.4	2,132.0	285.0	682.5	450.9	406.5	252.0	154.5	2,648.5
1988: IV	3,265.5	86.8	3,178.7	2,187.0	290.8	701.0	459.7	414.2	258.8	155.4	2,719.0
1989: I	3,325.4	86.0	3,239.4	2,229.8	296.1	713.5	468.3	421.7	265.5	156.1	2,771.1
1989: II	3,384.8	86.8	3,298.1	2,277.5	298.3	722.3	472.5	426.9	270.3	156.6	2,825.6
1989: III	3,453.9	86.6	3,367.3	2,331.2	302.1	734.0	478.3	432.9	276.3	156.6	2,889.0

<sup>1</sup> Includes FHA insured multifamily properties, not shown separately.

<sup>2</sup> Derived figures. Total includes multifamily and commercial properties, not shown separately.

Source: Board of Governors of the Federal Reserve System, based on data from various Government and private organizations.

TABLE C-74.—*Mortgage debt outstanding by holder, 1939-89*

[Billions of dollars]

End of year or quarter	Total	Major financial institutions				Other holders	
		Total	Savings institutions <sup>1</sup>	Commercial banks <sup>2</sup>	Life insurance companies	Federal and related agencies <sup>3</sup>	Individuals and others <sup>4</sup>
1939.....	35.5	18.6	8.6	4.3	5.7	5.0	11.9
1940.....	36.5	19.5	9.0	4.6	6.0	4.9	12.0
1941.....	37.6	20.7	9.4	4.9	6.4	4.7	12.2
1942.....	36.7	20.7	9.2	4.7	6.7	4.3	11.7
1943.....	35.3	20.2	9.0	4.5	6.7	3.6	11.5
1944.....	34.7	20.2	9.1	4.4	6.7	3.0	11.5
1945.....	35.5	21.0	9.6	4.8	6.6	2.4	12.1
1946.....	41.8	26.0	11.5	7.2	7.2	2.0	13.8
1947.....	48.9	31.8	13.8	9.4	8.7	1.8	15.3
1948.....	56.2	37.8	16.1	10.9	10.8	1.8	16.6
1949.....	62.7	42.9	18.3	11.6	12.9	2.3	17.5
1950.....	72.8	51.7	21.9	13.7	16.1	2.8	18.4
1951.....	82.3	59.5	25.5	14.7	19.3	3.5	19.3
1952.....	91.4	66.9	29.8	15.9	21.3	4.1	20.4
1953.....	101.3	75.1	34.9	16.9	23.3	4.6	21.7
1954.....	113.7	85.7	41.1	18.6	26.0	4.8	23.2
1955.....	129.9	99.3	48.9	21.0	29.4	5.3	25.3
1956.....	144.5	111.2	55.5	22.7	33.0	6.2	27.1
1957.....	156.5	119.7	61.2	23.3	35.2	7.7	29.1
1958.....	171.8	131.5	68.9	25.5	37.1	8.0	32.3
1959.....	190.8	145.5	78.1	28.1	39.2	10.2	35.1
1960.....	207.5	157.6	87.0	28.8	41.8	11.5	38.4
1961.....	228.0	172.6	98.0	30.4	44.2	12.2	43.1
1962.....	251.4	192.5	111.1	34.5	46.9	12.6	46.3
1963.....	278.5	217.1	127.2	39.4	50.5	11.8	49.5
1964.....	305.9	241.0	141.9	44.0	55.2	12.2	52.7
1965.....	333.3	264.6	154.9	49.7	60.0	13.5	55.2
1966.....	356.5	280.8	161.8	54.4	64.6	17.5	58.2
1967.....	381.2	298.8	172.3	59.0	67.5	20.9	61.4
1968.....	411.1	319.9	184.3	65.7	70.0	25.1	66.1
1969.....	441.6	339.1	196.4	70.7	72.0	31.1	71.4
1970.....	473.7	355.9	208.3	73.3	74.4	38.3	79.4
1971.....	524.2	394.2	236.2	82.5	75.5	46.4	83.6
1972.....	597.4	450.0	273.7	99.3	76.9	54.6	92.8
1973.....	672.6	505.4	305.0	119.1	81.4	64.8	102.4
1974.....	732.5	542.6	324.2	132.1	86.2	82.2	107.7
1975.....	791.9	581.2	355.8	136.2	89.2	101.1	109.6
1976.....	878.6	647.5	404.6	151.3	91.6	116.7	114.4
1977.....	1,010.3	745.2	469.4	179.0	96.8	140.5	124.6
1978.....	1,163.0	848.2	528.0	214.0	106.2	170.6	144.3
1979.....	1,328.4	938.2	574.6	245.2	118.4	216.0	174.3
1980.....	1,460.4	996.8	603.1	262.7	131.1	256.8	206.8
1981.....	1,566.7	1,040.5	618.5	284.2	137.7	289.4	236.8
1982.....	1,637.9	1,021.3	578.1	301.3	142.0	355.4	261.2
1983.....	1,832.4	1,108.2	626.7	330.5	151.0	433.4	290.8
1984.....	2,061.1	1,245.9	709.7	379.5	156.7	491.1	324.2
1985.....	2,303.3	1,361.5	760.5	429.2	171.8	582.0	359.8
1986.....	2,618.3	1,474.3	778.0	502.5	193.8	735.4	408.6
1987.....	2,977.3	1,664.2	860.5	591.4	212.4	863.1	450.0
1988.....	3,265.5	1,828.2	929.6	669.2	229.4	945.9	491.4
1987: I.....	2,722.6	1,526.1	810.7	519.6	195.7	774.9	421.6
1987: II.....	2,819.9	1,572.2	827.0	544.8	200.4	811.7	436.1
1987: III.....	2,895.2	1,612.7	841.4	567.0	204.3	839.6	442.9
1987: IV.....	2,977.3	1,664.2	860.5	591.4	212.4	863.1	450.0
1988: I.....	3,023.7	1,690.1	871.5	604.7	213.9	875.8	457.8
1988: II.....	3,118.7	1,747.4	898.7	629.6	217.4	895.8	475.5
1988: III.....	3,186.4	1,788.0	914.3	650.8	222.9	919.2	479.3
1988: IV.....	3,265.5	1,828.2	929.6	669.2	229.4	945.9	491.4
1989: I.....	3,325.4	1,856.4	936.1	688.7	231.7	971.3	497.6
1989: II.....	3,384.8	1,881.8	933.7	715.2	232.9	994.4	508.6
1989: III.....	3,453.9	1,901.7	928.0	738.0	235.8	1,033.7	518.5

<sup>1</sup> Includes savings banks and savings and loan associations. Beginning 1987, data reported by Federal Savings and Loan Insurance Corporation-insured institutions include loans in process.

<sup>2</sup> Includes loans held by nondeposit trust companies, but not by bank trust departments.

<sup>3</sup> Includes Government National Mortgage Association (GNMA), Federal Housing Administration, Veterans Administration, Farmers Home Administration (FmHA), and in earlier years Reconstruction Finance Corporation, Homeowners Loan Corporation, Federal Farm Mortgage Corporation, and Public Housing Administration. Also includes U.S.-sponsored agencies such as Federal National Mortgage Association (FNMA), Federal Land Banks, Federal Home Loan Mortgage Corporation (FHLMC), and mortgage pass-through securities issued or guaranteed by GNMA, FHLMC, FNMA or FmHA. Other U.S. agencies (amounts small or current separate data not readily available) included with "individuals and others."

<sup>4</sup> Includes private mortgage pools.

Source: Board of Governors of the Federal Reserve System, based on data from various Government and private organizations.

TABLE C-75.—Consumer credit outstanding, 1950–89

(Amount outstanding (end of month); millions of dollars, seasonally adjusted)

Year and month	Total consumer credit	Installment credit <sup>1</sup>					Noninstallment credit <sup>4</sup>
		Total	Automobile	Revolving <sup>2</sup>	Mobile home <sup>3</sup>	Other	
December:							
1950.....	23,295	15,166	6,035			9,131	8,129
1951.....	24,624	15,859	5,981			9,878	8,765
1952.....	29,766	20,121	7,651			12,470	9,645
1953.....	33,769	23,870	9,702			14,168	9,899
1954.....	35,027	24,470	9,755			14,715	10,557
1955.....	41,885	29,809	13,485			16,324	12,076
1956.....	45,503	32,660	14,499			18,161	12,843
1957.....	48,132	34,914	15,493			19,421	13,218
1958.....	48,356	34,736	14,267			20,469	13,620
1959.....	55,878	40,421	16,641			23,780	15,457
1960.....	60,035	44,335	18,108			26,227	15,700
1961.....	62,340	45,438	17,656			27,782	16,902
1962.....	68,231	50,375	20,001			30,374	17,856
1963.....	76,606	57,056	22,891			34,165	19,550
1964.....	85,989	64,674	25,865			38,809	21,315
1965.....	95,948	72,814	29,378			43,436	23,134
1966.....	101,839	78,162	31,024			47,138	23,677
1967.....	106,716	81,783	31,136			50,647	24,933
1968.....	117,231	90,112	34,352	2,022		53,738	27,119
1969.....	126,928	99,381	36,946	3,563		58,872	27,547
1970.....	131,600	103,905	36,348	4,900	2,433	60,224	27,695
1971.....	147,058	116,434	40,522	8,252	7,171	60,489	30,624
1972.....	166,009	131,258	47,835	9,391	9,468	64,564	34,751
1973.....	190,601	152,910	53,740	11,318	13,505	74,347	37,691
1974.....	199,365	162,203	54,241	13,232	14,582	80,148	37,162
1975.....	204,963	167,043	56,989	14,507	15,388	80,159	37,920
1976.....	228,162	187,782	66,821	16,595	15,738	88,628	40,380
1977.....	263,808	221,475	80,948	36,689	16,362	87,476	42,333
1978.....	308,272	261,976	98,739	45,202	16,921	101,114	46,296
1979.....	347,507	296,483	112,475	53,357	18,207	112,444	51,024
1980.....	349,386	297,566	111,936	54,894	18,621	112,115	51,820
1981.....	366,597	310,682	118,956	60,838	20,302	110,586	55,915
1982.....	381,115	323,536	124,218	66,243	22,833	110,242	57,579
1983.....	430,382	367,868	143,799	78,667	23,704	121,698	62,514
1984.....	511,768	442,538	173,704	100,212	25,795	142,827	69,230
1985.....	592,409	517,755	209,636	122,013	26,834	159,272	74,654
1986.....	647,186	572,047	247,313	137,013	27,355	160,367	75,138
1987.....	679,161	607,721	265,976	153,884	26,387	161,475	71,439
1988.....	728,915	659,507	281,174	174,792	25,744	177,798	69,407
1988: Jan.....	687,313	614,904	268,366	156,621	26,531	163,386	72,409
Feb.....	694,409	620,385	271,265	157,999	26,555	164,566	74,024
Mar.....	702,552	625,172	274,065	159,355	26,418	165,334	77,380
Apr.....	705,866	628,585	275,289	160,631	26,280	166,385	77,281
May.....	707,741	632,431	276,458	162,105	26,249	167,619	75,310
June.....	709,315	637,836	278,058	164,408	26,174	169,196	71,479
July.....	708,987	639,207	277,659	165,343	26,213	169,993	69,779
Aug.....	712,668	644,666	279,585	167,125	26,277	171,679	68,002
Sept.....	714,301	646,556	279,243	168,273	26,185	172,855	67,745
Oct.....	716,468	649,132	278,902	170,131	26,033	174,066	67,336
Nov.....	721,449	654,413	279,926	173,030	26,005	175,452	67,036
Dec.....	728,915	659,507	281,174	174,792	25,744	177,798	69,407
1989: Jan <sup>5</sup> .....	746,329	682,020	286,382	176,716	26,036	192,886	64,309
Feb.....	753,030	687,397	288,767	178,570	25,992	194,068	65,633
Mar.....	758,450	691,162	288,850	182,831	24,168	195,314	67,287
Apr.....	761,892	693,911	289,654	184,500	23,993	195,763	67,982
May.....	764,067	698,132	290,741	186,502	23,952	196,936	65,936
June.....	764,708	700,849	290,192	189,622	23,685	197,349	63,860
July.....	763,739	700,344	288,526	191,028	23,630	197,161	63,395
Aug.....	766,636	703,001	288,533	194,398	22,938	197,132	63,635
Sept.....	769,383	704,371	287,754	195,302	22,991	198,324	65,012
Oct.....	771,412	707,562	288,747	196,379	22,947	199,490	63,850
Nov <sup>6</sup> .....	776,472	711,799	289,266	199,191	22,523	200,818	64,673

<sup>1</sup> Installment credit covers most short- and intermediate-term credit extended to individuals through regular business channels, usually to finance the purchase of consumer goods and services or to refinance debts incurred for such purposes, and scheduled to be repaid (or with the option of repayment) in two or more installments. Credit secured by real estate is generally excluded.

<sup>2</sup> Consists of credit cards at retailers, gasoline companies, and commercial banks, and check credit at commercial banks. Excludes 30-day charge credit held by travel and entertainment companies. Prior to 1968, included in "other," except gasoline companies included in noninstallment credit prior to 1971. Beginning 1977, includes open-end credit at retailers, previously included in "other." Also beginning 1977, some retail credit was reclassified from commercial into consumer credit.

<sup>3</sup> Not reported separately prior to July 1970.

<sup>4</sup> Noninstallment credit is credit scheduled to be repaid in a lump sum, including single-payment loans, charge accounts, and service credit. Because of inconsistencies in the data and infrequent benchmarking, series is no longer published by the Federal Reserve Board on a regular basis. Data are shown here as a general indication of trends.

<sup>5</sup> Data newly available in January 1989 result in breaks in many series between December 1988 and January 1989.

Source: Board of Governors of the Federal Reserve System.

GOVERNMENT FINANCE

TABLE C-76.—Federal receipts, outlays, surplus or deficit, and debt, selected fiscal years, 1929-91

[Billions of dollars; fiscal years]

Fiscal year or period	Total			On-budget			Off-budget			Gross Federal debt (end of period)		Addendum: Gross national product
	Re-ceipts	Outlays	Surplus or deficit (-)	Re-ceipts	Outlays	Surplus or deficit (-)	Re-ceipts	Outlays	Surplus or deficit (-)	Total	Held by the public	
1929.....	3.9	3.1	0.7							<sup>1</sup> 16.9		
1933.....	2.0	4.6	-2.6							<sup>1</sup> 22.5		
1939.....	6.3	9.1	-2.8	5.8	9.2	-3.4	0.5	0.0	0.5	48.2	41.4	88.4
1940.....	6.5	9.5	-2.9	6.0	9.5	-3.5	.6	.0	.6	50.7	42.8	95.8
1941.....	8.7	13.7	-4.9	8.0	13.6	-5.6	.7	.0	.7	57.5	48.2	113.0
1942.....	14.6	35.1	-20.5	13.7	35.1	-21.3	.9	.1	.8	79.2	67.8	142.2
1943.....	24.0	78.6	-54.6	22.9	78.5	-55.6	1.1	.1	1.0	142.6	127.8	175.8
1944.....	43.7	91.3	-47.6	42.5	91.2	-48.7	1.3	.1	1.2	204.1	184.8	202.0
1945.....	45.2	92.7	-47.6	43.8	92.6	-48.7	1.3	.1	1.2	260.1	235.2	212.4
1946.....	39.3	55.2	-15.9	38.1	55.0	-17.0	1.2	.2	1.0	271.0	241.9	212.9
1947.....	36.5	34.5	4.0	37.1	34.2	2.9	1.5	.3	1.2	257.1	224.3	223.6
1948.....	41.6	29.8	11.8	39.9	29.4	10.5	1.6	.4	1.2	252.0	216.3	247.8
1949.....	39.4	38.8	.6	37.7	38.4	-0.7	1.7	.4	1.3	252.6	214.3	263.9
1950.....	39.4	42.6	-3.1	37.3	42.0	-4.7	2.1	.5	1.6	256.9	219.0	266.8
1951.....	51.6	45.5	6.1	48.5	44.2	4.3	3.1	1.3	1.8	256.3	214.3	315.0
1952.....	66.2	67.7	-1.5	62.6	66.0	-3.4	3.6	1.7	1.9	259.1	214.8	342.4
1953.....	69.6	76.1	-6.5	65.5	73.8	-8.3	4.1	2.3	1.8	266.0	218.4	365.6
1954.....	69.7	70.9	-1.2	65.1	67.9	-2.8	4.6	2.9	1.7	270.8	224.5	369.5
1955.....	65.5	68.4	-3.0	60.4	64.5	-4.1	5.1	4.0	1.1	274.4	226.6	386.4
1956.....	74.6	70.6	3.9	68.2	65.7	2.5	6.4	5.0	1.5	272.7	222.2	418.1
1957.....	80.0	76.6	3.4	73.2	70.6	2.6	6.8	6.0	.8	272.3	219.3	440.5
1958.....	79.6	82.4	-2.8	71.6	74.9	-3.3	8.0	7.5	.5	279.7	226.3	450.2
1959.....	79.2	92.1	-12.8	71.0	83.1	-12.1	8.3	9.0	-0.7	287.5	234.7	481.5
1960.....	92.5	92.2	.3	81.9	81.3	.5	10.6	10.9	-0.2	290.5	236.8	506.7
1961.....	94.4	97.7	-3.3	82.3	86.0	-3.8	12.1	11.7	.4	292.6	238.4	518.2
1962.....	97.7	106.8	-7.1	87.4	93.3	-5.9	12.3	13.5	-1.3	302.9	248.0	557.7
1963.....	106.6	111.3	-4.8	92.4	96.4	-4.0	14.2	15.0	-0.8	310.3	254.0	587.8
1964.....	112.6	118.5	-5.9	96.2	102.8	-6.5	16.4	15.7	.6	316.1	256.8	629.2
1965.....	116.8	118.2	-1.4	100.1	101.7	-1.6	16.7	16.5	.2	322.3	260.8	672.6
1966.....	130.8	134.5	-3.7	111.7	114.8	-3.1	19.1	19.7	-0.6	328.5	263.7	739.0
1967.....	148.8	157.5	-8.6	124.4	137.0	-12.6	24.4	20.4	4.0	340.4	266.6	794.6
1968.....	153.0	178.1	-25.2	128.1	155.8	-27.7	24.9	22.3	2.6	368.7	289.5	849.4
1969.....	186.9	183.6	3.2	157.9	158.4	-0.5	29.0	25.2	3.7	365.8	278.1	929.5
1970.....	192.8	195.6	-2.8	159.3	168.0	-8.7	33.5	27.6	5.9	380.9	283.2	990.2
1971.....	187.1	210.2	-23.0	151.3	173.3	-26.1	35.8	32.8	3.0	408.2	303.0	1,055.9
1972.....	207.3	230.7	-23.4	167.4	193.8	-26.4	39.9	36.9	3.1	435.9	322.4	1,153.1
1973.....	230.8	245.7	-14.9	184.7	200.1	-15.4	46.1	45.6	.5	466.3	340.9	1,281.4
1974.....	263.2	269.4	-6.1	209.3	217.3	-8.0	53.9	52.1	1.8	483.9	343.7	1,416.5
1975.....	279.1	332.3	-53.2	216.6	271.9	-55.3	62.5	60.4	2.0	541.9	394.7	1,522.5
1976.....	298.1	371.8	-73.7	231.7	302.2	-70.5	66.4	69.6	-3.2	629.0	477.4	1,698.2
Transition quarter ..	81.2	96.0	-14.7	63.2	76.6	-13.3	18.0	19.4	-1.4	643.6	495.5	448.7
1977.....	355.6	409.2	-53.6	278.7	328.5	-49.7	76.8	80.7	-3.9	706.4	549.1	1,933.0
1978.....	399.6	458.7	-59.2	314.2	369.1	-54.9	85.4	89.7	-4.3	776.6	607.1	2,171.8
1979.....	463.3	503.5	-40.2	365.3	403.5	-38.2	98.0	100.0	-2.0	828.9	639.8	2,447.8
1980.....	517.1	590.9	-73.8	403.9	476.6	-72.7	113.2	114.3	-1.1	908.5	709.3	2,670.6
1981.....	599.3	678.2	-78.9	469.1	543.0	-73.9	130.2	135.2	-5.0	994.3	784.8	2,986.4
1982.....	617.8	745.7	-127.9	474.3	594.3	-120.0	143.5	151.4	-7.9	1,136.8	919.2	3,139.1
1983.....	600.6	808.3	-207.8	453.2	661.2	-208.0	147.3	147.1	.2	1,371.2	1,310.0	3,321.9
1984.....	666.5	851.8	-185.3	500.4	686.0	-185.6	166.1	165.8	.3	1,564.1	1,130.0	3,687.7
1985.....	734.1	946.3	-212.3	547.9	769.5	-221.6	186.2	176.8	9.4	1,817.0	1,499.4	3,952.4
1986.....	769.1	990.3	-221.2	568.9	806.8	-237.9	200.2	183.5	16.7	2,120.1	1,736.2	4,180.9
1987.....	854.1	1,003.8	-149.7	640.7	810.0	-169.3	213.4	193.8	19.6	2,345.6	1,888.1	4,430.2
1988.....	909.0	1,064.0	-155.1	667.5	861.4	-193.9	241.5	202.7	38.8	2,600.8	2,050.2	4,792.2
1989.....	990.7	1,142.6	-152.0	727.0	931.7	-204.7	263.7	210.9	52.8	2,866.2	2,189.3	5,151.3
1990*.....	1,073.5	1,197.2	-123.8	788.0	971.5	-183.4	285.4	225.8	59.7	3,113.3	2,298.7	5,488.9
1991*.....	1,170.2	1,233.3	-63.1	855.7	997.4	-141.7	314.5	236.0	78.6	3,319.2	2,357.3	5,892.4

<sup>1</sup> Not strictly comparable with later data.

<sup>2</sup> Estimates.

Note.—Through fiscal year 1976, the fiscal year was on a July 1-June 30 basis; beginning October 1976 (fiscal year 1977), the fiscal year is on an October 1-September 30 basis. The 3-month period from July 1, 1976 through September 30, 1976 is a separate fiscal period known as the transition quarter.

Refunds of receipts are excluded from receipts and outlays.

See "Budget of the United States Government, Fiscal Year 1991" for additional information.

Sources: Department of Commerce (Bureau of Economic Analysis), Department of the Treasury, and Office of Management and Budget.

TABLE C-77.—Federal receipts, outlays, and debt, fiscal years 1981–91

[Millions of dollars; fiscal years]

Description	Actual					
	1981	1982	1983	1984	1985	1986
<b>RECEIPTS AND OUTLAYS:</b>						
Total receipts .....	599,272	617,766	600,562	666,457	734,057	769,091
Total outlays .....	678,209	745,706	808,327	851,781	946,316	990,258
Total surplus or deficit (–) .....	–78,936	–127,940	–207,764	–185,324	–212,260	–221,167
On-budget receipts .....	469,097	474,299	453,242	500,382	547,886	568,862
On-budget outlays .....	543,013	594,302	661,219	685,968	769,509	806,760
On-budget surplus or deficit (–) .....	–73,916	–120,003	–207,977	–185,586	–221,623	–237,898
Off-budget receipts .....	130,176	143,467	147,320	166,075	186,171	200,228
Off-budget outlays .....	135,196	151,404	147,108	165,813	176,807	183,498
Off-budget surplus or deficit (–) .....	–5,020	–7,937	212	262	9,363	16,731
<b>OUTSTANDING DEBT, END OF PERIOD:</b>						
Gross Federal debt .....	994,298	1,136,798	1,371,164	1,564,110	1,816,974	2,120,082
Held by Government accounts .....	209,507	217,560	240,114	264,159	317,612	383,919
Held by the public .....	784,791	919,238	1,131,049	1,299,951	1,499,362	1,736,163
Federal Reserve System .....	124,466	134,497	155,527	155,122	169,806	190,855
Other .....	660,325	784,741	975,522	1,144,829	1,329,556	1,545,308
<b>RECEIPTS: ON-BUDGET AND OFF-BUDGET .....</b>	<b>599,272</b>	<b>617,766</b>	<b>600,562</b>	<b>666,457</b>	<b>734,057</b>	<b>769,091</b>
Individual income taxes .....	285,917	297,744	288,938	298,415	334,531	348,959
Corporation income taxes .....	61,137	49,207	37,022	56,893	61,331	63,143
Social insurance taxes and contributions .....	182,720	201,498	208,994	239,376	265,163	283,901
On-budget .....	52,545	58,031	61,674	73,301	78,992	83,673
Off-budget .....	130,176	143,467	147,320	166,075	186,171	200,228
Excise taxes .....	40,839	36,311	35,300	37,361	35,992	32,919
Estate and gift taxes .....	6,787	7,991	6,053	6,010	6,422	6,958
Customs duties .....	8,083	8,854	8,655	11,370	12,079	13,327
Miscellaneous receipts:						
Deposits of earnings by Federal Reserve System .....	12,834	15,186	14,492	15,684	17,059	18,374
All other .....	956	975	1,108	1,347	1,480	1,510
<b>OUTLAYS: ON-BUDGET AND OFF-BUDGET .....</b>	<b>678,209</b>	<b>745,706</b>	<b>808,327</b>	<b>851,781</b>	<b>946,316</b>	<b>990,258</b>
National defense .....	157,513	185,309	209,903	227,413	252,748	273,375
International affairs .....	13,104	12,300	11,848	15,876	16,176	14,152
General science, space, and technology .....	6,469	7,200	7,935	8,317	8,627	8,976
Energy .....	15,166	13,527	9,353	7,086	5,685	4,735
Natural resources and environment .....	13,568	12,998	12,672	12,593	13,357	13,639
Agriculture .....	11,323	15,944	22,901	13,613	25,565	31,449
Commerce and housing credit .....	8,206	6,256	6,681	6,917	4,229	4,890
On-budget .....	8,206	6,256	6,681	6,917	4,229	4,890
Off-budget .....						
Transportation .....	23,379	20,625	21,334	23,669	25,838	28,117
Community and regional development .....	10,568	8,347	7,560	7,673	7,680	7,233
Education, training, employment, and social services .....	33,709	27,029	26,606	27,579	29,342	30,585
Health .....	26,866	27,445	28,641	30,417	33,542	35,936
Medicare .....	39,149	46,567	52,588	57,540	65,822	70,164
Income security .....	99,723	107,717	122,598	112,668	128,200	119,796
Social security .....	139,584	155,964	170,724	178,223	188,623	198,757
On-budget .....	670	844	19,993	7,056	5,189	8,072
Off-budget .....	138,914	155,120	150,731	171,167	183,434	190,684
Veterans benefits and services .....	22,991	23,958	24,846	25,614	26,292	26,356
Administration of justice .....	4,762	4,703	5,099	5,660	6,277	6,603
General government .....	11,436	10,922	11,241	11,821	11,582	12,533
Net interest .....	68,734	84,995	89,774	111,058	129,430	135,969
On-budget .....	71,022	87,065	91,619	114,368	133,548	140,298
Off-budget .....	–2,288	–2,071	–1,845	–3,310	–4,118	–4,329
Allowances .....						
Undistributed offsetting receipts .....	–28,041	–26,099	–33,976	–31,957	–32,698	–33,007
On-budget .....	–26,611	–24,453	–32,198	–29,913	–30,189	–30,150
Off-budget .....	–1,430	–1,646	–1,778	–2,044	–2,509	–2,857

See next page for continuation of table.

TABLE C-77.—Federal receipts, outlays, and debt, fiscal years 1981-91—Continued

[Millions of dollars; fiscal years]

Description	Actual			Estimates	
	1987	1988	1989	1990	1991
<b>RECEIPTS AND OUTLAYS:</b>					
Total receipts .....	854,143	908,954	990,691	1,073,451	1,170,232
Total outlays .....	1,003,830	1,064,044	1,142,643	1,197,236	1,233,331
Total surplus or deficit (-) .....	-149,687	-155,090	-151,951	-123,785	-63,099
On-budget receipts .....	640,741	667,463	727,026	788,017	855,691
On-budget outlays .....	809,998	861,352	931,732	971,452	997,374
On-budget surplus or deficit (-) .....	-169,257	-193,890	-204,706	-183,435	-141,683
Off-budget receipts .....	213,402	241,491	263,666	285,434	314,541
Off-budget outlays .....	193,832	202,691	210,911	225,784	235,957
Off-budget surplus or deficit (-) .....	19,570	38,800	52,754	59,650	78,584
<b>OUTSTANDING DEBT, END OF PERIOD:</b>					
Gross Federal debt .....	2,345,578	2,600,753	2,866,188	3,113,263	3,319,161
Held by Government accounts .....	457,444	550,507	676,860	814,611	961,874
Held by the public .....	1,888,134	2,050,245	2,189,328	2,298,652	2,357,287
Federal Reserve System .....	212,040	229,218	220,088		
Other .....	1,676,094	1,821,027	1,969,240		
<b>RECEIPTS: ON-BUDGET AND OFF-BUDGET .....</b>	<b>854,143</b>	<b>908,954</b>	<b>990,691</b>	<b>1,073,451</b>	<b>1,170,232</b>
Individual income taxes .....	392,557	401,181	445,690	489,444	528,489
Corporation income taxes .....	83,926	94,508	103,583	112,030	129,665
Social insurance taxes and contributions .....	303,318	334,335	359,416	385,362	421,449
On-budget .....	89,916	92,845	95,751	99,928	106,908
Off-budget .....	213,402	241,491	263,666	285,434	314,541
Excise taxes .....	32,457	35,227	34,084	36,154	37,634
Estate and gift taxes .....	7,493	7,594	8,745	9,279	9,809
Customs duties and fees .....	15,085	16,198	16,334	16,785	18,615
Miscellaneous receipts:					
Deposits of earnings by Federal Reserve System .....	16,817	17,163	19,604	21,086	21,107
All other .....	2,490	2,747	3,235	3,311	3,465
<b>OUTLAYS: ON-BUDGET AND OFF-BUDGET .....</b>	<b>1,003,830</b>	<b>1,064,044</b>	<b>1,142,643</b>	<b>1,197,236</b>	<b>1,233,331</b>
National defense .....	281,999	290,361	303,559	296,342	303,251
International affairs .....	11,649	10,471	9,574	14,554	18,172
General science, space, and technology .....	9,216	10,841	12,838	14,145	16,609
Energy .....	4,115	2,297	3,702	3,194	3,029
Natural resources and environment .....	13,363	14,606	16,182	17,499	18,168
Agriculture .....	26,606	17,210	16,948	14,571	14,938
Commerce and housing credit .....	6,182	18,808	27,719	22,688	17,184
On-budget .....	6,182	18,808	28,029	20,300	15,463
Off-budget .....			-310	2,388	1,721
Transportation .....	26,222	27,272	27,608	29,250	29,758
Community and regional development .....	5,051	5,294	5,361	8,776	7,825
Education, training, employment, and social services .....	29,724	31,938	36,684	37,652	41,005
Health .....	39,968	44,490	48,390	57,819	63,698
Medicare .....	75,120	78,878	84,964	96,616	98,615
Income security .....	123,250	129,332	136,031	146,601	153,738
Social security .....	207,353	219,341	232,542	248,462	264,811
On-budget .....	4,930	4,852	5,069	3,875	4,722
Off-budget .....	202,422	214,489	227,473	244,587	260,089
Veterans benefits and services .....	26,782	29,428	30,066	28,888	30,308
Administration of justice .....	7,548	9,223	9,422	10,489	12,608
General government .....	7,569	9,474	9,124	10,560	11,282
Net interest .....	138,570	151,748	169,137	175,591	172,979
On-budget .....	143,860	159,164	180,532	191,201	192,869
Off-budget .....	-5,290	-7,416	-11,395	-15,610	-19,890
Allowances .....					-1,070
Undistributed offsetting receipts .....	-36,455	-36,967	-37,212	-36,462	-43,578
On-budget .....	-33,155	-32,585	-32,354	-30,881	-37,615
Off-budget .....	-3,300	-4,382	-4,858	-5,581	-5,962

Note.—Through fiscal year 1976, the fiscal year was on a July 1–June 30 basis; beginning October 1976 (fiscal year 1977), the fiscal year is on an October 1–September 30 basis. The 3-month period from July 1, 1976 through September 30, 1976 is a separate fiscal period known as the transition quarter.

Refunds of receipts are excluded from receipts and outlays.

See "Budget of the United States Government, Fiscal Year 1991" for additional information.

Sources: Department of the Treasury and Office of Management and Budget.

TABLE C-78.—Relation of Federal Government receipts and expenditures in the national income and product accounts to the budget, fiscal years 1989-91

[Billions of dollars; fiscal years]

Receipts and expenditures	1989	Estimate	
		1990	1991
<b>RECEIPTS</b>			
Total on-budget and off-budget receipts .....	990.7	1,073.5	1,170.2
Government contributions for employee retirement (grossing) .....	41.7	45.0	48.3
Other netting and grossing .....	20.1	20.1	23.9
Timing adjustments .....	-4.2	-8.0	-.7
Coverage differences .....	-2.0	-2.2	-2.4
Federal sector, national income and product accounts, receipts .....	1,046.4	1,128.3	1,239.3
<b>EXPENDITURES</b>			
Total on-budget and off-budget outlays .....	1,142.6	1,197.2	1,233.3
Lending and financial transactions .....	-23.6	-18.1	-16.9
Government contributions for employee retirement (grossing) .....	41.7	45.0	48.3
Other netting and grossing .....	20.1	20.1	23.9
Timing adjustments .....	-.2	8.5	.8
Bonuses on Outer Continental Shelf land leases .....	.9	.6	.9
Coverage differences .....	-5.6	-6.5	-3.7
Other .....	-3	-4	1.1
Federal sector, national income and product accounts, expenditures .....	1,175.6	1,246.5	1,287.7

Note.—See Note, Table C-76.

For further details, see *Survey of Current Business*, February 1990.

Sources: Department of Commerce (Bureau of Economic Analysis), Department of the Treasury, and Office of Management and Budget.



TABLE C-79.—Federal and State and local government receipts and expenditures, national income and product accounts, 1929-89

(Billions of dollars; quarterly data at seasonally adjusted annual rates)

Year or quarter	Total government			Federal Government			State and local government		
	Receipts	Expenditures	Surplus or deficit (-), national income and product accounts	Receipts	Expenditures	Surplus or deficit (-), national income and product accounts	Receipts	Expenditures	Surplus or deficit (-), national income and product accounts
1929	11.3	10.3	1.0	3.8	2.7	1.2	7.6	7.8	-0.2
1933	9.4	10.7	-1.4	2.7	4.0	-1.3	7.2	7.2	-1.1
1939	15.4	17.6	-2.2	6.8	9.0	-2.2	9.6	9.6	0
1940	17.8	18.5	-0.7	8.7	10.0	-1.3	10.0	9.3	0.6
1941	25.0	28.8	-3.8	15.5	20.5	-5.1	10.4	9.1	1.3
1942	32.7	64.1	-31.4	23.0	56.1	-33.1	10.6	8.8	1.8
1943	49.2	93.4	-44.2	39.3	85.9	-46.6	10.9	8.4	2.4
1944	51.2	103.1	-51.8	41.1	95.6	-54.5	11.1	8.5	2.7
1945	53.4	92.9	-39.5	42.7	84.7	-42.1	11.6	9.0	2.6
1946	52.6	47.2	5.4	40.7	37.2	3.5	13.0	11.1	1.9
1947	57.8	43.4	14.4	44.1	30.8	13.4	15.4	14.4	1.0
1948	59.6	51.1	8.4	43.9	35.5	8.3	17.7	17.6	0.1
1949	56.6	60.0	-3.4	39.4	42.0	-2.6	19.5	20.2	-0.7
1950	69.4	61.4	8.0	50.4	41.2	9.2	21.3	22.5	-1.2
1951	85.6	79.5	6.1	64.6	58.1	6.5	23.4	23.9	-0.4
1952	90.5	94.3	-3.8	67.7	71.4	-3.7	25.4	25.5	-0.1
1953	95.0	102.0	-7.0	70.4	77.6	-7.1	27.4	27.3	0.1
1954	90.4	97.5	-7.1	64.2	70.3	-6.0	29.0	30.2	-1.1
1955	101.6	98.5	3.1	73.1	68.6	4.4	31.7	32.9	-1.3
1956	110.2	105.0	5.2	78.5	72.5	6.1	35.0	35.9	-0.9
1957	116.7	115.8	0.9	82.5	80.2	2.3	38.5	39.8	-1.4
1958	115.7	128.3	-12.6	79.3	89.6	-10.3	42.0	44.4	-2.4
1959	130.3	131.9	-1.6	90.6	91.7	-1.1	46.6	47.0	-0.4
1960	140.4	137.3	3.1	96.9	93.9	3.0	50.0	49.9	0.1
1961	145.9	150.1	-4.3	99.0	102.9	-3.9	54.1	54.5	-0.4
1962	157.9	161.6	-3.8	107.2	111.4	-4.2	58.6	58.2	0.5
1963	169.8	169.1	0.7	115.6	115.3	0.3	63.4	62.9	0.5
1964	175.6	177.8	-2.3	116.2	119.5	-3.3	69.8	68.8	1.0
1965	190.2	189.6	0.5	125.8	125.3	0.5	75.5	75.5	0
1966	214.4	215.6	-1.3	143.5	145.3	-1.8	85.2	84.7	0.5
1967	230.8	245.0	-14.2	152.6	165.8	-13.2	84.1	95.2	-11.1
1968	266.2	272.2	-6.0	176.9	182.9	-6.0	107.9	107.8	0.1
1969	300.1	290.2	9.9	199.7	191.3	8.4	120.8	119.3	1.5
1970	306.8	317.4	-10.6	195.4	207.8	-12.4	135.8	134.0	1.8
1971	327.3	346.8	-19.5	202.7	224.8	-22.0	153.6	151.0	2.6
1972	374.0	377.3	-3.4	232.2	249.0	-16.8	179.3	165.8	13.5
1973	419.6	411.7	7.9	263.7	269.3	-5.6	196.4	182.9	13.5
1974	463.1	467.4	-4.3	293.9	305.5	-11.6	213.1	205.9	7.2
1975	480.0	544.9	-64.9	294.9	364.2	-69.4	239.6	235.2	4.5
1976	549.1	587.5	-38.4	340.1	393.7	-53.5	270.1	254.9	15.2
1977	616.6	635.7	-19.1	384.1	430.1	-46.0	300.1	273.2	26.9
1978	694.4	694.8	-0.4	441.4	470.7	-29.3	330.3	301.3	28.9
1979	779.8	768.3	11.5	505.0	521.1	-16.1	355.3	327.7	27.6
1980	855.1	889.6	-34.5	553.8	615.1	-61.3	390.0	363.2	26.8
1981	977.2	1,006.9	-29.7	639.5	703.3	-63.8	425.6	391.4	34.1
1982	1,000.8	1,111.6	-110.8	635.3	781.2	-145.9	449.4	414.3	35.1
1983	1,061.3	1,189.9	-128.6	659.9	835.9	-176.0	487.7	440.2	47.5
1984	1,172.9	1,277.9	-105.0	726.0	895.6	-169.6	540.5	475.9	64.6
1985	1,270.8	1,402.6	-131.8	788.7	985.6	-196.9	581.8	516.7	65.1
1986	1,347.4	1,491.5	-144.1	827.9	1,034.8	-206.9	626.3	563.5	62.8
1987	1,464.9	1,575.0	-110.1	911.4	1,072.8	-161.4	656.1	604.8	51.3
1988	1,562.7	1,658.8	-96.1	972.4	1,118.3	-145.8	701.6	651.9	49.7
1989 P	1,673.8	1,778.7	-104.9	1,046.8	1,196.7	-149.9	746.6	701.6	45.0
1982: IV	1,008.4	1,175.3	-166.8	633.1	835.7	-202.6	459.8	424.1	35.8
1983: IV	1,095.3	1,208.2	-112.9	675.5	844.7	-169.2	505.8	449.5	56.4
1984: IV	1,200.8	1,322.9	-122.1	742.7	930.2	-187.5	554.5	489.1	65.4
1985: IV	1,299.9	1,445.8	-145.9	805.3	1,017.5	-212.2	598.0	531.8	66.3
1986: IV	1,388.4	1,519.6	-131.3	853.8	1,042.8	-189.0	637.6	579.8	57.8
1987: I	1,396.5	1,549.7	-153.2	860.7	1,060.1	-199.4	637.1	590.8	46.3
1987: II	1,479.8	1,557.1	-77.3	926.2	1,063.8	-137.7	658.9	598.5	60.4
1987: III	1,479.4	1,572.8	-93.5	921.5	1,065.5	-143.9	659.6	609.1	50.5
1987: IV	1,504.0	1,620.4	-116.3	937.4	1,101.7	-164.4	668.9	620.9	48.0
1988: I	1,519.4	1,620.3	-101.0	944.7	1,096.5	-151.8	684.8	634.0	50.8
1988: II	1,560.2	1,649.3	-89.1	973.2	1,114.7	-141.5	699.2	646.7	52.4
1988: III	1,572.3	1,645.0	-72.7	977.3	1,099.8	-122.5	706.0	656.2	49.8
1988: IV	1,598.9	1,720.8	-121.9	994.6	1,162.1	-167.6	716.5	670.8	45.7
1989: I	1,650.1	1,748.8	-98.7	1,036.2	1,183.7	-147.5	732.6	683.8	48.8
1989: II	1,677.4	1,775.3	-97.9	1,053.2	1,198.6	-145.4	742.6	695.1	47.5
1989: III	1,675.2	1,775.1	-99.8	1,043.2	1,187.9	-144.7	750.3	705.5	44.9
1989: IV P		1,815.6			1,216.7			721.9	

Note.—Federal grants-in-aid to State and local governments are reflected in Federal expenditures and State and local receipts. Total government receipts and expenditures have been adjusted to eliminate this duplication.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE C-80.—Federal and State and local government receipts and expenditures, national income and product accounts, by major type, 1940-89

(Billions of dollars; quarterly data at seasonally adjusted annual rates)

Year or quarter	Receipts				Expenditures							Surplus or deficit (-), national income and product accounts	Addendum: Grants-in-aid to State and local governments		
	Total	Personal tax and nontax receipts	Corporate profits tax accruals	Indirect business tax and non-tax accruals	Contributions for social insurance	Total <sup>1</sup>	Purchases of goods and services	Transfer payments	Net interest paid					Subsidies less current surplus plus of government enterprises	
									Total	Interest paid	Less: Interest received by government <sup>2</sup>				Less: Dividends received by government <sup>2</sup>
1940	17.8	2.6	2.8	10.1	2.4	18.5	14.2	2.7	1.2				0.4	-0.7	0.9
1941	25.0	3.3	7.6	11.3	2.8	28.8	25.0	2.6	1.2				.1	-3.8	.8
1942	32.7	5.9	11.4	11.8	3.5	64.1	59.9	2.7	1.4				.1	-31.4	.9
1943	49.2	17.8	14.1	12.8	4.6	93.4	88.9	2.4	1.9				.1	-44.2	.9
1944	51.2	18.9	12.9	14.2	5.2	103.1	97.1	3.0	2.4				.6	-51.8	.9
1945	53.4	20.8	10.7	15.5	6.3	92.9	83.0	6.0	3.2				.7	-39.5	.9
1946	52.6	18.7	9.1	17.1	7.7	47.2	29.1	13.1	4.1				.9	5.4	1.1
1947	57.8	21.4	11.3	18.4	6.7	43.4	26.4	13.1	4.2				-.2	14.4	1.7
1948	59.6	21.0	12.4	20.1	6.0	51.1	32.6	14.5	4.2				-.1	8.4	2.0
1949	56.6	18.5	10.2	21.3	6.6	60.0	39.0	16.9	4.3				-.3	-3.4	2.2
1950	69.4	20.6	17.9	23.4	7.4	61.4	38.8	18.0	4.4				.1	8.0	2.3
1951	85.6	28.9	22.6	25.3	8.8	79.5	60.4	14.8	4.5				-.1	6.1	2.5
1952	90.5	34.0	19.4	27.7	9.3	94.3	75.8	14.3	4.5				-.3	-3.8	2.6
1953	95.0	35.5	20.3	29.7	9.6	102.0	82.8	15.1	4.6				-.5	-7.0	2.8
1954	90.4	32.5	17.6	29.6	10.6	97.5	76.0	17.1	4.7				-.3	-7.1	2.9
1955	101.6	35.4	22.0	32.2	12.0	98.5	75.3	18.5	4.7				.0	3.1	3.1
1956	110.2	39.7	22.0	35.0	13.5	105.0	79.7	19.4	5.2				.7	5.2	3.3
1957	116.7	42.4	21.4	37.4	15.5	115.8	87.3	22.2	5.6				.7	.9	4.2
1958	115.7	42.2	19.0	38.6	15.9	128.3	95.4	26.5	5.4				1.1	-12.6	5.6
1959	130.3	46.1	23.6	41.7	18.8	131.9	97.9	27.6	6.3				.1	-1.6	6.8
1960	140.4	50.5	22.7	45.3	21.9	137.3	100.6	29.4	6.9	10.1	3.3		.4	3.1	6.5
1961	145.9	52.2	22.8	48.0	22.9	150.1	108.4	33.7	6.4	9.9	3.5		1.7	-4.3	7.2
1962	157.9	57.0	24.0	51.5	25.4	161.6	118.2	34.8	6.9	10.8	3.9		1.8	-3.8	8.0
1963	169.8	60.5	26.2	54.6	28.5	169.1	123.8	36.8	7.4	11.6	4.2		1.1	.7	9.1
1964	175.6	58.8	28.0	58.7	30.1	177.8	130.0	38.3	7.9	12.5	4.6		1.7	-2.3	10.4
1965	190.2	65.2	30.9	62.5	31.6	189.6	138.6	41.3	8.1	13.2	5.1		1.6	.5	11.1
1966	214.4	74.9	33.7	65.2	40.6	215.6	158.6	46.0	8.5	14.5	6.0		3.5	-1.3	14.4
1967	230.8	82.4	32.7	70.1	45.5	245.0	179.7	54.7	8.9	15.7	6.8		1.6	-14.2	15.9
1968	266.2	97.7	39.4	78.7	50.4	272.2	197.7	62.9	10.3	18.1	7.7	0.1	1.4	-6.0	18.6
1969	300.1	116.3	39.7	86.3	57.9	290.2	207.3	69.7	11.5	19.8	8.3	.2	1.9	9.9	20.3
1970	306.8	116.2	34.4	94.0	62.2	317.4	218.2	84.1	12.4	22.3	9.9	.2	2.9	-10.6	24.4
1971	327.3	117.3	37.7	103.4	68.9	346.8	232.4	99.8	12.5	23.1	10.6	.3	2.6	-19.5	29.0
1972	374.0	142.0	41.9	111.1	79.0	377.3	250.0	111.3	12.9	24.8	11.9	.3	3.7	-3.4	37.5
1973	419.6	152.0	49.3	120.8	97.6	411.7	266.5	127.0	15.2	29.6	14.3	.5	3.5	7.9	40.6
1974	463.1	171.8	51.8	129.0	110.5	467.4	299.1	150.9	16.5	33.6	17.1	.9	1.2	-4.3	43.9
1975	480.0	170.6	50.9	140.0	118.5	544.9	335.0	189.6	18.8	37.7	18.9	.9	2.4	-64.9	54.6
1976	549.1	198.7	64.2	151.7	134.5	587.5	356.9	207.2	23.2	43.6	20.4	.9	1.0	-38.4	61.1
1977	616.6	228.1	73.0	165.7	149.8	635.7	387.3	221.6	25.1	47.9	22.8	1.3	3.0	-19.1	67.5
1978	694.4	261.1	83.5	178.1	171.7	694.8	425.2	239.5	28.2	56.5	28.3	1.7	3.9	-4	77.3
1979	779.8	304.7	88.0	189.4	197.8	768.3	467.8	268.0	30.8	68.2	37.5	2.0	3.5	11.5	80.5
1980	855.1	340.5	84.8	213.3	215.5	889.6	530.3	319.2	36.3	83.2	46.9	1.9	5.7	-34.5	88.7
1981	977.2	393.3	81.1	251.5	216.2	1,006.9	588.1	362.2	52.2	109.1	56.9	2.3	6.7	-29.7	87.9
1982	1,000.8	409.3	63.1	258.8	269.6	1,111.6	641.7	404.0	60.0	128.3	68.1	2.9	8.7	-110.8	83.9
1983	1,061.3	410.5	77.2	282.6	291.0	1,189.9	675.0	435.1	68.1	145.1	77.1	2.8	14.1	-128.6	86.2
1984	1,172.9	440.2	93.9	313.9	324.9	1,277.9	735.9	448.7	87.2	173.5	86.3	3.5	9.9	-105.0	93.6
1985	1,270.8	486.6	96.4	333.6	354.1	1,402.6	820.8	481.2	97.7	194.2	96.5	4.5	7.2	-131.8	99.7
1986	1,347.4	512.9	106.3	348.9	379.2	1,491.5	872.2	510.8	104.2	206.1	104.9	5.5	12.8	-144.1	106.8
1987	1,464.9	571.7	124.7	367.8	400.8	1,575.0	926.1	533.9	104.1	216.0	111.9	6.7	17.6	-110.1	102.6
1988	1,562.7	586.6	137.9	393.5	444.6	1,658.8	968.9	568.6	111.1	233.7	122.6	8.3	18.5	-96.1	111.4
1989 <sup>a</sup>	1,673.8	648.7	129.0	416.7	479.3	1,778.7	1,036.7	614.1	128.5	258.0	129.5	9.7	9.1	-104.9	119.6
1982: IV	1,008.4	411.1	59.8	264.5	273.0	1,175.3	671.8	429.7	61.4	133.2	71.8	3.1	15.4	-166.8	84.5
1983: IV	1,095.3	413.9	88.1	294.1	299.2	1,208.2	676.1	441.1	74.2	154.7	80.5	2.9	19.6	-112.9	86.0
1984: IV	1,200.8	459.7	87.0	322.7	331.5	1,322.9	764.5	458.5	96.1	185.3	89.7	4.0	8.4	-122.1	96.3
1985: IV	1,299.9	499.6	99.8	338.3	362.1	1,445.8	856.7	490.0	98.8	199.5	100.2	4.9	5.3	-149.9	103.5
1986: IV	1,388.4	534.4	113.1	353.1	387.7	1,519.6	888.9	520.2	100.8	207.0	106.2	5.9	15.6	-131.3	103.0
1987: I	1,396.5	530.8	115.0	357.9	392.8	1,549.7	906.9	523.3	101.6	209.8	108.3	6.3	24.1	-153.2	101.3
1987: II	1,479.8	594.6	124.0	364.5	396.8	1,557.1	916.8	532.2	102.0	212.9	110.9	6.6	12.8	-77.3	105.2
1987: III	1,479.4	572.0	132.7	372.1	402.6	1,572.8	933.2	534.9	104.5	217.7	113.2	6.8	7.2	-93.5	101.7
1987: IV	1,504.0	589.2	127.3	376.6	411.0	1,620.4	947.5	545.0	108.5	223.8	115.3	7.1	26.2	-116.3	102.2
1988: I	1,519.4	572.2	129.0	384.3	434.0	1,620.3	945.7	559.2	105.4	229.3	123.9	7.5	17.6	-101.0	110.1
1988: II	1,560.2	590.7	138.4	390.1	441.1	1,649.3	960.1	563.4	109.9	230.2	120.3	8.2	24.0	-89.1	112.2
1988: III	1,572.3	585.9	141.2	397.0	448.2	1,645.0	958.6	569.7	113.4	235.0	121.5	8.5	11.8	-72.7	111.0
1988: IV	1,598.9	597.8	143.2	402.7	455.2	1,720.8	1,011.4	581.9	115.9	240.4	124.6	8.8	20.4	-121.9	112.0
1989: I	1,650.1	628.3	144.4	407.7	469.7	1,748.8	1,016.0	597.1	125.3	251.1	125.8	9.1	19.5	-98.7	118.7
1989: II	1,677.4	652.6	134.9	413.4	476.4	1,775.3	1,033.2	606.4	129.6	257.0	127.4	9.5	15.5	-97.9	118.7
1989: III	1,675.2	649.1	122.6	421.5	482.0	1,775.1	1,038.9	618.3	128.2	259.7	131.5	10.1	-.3	-99.8	118.3
1989: IV <sup>b</sup>	1,675.0	665.0	122.6	424.2	489.2	1,815.6	1,058.6	634.4	130.8	264.2	133.4	10.0	1.8	.....	123.0

<sup>1</sup> Includes an item for the difference between wage accruals and disbursements, not shown separately.

<sup>2</sup> Prior to 1968, dividends received is included in interest received.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE C-81.—Federal Government receipts and expenditures, national income and product accounts, 1968-91

(Billions of dollars; quarterly data at seasonally adjusted annual rates)

Year or quarter	Receipts					Expenditures								Surplus or deficit (-), national income and product accounts				
	Total	Personal tax and nontax receipts	Corporate profits tax accruals	Indirect business tax and nontax accruals	Contributions for social insurance	Total <sup>1</sup>	Purchases of goods and services		Transfer payments		Grants-in-aid to State and local governments	Net interest paid	Subsidies less current surplus of government enterprises					
							Total	National defense	To persons	To foreigners								
Fiscal: <sup>2</sup>																		
1968.....	162.1	71.4	33.1	17.0	40.6	174.4	97.0	77.0	42.9	2.2	17.8	10.4	4.1	-12.3				
1969.....	192.5	90.2	36.8	18.6	46.9	187.3	100.3	78.5	48.9	2.3	19.2	12.0	4.7	5.2				
1970.....	198.0	94.0	32.9	19.1	52.0	198.7	99.8	75.2	55.3	2.2	22.6	13.5	5.5	-7				
1971.....	196.2	87.9	31.9	20.0	56.5	216.8	98.3	75.7	68.1	2.5	26.8	14.1	7.0	-20.5				
1972.....	217.9	100.5	34.2	19.8	63.4	237.1	104.4	76.2	76.5	3.0	32.6	14.0	6.5	-19.2				
1973.....	245.3	107.5	40.9	20.6	76.3	260.4	105.3	77.1	87.6	3.2	40.4	15.7	9.1	-15.2				
1974.....	277.2	122.7	43.4	21.3	89.8	283.9	109.3	78.8	102.3	2.8	41.6	19.6	7.7	-6.8				
1975.....	290.5	127.5	42.1	22.1	98.8	335.7	123.9	86.3	131.9	3.7	48.4	21.7	5.9	-45.3				
1976.....	322.6	137.1	52.1	24.2	109.1	378.9	132.2	91.5	154.3	3.7	57.5	25.1	6.2	-56.3				
1977.....	374.7	165.9	59.0	24.5	125.4	419.6	146.8	99.2	167.1	4.1	66.3	28.5	6.9	-44.8				
1978.....	424.3	186.5	67.8	27.1	142.9	459.9	158.6	106.3	179.3	4.4	74.7	33.5	9.7	-35.6				
1979.....	491.2	222.9	75.7	29.0	163.6	506.4	173.1	117.7	198.5	5.1	79.1	40.7	9.9	-15.2				
1980.....	538.6	250.7	70.2	35.3	182.3	589.0	199.9	137.2	235.4	5.8	86.7	50.8	10.4	-50.4				
1981.....	623.8	289.6	69.4	53.4	211.4	682.4	231.8	160.7	274.6	6.7	90.1	66.7	12.5	-58.5				
1982.....	643.3	310.0	52.1	50.0	231.1	755.9	264.4	187.3	305.6	7.2	83.4	82.2	13.0	-112.6				
1983.....	645.7	292.5	55.7	50.2	247.3	832.4	287.4	210.4	339.8	7.7	85.7	90.6	20.9	-186.7				
1984.....	711.9	302.5	75.3	54.9	279.2	873.0	297.2	228.5	342.2	9.9	90.7	109.7	23.3	-161.0				
1985.....	776.8	340.4	74.6	55.9	305.8	962.3	341.5	252.7	360.6	13.4	97.8	128.3	20.7	-185.5				
1986.....	815.2	357.0	81.1	50.9	326.1	1,028.0	368.6	275.4	380.4	14.3	107.4	134.6	22.8	-212.8				
1987.....	897.3	401.2	97.7	53.4	345.0	1,060.4	376.5	289.9	399.4	11.8	103.1	138.8	31.9	-163.1				
1988.....	958.6	408.0	108.3	55.8	386.4	1,104.0	378.6	297.0	420.2	12.4	108.6	149.0	35.1	-145.4				
1989.....	1,046.8	457.3	115.4	57.6	416.1	1,175.6	400.5	302.4	448.3	13.4	115.8	168.6	29.1	-129.2				
1990 <sup>3</sup> .....	1,128.3	495.7	127.3	59.8	445.5	1,246.5	419.8	307.5	484.6	13.4	126.6	176.2	25.8	-118.2				
1991.....	1,239.3	539.7	147.8	66.8	484.9	1,287.7	430.0	309.1	507.7	13.3	136.4	175.1	25.3	-48.4				
Calendar:																		
1968.....	176.9	79.7	36.1	17.9	43.2	182.9	100.1	79.1	46.2	2.3	18.6	11.3	4.5	-6.0				
1969.....	197.9	95.1	36.1	18.9	49.6	191.3	100.0	78.9	50.8	2.2	20.3	12.7	5.2	8.4				
1970.....	195.4	92.6	30.6	19.2	52.9	207.8	98.8	76.8	61.6	2.3	24.4	14.1	6.5	-12.4				
1971.....	202.7	90.3	33.5	20.3	58.7	224.8	99.8	74.1	73.0	2.7	29.0	13.8	6.3	-22.0				
1972.....	232.2	108.2	36.6	19.9	67.5	249.0	105.8	77.4	80.9	2.9	37.5	14.4	7.9	-16.8				
1973.....	263.7	114.7	43.3	21.1	84.6	269.3	106.4	77.5	93.7	2.9	40.9	20.7	7.8	-5.6				
1974.....	293.9	131.3	41.1	21.6	95.9	305.3	116.2	82.6	115.0	3.6	43.9	20.7	5.6	-11.6				
1975.....	284.9	125.9	43.6	23.8	101.6	364.2	129.2	89.6	146.8	4.0	54.6	23.0	6.9	-69.4				
1976.....	340.1	147.3	54.6	23.3	115.0	383.7	136.3	93.4	153.9	4.4	61.1	26.8	5.8	-53.5				
1977.....	384.1	169.8	61.6	25.0	127.7	430.1	151.1	100.9	170.1	4.2	67.5	29.1	8.2	-46.0				
1978.....	441.4	194.9	71.4	28.0	147.0	470.7	168.8	108.9	182.4	4.7	77.3	35.2	9.5	-29.3				
1979.....	505.0	231.0	74.4	29.3	170.3	521.1	178.0	121.9	205.6	5.2	80.5	42.5	9.2	-16.1				
1980.....	553.8	257.9	70.3	38.8	186.8	615.1	208.1	142.7	247.0	6.5	88.7	53.3	11.5	-61.3				
1981.....	639.5	298.9	65.7	56.2	218.8	703.3	242.2	167.5	282.1	6.5	87.9	72.4	12.3	-63.8				
1982.....	635.3	304.5	49.0	48.1	233.7	781.2	272.7	193.8	316.3	7.8	83.9	84.6	16.0	-149.9				
1983.....	659.9	294.5	61.3	51.6	252.5	835.9	283.5	214.4	340.1	8.5	86.2	94.3	22.9	-176.0				
1984.....	726.0	310.3	75.2	55.7	284.7	895.6	310.5	234.3	344.2	10.7	93.6	115.6	21.2	-169.6				
1985.....	788.7	346.4	76.3	55.1	310.9	985.6	355.2	259.1	366.7	13.4	99.7	130.1	20.3	-196.9				
1986.....	827.9	361.4	83.8	50.5	332.1	1,034.8	366.5	277.8	386.0	13.9	106.8	135.6	26.0	-206.9				
1987.....	911.4	405.8	101.0	53.8	350.8	1,072.8	381.6	294.8	401.9	12.4	102.6	141.7	32.6	-161.4				
1988.....	972.4	413.0	111.4	56.7	391.3	1,118.3	381.3	298.0	425.4	12.9	111.4	151.4	36.0	-145.8				
1989 <sup>3</sup> .....	1,046.8	460.6	104.9	58.6	422.6	1,196.7	404.1	302.8	458.9	13.7	119.6	171.1	29.2	-149.9				
1982: IV.....	303.0	130.3	46.4	47.6	236.1	335.7	293.2	205.4	337.9	9.5	84.5	87.2	23.4	-202.6				
1983: I.....	675.5	291.9	70.2	53.6	259.8	844.7	276.1	221.5	340.3	12.2	86.0	101.0	29.1	-169.2				
1984: IV.....	747.2	326.0	69.7	56.2	290.7	930.2	326.0	244.1	346.6	15.5	96.3	125.3	21.0	-187.5				
1985: IV.....	805.3	355.3	78.8	53.5	317.7	1,017.5	376.6	268.6	370.3	15.5	103.5	132.7	19.0	-212.0				
1986: IV.....	853.8	376.2	88.9	50.8	337.9	1,042.8	368.8	280.7	391.3	14.5	103.0	136.0	29.2	-189.2				
1987: I.....	860.7	370.9	93.2	52.7	344.0	1,060.1	375.6	288.0	396.5	10.6	101.3	137.8	38.4	-199.4				
II.....	926.2	424.4	100.4	54.2	347.2	1,063.8	378.2	294.0	402.6	11.2	105.2	139.1	27.5	-137.7				
III.....	921.5	408.1	107.4	53.8	352.2	1,065.5	384.5	300.2	403.3	11.0	101.7	142.5	22.7	-143.9				
IV.....	937.4	420.0	103.1	54.5	359.7	1,101.7	388.1	296.8	405.2	16.7	102.2	147.3	41.9	-164.4				
1988: I.....	944.7	402.7	104.2	55.9	382.0	1,096.5	374.1	297.4	421.5	11.4	110.1	144.9	34.4	-151.8				
II.....	973.2	417.5	111.6	55.9	388.2	1,114.7	377.1	298.0	424.2	10.7	112.2	149.9	41.2	-141.5				
III.....	977.3	411.4	114.0	57.4	394.5	1,099.8	367.5	296.1	426.3	11.2	110.0	153.9	29.4	-122.5				
IV.....	994.6	420.3	115.8	57.8	400.6	1,162.1	406.4	300.5	429.4	18.2	112.2	157.0	38.9	-167.6				
1989: I.....	1,036.2	446.8	117.0	58.0	414.3	1,183.7	399.0	298.7	448.9	11.5	118.7	167.0	38.5	-147.5				
II.....	1,053.2	465.1	109.7	58.2	420.2	1,198.6	406.0	301.3	455.7	11.1	118.4	172.0	35.3	-145.4				
III.....	1,043.2	459.1	99.9	59.4	424.8	1,187.9	402.7	307.8	461.6	14.1	118.3	171.2	20.1	-144.7				
IV.....	471.6	.....	.....	58.6	431.1	1,216.7	408.8	303.4	469.4	18.2	123.0	174.4	22.8	.....				

<sup>1</sup> Includes an item for the difference between wage accruals and disbursements, not shown separately.

<sup>2</sup> Through fiscal year 1976, the fiscal year was on a July 1-June 30 basis; beginning October 1976 (fiscal year 1977), the fiscal year is on an October 1-September 30 basis. The 3-month period from July 1, 1976 through September 30, 1976 is a separate fiscal period known as the transition quarter.

<sup>3</sup> Estimates.

Sources: Department of Commerce (Bureau of Economic Analysis) and Office of Management and Budget.

TABLE C-82.—State and local government receipts and expenditures, national income and product accounts, 1946-89

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Receipts						Expenditures						Surplus or deficit (-), national income and product accounts
	Total	Personal tax and nontax receipts	Corporate profits tax accruals	Indirect business tax and nontax accruals	Contributions for social insurance	Federal grants-in-aid	Total <sup>1</sup>	Purchases of goods and services	Transfer payments to persons	Net interest paid less dividends received	Subsidies less current surplus of government enterprises		
1946	13.0	1.5	0.5	9.3	0.6	1.1	11.1	9.9	1.7	0.2	-0.7	1.9	
1947	15.4	1.7	.6	10.7	.7	1.7	14.4	12.8	2.3	.1	-.8	1.0	
1948	17.7	2.1	.7	12.2	.8	2.0	17.6	15.3	3.0	.1	-.8	.1	
1949	19.5	2.4	.6	13.3	.9	2.2	20.2	18.0	3.0	.1	-.9	-.7	
1950	21.3	2.5	.8	14.6	1.1	2.3	22.5	19.8	3.6	.1	-.9	-1.2	
1951	23.4	2.8	.9	15.9	1.4	2.5	23.9	21.9	3.1	.0	-1.0	-.4	
1952	25.4	3.0	.8	17.4	1.6	2.6	25.5	23.1	3.5	.0	-1.1	.0	
1953	27.4	3.2	.8	18.8	1.7	2.8	27.3	24.8	3.6	.0	-1.2	.1	
1954	29.0	3.5	.8	19.9	2.0	2.9	30.2	27.7	3.8	.1	-1.3	-1.1	
1955	31.7	3.9	1.0	21.6	2.1	3.1	32.9	30.3	4.0	.1	-1.5	-1.3	
1956	35.0	4.5	1.0	23.8	2.3	3.3	35.9	33.3	4.2	.1	-1.6	-.9	
1957	38.5	5.0	1.0	25.7	2.6	4.2	39.8	36.9	4.6	.1	-1.7	-1.4	
1958	42.0	5.4	1.0	27.2	2.8	5.6	44.4	40.8	5.1	.1	-1.7	-2.4	
1959	46.6	6.2	1.2	29.3	3.1	6.8	47.0	43.3	5.6	.1	-2.0	-.4	
1960	50.0	6.8	1.2	32.0	3.4	6.5	49.9	46.1	5.9	.1	-2.2	.1	
1961	54.1	7.5	1.3	34.4	3.7	7.2	54.5	50.2	6.5	.1	-2.3	-.4	
1962	58.6	8.4	1.5	37.0	3.9	8.0	58.2	53.5	7.0	.2	-2.5	.5	
1963	63.4	9.0	1.7	39.4	4.2	9.1	62.9	58.1	7.5	.1	-2.8	.5	
1964	69.8	10.2	1.8	42.6	4.7	10.4	68.8	63.5	8.2	-.1	-2.8	1.0	
1965	75.5	11.3	2.0	46.1	5.0	11.1	75.5	69.9	8.8	-.3	-3.0	.0	
1966	85.2	13.2	2.2	49.7	5.7	14.4	84.7	78.2	10.1	-.6	-3.0	.5	
1967	94.1	15.0	2.6	53.9	6.7	15.9	95.2	87.0	12.1	-.9	-3.1	-1.1	
1968	107.9	18.0	3.3	60.8	7.2	18.6	107.8	97.6	14.5	-1.1	-3.2	.1	
1969	120.8	21.1	3.6	67.4	8.3	20.3	119.3	107.2	16.7	-1.3	-3.3	1.5	
1970	135.8	23.6	3.7	74.8	9.2	24.4	134.0	119.4	20.1	-2.0	-3.6	1.8	
1971	153.6	27.0	4.3	83.1	10.2	29.0	151.0	132.5	24.0	-1.6	-3.7	2.6	
1972	179.3	33.8	5.3	91.2	11.5	37.5	165.8	144.2	27.5	-1.8	-4.2	13.5	
1973	196.4	37.3	6.0	99.6	13.0	40.6	182.9	160.1	30.4	-3.3	-4.3	13.5	
1974	213.1	40.5	6.7	107.4	14.6	43.9	205.9	182.9	32.3	-5.0	-4.4	7.2	
1975	239.6	44.7	7.3	116.2	16.8	54.6	235.2	205.9	38.9	-5.1	-4.5	4.5	
1976	270.1	51.5	9.6	128.4	19.5	61.1	254.9	220.6	43.6	-4.5	-4.8	15.2	
1977	300.1	58.3	11.4	140.7	22.1	67.5	273.2	236.2	47.4	-5.3	-5.1	26.9	
1978	330.3	66.2	12.1	150.0	24.7	77.3	301.3	263.4	52.4	-8.7	-5.6	28.9	
1979	355.3	73.7	13.6	160.1	27.4	80.5	327.7	289.9	57.2	-13.8	-5.7	27.6	
1980	390.0	82.6	14.5	174.5	29.7	88.7	363.2	322.2	65.7	-18.9	-5.8	26.8	
1981	425.6	94.5	15.4	195.3	32.5	87.9	391.4	345.9	73.6	-22.4	-5.6	34.1	
1982	449.4	104.9	14.0	210.8	35.8	83.9	414.3	369.0	79.9	-27.4	-7.3	35.1	
1983	487.7	116.1	15.9	231.0	38.5	86.2	440.2	391.5	86.5	-29.0	-8.8	47.5	
1984	540.5	129.8	18.7	258.2	40.2	93.6	475.9	425.3	93.7	-31.9	-11.3	64.6	
1985	581.8	140.2	20.2	278.5	43.2	99.7	516.7	465.6	101.1	-37.0	-13.1	65.1	
1986	626.3	151.5	22.5	298.5	47.1	106.8	563.5	505.7	110.9	-39.9	-13.2	62.8	
1987	656.1	165.8	23.7	314.0	50.0	102.6	604.8	544.5	119.6	-44.2	-15.1	51.3	
1988	701.6	173.7	26.5	336.8	53.3	111.4	651.9	587.6	130.3	-48.5	-17.5	49.7	
1989 <sup>a</sup>	746.6	188.1	24.1	358.1	56.7	119.6	701.6	632.5	141.4	-52.3	-20.0	45.0	
1982: IV	459.8	108.1	13.4	216.9	36.9	84.5	424.1	378.7	82.3	-28.9	-8.0	35.8	
1983: IV	505.8	122.0	17.9	240.5	39.4	86.0	449.5	400.0	88.7	-29.7	-9.4	56.4	
1984: IV	554.5	133.6	17.3	266.5	40.7	96.3	489.1	438.5	96.4	-33.2	-12.6	65.4	
1985: IV	598.0	144.3	21.0	284.8	44.4	103.5	531.8	480.1	104.2	-38.8	-13.7	66.3	
1986: IV	637.6	158.2	24.2	302.3	49.8	103.0	579.8	520.1	114.4	-41.1	-13.6	57.8	
1987: I	637.1	159.9	21.8	305.3	48.8	101.3	590.8	531.4	116.2	-42.5	-14.4	46.3	
II	658.9	170.2	23.5	310.3	49.6	105.2	598.5	538.6	118.4	-43.8	-14.7	60.4	
III	659.6	163.9	25.3	318.2	50.4	101.7	609.1	548.7	120.6	-44.8	-15.5	50.5	
IV	668.9	169.2	24.2	322.1	51.2	102.2	620.9	559.4	123.1	-45.9	-15.7	48.0	
1988: I	684.8	169.5	24.8	328.3	52.0	110.1	634.0	571.6	126.3	-47.1	-16.8	50.8	
II	699.2	173.3	26.7	334.1	52.9	112.2	646.7	583.0	129.0	-48.1	-17.1	52.4	
III	706.0	174.5	27.2	339.7	53.7	111.0	656.2	591.0	131.7	-49.0	-17.6	49.8	
IV	716.5	177.5	27.4	344.9	54.6	112.2	670.8	604.9	134.3	-49.9	-18.5	45.7	
1989: I	732.6	181.5	27.4	349.7	55.4	118.7	683.8	617.0	136.7	-50.9	-19.0	48.8	
II	742.6	187.5	25.2	355.3	56.2	118.4	695.1	627.2	139.6	-51.8	-19.8	47.5	
III	750.3	190.0	22.8	362.1	57.1	118.3	705.5	636.2	142.7	-53.0	-20.4	44.9	
IV <sup>b</sup>	193.4			365.5	58.1	123.0	721.9	649.8	146.7	-53.6	-21.0		

<sup>1</sup> Includes an item for the difference between wage accruals and disbursements, not shown separately.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE C-83.—State and local government revenues and expenditures, selected fiscal years, 1927-88

[Millions of dollars]

Fiscal year <sup>1</sup>	General revenues by source <sup>2</sup>						General expenditures by function <sup>2</sup>					
	Total	Property taxes	Sales and gross receipts taxes	Individual income taxes	Corporation net income taxes	Revenue from Federal Government	All other <sup>3</sup>	Total	Educa-tion	High-ways	Public welfare	All other <sup>4</sup>
1927.....	7,271	4,730	470	70	92	116	1,793	7,210	2,235	1,809	151	3,015
1932.....	7,267	4,487	752	74	79	232	1,643	7,765	2,311	1,741	444	3,269
1934.....	7,678	4,076	1,008	80	49	1,016	1,449	7,181	1,831	1,509	889	2,952
1936.....	8,395	4,093	1,484	153	113	948	1,604	7,644	2,177	1,425	827	3,115
1938.....	9,228	4,440	1,794	218	165	800	1,811	8,757	2,491	1,650	1,069	3,547
1940.....	9,609	4,430	1,982	224	156	945	1,872	9,229	2,638	1,573	1,156	3,862
1942.....	10,418	4,537	2,351	276	272	858	2,123	9,190	2,586	1,490	1,225	3,889
1944.....	10,908	4,604	2,289	342	451	954	2,269	8,863	2,793	1,200	1,133	3,737
1946.....	12,356	4,986	2,986	422	447	855	2,661	11,028	3,356	1,672	1,409	4,591
1948.....	17,250	6,126	4,442	543	592	1,861	3,685	17,684	5,379	3,036	2,099	7,170
1950.....	20,911	7,349	5,154	788	593	2,486	4,541	22,787	7,177	3,803	2,940	8,867
1952.....	25,181	8,652	6,357	998	846	2,566	5,763	26,098	8,318	4,650	2,788	10,342
1953.....	27,307	9,375	6,927	1,065	817	2,870	6,252	27,910	9,390	4,987	2,914	10,619
1954.....	29,012	9,967	7,276	1,127	778	2,966	6,897	30,701	10,557	5,527	3,060	11,557
1955.....	31,073	10,735	7,643	1,237	744	3,131	7,584	33,724	11,907	6,452	3,168	12,197
1956.....	34,667	11,749	8,691	1,538	890	3,335	8,465	36,711	13,220	6,953	3,139	13,999
1957.....	38,164	12,864	9,467	1,754	984	3,843	9,252	40,375	14,134	7,816	3,485	14,940
1958.....	41,219	14,047	9,829	1,759	1,018	4,865	9,699	44,851	15,919	8,567	3,818	16,547
1959.....	45,306	14,983	10,437	1,994	1,001	6,377	10,516	48,887	17,283	9,592	4,136	17,876
1960.....	50,505	16,405	11,849	2,463	1,180	6,974	11,634	51,876	18,719	9,428	4,404	19,325
1961.....	54,037	18,002	12,463	2,613	1,266	7,131	12,563	56,201	20,574	9,844	4,720	21,063
1962.....	58,252	19,054	13,494	3,037	1,308	7,871	13,489	60,206	22,216	10,357	5,084	22,549
1963.....	62,890	20,089	14,456	3,269	1,505	8,722	14,850	64,816	23,776	11,136	5,481	24,423
1962-63.....	62,269	19,833	14,446	3,267	1,505	8,663	14,556	63,977	23,729	11,150	5,420	23,678
1963-64.....	68,443	21,241	15,762	3,791	1,695	10,002	15,951	69,302	26,286	11,664	5,766	25,586
1964-65.....	74,000	22,583	17,118	4,090	1,929	11,029	17,250	74,678	28,563	12,221	6,315	27,579
1965-66.....	83,036	24,670	19,085	4,760	2,038	13,214	19,269	82,843	33,287	12,770	6,757	30,029
1966-67.....	91,197	26,047	20,530	5,825	2,227	15,370	21,197	93,350	37,919	13,932	8,218	33,281
1967-68.....	101,264	27,747	22,911	7,308	2,518	17,181	23,598	102,411	41,158	14,481	9,857	36,915
1968-69.....	114,550	30,673	26,519	8,908	3,180	19,153	26,118	116,728	47,238	15,417	12,110	41,963
1969-70.....	130,756	34,054	30,322	10,812	3,738	21,857	29,971	131,332	52,718	16,427	14,679	47,508
1970-71.....	144,927	37,852	33,233	11,900	3,424	26,146	32,374	150,674	59,413	18,095	18,226	54,940
1971-72.....	167,541	42,877	37,518	15,227	4,416	31,342	36,162	168,549	65,814	19,021	21,117	62,597
1972-73.....	190,222	45,283	42,047	17,994	5,425	39,264	40,210	181,357	69,714	18,615	23,582	69,446
1973-74.....	207,670	47,705	46,098	19,491	6,015	41,820	46,541	198,959	75,833	19,946	25,085	78,096
1974-75.....	228,171	51,491	49,815	21,454	6,642	47,034	51,735	230,721	87,858	22,928	28,155	92,180
1975-76.....	256,176	57,001	54,547	24,575	7,273	55,589	57,191	256,731	97,216	23,907	32,604	103,004
1976-77.....	285,157	62,527	60,641	29,246	9,174	62,444	61,124	274,215	102,780	23,058	35,906	112,472
1977-78.....	315,960	66,422	67,596	33,176	10,738	69,592	68,436	296,984	110,758	24,609	39,140	122,477
1978-79.....	343,279	64,944	74,247	36,932	12,128	75,164	79,864	327,517	119,448	28,440	41,898	137,731
1979-80.....	382,322	68,499	79,927	42,080	13,321	83,029	95,466	369,086	133,211	33,311	47,288	155,277
1980-81.....	423,404	74,969	85,971	46,426	14,143	90,294	111,599	407,449	145,784	34,603	54,105	172,957
1981-82.....	457,654	82,067	93,613	50,738	15,028	87,282	128,926	436,733	154,282	34,520	57,996	189,935
1982-83.....	486,753	89,105	100,247	55,129	14,258	90,007	138,068	466,516	163,876	36,655	60,906	205,079
1983-84.....	542,730	96,457	114,097	64,529	17,141	96,935	153,570	505,008	176,108	39,419	66,414	223,068
1984-85.....	598,121	103,757	126,376	70,361	19,152	106,158	172,317	553,899	192,686	44,989	71,479	244,745
1985-86.....	641,486	111,709	135,005	74,365	19,994	113,099	187,314	605,623	210,819	49,368	75,868	269,568
1986-87.....	685,561	121,318	143,816	83,761	22,424	114,996	199,247	656,064	226,658	52,199	82,520	294,687
1987-88.....	727,145	132,240	156,257	88,349	23,741	117,602	208,956	704,897	242,683	55,621	89,101	317,492

<sup>1</sup> Fiscal years not the same for all governments. See Note.

<sup>2</sup> Excludes revenues or expenditures of publicly owned utilities and liquor stores, and of insurance-trust activities. Intergovernmental receipts and payments between State and local governments are also excluded.

<sup>3</sup> Includes other taxes and charges and miscellaneous revenues.

<sup>4</sup> Includes expenditures for libraries, hospitals, health, employment security administration, veterans' services, air transportation, water transport and terminals, parking facilities, and transit subsidies, police protection, fire protection, correction, protective inspection and regulation, sewerage, natural resources, parks and recreation, housing and community development, solid waste management, financial administration, judicial and legal, general public buildings, other governmental administration, interest on general debt, and general expenditures, n.e.c.

Note.—Data for fiscal years listed from 1962-63 to 1987-88 are the aggregations of data for government fiscal years which ended in the 12-month period from July 1 to June 30 of those years. Data for 1963 and earlier years include data for government fiscal years ending during that particular calendar year.

Data are not available for intervening years.

Source: Department of Commerce, Bureau of the Census.

TABLE C-84.—Interest-bearing public debt securities by kind of obligation, 1967-89

(Millions of dollars)

End of year or month	Total <sup>1</sup> interest-bearing public debt securities	Marketable				Nonmarketable				
		Total <sup>1</sup>	Treasury bills	Treasury notes	Treasury bonds	Total	U.S. savings bonds	Foreign government and public series <sup>2</sup>	Government account series	Other <sup>3</sup>
<b>Fiscal year:</b>										
1967.....	322,286	*210,672	58,535	49,108	97,418	111,614	51,213	1,514	56,155	2,731
1968.....	344,401	226,592	64,440	71,073	91,079	117,808	51,712	3,741	59,526	2,828
1969.....	351,729	226,107	68,356	78,946	87,805	125,623	51,711	4,070	66,790	3,051
1970.....	369,026	232,599	76,154	93,489	62,956	136,426	51,281	4,755	76,323	4,068
1971.....	396,289	245,473	86,677	104,807	53,989	150,816	53,003	9,270	82,784	5,759
1972.....	425,360	257,202	94,648	113,419	49,135	168,158	55,921	18,985	89,598	3,654
1973.....	456,353	262,971	100,061	117,840	45,071	193,382	59,418	28,524	101,738	3,701
1974.....	473,238	266,575	105,019	128,419	33,137	206,663	61,921	25,011	115,442	4,289
1975.....	532,122	315,606	128,569	150,257	36,779	216,516	65,482	23,216	124,173	3,644
1976.....	619,254	392,581	161,198	191,758	39,626	226,673	69,733	21,500	130,557	4,883
1977.....	697,629	443,508	156,091	241,692	45,724	254,121	75,411	21,799	140,113	16,797
1978.....	766,971	485,155	160,936	267,865	56,355	281,816	79,798	28,524	153,271	27,067
1979.....	819,007	506,693	161,378	274,242	71,073	312,314	80,440	21,680	176,360	27,400
1980.....	906,402	594,506	199,832	310,903	83,772	311,896	72,727	25,158	189,848	24,164
1981.....	996,495	683,209	223,388	363,643	96,178	313,286	68,017	20,499	201,052	23,718
1982.....	1,140,883	824,422	277,900	442,890	103,631	316,461	67,274	14,641	210,462	24,085
1983.....	1,375,711	1,024,000	340,733	557,325	125,742	351,751	70,024	11,450	234,684	35,993
1984.....	1,559,570	1,176,556	356,798	661,687	158,070	383,015	72,832	8,806	259,534	41,843
1985.....	1,821,010	1,360,179	384,220	776,449	199,510	460,831	77,011	6,638	313,928	63,255
1986.....	2,122,684	*1,564,329	410,730	896,884	241,716	558,355	85,551	4,128	365,872	102,804
1987.....	2,347,750	*1,675,980	378,263	1,005,127	277,590	671,769	97,004	4,350	440,658	129,578
1988.....	2,599,877	*1,802,905	398,451	1,089,578	299,875	796,972	106,176	6,210	536,455	148,023
1989.....	2,836,309	*1,892,763	406,597	1,133,193	337,974	943,546	114,025	6,818	663,677	159,025
1988: Jan.....	2,435,134	*1,719,310	390,031	1,031,966	282,468	715,824	100,515	3,917	472,625	138,767
Feb.....	2,469,235	*1,746,182	390,001	1,050,048	291,288	723,053	101,528	3,716	475,873	141,936
Mar.....	2,484,908	*1,758,670	392,647	1,059,910	291,268	726,238	102,343	6,134	474,450	143,311
Apr.....	2,488,231	*1,744,791	386,046	1,052,653	291,247	743,440	103,421	6,135	490,107	143,778
May.....	2,517,135	*1,762,457	383,142	1,064,530	299,940	754,678	103,978	5,626	500,706	144,370
June.....	2,544,998	*1,769,927	382,292	1,072,706	299,929	775,072	104,515	5,710	517,472	147,374
July.....	2,539,403	*1,761,795	382,708	1,064,170	299,916	777,608	105,141	5,907	519,516	147,044
Aug.....	2,573,320	*1,790,712	393,392	1,082,422	299,898	782,607	105,486	7,589	522,220	147,312
Sept.....	2,599,877	*1,802,905	398,451	1,089,578	299,875	796,972	106,176	6,320	536,455	148,023
Oct.....	2,621,935	*1,810,853	403,692	1,092,451	299,863	811,083	106,893	6,877	548,402	148,911
Nov.....	2,655,900	*1,837,891	419,926	1,094,240	308,879	818,009	107,360	6,697	552,609	151,344
Dec.....	2,663,082	*1,821,281	413,970	1,083,595	308,871	841,801	107,624	6,645	575,593	151,941
1989: Jan.....	2,695,333	*1,846,222	416,263	1,106,254	308,860	849,111	108,694	6,889	582,245	151,283
Feb.....	2,720,246	*1,859,948	416,170	1,110,476	318,457	860,299	109,504	6,818	590,025	153,952
Mar.....	2,738,291	*1,871,730	417,020	1,121,422	318,443	866,561	110,364	6,666	594,662	154,868
Apr.....	2,742,447	*1,858,091	410,513	1,114,299	318,435	884,357	110,931	6,516	611,624	155,286
May.....	2,775,002	*1,878,407	406,482	1,129,025	328,055	896,596	111,630	6,236	622,746	155,984
June.....	2,797,407	*1,877,295	397,069	1,137,180	328,046	920,112	112,284	6,152	645,236	156,440
July.....	2,798,019	*1,873,160	391,454	1,138,664	328,042	924,859	112,676	6,207	649,841	156,135
Aug.....	2,834,002	*1,905,187	409,287	1,142,915	337,985	928,815	113,349	6,112	650,585	158,769
Sept.....	2,836,309	*1,892,763	406,597	1,133,193	337,974	943,546	114,025	6,818	663,677	159,025
Oct.....	2,898,834	*1,939,579	428,022	1,158,590	337,967	959,254	114,561	6,665	671,540	166,389
Nov.....	2,921,176	*1,958,274	433,718	1,161,337	348,219	962,902	115,316	6,547	673,261	167,778
Dec.....	2,931,786	*1,945,409	430,648	1,151,548	348,213	986,377	115,692	6,786	695,649	168,250

<sup>1</sup> Includes Federal Financing Bank securities, not shown separately, in millions of dollars: 15,000 in September 1986-September 1987; 14,845 in October 1987-May 1988; 15,000 in June-September 1988; 14,845 in October 1988-May 1989; and 15,000 in June-December 1989.

<sup>2</sup> Nonmarketable certificates of indebtedness, notes, bonds, and bills in the Treasury foreign series of dollar-denominated and foreign-currency denominated issues.

<sup>3</sup> Includes depository bonds, retirement plan bonds, Rural Electrification Administration bonds, State and local bonds, and special issues held only by U.S. Government agencies and trust funds and the Federal home loan banks.

<sup>4</sup> Includes \$5,610 million in certificates not shown separately.

Note.—Through fiscal year 1976, the fiscal year was on a July 1-June 30 basis; beginning October 1976 (fiscal year 1977), the fiscal year is on an October 1-September 30 basis.

Source: Department of the Treasury.

TABLE C-85.—Maturity distribution and average length of marketable interest-bearing public debt securities held by private investors, 1967-89

End of year or month	Amount outstanding, privately held	Maturity class					Average length	
		Within 1 year	1 to 5 years	5 to 10 years	10 to 20 years	20 years and over	Years	Months
		Millions of dollars						
<b>Fiscal year:</b>								
1967.....	150,321	56,561	53,584	21,057	6,153	12,968	5	1
1968.....	159,671	66,746	52,295	21,850	6,110	12,670	4	5
1969.....	156,008	69,311	50,182	18,078	6,097	12,337	4	2
1970.....	157,910	76,443	57,035	8,286	7,876	8,272	3	8
1971.....	161,863	74,803	58,557	14,503	6,357	7,645	3	6
1972.....	165,978	79,509	57,157	16,033	6,358	6,922	3	3
1973.....	167,869	84,041	54,139	16,385	8,741	4,564	3	1
1974.....	164,862	87,150	50,103	14,197	9,930	3,481	2	11
1975.....	210,382	115,677	65,852	15,385	8,857	4,611	2	8
1976.....	279,782	151,723	89,151	24,169	8,087	6,652	2	7
1977.....	326,674	161,329	113,319	33,067	8,428	10,531	2	11
1978.....	356,501	163,819	132,993	33,500	11,383	14,805	3	3
1979.....	380,530	181,883	127,574	32,279	18,489	20,304	3	7
1980.....	463,717	220,084	156,244	38,809	25,901	22,679	3	9
1981.....	549,863	256,187	182,237	48,743	32,569	30,127	4	0
1982.....	682,043	314,436	221,783	75,749	33,017	37,158	3	11
1983.....	862,631	379,579	294,955	99,174	40,826	48,097	4	1
1984.....	1,017,488	437,941	332,808	130,417	49,664	66,658	4	6
1985.....	1,185,675	472,661	402,766	159,383	62,853	88,012	4	11
1986.....	1,354,275	506,903	467,348	189,995	70,664	119,365	5	3
1987.....	1,445,366	483,582	526,746	209,160	72,862	153,016	5	9
1988.....	1,555,208	524,201	552,993	232,453	74,186	171,375	5	9
1989.....	1,654,660	546,751	578,333	247,428	80,616	201,532	6	0
1988: Jan.....	1,483,135	506,561	522,336	224,032	73,947	156,259	5	9
Feb.....	1,510,778	511,150	542,026	218,633	73,944	165,025	5	10
Mar.....	1,522,745	514,363	542,609	226,733	74,015	165,025	5	9
Apr.....	1,496,896	507,457	528,078	224,286	73,382	163,639	5	9
May.....	1,520,909	507,638	544,505	222,586	73,228	172,952	5	11
June.....	1,523,776	508,031	540,794	229,204	73,131	172,616	5	10
July.....	1,520,303	508,332	535,847	229,946	73,226	172,952	5	10
Aug.....	1,549,398	521,960	555,299	225,965	74,571	171,603	5	10
Sept.....	1,555,208	524,201	552,993	232,453	74,186	171,375	5	9
Oct.....	1,566,855	529,869	557,662	233,211	74,566	171,547	5	8
Nov.....	1,586,834	542,246	566,827	223,027	77,945	176,789	5	10
Dec.....	1,566,208	534,093	548,110	229,790	77,683	176,532	5	10
1989: Jan.....	1,594,936	538,115	571,029	231,204	77,820	176,768	5	9
Feb.....	1,612,096	543,397	574,598	230,003	77,820	186,278	5	11
Mar.....	1,624,734	545,238	576,867	238,531	77,820	186,278	5	10
Apr.....	1,596,007	533,604	563,966	235,318	77,540	185,579	5	10
May.....	1,636,513	541,600	586,581	235,937	80,616	191,779	6	0
June.....	1,627,010	523,893	586,945	243,777	80,616	191,779	6	0
July.....	1,635,962	530,571	588,828	244,168	80,616	191,779	5	11
Aug.....	1,669,257	552,478	595,471	239,160	80,616	201,532	6	0
Sept.....	1,654,660	546,751	578,333	247,428	80,616	201,532	6	0
Oct.....	1,702,889	572,032	600,397	248,311	80,617	201,532	5	10
Nov.....	1,716,630	576,994	604,131	243,296	83,791	208,418	6	0
Dec.....	1,700,367	571,619	585,902	251,333	83,749	207,764	6	0

Note.—All issues classified to final maturity. Through fiscal year 1976, the fiscal year was on a July 1-June 30 basis; beginning October 1976 (fiscal year 1977), the fiscal year is on an October 1-September 30 basis.

Source: Department of the Treasury.

TABLE C-86.—Estimated ownership of public debt securities by private investors, 1976-89

[Par values; \* billions of dollars]

End of month	Held by private investors												
	Total	Commer- cial banks <sup>a</sup>	Nonbank investors										
			Total	Individuals <sup>a</sup>			Insur- ance com- pan- ies	Money market funds	Corpora- tions <sup>c</sup>	State and local govern- ments <sup>e</sup>	Foreign and internat- ional <sup>f</sup>	Other invest- ors <sup>g</sup>	
Total	Total	Savings bonds <sup>a</sup>	Other securi- ties										
1976:													
June.....	376.4	91.4	285.0	96.1	69.6	26.5	14.4	0.8	23.3	34.2	69.8	46.4	
Dec.....	409.5	103.5	306.0	101.6	72.0	29.6	16.2	1.1	23.5	40.9	78.1	44.6	
1977:													
June.....	421.0	102.7	318.3	104.9	74.4	30.5	18.1	.8	22.1	50.3	87.9	34.2	
Dec.....	461.3	98.9	362.4	107.8	76.7	31.1	19.9	.9	18.2	58.1	109.6	47.9	
1978:													
June.....	477.8	97.8	380.0	109.0	79.1	29.9	19.7	1.3	17.3	70.0	119.5	43.2	
Dec.....	508.6	95.0	413.6	114.0	80.7	33.3	20.0	1.5	17.3	76.1	133.1	51.6	
1979:													
June.....	516.6	86.1	430.5	115.5	80.6	34.9	20.9	3.8	18.6	78.7	114.9	78.1	
Dec.....	540.5	88.1	452.4	118.0	79.9	38.1	21.4	5.6	17.0	81.7	119.0	89.7	
1980:													
June.....	558.2	97.4	460.8	116.5	73.4	43.1	22.3	5.3	14.0	83.3	118.2	101.2	
Dec.....	616.4	112.1	504.3	117.1	72.5	44.6	24.0	3.5	19.3	87.9	129.7	122.8	
1981:													
June.....	651.2	119.7	531.5	107.4	69.2	38.2	26.4	9.0	19.9	94.2	136.6	138.0	
Dec.....	694.5	111.4	583.1	110.8	68.1	42.7	29.0	21.5	17.9	96.8	136.6	170.5	
1982:													
June.....	740.9	116.1	624.8	114.1	67.4	46.7	35.8	22.4	17.6	103.3	137.2	194.4	
Dec.....	848.4	131.4	717.0	116.5	68.3	48.2	44.1	42.6	24.5	115.0	149.5	224.8	
1983:													
June.....	948.6	171.6	777.0	121.3	69.7	51.6	54.0	28.3	32.8	127.4	160.1	253.1	
Dec.....	1,022.6	188.8	833.8	133.4	71.5	61.9	65.3	22.8	39.7	149.0	166.3	257.3	
1984:													
Mar.....	1,073.0	192.9	880.1	136.2	72.2	64.0	66.1	19.4	42.6	155.0	166.3	294.5	
June.....	1,102.2	185.4	916.8	142.2	72.9	69.3	64.2	14.9	45.3	162.9	171.6	315.7	
Sept.....	1,154.1	184.6	969.5	142.4	73.7	68.7	56.5	13.6	47.7	170.0	175.5	363.7	
Dec.....	1,212.5	186.0	1,026.5	143.8	74.5	69.3	64.5	25.9	50.1	173.0	192.9	376.3	
1985:													
Mar.....	1,254.1	197.8	1,056.3	145.1	75.4	69.7	66.5	26.7	50.8	177.0	199.4	390.8	
June.....	1,292.0	201.6	1,090.4	148.7	76.7	72.0	69.1	24.8	54.9	190.3	213.8	388.8	
Sept.....	1,338.2	203.6	1,134.6	151.4	78.2	73.2	71.4	22.7	59.0	203.0	222.9	404.2	
Dec.....	1,417.2	198.2	1,219.0	154.8	79.8	75.0	78.5	25.1	59.0	226.7	224.8	450.1	
1986:													
Mar.....	1,473.1	201.7	1,271.4	157.8	81.4	76.4	84.0	29.9	59.6	225.6	232.6	481.9	
June.....	1,502.7	200.6	1,302.1	159.5	83.8	75.7	88.6	22.8	61.2	227.1	250.9	492.0	
Sept.....	1,553.3	200.9	1,352.4	158.0	87.1	70.9	96.4	24.9	65.7	251.2	265.5	490.7	
Dec.....	1,602.0	203.5	1,398.5	162.7	92.3	70.4	105.6	28.6	68.8	262.8	263.4	506.6	
1987:													
Mar.....	1,641.4	199.9	1,441.5	162.8	94.7	68.1	107.8	18.8	73.5	264.6	272.8	541.2	
June.....	1,657.7	199.4	1,458.3	165.2	96.8	68.4	104.0	20.6	79.7	268.7	281.1	539.0	
Sept.....	1,682.6	205.2	1,477.4	167.0	98.5	68.5	104.6	15.5	81.8	273.0	279.5	556.0	
Dec.....	1,745.2	201.5	1,543.7	171.3	101.1	70.2	104.9	14.6	84.6	284.6	299.7	584.0	
1988:													
Mar.....	1,778.2	203.3	1,574.9	176.7	104.0	72.7	106.1	15.2	86.3	291.4	332.5	566.7	
June.....	1,784.9	198.3	1,586.6	180.1	106.2	73.9	107.8	13.4	87.6	297.2	345.4	555.1	
Sept.....	1,819.0	199.2	1,619.8	184.5	107.8	76.7	109.6	11.1	85.9	305.7	345.9	577.1	
Dec.....	1,852.8	193.8	1,659.0	186.6	109.6	77.0	111.2	11.8	86.5	313.6	362.1	587.2	
1989:													
Mar.....	1,900.2	200.9	1,699.3	195.1	112.2	82.9	112.5	13.0	89.2	320.4	375.6	593.5	
June.....	1,905.4	206.7	1,698.7	203.1	114.0	89.1	114.0	11.6	90.7	322.1	367.9	599.0	
Sept.....	1,954.6				115.7			12.4			393.5		

<sup>1</sup> U.S. savings bonds, series A-F and J, are included at current redemption value.  
<sup>2</sup> Includes domestically chartered banks, U.S. branches and agencies of foreign banks, New York investment companies majority owned by foreign banks, and Edge Act corporations owned by domestically chartered and foreign banks.  
<sup>3</sup> Includes partnerships and personal trust accounts.  
<sup>4</sup> Includes U.S. savings notes. Sales began May 1, 1967, and were discontinued June 30, 1970.  
<sup>5</sup> Exclusive of banks and insurance companies.  
<sup>6</sup> Includes State and local pension funds.  
<sup>7</sup> Consists of the investment of foreign balances and international accounts in the United States.  
<sup>8</sup> Includes savings and loan associations, credit unions, nonprofit institutions, mutual savings banks, corporate pension trust funds, dealers and brokers, certain Government deposit accounts, and Government-sponsored agencies.

Source: Department of the Treasury.



## CORPORATE PROFITS AND FINANCE

**TABLE C-87.—Corporate profits with inventory valuation and capital consumption adjustments, 1929-89**

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Corporate profits with inventory valuation and capital consumption adjustments	Corporate profits tax liability	Corporate profits after tax with inventory valuation and capital consumption adjustments		
			Total	Dividends	Undistributed profits with inventory valuation and capital consumption adjustments
1929.....	9.6	1.4	8.2	5.8	2.4
1933.....	-1.5	.5	-2.1	2.0	-4.1
1939.....	5.5	1.4	4.0	3.8	.3
1940.....	8.8	2.8	5.9	4.0	1.9
1941.....	14.3	7.6	6.7	4.4	2.3
1942.....	19.7	11.4	8.3	4.3	4.0
1943.....	24.0	14.1	9.9	4.4	5.5
1944.....	24.2	12.9	11.2	4.6	6.6
1945.....	19.7	10.7	9.0	4.6	4.4
1946.....	17.2	9.1	8.0	5.6	2.5
1947.....	22.9	11.3	11.7	6.3	5.4
1948.....	30.3	12.4	17.8	7.0	10.8
1949.....	28.0	10.2	17.8	7.2	10.6
1950.....	34.9	17.9	17.0	8.8	8.2
1951.....	39.9	22.6	17.3	8.5	8.8
1952.....	37.5	19.4	18.1	8.5	9.6
1953.....	37.7	20.3	17.4	8.8	8.6
1954.....	36.6	17.6	19.0	9.1	9.8
1955.....	47.1	22.0	25.1	10.3	14.8
1956.....	45.7	22.0	23.8	11.1	12.7
1957.....	45.3	21.4	23.8	11.5	12.3
1958.....	40.3	19.0	21.4	11.3	10.1
1959.....	51.4	23.6	27.8	12.2	15.6
1960.....	49.5	22.7	26.8	12.9	13.9
1961.....	50.3	22.8	27.6	13.3	14.2
1962.....	58.3	24.0	34.3	14.4	19.9
1963.....	63.6	26.2	37.4	15.5	21.9
1964.....	70.7	28.0	42.7	17.3	25.3
1965.....	81.3	30.9	50.4	19.1	31.3
1966.....	86.6	33.7	52.9	19.4	33.5
1967.....	84.1	32.7	51.4	20.2	31.2
1968.....	90.7	39.4	51.4	22.0	29.4
1969.....	87.4	39.7	47.7	22.5	25.2
1970.....	74.7	34.4	40.3	22.5	17.9
1971.....	87.1	37.7	49.3	22.9	26.4
1972.....	100.7	41.9	58.8	24.4	34.4
1973.....	113.3	49.3	64.1	27.0	37.0
1974.....	101.7	51.8	49.9	29.7	20.2
1975.....	117.6	50.9	66.7	29.6	37.1
1976.....	145.2	64.2	81.0	34.6	46.4
1977.....	174.8	73.0	101.8	39.5	62.3
1978.....	197.2	83.5	113.7	44.7	69.0
1979.....	200.1	88.0	112.1	50.1	62.0
1980.....	177.2	84.8	92.4	54.7	37.7
1981.....	188.0	81.1	106.8	63.6	43.2
1982.....	150.0	63.1	86.9	66.9	20.0
1983.....	213.7	77.2	136.5	71.5	65.0
1984.....	266.9	93.9	173.0	79.0	94.0
1985.....	282.3	96.4	185.9	83.3	102.6
1986.....	282.1	106.3	175.8	91.3	84.5
1987.....	298.7	124.7	174.0	98.7	75.3
1988.....	328.6	137.9	190.7	110.4	80.3
1989.....	298.2	129.0	169.2	122.1	47.1
1982: IV.....	146.1	59.8	86.3	68.5	17.9
1983: IV.....	248.5	88.1	160.4	73.9	86.5
1984: IV.....	266.9	87.0	179.9	80.8	99.1
1985: IV.....	291.4	99.8	191.5	84.0	107.6
1986: IV.....	275.2	113.1	162.1	93.6	68.5
1987: I.....	279.9	115.0	164.9	95.0	69.9
II.....	293.7	124.0	169.8	96.9	72.9
III.....	313.0	132.7	180.3	100.0	80.4
IV.....	308.2	127.3	180.9	102.8	78.1
1988: I.....	318.1	129.0	189.1	105.7	83.4
II.....	325.3	138.4	187.0	108.6	78.3
III.....	330.9	141.2	189.7	112.2	77.6
IV.....	340.2	143.2	196.9	115.2	81.7
1989: I.....	316.3	144.4	171.9	118.5	53.4
II.....	307.8	134.9	172.9	120.9	52.0
III.....	295.2	122.6	172.6	123.3	49.3
IV <sup>p</sup> .....				125.6	

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE C-88.—Corporate profits by industry, 1929-89

(Billions of dollars; quarterly data at seasonally adjusted annual rates)

Year or quarter	Corporate profits with inventory valuation adjustment and without capital consumption adjustment										
	Total	Domestic industries									Rest of the world
		Total	Financial <sup>1</sup>			Nonfinancial					
	Total		Federal Reserve banks	Other	Total	Manufacturing <sup>a</sup>	Transportation and public utilities	Wholesale and retail trade	Other		
1929	10.5	10.2	1.3	0.0	1.3	8.9	5.2	1.8	1.0	0.9	0.2
1933	-1.2	-1.2	.3	.0	.3	-1.5	-.4	.0	-.5	-.7	.0
1939	6.5	6.1	.8	.0	.8	5.3	3.3	1.0	.7	.3	.3
1940	9.8	9.6	1.0	.0	.9	8.6	5.5	1.3	1.2	.6	.3
1941	15.4	15.0	1.1	.0	1.0	14.0	9.5	2.0	1.4	1.1	.4
1942	20.5	20.1	1.2	.0	1.2	18.9	11.8	3.4	2.2	1.5	.4
1943	24.5	24.1	1.3	.0	1.3	22.8	13.8	4.4	3.0	1.6	.4
1944	24.0	23.5	1.6	.1	1.6	21.9	13.2	3.9	3.2	1.6	.4
1945	19.3	18.9	1.7	.1	1.6	17.3	9.7	2.7	3.3	1.5	.3
1946	19.6	18.9	2.1	.1	2.0	16.8	9.0	1.8	3.8	2.1	.7
1947	25.9	24.9	1.7	.1	1.6	23.2	13.6	2.2	4.6	2.9	1.0
1948	33.4	32.2	2.6	.2	2.3	29.6	16.6	3.0	5.5	3.6	1.3
1949	31.1	29.9	3.1	.2	2.9	26.8	17.2	3.0	4.5	3.1	1.1
1950	37.9	36.7	3.1	.2	3.0	33.5	20.9	4.0	5.0	3.6	1.3
1951	43.3	41.5	3.6	.3	3.3	37.9	24.6	4.6	5.0	3.7	1.7
1952	40.6	38.7	4.0	.4	3.7	34.7	21.7	4.9	4.8	3.3	1.9
1953	40.2	38.4	4.5	.4	4.1	33.9	22.0	5.0	4.8	3.1	1.8
1954	38.4	36.4	4.6	.3	4.3	31.8	19.9	4.7	3.8	3.4	2.0
1955	47.5	45.1	4.8	.3	4.5	40.3	26.0	5.6	5.0	3.6	2.4
1956	46.9	44.1	5.0	.5	4.5	39.1	24.7	5.9	4.5	4.1	2.8
1957	46.6	43.5	5.2	.6	4.6	38.3	24.0	5.8	4.4	4.0	3.1
1958	41.6	39.1	5.7	.6	5.1	33.5	19.4	5.9	4.6	3.6	2.5
1959	52.3	49.6	6.8	.7	6.0	42.9	26.4	7.0	5.9	3.6	2.7
1960	49.8	46.7	7.2	1.0	6.2	39.5	23.6	7.4	4.9	3.6	3.1
1961	50.1	46.8	7.0	.8	6.3	39.8	23.3	7.8	5.0	3.7	3.3
1962	55.2	51.5	7.3	.9	6.4	44.2	26.0	8.4	5.8	3.9	3.7
1963	59.8	55.8	6.8	1.0	5.8	49.0	29.3	9.3	5.9	4.4	4.0
1964	66.2	61.8	6.9	1.1	5.8	54.9	32.3	10.0	7.5	5.1	4.4
1965	76.2	71.5	7.5	1.4	6.2	64.0	39.3	11.0	8.1	5.6	4.6
1966	81.2	76.7	8.5	1.7	6.8	68.2	41.9	11.8	8.2	6.3	4.4
1967	78.6	73.9	9.0	2.0	7.0	64.9	38.6	10.7	9.1	6.5	4.7
1968	85.4	79.9	10.4	2.5	7.9	69.5	41.4	10.8	10.4	6.9	5.5
1969	81.4	74.8	11.2	3.1	8.1	63.7	36.7	10.3	10.5	6.1	6.5
1970	69.5	62.6	12.2	3.6	8.6	50.4	26.7	8.2	9.6	5.9	6.9
1971	82.7	75.1	14.1	3.3	10.7	61.0	34.3	8.5	11.7	6.5	7.6
1972	94.9	85.5	15.4	3.4	12.0	70.2	40.8	9.0	13.4	6.9	9.3
1973	107.1	92.6	15.8	4.5	11.2	76.8	46.2	8.5	13.9	8.2	14.5
1974	99.4	82.4	14.7	5.7	8.9	67.8	39.8	6.7	12.9	8.3	17.0
1975	123.9	109.5	11.2	5.7	5.5	98.3	53.6	10.3	22.2	12.2	14.4
1976	155.3	139.3	15.9	6.0	9.9	123.4	70.9	14.8	23.0	14.7	16.0
1977	183.8	165.5	21.6	6.2	15.4	143.9	80.6	17.9	27.5	17.8	18.3
1978	208.2	186.0	29.1	7.7	21.4	156.8	88.7	20.9	27.3	20.0	22.2
1979	214.1	180.4	27.8	9.6	18.2	152.6	87.5	15.2	28.7	21.1	33.7
1980	194.0	159.6	21.0	11.9	9.0	138.6	77.1	17.6	21.6	22.4	34.4
1981	202.3	173.8	16.5	14.5	1.9	157.3	88.5	19.5	32.5	16.8	28.5
1982	159.2	131.2	11.8	15.4	-3.6	119.4	58.0	19.3	34.6	7.5	28.0
1983	196.7	166.6	18.1	14.8	3.3	148.5	70.1	28.5	38.9	10.9	30.2
1984	234.2	203.3	13.0	16.7	-3.7	190.3	88.8	38.5	51.2	11.8	30.9
1985	222.6	191.4	22.8	16.8	6.1	168.6	79.7	33.0	44.1	11.8	31.2
1986	228.3	195.2	32.0	16.0	16.0	163.2	59.5	36.3	44.1	23.4	33.1
1987	247.8	208.7	30.5	16.0	14.5	178.2	76.6	34.6	41.1	25.9	39.1
1988	281.8	238.2	29.8	18.1	11.7	208.4	98.4	39.3	40.1	30.6	43.7
1989 <sup>p</sup>	268.7	222.9	24.3	20.6	3.7	198.6	87.3	39.4	36.7	35.1	45.8
1982: IV	150.7	121.6	18.7	14.8	3.9	102.9	46.8	16.3	33.6	6.2	29.1
1983: IV	223.4	190.7	15.5	15.4	.1	175.2	88.6	31.3	43.1	12.2	32.7
1984: IV	224.6	193.9	13.6	17.4	-3.8	180.3	79.8	38.1	51.8	10.5	30.6
1985: IV	228.4	193.6	26.0	16.3	9.7	167.6	83.8	30.6	38.5	14.6	34.8
1986: IV	226.1	193.4	28.6	15.6	12.9	164.8	64.8	35.3	41.0	23.0	32.6
1987: I	230.5	194.3	30.8	15.6	15.2	163.5	60.8	33.1	43.0	26.5	36.3
II	243.4	206.3	31.1	16.0	15.1	175.2	73.7	35.8	37.2	28.5	37.2
III	261.5	222.6	30.2	16.2	14.0	192.4	87.3	33.9	43.2	28.0	38.9
IV	255.8	211.8	29.9	16.3	13.6	181.9	84.5	35.5	41.2	20.7	44.0
1988: I	268.1	225.7	27.7	17.3	10.4	198.0	94.6	33.7	42.2	27.6	42.4
II	276.4	235.8	29.7	17.4	12.3	206.1	98.2	39.2	37.3	31.3	40.7
III	284.1	239.0	31.6	18.3	13.3	207.3	95.1	40.8	39.2	32.2	45.1
IV	298.7	252.2	30.1	19.3	10.8	222.1	105.5	43.5	41.8	31.3	46.5
1989: I	279.7	233.1	29.3	20.3	9.0	203.9	96.5	41.6	34.1	31.7	46.6
II	275.5	231.8	28.6	21.2	7.4	203.2	90.3	40.8	36.9	35.2	43.6
III	268.7	223.0	17.8	20.4	-2.6	205.2	86.6	39.4	41.9	37.4	45.7

<sup>1</sup> Consists of the following industries: Banking; credit agencies other than banks; security and commodity brokers, dealers, and services; insurance carriers; regulated investment companies; small business investment companies; and real estate investment trusts.  
<sup>a</sup> See Table C-89 for industry detail.

Note.—The industry classification is on a company basis and is based on the 1972 Standard Industrial Classification (SIC) beginning 1948, and on the 1942 SIC prior to 1948.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE C-89.—Corporate profits of manufacturing industries, 1929-89

(Billions of dollars; quarterly data at seasonally adjusted annual rates)

Year or quarter	Corporate profits with inventory valuation adjustment and without capital consumption adjustment											
	Total manufacturing	Durable goods						Nondurable goods				
		Total	Primary metal industries	Fabricated metal products	Machinery, except electrical	Electric and electronic equipment	Motor vehicles and equipment	Other	Total	Food and kindred products	Chemicals and allied products	Petroleum and coal products
1929	5.2	2.6						2.6				
1933	-4	4						0				
1939	3.3	1.7						1.7				
1940	5.5	3.1						2.4				
1941	9.5	6.4						3.1				
1942	11.8	7.2						4.6				
1943	13.8	8.1						5.7				
1944	13.2	7.4						5.9				
1945	9.7	4.5						5.2				
1946	9.0	2.4						6.6				
1947	13.6	5.8						7.8				
1948	17.6	7.5	1.6	0.8	1.2	0.7	1.4	10.0	1.9	1.7	2.8	3.7
1949	16.2	8.1	1.5	.7	1.3	.8	2.1	8.1	1.6	1.8	1.9	2.8
1950	20.9	12.0	2.3	1.1	1.6	1.2	3.1	8.9	1.6	2.3	2.3	2.7
1951	24.6	13.2	3.1	1.3	2.3	1.3	2.4	11.4	1.4	2.8	2.7	4.4
1952	21.7	11.7	1.9	1.0	2.3	1.5	2.4	9.9	1.7	2.3	2.3	3.6
1953	22.0	11.9	2.5	1.0	1.9	1.4	2.6	10.1	1.8	2.2	2.8	3.3
1954	19.9	10.5	1.7	.9	1.7	1.2	2.1	9.4	1.6	2.2	2.7	2.9
1955	26.0	14.3	2.9	1.1	1.7	1.1	4.1	11.8	2.2	3.0	3.0	3.6
1956	24.7	12.8	3.0	1.1	2.1	1.2	2.2	11.9	1.8	2.8	3.3	4.1
1957	24.0	13.3	3.0	1.1	2.0	1.5	2.6	10.7	1.8	2.8	2.6	3.6
1958	19.4	9.3	1.9	.9	1.4	1.3	.9	9.9	1.0	2.1	2.5	2.1
1959	26.4	13.7	2.3	1.1	2.1	1.7	3.0	12.7	2.4	3.5	2.5	4.3
1960	23.6	11.6	2.0	.8	1.8	1.3	3.0	12.0	2.2	3.1	2.5	4.2
1961	23.3	11.4	1.6	1.0	1.9	1.3	2.5	11.9	2.3	3.2	2.2	4.1
1962	26.0	14.0	1.6	1.1	2.3	1.5	4.0	12.0	2.3	3.2	2.2	4.3
1963	29.3	16.3	2.0	1.3	2.5	1.6	4.9	13.1	2.7	3.6	2.1	4.6
1964	32.3	17.9	2.5	1.4	3.3	1.7	4.7	14.4	2.7	4.0	2.4	5.3
1965	39.3	23.0	3.1	2.0	3.9	2.7	6.2	16.3	2.8	4.6	2.9	6.0
1966	41.9	23.8	3.6	2.4	4.5	3.0	5.1	18.1	3.2	4.9	3.2	6.8
1967	38.6	21.0	2.7	2.4	4.1	2.9	3.9	17.6	3.2	4.3	3.9	6.3
1968	41.4	22.2	1.9	2.3	4.1	2.8	5.5	19.1	3.2	5.2	3.7	7.0
1969	36.7	19.0	1.4	2.0	3.7	2.3	4.8	17.7	3.0	4.6	3.3	6.9
1970	26.7	10.2	.8	1.1	3.0	1.2	1.2	2.9	16.5	3.2	3.9	3.5
1971	34.3	16.4	.7	1.5	2.9	1.9	5.1	4.3	17.9	3.5	4.5	3.6
1972	40.8	22.5	1.6	2.1	4.3	2.8	5.9	5.8	18.3	2.9	5.2	3.0
1973	46.2	24.7	2.3	2.6	4.7	3.0	5.8	6.2	21.6	2.5	6.0	5.2
1974	38.2	14.6	4.9	1.6	3.1	.3	.7	4.0	25.2	5.1	10.7	7.0
1975	53.6	19.8	2.7	3.1	4.8	2.4	2.0	4.8	33.8	6.8	6.4	9.5
1976	70.9	31.3	2.0	3.9	6.7	3.7	7.2	7.9	39.6	7.1	8.2	13.1
1977	80.6	38.6	1.3	4.4	8.9	5.8	9.4	8.8	42.0	6.9	7.8	12.9
1978	88.7	44.6	3.5	4.9	9.6	6.7	8.9	10.9	44.0	6.2	8.2	14.7
1979	87.5	37.3	3.6	5.2	9.1	5.2	4.7	9.5	50.2	5.8	7.2	22.5
1980	77.1	21.3	2.5	4.3	7.7	4.7	-2.5	4.5	55.8	6.1	5.4	31.4
1981	88.5	21.0	3.1	4.4	8.6	4.1	-.1	.7	67.5	8.7	8.2	36.5
1982	58.0	.2	-4.9	2.4	4.1	1.7	-.8	-.4	55.9	7.0	5.2	29.1
1983	70.1	17.2	-4.9	3.0	3.1	3.7	5.1	7.2	53.0	7.2	6.7	21.4
1984	88.8	38.1	-6	4.7	6.2	5.5	9.0	13.3	50.7	6.7	8.0	17.2
1985	79.7	28.5	-1.4	4.6	3.2	3.6	7.2	11.3	51.2	8.3	6.2	17.5
1986	59.5	30.8	2.6	4.8	3.0	2.9	4.1	13.3	28.7	7.8	7.6	-7.6
1987	76.6	34.4	3.6	5.0	3.4	3.4	3.3	15.8	42.2	12.2	10.5	-1.9
1988	98.4	38.1	6.4	6.1	4.8	4.6	2.4	13.8	60.3	15.7	17.4	3.7
1989*	87.3	30.2	6.5	6.4	2.3	3.9	-.8	12.0	57.1	15.0	16.6	2.2
1982: IV	46.8	-6.6	-5.1	.9	1.3	.1	-2.7	-1.2	53.5	7.1	3.2	25.9
1983: IV	88.6	29.4	4.4	4.7	6.2	8.7	9.9	59.2	8.0	7.8	25.3	18.1
1984: IV	79.8	36.6	-.8	5.6	5.5	5.5	8.8	12.0	43.2	5.9	7.1	12.9
1985: IV	83.8	28.0	-1.2	4.0	4.0	2.5	7.8	10.9	55.8	8.5	3.6	25.5
1986: IV	64.8	33.4	3.7	4.4	2.2	3.2	3.8	16.1	31.4	8.7	9.1	-11.3
1987: I	60.8	37.6	4.2	3.7	4.0	3.0	4.8	17.9	23.2	8.2	8.5	-13.1
II	73.7	36.0	2.5	3.7	3.0	5.6	5.7	15.4	37.8	11.3	9.4	-2.8
III	87.3	37.9	3.5	6.5	4.5	5.4	1.9	16.1	49.4	13.8	11.7	1.4
IV	84.5	26.0	4.1	5.9	1.9	-.4	.7	13.8	58.5	15.4	12.4	7.1
1988: I	94.6	32.8	4.7	7.4	4.3	1.1	.9	14.4	61.8	15.3	16.0	4.2
II	98.2	41.3	6.6	6.5	6.7	4.8	1.0	15.6	57.0	15.5	15.9	1.6
III	95.1	38.3	6.8	4.8	6.0	5.8	3.2	11.8	56.8	14.9	15.6	3.8
IV	105.5	39.8	7.4	5.9	2.1	6.6	4.5	13.4	65.7	17.2	22.0	5.3
1989: I	96.5	35.6	6.5	7.2	2.0	4.4	3.0	12.4	60.9	17.4	18.5	1.2
II	90.3	31.5	6.6	6.7	2.8	5.1	-1.9	12.2	58.8	14.8	18.1	1.0
III	86.6	28.6	6.7	6.2	2.3	3.0	-2.0	12.3	58.0	14.8	15.9	3.9

Note.—The industry classification is on a company basis and is based on the 1972 Standard Industrial Classification (SIC) beginning 1948, and on the 1942 SIC prior to 1948.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE C-90.—Sales, profits, and stockholders' equity, all manufacturing corporations, 1950-89

(Billions of dollars)

Year or quarter	All manufacturing corporations				Durable goods industries				Nondurable goods industries			
	Sales (net)	Profits		Stockholders' equity <sup>a</sup>	Sales (net)	Profits		Stockholders' equity <sup>a</sup>	Sales (net)	Profits		Stockholders' equity <sup>a</sup>
		Before income taxes <sup>1</sup>	After income taxes			Before income taxes <sup>1</sup>	After income taxes			Before income taxes <sup>1</sup>	After income taxes	
1950	181.9	23.2	12.9	83.3	86.8	12.9	6.7	39.9	95.1	10.3	6.1	43.5
1951	245.0	27.4	11.9	98.3	116.8	15.4	6.1	47.2	128.1	12.1	5.7	51.1
1952	250.2	22.9	10.7	103.7	122.0	12.9	5.5	49.8	128.0	10.0	5.2	53.9
1953	265.9	24.4	11.3	108.2	137.9	14.0	5.8	52.4	128.0	10.4	5.5	55.7
1954	248.5	20.9	11.2	113.1	122.8	11.4	5.6	54.9	125.7	9.6	5.6	58.2
1955	278.4	28.6	15.1	120.1	142.1	16.5	8.1	58.8	136.3	12.1	7.0	61.3
1956	307.3	29.8	16.2	131.6	159.5	16.5	8.3	65.2	147.8	13.2	7.8	66.4
1957	320.0	28.2	15.4	141.1	166.0	15.8	7.9	70.5	154.1	12.4	7.5	70.6
1958	305.3	22.7	12.7	147.4	148.6	11.4	5.8	72.8	156.7	11.3	6.9	74.6
1959	338.0	29.7	16.3	157.1	169.4	15.8	8.1	77.9	168.5	13.9	8.3	79.2
1960	345.7	27.5	15.2	165.4	173.9	14.0	7.0	82.3	171.8	13.5	8.2	83.1
1961	356.4	27.5	15.3	172.6	175.2	13.6	6.9	84.9	181.2	13.9	8.5	87.7
1962	389.4	31.9	17.7	181.4	195.3	16.8	8.6	89.1	194.1	15.1	9.2	92.3
1963	412.7	34.9	19.5	189.7	209.0	18.5	9.5	93.3	203.6	16.4	10.0	96.3
1964	443.1	39.6	23.2	199.8	226.3	21.2	11.6	98.5	216.8	18.3	11.6	101.3
1965	492.2	46.5	27.5	211.7	257.0	26.2	14.5	105.4	235.2	20.3	13.0	106.3
1966	554.2	51.8	30.9	230.3	291.7	29.2	16.4	115.2	262.4	22.6	14.6	115.1
1967	575.4	47.8	29.0	247.6	300.6	25.7	14.6	125.0	274.8	22.0	14.4	122.6
1968	631.9	55.4	32.1	265.9	335.5	30.6	16.5	135.6	296.4	24.8	15.5	130.3
1969	694.6	58.1	33.2	289.9	366.5	31.5	16.9	147.6	328.1	26.6	16.4	142.3
1970	708.8	48.1	28.6	306.8	363.1	23.0	12.9	155.1	345.7	25.2	15.7	151.7
1971	751.1	52.9	31.0	320.8	381.8	26.5	14.5	160.4	369.3	26.5	16.5	160.5
1972	849.5	63.2	36.5	343.4	435.8	33.6	18.4	171.4	413.7	29.6	18.0	172.0
1973	1,017.2	81.4	48.1	374.1	527.3	43.6	24.8	188.7	489.9	37.8	23.3	185.4
1973: IV	275.1	21.4	13.0	386.4	140.1	10.8	6.3	194.7	135.0	10.6	6.7	191.7
New series:												
1973: IV	236.6	20.6	13.2	368.0	122.7	10.1	6.2	185.8	113.9	10.5	7.0	182.1
1974	1,060.6	92.1	58.7	395.0	529.0	41.1	24.7	196.0	531.6	51.0	34.1	199.0
1975	1,065.2	79.9	49.1	423.4	521.1	35.3	21.4	208.1	544.1	44.6	27.7	215.3
1976	1,203.2	104.9	64.5	462.7	589.6	50.7	30.8	224.3	613.7	54.3	33.7	238.4
1977	1,328.1	115.1	70.4	496.7	657.3	57.9	34.8	239.9	670.8	57.2	35.5	256.8
1978	1,496.4	132.5	81.1	540.5	760.7	69.6	41.8	262.6	735.7	62.9	39.3	277.9
1979	1,741.8	154.2	98.7	600.5	865.7	72.4	45.2	292.5	876.1	81.8	53.5	308.0
1980	1,912.8	145.8	92.6	668.1	889.1	57.4	35.6	317.7	1,023.7	88.4	56.9	350.4
1981	2,144.7	158.6	101.3	743.4	979.5	67.2	41.6	350.4	1,165.2	91.3	59.6	393.0
1982	2,039.4	108.2	70.9	770.2	913.1	34.7	21.7	355.5	1,126.4	73.6	49.3	414.7
1983	2,114.3	133.1	85.8	812.8	973.5	48.7	30.0	372.4	1,140.8	84.4	55.8	440.4
1984	2,335.0	165.6	107.6	864.2	1,107.6	75.5	48.9	395.6	1,227.5	90.0	58.8	468.5
1985	2,331.4	137.0	87.6	866.2	1,142.6	61.5	38.6	420.9	1,188.8	75.6	49.1	445.3
1986	2,220.9	129.3	83.1	874.7	1,125.5	52.1	32.6	436.3	1,095.4	77.2	50.5	438.4
1987	2,378.2	173.0	115.6	900.9	1,178.0	78.0	53.0	444.3	1,200.3	95.1	62.6	456.6
1988	2,596.2	216.1	154.6	957.6	1,284.7	91.7	67.1	468.7	1,311.5	124.4	87.5	488.9
1987: I	556.8	38.1	24.7	885.7	279.1	16.8	10.6	434.7	277.7	21.2	14.2	451.0
II	596.1	47.5	31.5	894.1	296.9	22.4	14.8	445.2	299.2	25.1	16.7	448.9
III	597.7	49.3	33.3	911.0	290.0	20.5	14.3	447.1	307.6	28.8	19.0	463.9
IV	627.7	38.2	26.1	912.8	311.9	18.2	13.4	450.2	315.8	19.9	12.7	462.6
1988: I	614.2	51.2	37.1	935.8	300.8	21.3	15.5	458.6	313.4	29.9	21.6	477.2
II	655.5	58.6	41.6	952.0	326.3	26.5	19.5	466.8	329.2	32.1	22.2	485.2
III	646.3	54.0	38.5	962.6	316.7	22.0	15.9	470.1	329.6	32.0	22.1	492.5
IV	680.2	52.2	37.4	979.9	340.9	21.9	16.3	479.1	339.4	30.4	21.7	500.8
1989: I	662.8	53.9	38.3	991.9	329.0	22.6	16.6	494.6	333.8	31.3	21.7	497.3
II	704.5	53.3	36.5	1,007.0	349.9	23.6	16.6	497.7	354.7	29.7	19.9	509.3
III	678.3	47.2	33.7	1,016.6	329.2	18.7	13.8	498.8	349.1	28.5	20.0	517.8

<sup>1</sup> In the old series, "income taxes" refers to Federal income taxes only, as State and local income taxes had already been deducted. In the new series, no income taxes have been deducted.

<sup>2</sup> Annual data are average equity for the year (using four end-of-quarter figures).

Note.—Data are not necessarily comparable from one period to another due to changes in accounting procedures, industry classifications, sampling procedures, etc. For explanatory notes concerning compilation of the series, see "Quarterly Financial Report for Manufacturing, Mining, and Trade Corporations," Department of Commerce, Bureau of the Census.

Source: Department of Commerce, Bureau of the Census.

TABLE C-91.—Relation of profits after taxes to stockholders' equity and to sales, all manufacturing corporations, 1947-89

Year or quarter	Ratio of profits after income taxes (annual rate) to stockholders' equity—percent <sup>1</sup>			Profits after income taxes per dollar of sales—cents		
	All manufacturing corporations	Durable goods industries	Nondurable goods industries	All manufacturing corporations	Durable goods industries	Nondurable goods industries
1947.....	15.6	14.4	16.6	6.7	6.7	6.7
1948.....	16.0	15.7	16.2	7.0	7.1	6.8
1949.....	11.6	12.1	11.2	5.8	6.4	5.4
1950.....	15.4	16.9	14.1	7.1	7.7	6.5
1951.....	12.1	13.0	11.2	4.9	5.3	4.5
1952.....	10.3	11.1	9.7	4.3	4.5	4.1
1953.....	10.5	11.1	9.9	4.3	4.2	4.3
1954.....	9.9	10.3	9.6	4.5	4.6	4.4
1955.....	12.6	13.8	11.4	5.4	5.7	5.1
1956.....	12.3	12.8	11.8	5.3	5.2	5.3
1957.....	10.9	11.3	10.6	4.8	4.8	4.9
1958.....	8.6	8.0	9.2	4.2	3.9	4.4
1959.....	10.4	10.4	10.4	4.8	4.8	4.9
1960.....	9.2	8.5	9.8	4.4	4.0	4.8
1961.....	8.9	8.1	9.6	4.3	3.9	4.7
1962.....	9.8	9.6	9.9	4.5	4.4	4.7
1963.....	10.3	10.1	10.4	4.7	4.5	4.9
1964.....	11.6	11.7	11.5	5.2	5.1	5.4
1965.....	13.0	13.8	12.2	5.6	5.7	5.5
1966.....	13.4	14.2	12.7	5.6	5.6	5.6
1967.....	11.7	11.7	11.8	5.0	4.8	5.3
1968.....	12.1	12.2	11.9	5.1	4.9	5.2
1969.....	11.5	11.4	11.5	4.8	4.6	5.0
1970.....	9.3	8.3	10.3	4.0	3.5	4.5
1971.....	9.7	9.0	10.3	4.1	3.8	4.5
1972.....	10.6	10.8	10.5	4.3	4.2	4.4
1973.....	12.8	13.1	12.6	4.7	4.7	4.8
1973: IV.....	13.4	12.9	14.0	4.7	4.5	5.0
<b>New series:</b>						
1973: IV.....	14.3	13.3	15.3	5.6	5.0	6.1
1974.....	14.9	12.6	17.1	5.5	4.7	6.4
1975.....	11.6	10.3	12.9	4.6	4.1	5.1
1976.....	13.9	13.7	14.2	5.4	5.2	5.5
1977.....	14.2	14.5	13.8	5.3	5.3	5.3
1978.....	15.0	16.0	14.2	5.4	5.5	5.3
1979.....	16.4	15.4	17.4	5.7	5.2	6.1
1980.....	13.9	11.2	16.3	4.8	4.0	5.6
1981.....	13.6	11.9	15.2	4.7	4.2	5.1
1982.....	9.2	6.1	11.9	3.5	2.4	4.4
1983.....	10.6	8.1	12.7	4.1	3.1	4.9
1984.....	12.5	12.4	12.5	4.6	4.4	4.8
1985.....	10.1	9.2	11.0	3.8	3.4	4.1
1986.....	9.5	7.5	11.5	3.7	2.9	4.6
1987.....	12.8	11.9	13.7	4.9	4.5	5.2
1988.....	16.1	14.3	17.9	6.0	5.2	6.7
1987: I.....	11.2	9.7	12.6	4.4	3.8	5.1
II.....	14.1	13.3	14.9	5.3	5.0	5.6
III.....	14.6	12.8	16.3	5.6	4.9	6.2
IV.....	11.5	11.9	11.0	4.2	4.3	4.0
1988: I.....	15.8	13.5	18.1	6.0	5.1	6.9
II.....	17.5	16.7	18.3	6.3	6.0	6.7
III.....	16.0	13.5	18.4	6.0	5.0	6.9
IV.....	15.3	13.6	16.9	5.5	4.8	6.2
1989: I.....	15.5	13.4	17.5	5.8	5.0	6.5
II.....	14.5	13.4	15.6	5.2	4.8	5.6
III.....	13.3	11.0	15.4	5.0	4.2	5.7

<sup>1</sup> Annual ratios based on average equity for the year (using four end-of-quarter figures). Quarterly ratios based on equity at end of quarter only.

Note.—Based on data in millions of dollars.

See Note, Table C-90.

Source: Department of Commerce, Bureau of the Census.

TABLE C-92.—Sources and uses of funds, nonfarm nonfinancial corporate business, 1946-89

(Billions of dollars; quarterly data at seasonally adjusted annual rates)

Year or quarter	Sources										Uses				Discrepancy (sources less uses)
	Total	Internal					External					Total	Capital expenditures <sup>3</sup>	Increase in financial assets	
		Total	Domestic undistributed profits	Inventory valuation and capital consumption adjustments	Capital consumption allowances	Foreign earnings <sup>1</sup>	Total	Credit market funds			Other <sup>2</sup>				
								Total	Securities and mortgages	Loans and short-term paper					
1946.....	19.2	8.5	8.1	-7.6	7.4	0.7	10.6	7.1	3.6	3.6	3.5	17.4	18.7	1.8	
1947.....	27.5	13.3	12.1	-8.7	9.0	1.0	14.1	8.4	5.4	3.0	5.7	26.4	18.0	8.4	
1948.....	29.5	19.7	13.2	-5.2	10.4	1.3	9.9	7.4	6.7	-7.7	2.5	25.6	20.7	5.0	
1949.....	20.5	20.0	8.7	-1.0	11.2	1.1	4.0	3.0	4.9	-1.9	-2.6	18.4	14.9	3.5	
1950.....	42.6	18.5	13.1	-7.9	12.0	1.3	24.0	8.1	4.2	3.9	16.0	40.3	24.0	16.4	
1951.....	36.9	20.8	9.6	-4.4	13.8	1.7	16.2	10.9	6.4	4.4	5.3	37.9	30.5	7.4	
1952.....	30.2	22.5	7.8	-2.0	14.8	1.9	7.8	9.2	8.1	1.1	-1.4	30.1	25.5	4.6	
1953.....	28.6	22.3	8.0	-3.3	15.9	1.8	6.2	5.8	6.2	-4.4	4.4	28.3	26.0	2.3	
1954.....	29.8	24.4	7.6	-1.9	16.8	2.0	5.4	6.3	6.7	-5.5	-9.9	28.1	23.2	4.9	
1955.....	53.4	29.9	11.8	-2.0	17.8	2.4	23.4	10.3	6.6	3.7	13.2	48.9	32.4	16.5	
1956.....	45.1	30.1	10.9	-3.7	20.0	2.8	15.1	12.6	7.4	5.3	2.4	41.0	37.1	4.0	
1957.....	43.5	32.0	9.6	-2.7	22.0	3.1	11.5	12.0	10.1	1.9	-5.5	39.9	35.7	4.2	
1958.....	42.2	30.7	6.5	-1.5	23.1	2.5	11.6	10.4	10.5	-1.1	1.2	38.6	27.8	10.8	
1959.....	56.6	36.4	10.6	-1.0	24.1	2.7	20.2	12.2	8.3	4.0	8.0	52.0	37.9	14.2	
1960.....	48.2	35.9	8.0	-4	25.1	3.1	12.4	11.3	7.4	3.9	1.0	41.5	37.6	3.9	
1961.....	55.8	36.9	7.2	-6	25.9	3.3	18.9	12.0	10.5	1.5	6.9	50.7	36.5	14.2	
1962.....	60.6	43.2	9.6	-3.1	26.8	3.7	17.4	13.0	9.0	3.9	4.5	55.9	43.4	12.5	
1963.....	68.5	47.0	11.0	-3.9	28.0	4.1	21.6	11.9	8.1	3.8	9.6	60.4	44.7	15.7	
1964.....	74.2	52.3	14.6	-3.9	29.4	4.4	21.9	13.8	7.8	6.0	8.1	64.5	49.6	14.9	
1965.....	92.7	59.1	19.1	-3.9	31.5	4.7	33.6	18.9	7.0	11.9	14.7	83.1	61.3	21.8	
1966.....	96.6	69.0	21.2	-3.3	34.3	4.5	35.7	24.7	14.3	10.4	11.0	92.2	75.4	16.7	
1967.....	94.9	64.2	18.1	-3.9	37.6	4.6	30.7	27.3	19.2	8.2	3.4	87.9	71.4	16.4	
1968.....	114.0	65.8	17.1	-1.7	41.4	5.5	48.3	27.5	15.0	12.6	20.7	107.8	77.0	30.8	
1969.....	116.0	65.2	13.4	-0	45.4	6.5	50.8	32.4	14.6	17.8	18.4	116.4	84.7	31.7	
1970.....	101.8	62.8	7.6	-1.6	49.9	6.9	39.0	34.2	26.3	7.8	4.9	99.5	80.8	18.7	
1971.....	127.4	74.7	12.7	-5	54.8	7.6	52.7	37.4	32.8	4.6	15.3	123.0	86.4	36.7	
1972.....	153.4	86.4	18.1	-1.2	60.1	9.3	67.0	42.4	26.4	16.0	24.6	146.8	96.7	50.1	
1973.....	215.2	93.9	28.8	-14.7	65.2	14.5	121.3	76.3	44.4	31.9	45.0	191.4	120.7	70.7	
1974.....	179.0	89.3	34.1	-38.1	76.3	17.0	89.7	54.9	21.4	33.5	34.8	191.8	139.4	52.5	
1975.....	155.5	124.8	36.4	-17.9	91.9	14.4	30.8	23.1	39.4	-16.3	7.7	152.8	111.7	41.1	
1976.....	212.5	142.0	49.1	-25.4	102.3	16.0	70.5	50.7	42.4	8.3	19.9	209.7	156.3	53.5	
1977.....	258.7	165.1	58.4	-26.0	114.3	18.3	93.6	69.4	44.6	24.8	24.2	241.8	179.2	62.6	
1978.....	311.9	182.3	66.9	-36.6	129.8	22.2	129.7	70.9	37.6	33.2	58.8	324.8	217.2	107.7	
1979.....	323.7	197.6	71.5	-57.2	149.6	33.7	126.1	60.3	9.0	51.3	65.8	368.3	238.6	129.8	
1980.....	323.3	200.1	53.7	-59.2	171.3	34.4	123.1	70.7	30.5	40.2	52.5	341.6	243.2	98.4	
1981.....	377.4	239.5	50.2	-38.0	198.8	28.5	137.9	91.8	25.4	66.4	46.0	382.9	285.9	97.0	
1982.....	303.0	242.3	11.6	-18.7	221.4	28.1	60.7	50.3	-1.7	52.0	10.4	302.7	255.7	47.0	
1983.....	419.2	285.7	22.2	-5.1	228.2	30.2	133.5	78.3	44.6	33.7	55.2	392.0	269.9	122.1	
1984.....	495.0	336.3	41.8	-25.1	238.4	30.9	158.7	95.1	-9.1	104.2	63.6	473.0	367.9	105.1	
1985.....	457.3	352.3	16.7	-53.5	251.0	31.1	105.0	50.9	-3.0	53.9	54.1	422.9	339.9	83.0	
1986.....	510.7	344.9	-10.4	-56.3	265.9	33.1	165.8	123.0	58.9	64.0	42.9	448.2	328.8	119.3	
1987.....	486.3	352.6	7.5	-25.8	280.2	39.1	133.6	69.0	38.1	30.9	64.6	453.9	348.3	105.6	
1988.....	508.3	372.5	19.4	-13.9	295.6	43.6	135.8	77.0	7.7	69.3	58.8	473.4	380.4	92.9	
1987:															
I.....	430.6	343.0	2.4	28.7	275.6	36.3	87.6	36.2	88.3	-52.1	51.4	390.3	328.5	61.7	
II.....	482.0	348.4	7.9	24.5	278.8	37.2	133.6	86.5	25.6	60.9	47.1	459.2	333.9	125.3	
III.....	506.3	358.9	12.8	25.3	281.8	39.0	147.5	70.1	36.7	33.4	77.4	474.9	342.1	132.8	
IV.....	526.0	360.2	7.0	24.5	284.7	44.0	165.8	83.4	1.8	81.5	82.4	491.2	388.5	102.7	
1988:															
I.....	507.6	369.0	15.1	21.3	290.2	42.4	138.6	95.5	38.2	57.3	43.1	470.9	359.2	111.7	
II.....	508.3	367.2	21.1	11.9	293.6	40.6	141.1	109.4	28.1	81.3	31.7	474.1	380.7	93.3	
III.....	528.5	372.3	22.1	8.5	296.6	45.1	156.2	82.0	38.7	43.3	74.3	500.8	390.1	110.8	
IV.....	488.8	381.6	19.2	13.8	302.1	46.5	107.2	21.0	-74.3	95.3	86.2	447.7	391.8	55.9	
1989:															
I.....	483.8	361.9	17.5	-9.1	306.9	46.6	121.9	30.6	-52.2	82.8	91.3	445.5	376.0	69.6	
II.....	536.6	364.8	5.9	4.4	310.8	43.7	171.8	158.0	30.5	127.5	13.8	505.1	388.8	116.4	
III.....	440.3	373.1	-3.5	12.8	320.7	43.1	67.3	25.4	-22.8	48.2	41.9	415.1	386.6	28.5	

<sup>1</sup> Foreign branch profits, dividends, and subsidiaries' earnings retained abroad.  
<sup>2</sup> Consists of tax liabilities, trade debt, and direct foreign investment in the United States.  
<sup>3</sup> Plant and equipment, residential structures, inventory investment, and mineral rights from U.S. Government.

Source: Board of Governors of the Federal Reserve System.

TABLE C-93.—Common stock prices and yields, 1949–89

Year or month	Common stock prices <sup>1</sup>						Common stock yields (percent) <sup>5</sup>		
	New York Stock Exchange indexes (Dec. 31, 1965=50) <sup>2</sup>					Dow Jones industrial average <sup>3</sup>	Standard & Poor's composite index (1941–43=10) <sup>4</sup>	Dividend-price ratio <sup>6</sup>	Earnings-price ratio <sup>7</sup>
	Composite	Industrial	Transportation	Utility	Finance				
1949.....	9.02					179.48	15.23	6.59	15.48
1950.....	10.87					216.31	18.40	6.57	13.99
1951.....	13.08					257.64	22.34	6.13	11.82
1952.....	13.81					270.76	24.50	5.80	9.47
1953.....	13.67					275.97	24.73	5.80	10.26
1954.....	16.19					333.94	29.69	4.95	8.57
1955.....	21.54					442.72	40.49	4.08	7.95
1956.....	24.40					493.01	46.62	4.09	7.55
1957.....	23.67					475.71	44.38	4.35	7.89
1958.....	24.56					491.66	46.24	3.97	6.23
1959.....	30.73					632.12	57.38	3.23	5.78
1960.....	30.01					618.04	55.85	3.47	5.90
1961.....	35.37					691.55	66.27	2.98	4.62
1962.....	33.49					639.76	62.38	3.37	5.82
1963.....	37.51					714.81	69.87	3.17	5.50
1964.....	43.76					834.05	81.37	3.01	5.32
1965.....	47.39					910.88	88.17	3.00	5.59
1966.....	46.15	46.18	50.26	45.41	44.45	873.60	85.26	3.40	6.63
1967.....	50.77	51.97	53.51	45.43	49.82	879.12	91.93	3.20	5.73
1968.....	55.37	58.00	50.58	44.19	65.85	906.00	98.70	3.07	5.67
1969.....	54.67	57.44	46.96	42.80	70.49	876.72	97.84	3.24	6.08
1970.....	45.72	48.03	32.14	37.24	60.00	753.19	83.22	3.83	6.45
1971.....	54.22	57.92	44.35	39.53	70.38	894.76	98.29	3.14	5.41
1972.....	60.29	65.73	50.17	38.48	78.35	950.71	109.20	2.84	5.50
1973.....	57.42	63.08	37.74	37.69	70.12	923.88	107.43	3.06	7.12
1974.....	43.84	48.08	31.89	29.79	49.67	759.37	82.85	4.47	11.59
1975.....	45.73	50.52	31.10	31.50	47.14	802.49	86.16	4.31	9.15
1976.....	54.46	60.44	39.57	36.97	52.94	974.92	102.01	3.77	8.90
1977.....	53.69	57.86	41.09	40.92	55.25	894.63	98.20	4.62	10.79
1978.....	53.70	58.23	43.50	39.22	56.65	820.23	96.02	5.28	12.03
1979.....	58.32	64.76	47.34	38.20	61.42	844.40	103.01	5.47	13.46
1980.....	68.10	78.70	60.61	37.35	64.25	891.41	118.78	5.26	12.66
1981.....	74.02	85.44	72.61	38.91	73.52	932.92	128.05	5.20	11.96
1982.....	68.93	78.18	60.41	39.75	71.99	884.36	119.71	5.81	11.60
1983.....	92.63	107.45	89.36	47.00	95.34	1,190.34	160.41	4.40	8.03
1984.....	92.46	108.01	85.63	46.44	89.28	1,178.48	160.46	4.64	10.02
1985.....	108.09	123.79	104.11	56.75	114.21	1,328.23	186.84	4.25	8.12
1986.....	136.00	155.85	119.87	71.36	147.20	1,792.76	236.34	3.49	6.09
1987.....	161.70	195.31	140.39	74.30	146.48	2,275.99	286.83	3.08	5.48
1988.....	149.91	180.95	134.12	71.77	127.26	2,060.82	265.79	3.64	8.01
1989.....	180.02	216.23	175.28	87.43	151.88	2,508.91	322.84	3.45	.....
1988: Jan.....	140.55	168.47	121.20	70.01	119.40	1,947.35	250.48	3.66	.....
Feb.....	145.13	173.44	126.09	72.89	124.36	1,980.65	258.13	3.56	.....
Mar.....	149.88	181.57	135.15	71.16	125.27	2,044.31	265.74	3.48	7.18
Apr.....	148.46	180.88	133.43	69.40	121.67	2,036.13	262.61	3.57	.....
May.....	144.99	176.02	127.63	68.65	120.35	1,988.91	256.12	3.80	.....
June.....	152.72	184.92	136.02	72.25	129.04	2,104.94	270.68	3.58	7.92
July.....	152.12	184.09	136.49	71.50	129.99	2,104.22	269.05	3.65	.....
Aug.....	149.25	179.72	132.53	70.67	130.77	2,051.29	263.73	3.75	.....
Sept.....	151.47	182.18	136.27	71.83	133.15	2,080.96	267.97	3.69	8.36
Oct.....	156.36	188.58	141.93	74.19	134.66	2,144.31	277.40	3.61	.....
Nov.....	152.67	183.79	138.60	73.83	129.61	2,099.04	271.02	3.70	.....
Dec.....	155.35	187.75	144.07	74.81	128.83	2,148.58	276.51	3.68	8.56
1989: Jan.....	160.40	194.62	153.09	75.87	132.26	2,234.68	285.41	3.64	.....
Feb.....	165.08	200.00	162.66	77.84	137.19	2,304.30	294.01	3.59	.....
Mar.....	164.60	199.20	160.14	77.66	137.91	2,283.11	292.71	3.68	8.46
Apr.....	169.38	204.81	164.32	79.69	143.26	2,348.91	302.25	3.59	.....
May.....	175.30	211.51	168.89	84.07	146.59	2,439.55	313.93	3.52	.....
June.....	180.76	216.75	173.47	87.90	154.08	2,494.90	323.73	3.44	7.93
July.....	185.15	221.74	179.32	90.40	157.78	2,554.03	331.93	3.38	.....
Aug.....	192.94	231.32	197.52	92.91	164.86	2,691.11	346.61	3.28	.....
Sept.....	193.02	230.86	202.02	93.44	165.51	2,693.41	347.33	3.29	6.80
Oct.....	192.49	229.40	190.36	94.67	166.55	2,692.01	347.40	3.29	.....
Nov.....	188.50	224.38	174.26	94.95	160.89	2,642.49	340.22	3.39	.....
Dec.....	192.67	230.12	177.25	99.73	155.63	2,728.47	348.57	3.33	.....

<sup>1</sup> Averages of daily closing prices, except New York Stock Exchange data through May 1964 are averages of weekly closing prices.

<sup>2</sup> Includes all the stocks (more than 1,500) listed on the New York Stock Exchange.

<sup>3</sup> Includes 30 stocks.

<sup>4</sup> Includes 500 stocks.

<sup>5</sup> Standard & Poor's series, based on 500 stocks in the composite index.

<sup>6</sup> Aggregate cash dividends (based on latest known annual rate) divided by aggregate market value based on Wednesday closing prices. Monthly data are averages of weekly figures; annual data are averages of monthly figures.

<sup>7</sup> Quarterly data are ratio of earnings (after taxes) for 4 quarters ending with particular quarter to price index for last day of that quarter. Annual ratios are averages of quarterly ratios.

Note.—All data relate to stocks listed on the New York Stock Exchange.

Sources: New York Stock Exchange, Dow Jones & Co., Inc., and Standard & Poor's Corporation.

TABLE C-94.—Business formation and business failures, 1945-89

Year or month	Index of net business formation (1967 = 100)	New business incorporations (number)	Business failures <sup>1</sup>						
			Business failure rate <sup>2</sup>	Number of failures			Amount of current liabilities (millions of dollars)		
				Total	Liability size class		Total	Liability size class	
					Under \$100,000	\$100,000 and over		Under \$100,000	\$100,000 and over
1945			4.2	809	759	50	30.2	11.4	18.8
1946		132,916	5.2	1,129	1,003	126	67.3	15.7	51.6
1947		112,897	14.3	3,474	3,103	371	204.6	63.7	140.9
1948	101.1	96,346	20.4	5,250	4,853	397	234.6	93.9	140.7
1949	83.7	85,640	34.4	9,246	8,708	538	308.1	161.4	146.7
1950	87.7	93,092	34.3	9,162	8,746	416	248.3	151.2	97.1
1951	86.7	83,778	30.7	8,058	7,626	432	259.5	131.6	128.0
1952	90.8	92,946	28.7	7,611	7,081	530	283.3	131.9	151.4
1953	89.7	102,706	33.2	8,862	8,075	787	394.2	167.5	226.6
1954	88.8	117,411	42.0	11,086	10,226	860	462.6	211.4	251.2
1955	96.6	139,915	41.6	10,969	10,113	856	449.4	206.4	243.0
1956	94.6	141,163	48.0	12,686	11,615	1,071	562.7	239.8	322.9
1957	90.3	137,112	51.7	13,739	12,547	1,192	615.3	267.1	348.2
1958	90.2	150,781	55.9	14,964	13,499	1,465	728.3	297.6	430.7
1959	97.9	193,067	51.8	14,053	12,707	1,346	692.8	278.9	413.9
1960	94.5	182,713	57.0	15,445	13,650	1,795	938.6	327.2	611.4
1961	90.8	181,535	64.4	17,075	15,006	2,069	1,090.1	370.1	720.0
1962	92.6	182,057	60.8	15,782	13,772	2,010	1,213.6	346.5	867.1
1963	94.4	186,404	56.3	14,374	12,192	2,182	1,352.6	321.0	1,031.6
1964	98.2	197,724	53.2	13,501	11,346	2,155	1,329.2	313.6	1,015.6
1965	99.8	203,897	53.3	13,514	11,340	2,174	1,321.7	321.7	1,000.0
1966	99.3	200,010	51.6	13,061	10,833	2,228	1,385.7	321.5	1,064.1
1967	100.0	206,569	49.0	12,364	10,144	2,220	1,265.2	297.9	967.3
1968	108.3	233,635	38.6	9,636	7,829	1,807	941.0	241.1	699.9
1969	115.8	274,267	37.3	9,154	7,192	1,962	1,142.1	231.3	910.8
1970	108.8	264,209	43.8	10,748	8,019	2,729	1,887.8	269.3	1,618.4
1971	111.1	287,577	41.7	10,326	7,611	2,715	1,916.9	271.3	1,645.6
1972	119.3	316,601	38.3	9,566	7,040	2,526	2,000.2	258.8	1,741.5
1973	119.1	329,358	36.4	9,345	6,627	2,718	2,298.6	235.6	2,063.0
1974	113.2	319,149	38.4	9,915	6,733	3,182	3,053.1	256.9	2,796.3
1975	109.9	326,345	42.6	11,432	7,504	3,928	4,380.2	288.6	4,091.6
1976	120.4	375,766	34.8	9,628	6,176	3,452	3,011.3	257.8	2,753.4
1977	130.8	436,170	28.4	7,919	4,861	3,058	3,095.3	208.3	2,887.0
1978	138.1	478,019	23.9	6,619	3,712	2,907	2,656.0	164.7	2,491.3
1979	138.3	524,565	27.8	7,564	3,930	3,634	2,667.4	179.9	2,487.5
1980	129.9	533,520	42.1	11,742	5,682	6,060	4,635.1	272.5	4,362.6
1981	124.8	581,242	61.3	16,794	8,233	8,561	6,955.2	408.3	6,546.9
1982	116.4	566,942	89.0	24,908	11,509	13,399	15,610.8	541.7	15,069.1
1983	117.5	600,400	110.0	31,334	15,509	15,825	16,072.9	635.1	15,437.8
1984	121.3	634,991	107.0	52,078	19,618	32,460	29,268.6	409.8	28,858.8
1985	120.9	662,047	115.0	57,253	36,551	20,702	36,808.8	790.8	36,018.0
1986	120.4	702,738	120.0	61,616	38,908	22,708	44,724.0	838.3	43,885.7
1987	121.2	685,572	102.0	61,622	39,372	22,250	36,369.9	753.6	35,616.3
1988	124.1	685,095	98.0	57,099	38,661	18,438	35,908.2	681.3	35,226.9
1989 <sup>a</sup>	124.7								
Seasonally adjusted									
1988: Jan	124.0	56,108		5,005	3,384	1,621	3,894.1	53.7	3,840.4
Feb	124.1	56,475		5,062	3,355	1,707	4,625.5	63.0	4,562.5
Mar	125.4	60,655		5,852	3,913	1,939	3,291.6	67.9	3,223.7
Apr	122.7	54,670		5,118	3,496	1,622	3,065.6	59.2	3,006.4
May	124.3	58,046		4,958	3,456	1,502	2,316.5	58.2	2,258.3
June	123.7	55,620		4,702	3,202	1,500	2,453.5	53.3	2,400.2
July	123.3	56,915		4,512	3,100	1,412	4,582.8	52.2	4,530.6
Aug	124.5	59,730		4,985	3,330	1,655	2,291.2	62.3	2,228.9
Sept	124.2	55,915		4,602	3,076	1,526	3,555.5	55.7	3,499.8
Oct	124.6	56,529		4,146	2,850	1,296	1,785.1	52.8	1,732.3
Nov	123.2	54,553		4,263	2,883	1,380	2,020.0	55.4	1,964.6
Dec	125.5	58,592		3,894	2,616	1,278	2,026.8	47.6	1,979.2
1989: Jan	125.5	58,370		4,663	3,068	1,595	2,100.0	61.0	2,039.0
Feb	125.9	58,708		4,277	2,887	1,390	2,358.7	58.9	2,299.8
Mar	128.0	60,117		4,803	3,160	1,643	6,171.4	65.4	6,106.0
Apr	125.0	55,469		3,926	2,599	1,327	6,145.6	49.4	6,096.2
May	125.6	57,645		4,407	2,977	1,430	1,873.2	59.7	1,813.5
June	125.9	57,586		4,204	2,811	1,393	6,425.6	55.8	6,369.8
July	124.4	54,545		3,681	2,462	1,219	4,074.2	46.6	4,027.6
Aug	124.0	56,642		4,231	2,951	1,580	2,960.1	58.4	2,901.7
Sept	122.8	54,502		3,676	2,491	1,185	1,751.2	50.4	1,700.8
Oct	122.6	53,282		4,226	2,825	1,401	2,223.9	53.2	2,170.7
Nov	123.0	55,982		3,989	2,656	1,333	2,000.7	51.4	1,949.3
Dec <sup>b</sup>	123.7								

<sup>1</sup> Commercial and industrial failures only through 1983, excluding failures of banks, railroads, real estate, insurance, holding, and financial companies, steamship lines, travel agencies, etc.

Data for 1984-89 based on expanded coverage and new methodology and are therefore not generally comparable with earlier data. Data for 1989 are subject to revision due to amended court filings.

<sup>2</sup> Failure rate per 10,000 listed enterprises.

Sources: Department of Commerce (Bureau of Economic Analysis) and The Dun & Bradstreet Corporation.



# AGRICULTURE

## TABLE C-95.—Farm income, 1929–89

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Income of farm operators from farming							
	Gross farm income					Production expenses	Net farm income	
	Total <sup>1</sup>	Cash marketing receipts			Value of inventory changes <sup>2</sup>		Current dollars	1982 dollars <sup>3</sup>
		Total	Livestock and products	Crops				
1929.....	13.8	11.3	6.2	5.1	-0.1	7.7	6.2	42.1
1933.....	6.9	5.3	2.8	2.5	-0.2	4.4	2.6	22.8
1939.....	10.7	7.9	4.5	3.3	.1	6.3	4.4	34.8
1940.....	11.3	8.4	4.9	3.5	.3	6.9	4.5	34.5
1941.....	14.3	11.1	6.5	4.6	.4	7.8	6.5	47.0
1942.....	19.9	15.6	9.0	6.5	1.1	10.0	9.9	67.0
1943.....	23.3	19.6	11.5	8.1	-0.1	11.6	11.7	77.7
1944.....	24.0	20.5	11.4	9.2	-0.4	12.3	11.7	76.5
1945.....	25.4	21.7	12.0	9.7	-0.4	13.1	12.3	78.4
1946.....	29.6	24.8	13.8	11.0	.0	14.5	15.1	77.7
1947.....	32.4	29.6	16.5	13.1	-1.8	17.0	15.4	69.5
1948.....	36.5	30.2	17.1	13.1	1.7	18.8	17.7	74.8
1949.....	30.8	27.8	15.4	12.4	-0.9	18.0	12.8	54.4
1950.....	33.1	28.5	16.1	12.4	.8	19.5	13.6	57.1
1951.....	38.3	32.9	19.6	13.2	1.2	22.3	15.9	63.5
1952.....	37.8	32.5	18.2	14.3	.9	22.8	15.0	58.7
1953.....	34.4	31.0	16.9	14.1	-0.6	21.5	13.0	50.1
1954.....	34.2	29.8	16.3	13.6	.5	21.8	12.4	47.0
1955.....	33.5	29.5	16.0	13.5	.2	22.2	11.3	41.6
1956.....	34.0	30.4	16.4	14.0	-0.5	22.7	11.3	40.1
1957.....	34.8	29.7	17.4	12.3	.6	23.7	11.1	38.1
1958.....	39.0	33.5	19.2	14.2	.8	25.8	13.2	44.3
1959.....	37.9	33.6	18.9	14.7	.0	27.2	10.7	35.2
1960.....	38.6	34.0	19.0	15.0	.4	27.4	11.2	36.3
1961.....	40.5	35.2	19.5	15.7	.3	28.6	12.0	38.3
1962.....	42.3	36.5	20.2	16.3	.6	30.3	12.1	37.8
1963.....	43.4	37.5	20.0	17.4	.6	31.6	11.8	36.3
1964.....	42.3	37.3	19.9	17.4	-0.8	31.8	10.5	31.9
1965.....	46.5	39.4	21.9	17.5	1.0	33.6	12.9	38.2
1966.....	50.5	43.4	25.0	18.4	-0.1	36.5	14.0	39.9
1967.....	50.5	42.8	24.4	18.4	.7	38.2	12.3	34.4
1968.....	51.8	44.2	25.5	18.7	.1	39.5	12.3	32.7
1969.....	56.4	48.2	28.6	19.6	.1	42.1	14.3	35.9
1970.....	58.8	50.5	29.5	21.0	.0	44.5	14.4	34.2
1971.....	62.1	52.7	30.5	22.3	1.4	47.1	15.0	33.8
1972.....	71.1	61.1	35.6	25.5	.9	51.7	19.5	41.8
1973.....	98.9	86.9	45.8	41.1	3.4	64.6	34.4	69.4
1974.....	98.2	92.4	41.3	51.1	-1.6	71.0	27.3	50.5
1975.....	100.6	88.9	43.1	45.8	3.4	75.0	25.5	43.1
1976.....	102.9	95.4	46.3	49.0	-1.5	82.7	20.2	32.0
1977.....	108.8	96.2	47.6	48.6	1.1	88.9	19.9	29.5
1978.....	128.4	112.4	59.2	53.2	1.9	103.2	25.2	34.9
1979.....	150.7	131.5	69.2	62.3	5.0	123.3	27.4	34.9
1980.....	149.3	139.7	68.0	71.7	-6.3	133.1	16.2	18.8
1981.....	166.4	141.7	69.2	72.5	6.5	139.4	27.0	28.7
1982.....	163.5	142.6	70.3	72.3	-1.4	140.0	23.5	23.5
1983.....	152.9	136.5	69.4	67.1	-10.9	140.4	12.5	12.0
1984.....	175.0	142.5	73.0	69.5	6.3	142.7	32.3	29.9
1985.....	166.3	144.1	69.8	74.3	-2.4	134.0	32.3	29.1
1986.....	160.3	135.5	71.5	64.0	-2.7	122.4	37.9	33.4
1987.....	171.7	139.5	75.7	63.8	-4.4	128.0	43.5	37.1
1988.....	177.6	151.5	78.9	72.6	-4.3	135.0	42.6	35.2
1987: I.....	170.4	131.3	72.8	58.6	-1.1	120.4	50.0	43.1
II.....	172.4	143.8	76.4	67.4	.3	128.7	43.7	37.3
III.....	167.8	144.8	77.8	66.9	-2.1	131.3	36.3	30.9
IV.....	175.9	138.1	75.8	62.2	-1.7	131.7	44.1	37.2
1988: I.....	174.7	144.4	81.8	62.6	-4.0	130.2	44.5	37.4
II.....	182.0	148.8	75.3	73.5	-4.4	133.7	48.3	40.0
III.....	175.0	160.4	78.3	82.1	-4.7	138.2	36.8	30.2
IV.....	178.6	152.2	80.3	71.9	-4.1	137.8	40.8	33.1
1989: I.....	198.4	155.4	84.1	71.3	8.6	135.5	62.9	50.5
II.....	196.7	160.2	81.3	78.9	7.8	140.6	56.0	44.5
III.....	188.3	164.4	81.8	82.6	6.3	145.5	42.8	33.8

<sup>1</sup> Cash marketing receipts and inventory changes plus Government payments, other farm cash income, and nonmoney income furnished by farms.

<sup>2</sup> Physical changes in end-of-period inventory of crop and livestock commodities valued at average prices during the period.

<sup>3</sup> Income in current dollars divided by the GNP implicit price deflator (Department of Commerce).

Note.—Data include net Commodity Credit Corporation loans and operator households.

Source: Department of Agriculture, except as noted.

TABLE C-96.—Farm output and productivity indexes, 1947-89

[1977=100]

Year	Farm output						Productivity indicators		
	Total <sup>1</sup>	Crops <sup>2</sup>			Live-stock and products <sup>3</sup>	Farm output		Crop production per acre <sup>4</sup>	
		Total <sup>2</sup>	Feed grains	Food grains		Oil crops	Per unit of total input		Per hour of farm work <sup>4</sup>
1947	58	56	39	64	22	65	55	18	57
1948	63	64	57	62	27	64	60	21	64
1949	62	61	50	53	26	67	57	20	60
1950	61	59	51	49	26	70	58	22	59
1951	63	60	47	49	26	73	60	24	59
1952	66	62	50	63	26	74	62	26	62
1953	66	62	49	57	26	74	64	28	62
1954	66	61	51	51	28	77	65	29	61
1955	69	63	54	48	30	79	66	30	63
1956	69	63	54	50	34	79	67	31	64
1957	67	62	58	47	33	78	67	33	65
1958	73	69	64	69	39	79	74	39	73
1959	74	68	66	55	36	83	73	39	72
1960	76	72	69	66	38	82	76	42	77
1961	76	70	62	60	43	86	78	44	78
1962	77	71	62	56	44	86	78	46	81
1963	80	74	68	59	46	89	82	51	83
1964	79	72	59	65	46	91	81	52	81
1965	82	76	70	67	53	89	84	56	85
1966	79	73	70	67	55	91	83	59	83
1967	83	77	79	76	56	94	85	64	86
1968	85	79	75	80	64	94	87	68	89
1969	85	80	78	74	65	95	88	72	91
1970	84	77	71	69	66	99	87	74	88
1971	92	86	92	81	68	100	95	85	96
1972	91	87	88	77	74	101	94	83	99
1973	93	92	91	86	87	99	95	86	99
1974	88	84	74	91	71	100	90	81	88
1975	95	93	91	108	86	95	99	90	96
1976	97	92	96	107	74	99	98	97	94
1977	100	100	100	100	100	100	100	100	100
1978	104	102	108	93	105	101	101	104	105
1979	111	113	116	108	129	104	105	113	113
1980	104	101	97	121	99	108	101	109	100
1981	118	117	121	144	114	109	116	123	115
1982	116	117	122	138	121	107	118	125	116
1983	96	88	67	117	91	109	99	99	100
1984	112	111	116	129	106	107	118	121	112
1985	118	118	134	121	117	110	128	139	120
1986	111	109	123	106	110	110	127	139	116
1987	110	108	105	107	107	113	128	142	122
1988	102	92	73	98	88	116	120	134	106
1989	109	103	106	108	105	116			

<sup>1</sup> Farm output measures the annual volume of net farm production available for eventual human use through sales from farms or consumption in farm households.

<sup>2</sup> Gross production.

<sup>3</sup> Includes items not included in groups shown.

<sup>4</sup> New survey-based labor productivity time series; not comparable with data published in Economic Reports prior to January 1989.

<sup>5</sup> Computed from variable weights for individual crops produced each year.

Source: Department of Agriculture.

TABLE C-97.—Farm input use, selected inputs, 1947-88

Year	Farm population, April <sup>1</sup>		Farm employment (thousands) <sup>2</sup>			Crops harvested (millions of acres) <sup>3</sup>	Selected indexes of input use (1977=100)					
	Number (thousands)	As percent of total population <sup>4</sup>	Total	Family workers	Hired workers		Total	Farm labor	Farm real estate	Mechanical power and machinery	Agricultural chemicals <sup>5</sup>	Feed, seed, and livestock purchases <sup>6</sup>
1947	25,829	17.9	10,382	8,115	2,267	355	104	297	106	54	15	51
1948	24,383	16.6	10,363	8,026	2,337	356	104	285	107	62	16	52
1949	24,194	16.2	9,964	7,712	2,252	360	108	285	108	68	18	56
1950	23,048	15.2	9,926	7,597	2,329	345	106	265	109	72	19	58
1951	21,890	14.2	9,546	7,310	2,236	344	106	251	109	77	21	62
1952	21,748	13.9	9,149	7,005	2,144	349	105	237	108	81	23	63
1953	19,874	12.5	8,864	6,775	2,089	348	103	220	108	82	24	63
1954	19,019	11.7	8,651	6,570	2,081	346	102	214	108	82	24	65
1955	19,078	11.5	8,381	6,345	2,036	340	104	220	108	83	26	66
1956	18,712	11.1	7,852	5,900	1,952	324	103	212	106	84	27	69
1957	17,656	10.3	7,600	5,660	1,940	324	100	196	105	83	27	68
1958	17,128	9.8	7,503	5,521	1,982	324	98	182	104	83	28	73
1959	16,592	9.3	7,342	5,390	1,952	324	101	183	105	84	32	77
1960	15,635	8.7	7,057	5,172	1,885	324	99	177	103	83	32	77
1961	14,803	8.1	6,919	5,029	1,890	302	98	167	103	80	35	81
1962	14,313	7.7	6,700	4,873	1,827	295	98	163	104	80	38	83
1963	13,367	7.1	6,518	4,738	1,780	298	98	155	104	79	43	83
1964	12,954	6.7	6,110	4,506	1,604	298	98	148	104	80	46	85
1965	12,363	6.4	5,610	4,128	1,482	298	97	144	103	80	49	86
1966	11,595	5.9	5,214	3,854	1,360	294	96	132	102	82	56	89
1967	10,875	5.5	4,903	3,650	1,253	306	98	128	104	85	66	92
1968	10,454	5.2	4,749	3,535	1,213	300	97	124	102	86	69	89
1969	10,307	5.1	4,596	3,419	1,176	290	96	118	102	86	73	93
1970	9,712	4.7	4,523	3,348	1,175	293	96	112	105	85	75	96
1971	9,425	4.5	4,436	3,275	1,161	305	97	108	103	87	81	102
1972	9,610	4.6	4,373	3,228	1,146	294	97	110	102	86	86	104
1973	9,472	4.5	4,337	3,169	1,168	321	98	109	100	90	90	107
1974	9,264	4.3	4,389	3,075	1,314	328	98	109	99	92	92	99
1975	8,864	4.1	4,342	3,026	1,317	336	97	106	97	96	83	93
1976	8,253	3.8	4,374	2,997	1,377	337	98	100	98	98	96	101
1977	7,6194	7.8	4,155	2,859	1,296	345	100	100	100	100	100	100
1978	7,6501	7.9	3,957	2,689	1,268	338	102	100	100	104	107	108
1979	7,6241	7.8	3,774	2,501	1,273	348	105	99	103	104	123	115
1980	7,6051	7.7	3,705	2,402	1,303	352	103	96	103	101	123	114
1981	5,790	7.5	3,552	2,267	1,285	366	102	96	104	98	129	108
1982	5,620	7.4	3,400	2,136	1,264	362	99	93	102	92	118	108
1983	5,787	7.5	3,247	2,007	1,240	306	97	97	101	88	105	110
1984	5,754	7.4	3,094	1,976	1,118	348	95	92	97	84	121	106
1985	5,355	7.2	2,941	1,904	1,037	342	92	85	95	80	123	106
1986	5,226	7.1	2,749	1,768	981	325	87	80	93	75	110	103
1987	4,986	7.0	2,734	1,743	992	303	86	78	92	72	111	111
1988	4,951	7.0	2,789	1,810	979	298	85	75	91	71	113	107

<sup>1</sup>Farm population as defined by Department of Agriculture and Department of Commerce, i.e., civilian population living on farms in rural areas, regardless of occupation. See also footnote 7.

<sup>2</sup>Total population of United States including Armed Forces overseas, as of July 1.

<sup>3</sup>Includes persons doing farmwork on all farms. These data, published by the Department of Agriculture, differ from those on agricultural employment by the Department of Labor (see Table C-32) because of differences in the method of approach, in concepts of employment, and in time of month for which the data are collected.

<sup>4</sup>Acreage harvested plus acreages in fruits, tree nuts, and farm gardens.

<sup>5</sup>Fertilizer, lime, and pesticides.

<sup>6</sup>Nonfarm constant dollar value of feed, seed, and livestock purchases.

<sup>7</sup>Based on new definition of a farm. Under old definition of a farm, farm population (in thousands and as percent of total population) for 1977, 1978, 1979, 1980, 1981, 1982, and 1983 is 7,806 and 3.6; 8,005 and 3.6; 7,553 and 3.4; 7,241 and 3.2; 6,942 and 3.0; 6,870 and 3.0; 7,029 and 3.0, respectively.

<sup>8</sup>Basis for farm employment series was discontinued for 1981 through 1984. Employment is estimated for these years.

Note.—Population includes Alaska and Hawaii beginning 1960.

Sources: Department of Agriculture and Department of Commerce (Bureau of the Census).

TABLE C-98.—Indexes of prices received and prices paid by farmers, 1948-89

[1977 = 100]

Year or month	Prices received by farmers			Prices paid by farmers					Addendum: Average farm real estate value per acre <sup>3</sup>	
	All farm products	Crops	Live-stock and products	All commodities, services, interest, taxes, and wage rates <sup>1</sup>	Production items					Wage rates
					Total <sup>2</sup>	Tractors and self-propelled machinery	Fertilizer	Fuels and energy		
1948	63	59	65	38	43		55	23	14	
1949	55	52	56	36	41		56	22	14	
1950	56	54	58	37	42		54	22	14	
1951	66	61	70	41	47		57	25	16	
1952	63	62	64	42	47		59	26	18	
1953	56	55	56	40	44		59	27	18	
1954	54	56	52	40	44		59	27	18	
1955	51	53	49	40	43		58	27	19	
1956	50	54	47	40	43		57	28	19	
1957	51	52	51	42	44		58	29	21	
1958	55	52	57	43	46		58	30	22	
1959	53	51	53	43	46		57	32	23	
1960	52	51	53	44	46		57	33	24	
1961	53	52	52	44	46		58	33	25	
1962	53	54	53	45	47		58	34	26	
1963	53	55	51	45	47		57	35	27	
1964	52	55	49	45	47		57	36	29	
1965	54	53	54	47	48	39	57	49	31	
1966	58	55	60	49	50	40	56	49	33	
1967	55	52	57	49	50	42	55	50	35	
1968	56	52	60	51	50	44	52	50	38	
1969	59	50	67	53	52	47	48	51	40	
1970	60	52	67	55	54	49	48	52	42	
1971	62	56	67	58	57	51	50	53	43	
1972	69	60	77	62	61	54	52	54	47	
1973	98	91	104	71	73	58	56	57	53	
1974	105	117	94	81	83	68	92	79	66	
1975	101	105	98	89	91	82	120	88	85	
1976	102	102	101	95	97	91	102	93	93	
1977	100	100	100	100	100	100	100	100	100	
1978	115	105	124	108	108	109	100	105	107	
1979	132	116	147	123	125	122	108	137	117	
1980	134	125	144	138	138	136	134	188	127	
1981	139	134	143	150	148	152	144	213	138	
1982	133	121	145	159	153	165	144	210	144	
1983	135	128	141	161	152	174	137	202	148	
1984	142	138	146	164	155	181	143	201	151	
1985	128	120	136	162	151	178	135	201	153	
1986	123	107	138	159	144	174	124	162	159	
1987	127	106	146	162	147	174	118	161	166	
1988	138	127	150	169	157	181	130	166	171	
1989	147	134	160	177	165	193	137	180	185	
1988: Jan	132	116	146	165	152	176	121	164	161	
Feb	130	111	149							
Mar	131	113	148						106	
Apr	132	115	148	168	155	179	132	165	174	
May	135	119	151							
June	139	132	147							
July	142	137	147	171	159	179	132	169	177	
Aug	145	138	152							
Sept	144	136	153							
Oct	141	131	152	173	162	188	134	165	170	
Nov	144	136	151							
Dec	144	135	154							
1989: Jan	149	141	158	175	164	188	133	165	186	
Feb	148	138	158							
Mar	149	137	161							
Apr	148	141	154	177	166	192	141	184	186	
May	149	141	156							
June	147	137	157							
July	147	137	157	178	166	192	141	187	189	
Aug	145	128	161							
Sept	143	126	160							
Oct	145	128	162	178	165	199	131	183	179	
Nov	147	128	165							
Dec	149	127	170							

<sup>1</sup> Includes items used for family living, not shown separately.

<sup>2</sup> Includes other items not shown separately.

<sup>3</sup> Average for 48 States. Annual data are for March 1 of each year through 1975, February 1 for 1976-81, April 1 for 1982-85, and February 1 for 1986-89.

Source: Department of Agriculture.

TABLE C-99.—U.S. exports and imports of agricultural commodities, 1940-89

(Billions of dollars)

Year	Exports							Imports					Agricultural trade balance	
	Total <sup>1</sup>	Feed grains	Food grains <sup>2</sup>	Oil-seeds and products	Cot-ton	To-bacco	Animals and products	Total <sup>1</sup>	Crops, fruits, and vegetables <sup>3</sup>	Animals and products	Cof-fee	Cocoa beans and products		
1940.....	0.5	(*)	(*)	(*)	0.2	(*)	0.1	1.3	(*)	0.2	0.1	(*)	-0.8	
1941.....	.7	(*)	0.1	(*)	.1	0.1	.3	1.7	0.1	.3	.2	(*)	-1.0	
1942.....	1.2	(*)	(*)	(*)	.1	.1	.8	1.3	(*)	.5	.2	(*)	-.1	
1943.....	2.1	(*)	.1	0.1	.2	.2	1.2	1.5	.1	.4	.3	(*)	.6	
1944.....	2.1	(*)	.1	.1	.1	.1	1.3	1.8	.1	.3	.3	(*)	.3	
1945.....	2.3	(*)	.4	(*)	.3	.2	.9	1.7	.1	.4	.3	(*)	.5	
1946.....	3.1	0.1	.7	.7	.5	.4	.9	2.3	.2	.4	.5	0.1	.8	
1947.....	4.0	.4	1.4	.1	.4	.3	.7	2.8	.1	.4	.6	.2	1.2	
1948.....	3.5	.1	1.5	.2	.5	.2	.5	3.1	.2	.6	.7	.2	.3	
1949.....	3.6	.3	1.1	.3	.9	.3	.4	2.9	.2	.4	.8	.1	.7	
1950.....	2.9	.2	.6	.2	1.0	.3	.3	4.0	.2	.7	1.1	.2	-1.1	
1951.....	4.0	.3	1.1	.3	1.1	.3	.5	5.2	.2	1.1	1.4	.2	-1.1	
1952.....	3.4	.3	1.1	.2	.9	.2	.3	4.5	.2	.7	1.4	.2	-1.1	
1953.....	2.8	.3	.7	.2	.5	.3	.4	4.2	.2	.6	1.5	.2	-1.3	
1954.....	3.1	.2	.5	.3	.8	.3	.5	4.0	.2	.5	1.5	.3	-0.9	
1955.....	3.2	.3	.6	.4	.5	.4	.6	4.0	.2	.5	1.4	.2	-.8	
1956.....	4.2	.4	1.0	.5	.7	.3	.7	4.0	.2	.4	1.4	.2	.2	
1957.....	4.5	.3	1.0	.5	1.0	.4	.7	4.0	.2	.5	1.4	.2	.6	
1958.....	3.9	.5	.8	.4	.7	.4	.5	3.9	.2	.7	1.2	.2	(*)	
1959.....	4.0	.6	.9	.6	.4	.3	.6	4.1	.2	.8	1.1	.2	-1	
1960.....	4.8	.5	1.2	.6	1.0	.4	.6	3.8	.2	.6	1.0	.2	1.0	
1961.....	5.0	.5	1.4	.6	.9	.4	.6	3.7	.2	.7	1.0	.2	1.3	
1962.....	5.0	.8	1.3	.7	.5	.4	.6	3.9	.2	.9	1.0	.2	1.2	
1963.....	5.6	.8	1.5	.8	.6	.4	.7	4.0	.3	.9	1.0	.2	1.6	
1964.....	6.3	.9	1.7	1.0	.7	.4	.8	4.1	.3	.8	1.2	.2	2.3	
1965.....	6.2	1.1	1.4	1.2	.5	.4	.8	4.1	.3	.9	1.1	.1	2.1	
1966.....	6.9	1.3	1.8	1.2	.4	.5	.7	4.5	.4	1.2	1.1	.1	2.4	
1967.....	6.4	1.1	1.5	1.3	.5	.5	.7	4.5	.4	1.1	1.0	.2	1.9	
1968.....	6.3	.9	1.4	1.3	.5	.5	.7	5.0	.5	1.3	1.2	.2	1.3	
1969.....	6.0	.9	1.2	1.3	.3	.6	.8	5.0	.5	1.4	.9	.2	1.1	
1970.....	7.3	1.1	1.4	1.9	.4	.5	.9	5.8	.5	1.6	1.2	.3	1.5	
1971.....	7.7	1.0	1.3	2.2	.6	.5	1.0	5.8	.6	1.5	1.2	.2	1.9	
1972.....	9.4	1.5	1.8	2.4	.5	.7	1.1	6.5	.7	1.8	1.3	.2	2.9	
1973.....	17.7	3.5	4.7	4.3	.9	.7	1.6	8.4	.8	2.6	1.7	.3	9.3	
1974.....	21.9	4.6	5.4	5.7	1.3	.8	1.8	10.2	.8	2.2	1.6	.5	11.7	
1975.....	21.9	5.2	6.2	4.5	1.0	.9	1.7	9.3	.8	1.8	1.7	.5	12.6	
1976.....	23.0	6.0	4.7	5.1	1.0	.9	2.4	11.0	.9	2.3	2.9	.6	12.0	
1977.....	23.6	4.9	3.6	6.6	1.5	1.1	2.7	13.4	1.2	2.3	4.2	1.0	10.2	
1978.....	29.4	5.9	5.5	8.2	1.7	1.4	3.0	14.8	1.5	3.1	4.0	1.4	14.6	
1979.....	34.7	7.7	6.3	8.9	2.2	1.2	3.8	16.7	1.7	3.9	4.2	1.2	18.0	
1980.....	41.2	9.8	7.9	9.4	2.9	1.3	3.8	17.4	1.6	3.8	4.2	.9	23.9	
1981.....	43.3	9.4	9.6	9.6	2.3	1.5	4.2	16.8	2.0	3.5	2.9	.9	26.6	
1982.....	36.6	6.4	7.9	9.1	2.0	1.5	3.9	15.4	2.3	3.7	2.9	.7	21.2	
1983.....	36.1	7.3	7.4	8.7	1.8	1.5	3.8	16.6	2.3	3.8	2.8	.8	19.5	
1984.....	37.8	8.1	7.5	8.4	2.4	1.5	4.2	19.3	3.1	4.1	3.3	1.1	18.5	
1985.....	29.0	6.0	4.5	5.8	1.6	1.5	4.1	20.0	3.5	4.2	3.3	1.4	9.1	
1986.....	26.2	3.1	3.8	6.5	.8	1.2	4.5	21.5	3.6	4.5	4.6	1.1	4.7	
1987.....	28.7	3.8	3.8	6.4	1.6	1.1	5.2	20.4	3.6	4.9	2.9	1.2	8.3	
1988.....	37.1	5.9	5.9	7.7	2.0	1.3	6.4	21.0	3.8	5.2	2.5	1.0	16.1	
Jan-Nov:														
1988.....	33.5	5.2	5.4	7.0	1.8	1.1	5.9	19.3	3.5	4.8	2.3	.9	14.2	
1989.....	36.4	6.9	6.6	5.7	2.0	1.2	5.8	20.0	3.9	4.6	2.3	.9	16.4	

<sup>1</sup>Total includes items not shown separately.<sup>2</sup>Rice, wheat, and wheat flour.<sup>3</sup>Includes nuts, fruits, and vegetable preparations.<sup>4</sup>Less than \$50 million.

Note.—Data derived from official estimates released by the Bureau of the Census, Department of Commerce. Agricultural commodities are defined as (1) nonmarine food products and (2) other products of agriculture which have not passed through complex processes of manufacture. Export value, at U.S. port of exportation, is based on the selling price and includes inland freight, insurance, and other charges to the port. Import value, defined generally as the market value in the foreign country, excludes import duties, ocean freight, and marine insurance.

Source: Department of Agriculture.

TABLE C-100.—Balance sheet of the farm sector, 1939-89

(Billions of dollars)

End of year	Assets									Claims			
	Total	Real estate	Live-stock <sup>1</sup>	Other physical assets			Financial assets			Total	Real estate debt <sup>2</sup>	Non-real estate debt <sup>3</sup>	Proprietors' equities
				Machinery and motor vehicles	Crops <sup>4</sup>	Household equipment and furnishings	Deposits and currency	U.S. savings bonds	Investments in cooperatives				
1939.....	52.6	33.6	5.1	3.1	2.2	4.2	3.2	0.3	0.8	52.6	6.6	3.0	43.0
1940.....	53.7	34.0	5.3	3.3	2.3	4.1	3.5	4	9	53.7	6.5	3.3	43.8
1941.....	61.4	36.6	7.1	4.0	3.2	4.8	4.2	5	9	61.4	6.4	3.5	51.5
1942.....	72.9	41.5	9.6	4.9	4.3	4.8	5.4	1.1	1.0	72.9	6.0	3.2	63.7
1943.....	82.9	47.7	9.7	5.4	5.5	4.7	6.6	2.2	1.1	82.9	5.4	2.9	74.5
1944.....	92.1	52.9	9.0	6.5	6.0	5.2	7.9	3.4	1.2	92.1	4.9	2.7	84.4
1945.....	102.0	60.5	9.7	5.4	6.0	5.5	9.4	4.2	1.4	102.0	4.8	2.9	94.4
1946.....	116.1	68.7	11.9	5.3	7.0	7.2	10.2	4.2	1.5	116.1	4.9	3.5	107.8
1947.....	127.1	73.5	13.3	7.4	8.9	8.1	9.9	4.4	1.7	127.1	5.1	4.1	118.0
1948.....	132.9	76.0	14.4	10.1	7.4	8.9	9.6	4.6	1.9	132.9	5.3	4.9	122.7
1949.....	130.3	75.1	12.9	12.2	5.9	8.4	9.1	4.7	2.1	130.3	5.6	5.2	119.5
1950.....	152.9	88.9	17.1	14.1	7.1	9.6	9.1	4.7	2.3	152.9	6.1	6.1	140.7
1951.....	169.8	98.7	19.5	16.7	8.2	10.1	9.4	4.7	2.5	169.8	6.7	7.4	155.7
1952.....	166.3	100.0	14.8	17.4	7.9	9.5	9.4	4.6	2.7	166.3	7.3	7.7	151.4
1953.....	162.3	98.9	11.7	18.4	6.8	9.5	9.4	4.7	2.9	162.3	7.8	6.8	147.8
1954.....	167.0	102.5	11.2	18.7	7.5	9.7	9.4	5.0	3.0	167.0	8.3	7.2	151.5
1955.....	172.5	108.2	10.6	19.3	6.5	10.0	9.5	5.2	3.2	172.5	9.0	7.9	155.6
1956.....	181.6	116.1	11.0	20.2	6.8	9.6	9.4	5.1	3.5	181.6	9.9	8.0	163.8
1957.....	191.0	122.7	13.9	20.1	6.4	9.6	9.5	5.1	3.7	191.0	10.4	8.8	171.8
1958.....	206.4	131.5	17.7	21.8	6.9	9.4	10.0	5.2	3.9	206.4	11.1	10.1	185.2
1959.....	210.2	138.4	15.2	22.7	6.6	9.2	9.2	4.7	4.2	210.2	12.1	11.5	186.6
1960.....	210.9	139.9	15.6	22.2	6.7	8.7	8.7	4.6	4.5	210.9	12.9	12.0	186.1
1961.....	218.9	146.0	16.4	22.5	7.0	8.9	8.8	4.5	4.8	218.9	14.0	12.7	192.2
1962.....	226.2	150.7	17.3	23.5	7.3	8.8	9.2	4.4	5.0	226.2	15.2	14.2	196.8
1963.....	234.3	158.9	15.9	23.9	7.9	8.8	9.2	4.2	5.4	234.3	16.9	15.6	201.8
1964.....	243.3	168.5	14.5	24.8	7.7	8.4	9.6	4.2	5.6	243.3	18.9	16.4	208.0
1965.....	260.3	180.1	17.6	26.0	8.3	8.4	10.0	4.1	5.9	260.3	21.2	18.1	221.0
1966.....	274.2	190.2	19.0	27.4	8.9	8.3	10.3	3.9	6.2	274.2	23.1	19.8	231.3
1967.....	288.0	201.1	18.8	29.8	8.3	8.8	10.9	3.8	6.5	288.0	25.2	20.8	242.0
1968.....	281.5	190.4	20.2	31.3	8.1	9.4	11.5	3.8	6.8	281.5	27.5	20.4	233.6
1969.....	312.9	217.1	23.5	32.3	8.4	9.6	11.9	3.7	6.4	312.9	29.4	21.2	262.4
1970.....	324.8	224.6	23.7	34.4	9.0	10.0	12.4	3.6	7.2	324.8	30.5	22.3	272.0
1971.....	350.2	241.0	27.3	36.6	9.8	10.8	13.2	3.7	7.9	350.2	32.4	25.1	292.7
1972.....	393.9	268.8	34.1	39.3	13.0	11.9	14.0	4.0	8.9	393.9	35.4	28.0	330.6
1973.....	478.5	329.3	42.4	44.2	21.4	12.3	14.9	4.2	9.9	478.5	39.8	33.1	405.6
1974 <sup>5</sup> .....	508.8	369.5	24.5	52.6	23.0	11.2	14.0	3.8	10.2	508.8	44.9	36.7	427.1
1975.....	575.5	421.0	29.4	62.1	21.1	11.7	14.5	3.9	11.9	575.5	49.9	41.6	484.1
1976.....	663.3	499.8	29.0	69.3	21.2	12.1	14.8	3.8	13.2	663.3	55.4	47.8	560.1
1977.....	731.1	556.5	31.9	75.9	20.6	13.8	15.2	3.9	13.3	731.1	63.9	55.0	612.1
1978.....	867.3	656.0	51.3	83.0	25.3	16.0	15.5	4.2	15.9	867.3	72.8	63.8	730.7
1979.....	1,006.7	767.8	61.4	93.2	29.2	17.2	15.9	4.0	18.0	1,006.7	86.8	75.7	844.2
1980.....	1,101.6	850.1	60.6	99.3	33.0	19.4	16.2	3.8	19.2	1,101.6	97.5	81.2	922.9
1981.....	1,103.7	851.7	53.5	107.8	29.1	20.8	16.7	3.6	20.4	1,103.7	107.2	88.2	908.2
1982.....	1,066.4	812.2	53.0	107.9	27.7	23.0	17.4	3.5	21.8	1,066.4	111.3	91.8	863.3
1983.....	1,052.6	803.4	49.7	106.2	23.9	24.4	18.2	3.6	23.2	1,052.6	113.7	92.7	846.1
1984.....	981.7	725.7	49.6	102.7	29.7	26.1	19.8	3.7	24.4	981.7	112.3	92.0	777.4
1985.....	886.8	647.7	46.3	92.4	23.6	27.8	21.1	3.9	24.0	886.8	105.7	82.2	698.9
1986.....	838.2	602.2	47.6	84.4	19.1	30.5	24.8	4.5	25.1	838.2	95.9	70.8	671.6
1987.....	873.3	626.3	57.9	78.6	20.9	32.9	26.4	5.0	25.3	873.3	87.7	68.0	719.6
1988.....	927.9	659.4	65.7	79.3	26.2	38.8	27.5	5.4	25.5	927.9	83.0	65.6	779.4
1989 <sup>6</sup> .....	973.0	703.0	67.0	81.0	22.0	41.0	28.0	5.5	25.5	973.0	80.5	65.0	827.5

<sup>1</sup> Beginning with 1959, horses and mules are excluded.<sup>2</sup> Non-Commodity Credit Corporation (CCC) crops held on farms plus value above loan rate for crops held under CCC.<sup>3</sup> Includes CCC storage and drying facilities loans.<sup>4</sup> Does not include CCC crop loans.<sup>5</sup> Beginning 1974, data are for farms included in the new farm definition, that is, places with sales of \$1,000 or more annually.

Note.—Data include operator households.

Beginning 1959, data include Alaska and Hawaii.

Source: Department of Agriculture.

## INTERNATIONAL STATISTICS

TABLE C-101.—*International investment position of the United States at year-end, 1981-88*

[Billions of dollars]

Type of investment	1981	1982	1983	1984	1985	1986	1987	1988
<b>Net international investment position of the United States...</b>	140.9	136.7	89.0	3.3	-111.4	-267.8	-378.3	-532.5
<b>U.S. assets abroad .....</b>	719.6	824.8	873.5	895.9	949.7	1,073.3	1,169.7	1,253.7
U.S. official reserve assets .....	30.1	34.0	33.7	34.9	43.2	48.5	45.8	47.8
Gold .....	11.2	11.1	11.1	11.1	11.1	11.1	11.1	11.1
Special drawing rights .....	4.1	5.3	5.0	5.6	7.3	8.4	10.3	9.6
Reserve position in the International Monetary Fund .....	5.1	7.3	11.3	11.5	11.9	11.7	11.3	9.7
Foreign currencies .....	9.8	10.2	6.3	6.7	12.9	17.3	13.1	17.4
U.S. Government assets, other than official reserve assets .....	68.7	74.6	79.5	84.8	87.6	89.5	88.5	85.5
U.S. loans and other long-term assets .....	67.2	72.9	77.8	82.9	85.8	88.8	87.6	84.9
Repayable in dollars .....	65.0	70.9	76.0	81.1	84.1	87.2	86.0	83.4
Other .....	2.2	1.9	1.8	1.8	1.7	1.6	1.6	1.5
U.S. foreign currency holdings and U.S. short-term assets .....	1.5	1.7	1.7	2.0	1.8	.8	.9	.6
U.S. private assets .....	620.9	716.2	760.2	776.1	818.9	935.3	1,035.4	1,120.4
Direct investment abroad .....	228.3	207.8	207.2	211.5	230.3	259.8	308.0	326.9
Foreign securities .....	63.2	75.3	83.4	88.9	112.2	131.7	146.7	156.8
Bonds .....	45.8	56.7	57.5	61.9	72.9	81.7	92.0	94.0
Corporate stocks .....	17.4	18.6	25.9	27.0	39.3	50.0	54.7	62.7
U.S. claims on unaffiliated foreigners reported by U.S. nonbanking concerns .....	35.9	28.6	35.1	30.1	29.0	36.4	31.2	32.9
U.S. claims reported by U.S. banks, not included elsewhere .....	293.5	404.6	434.5	445.6	447.4	507.3	549.5	603.8
Foreign assets in the United States .....	578.7	688.1	784.5	892.6	1,061.1	1,341.1	1,548.0	1,786.2
Foreign official assets in the United States .....	180.4	189.1	194.5	199.3	202.7	241.9	283.6	322.1
U.S. Government securities .....	125.1	132.6	137.0	143.0	143.4	177.3	218.9	259.2
U.S. Treasury securities .....	117.0	124.9	129.7	135.5	135.7	170.6	211.1	250.3
Other .....	8.1	7.7	7.3	7.5	7.7	6.7	7.9	9.0
Other U.S. Government liabilities .....	13.0	13.6	14.2	15.0	15.9	18.0	15.5	14.2
U.S. liabilities reported by U.S. banks, not included elsewhere .....	26.7	25.0	25.5	26.1	26.7	27.9	31.8	31.5
Other foreign official assets .....	15.5	17.9	17.7	15.2	16.7	18.8	17.3	17.2
Other foreign assets in the United States .....	398.3	498.9	590.0	693.3	858.4	1,099.2	1,264.4	1,464.1
Direct investment in the United States .....	108.7	124.7	137.1	164.6	184.6	220.4	271.8	328.9
U.S. Treasury securities .....	18.5	25.8	33.8	58.2	83.6	91.5	78.3	96.6
U.S. securities other than U.S. Treasury securities .....	75.1	93.0	113.8	127.3	206.2	308.8	344.3	393.6
Corporate and other bonds .....	10.7	16.7	17.5	32.7	82.5	142.1	170.8	195.2
Corporate stocks .....	64.4	76.3	96.4	94.5	123.7	166.7	173.4	198.4
U.S. liabilities to unaffiliated foreigners reported by U.S. nonbanking concerns .....	30.6	27.5	26.9	31.0	29.5	26.9	29.4	35.5
U.S. liabilities reported by U.S. banks, not included elsewhere .....	165.4	228.0	278.3	312.2	354.5	451.6	540.6	609.5

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE C-102.—U.S. international transactions, 1946-89

(Millions of dollars; quarterly data seasonally adjusted, except as noted. Credits (+), debits (-))

Year or quarter	Merchandise <sup>1,2</sup>			Investment income <sup>3</sup>			Net military transactions	Net travel and transportation receipts	Other services, net <sup>3</sup>	Balance on goods and services <sup>4</sup>	Remittances, pensions, and other unilateral transfers <sup>1</sup>	Balance on current account <sup>4</sup>
	Exports	Imports	Net	Receipts	Payments	Net						
1946	11,764	-5,067	6,697	772	-212	560	-493	733	310	7,807	-2,922	4,885
1947	16,097	-5,973	10,124	1,102	-245	857	-455	946	145	11,617	-2,625	8,992
1948	13,265	-7,557	5,708	1,921	-437	1,484	-799	374	175	6,942	-4,525	2,417
1949	12,213	-6,874	5,339	1,831	-476	1,355	-621	230	208	6,511	-5,638	873
1950	10,203	-9,081	1,122	2,068	-559	1,509	-576	-120	242	2,177	-4,017	-1,840
1951	14,243	-11,176	3,067	2,633	-583	2,050	-1,270	298	254	4,399	-3,515	884
1952	13,449	-10,838	2,611	2,751	-555	2,196	-2,054	83	309	3,145	-2,531	614
1953	12,412	-10,975	1,437	2,736	-624	2,112	-2,423	-238	307	1,195	-2,481	-1,286
1954	12,929	-10,353	2,576	2,929	-582	2,347	-2,460	-269	305	2,499	-2,280	219
1955	14,424	-11,527	2,897	3,406	-676	2,730	-2,701	-297	299	2,928	-2,498	430
1956	17,556	-12,803	4,753	3,837	-735	3,102	-2,788	-361	447	5,153	-2,423	2,730
1957	19,562	-13,291	6,271	4,180	-796	3,384	-2,841	-189	482	7,107	-2,345	4,762
1958	16,414	-12,952	3,462	3,790	-825	2,965	-3,135	-633	486	3,145	-2,361	784
1959	16,458	-15,310	1,148	4,132	-1,061	3,071	-2,805	-821	573	1,166	-2,448	-1,282
1960	19,650	-14,758	4,892	4,616	-1,238	3,378	-2,752	-964	639	5,191	-2,367	2,824
1961	20,108	-14,537	5,571	4,999	-1,245	3,754	-2,596	-978	732	6,484	-2,662	3,822
1962	20,781	-16,260	4,521	5,618	-1,324	4,294	-2,449	-1,152	912	6,127	-2,740	3,387
1963	22,272	-17,048	5,224	6,157	-1,560	4,597	-2,304	-1,309	1,036	7,244	-2,831	4,414
1964	25,501	-18,700	6,801	6,824	-1,783	5,041	-2,133	-1,146	1,161	9,724	-2,901	6,823
1965	26,411	-21,510	4,951	7,437	-2,088	5,349	-2,122	-1,280	1,480	8,378	-2,948	5,431
1966	29,360	-25,493	3,817	7,528	-2,481	5,047	-2,935	-1,331	1,497	6,095	-3,064	3,031
1967	30,666	-26,866	3,800	8,021	-2,747	5,274	-3,226	-1,750	1,742	5,838	-3,255	2,583
1968	33,626	-32,991	635	9,367	-3,378	5,989	-3,143	-1,548	1,759	3,693	-3,082	611
1969	36,414	-35,807	607	10,913	-4,869	6,044	-3,328	-1,763	1,964	3,524	-3,125	399
1970	42,469	-39,866	2,603	11,748	-5,515	6,233	-3,354	-2,038	2,330	5,773	-3,443	2,331
1971	43,319	-45,579	-2,260	12,707	-5,435	7,272	-2,893	-2,345	2,649	2,423	-3,856	-1,433
1972	49,381	-55,797	-6,416	14,765	-6,572	8,193	-3,420	-3,063	2,965	-1,742	-4,052	-5,795
1973	71,410	-70,499	911	21,808	-9,655	12,153	-2,070	-3,158	3,406	11,244	-4,103	7,140
1974	98,306	-103,811	-5,505	27,587	-12,084	15,503	-1,653	-3,184	4,231	9,392	-7,431	1,962
1975	107,088	-98,185	8,903	25,351	-12,564	12,787	-746	-2,812	4,854	22,984	-4,868	18,116
1976	114,745	-124,228	-9,483	29,286	-13,311	15,975	-559	-2,558	5,027	9,521	-5,314	4,207
1977	120,816	-151,907	-31,091	32,178	-14,217	17,961	1,528	-3,565	5,680	-9,488	-5,023	-14,511
1978	142,054	-176,001	-33,947	42,245	-21,680	20,565	621	-3,573	6,458	-9,875	-5,552	-15,427
1979	184,473	-212,009	-27,536	64,132	-32,961	31,171	-1,778	-2,935	6,215	5,138	-6,128	-991
1980	224,269	-249,749	-25,480	72,506	-42,119	30,387	-2,577	-997	7,794	9,126	-7,593	1,533
1981	237,085	-265,063	-27,978	86,412	-52,329	34,083	-1,523	144	11,085	15,810	-7,647	8,163
1982	211,198	-247,642	-36,444	83,548	-54,884	28,664	-474	-992	11,436	2,191	-9,188	-6,997
1983	201,820	-268,900	-67,080	77,251	-52,376	24,875	-343	-4,227	12,264	-34,510	-9,776	-44,286
1984	219,900	-332,422	-112,522	85,908	-67,419	18,489	-2,099	-7,885	12,299	-91,718	-12,468	-104,186
1985	215,935	-338,083	-122,148	88,832	-62,901	25,931	-3,557	-9,832	12,351	-97,256	-15,426	-112,682
1986	223,367	-368,425	-145,058	88,615	-66,968	21,647	-4,576	-8,031	18,547	-117,470	-15,778	-133,249
1987	250,266	-409,766	-159,500	104,703	-82,420	22,283	-2,857	-7,324	17,909	-129,488	-14,212	-143,700
1988	319,251	-446,466	-127,215	107,775	-105,548	2,227	-4,606	-2,633	20,335	-111,892	-14,566	-126,548
1987:												
I	57,255	-95,916	-38,661	25,117	-19,755	5,362	-176	-1,965	4,250	-31,190	-3,137	-34,327
II	60,015	-99,834	-39,819	22,744	-20,554	2,190	-210	-2,088	4,372	-35,555	-3,265	-38,820
III	64,297	-104,903	-40,606	23,578	-21,904	1,674	-1,031	-1,279	4,555	-36,687	-3,225	-39,912
IV	68,699	-109,113	-40,414	33,265	-20,207	13,058	-1,440	-1,993	4,734	-26,055	-4,586	-30,641
1988:												
I	76,447	-109,893	-33,446	26,750	-23,955	2,795	-964	-1,854	4,787	-28,682	-3,364	-32,046
II	78,471	-109,882	-31,411	23,148	-25,613	-2,465	-1,033	-719	5,042	-30,586	-2,899	-33,485
III	80,604	-110,943	-30,339	24,720	-27,310	-2,590	-1,006	-155	5,126	-28,964	-3,376	-32,340
IV	83,729	-115,748	-32,019	33,159	-28,670	4,489	-1,604	94	5,381	-23,659	-5,018	-28,677
1989:												
I	87,919	-116,297	-28,378	26,830	-29,246	-2,416	-1,498	-297	5,725	-26,864	-3,526	-30,390
II	91,423	-118,977	-27,554	26,644	-32,765	-6,121	-1,518	91	5,886	-29,216	-2,868	-32,084
III	91,569	-119,320	-27,751	33,808	-31,197	2,611	-968	193	6,884	-19,031	-3,656	-22,687

<sup>1</sup> Excludes military.

<sup>2</sup> Adjusted from Census data for differences in valuation, coverage, and timing.

<sup>3</sup> Fees and royalties from U.S. direct investments abroad or from foreign direct investments in the United States are excluded from investment income and included in other services, net.

<sup>4</sup> In concept, balance on goods and services is equal to net exports and imports in the national income and product accounts (and the sum of balance on current account and allocations of special drawing rights is equal to net foreign investment in the accounts), although the series differ because of different handling of certain items (gold, capital gains and losses, etc.), revisions, etc.

See next page for continuation of table.



TABLE C-102.—U.S. international transactions, 1946-89—Continued

(Millions of dollars; quarterly data seasonally adjusted, except as noted)

Year or quarter	U.S. assets abroad, net [increase/capital outflow (-)]			Foreign assets in the U.S., net [increase/capital inflow (+)]			Allocations of special drawing rights (SDRs)	Statistical discrepancy	
	Total	U.S. official reserve assets*	Other U.S. Government assets	U.S. private assets	Total	Foreign official assets		Other foreign assets	Total (sum of the items with sign reversed)
1946		-623							
1947		-3,315							
1948		-1,736							
1949		-266							
1950		1,758							
1951		33							
1952		-415							
1953		1,256							
1954		480							
1955		182							
1956		-869							
1957		-1,165							
1958		2,292							
1959		1,035							
1960	-4,099	2,145	-1,100	-5,144	2,294	1,473	821	-1,019	
1961	-5,538	607	-910	-5,235	2,705	765	1,939	-989	
1962	-4,174	1,535	-1,085	-4,623	1,911	1,270	641	-1,124	
1963	-7,270	378	-1,662	-5,986	3,217	1,986	1,231	-360	
1964	-9,560	171	-1,680	-8,050	3,643	1,660	1,983	-907	
1965	-5,716	1,225	-1,605	-5,336	742	134	607	-457	
1966	-7,321	570	-1,543	-6,347	3,661	-672	4,333	629	
1967	-9,757	53	-2,423	-7,386	7,379	3,451	3,928	-205	
1968	-10,977	-870	-2,274	-7,833	9,928	-774	10,703	438	
1969	-11,585	-1,179	-2,200	-8,206	12,702	-1,301	14,002	-1,516	
1970	-9,337	2,481	-1,589	-10,229	6,359	6,908	-550	867	-219
1971	-12,475	2,349	-1,884	-12,940	22,970	26,879	-3,909	717	-9,779
1972	-14,497	-4	-1,568	-12,925	21,461	10,475	10,986	710	-1,879
1973	-22,874	158	-2,644	-20,388	18,388	6,026	12,362		-2,654
1974	-34,745	-1,467	* 366	-33,643	34,241	10,546	23,696		-1,458
1975	-39,703	-849	-3,474	-35,380	15,670	7,027	8,643		5,917
1976	-51,269	-2,558	-4,214	-44,498	36,518	17,693	18,826		10,544
1977	-34,785	-375	-3,693	-30,717	51,319	36,816	14,503		-2,023
1978	-61,130	732	-4,660	-57,202	64,036	33,678	30,358		12,521
1979	-64,331	-1,133	-3,746	-59,453	38,241	-13,665	52,416	1,139	25,431
1980	-86,118	-8,155	-5,162	-72,802	58,112	15,497	42,615	1,152	25,322
1981	-110,951	-5,175	-5,097	-100,679	83,032	4,960	78,072	1,093	18,663
1982	-121,153	-4,965	-6,131	-110,058	93,746	3,593	90,154		34,404
1983	-49,777	-1,196	-5,006	-43,576	84,869	5,845	79,023		9,194
1984	-22,304	-3,131	-5,489	-13,685	102,621	3,140	99,481		23,869
1985	-32,628	-3,858	-2,821	-25,950	130,012	-1,083	131,096		15,298
1986	-99,665	312	-2,024	-97,954	221,605	35,594	186,011		11,308
1987	-76,218	9,149	997	-86,363	218,039	45,193	172,847		1,878
1988	-82,110	-3,566	2,999	-81,543	219,299	38,882	180,418		-10,641
1987: I	8,759	1,956	40	6,763	33,381	14,040	19,341		-7,813
II	-22,632	3,419	-195	-25,856	51,134	10,329	40,805		10,318
III	-25,976	32	308	-26,316	73,575	753	72,822		-7,687
IV	-36,370	3,742	843	-40,955	59,949	20,070	39,879		7,062
1988: I	4,540	1,503	-1,490	4,528	27,027	24,631	2,396		479
II	-16,119	39	-885	-15,273	65,334	5,895	59,438		-15,729
III	-37,886	-7,380	1,961	-32,467	46,179	-2,234	48,413		-3,714
IV	-32,648	2,272	3,413	-38,332	80,759	10,589	70,170		-19,434
1989: I	-31,318	-4,000	1,049	-28,367	60,007	7,478	52,529		1,702
II	377	-12,095	-309	-12,781	-1,789	-5,201	3,412		33,496
III	-47,156	-5,996	644	-41,804	72,482	11,246	61,236		-2,639

\* Includes extraordinary U.S. Government transactions with India.

† Consists of gold, special drawing rights, foreign currencies, and the U.S. reserve position in the International Monetary Fund (IMF).

Note.—Quarterly data for investment income payments, net military transactions, U.S. official reserve assets and foreign assets in the United States are not seasonally adjusted.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE C-103.—U.S. merchandise exports and imports by principal end-use category, 1965–89

(Billions of dollars; quarterly data seasonally adjusted)

Year or quarter	Exports							Imports						
	Total	Agricultural products	Nonagricultural products					Total	Petroleum and products	Nonpetroleum products				
			Total	Industrial supplies and materials	Capital goods except automotive	Automotive	Other			Total	Industrial supplies and materials	Capital goods except automotive	Automotive	Other
1965.....	26.5	6.3	20.2	7.6	8.1	1.9	2.6	21.5	2.0	19.5	9.1	1.5	0.9	8.0
1966.....	29.3	6.9	22.4	8.2	8.9	2.4	2.9	25.5	2.1	23.4	10.2	2.2	1.8	9.2
1967.....	30.7	6.5	24.2	8.5	9.9	2.8	3.0	26.9	2.1	24.8	10.0	2.5	2.4	9.9
1968.....	33.6	6.3	27.3	9.6	11.1	3.5	3.2	33.0	2.4	30.6	12.0	2.8	4.0	11.8
1969.....	36.4	6.1	30.3	10.4	12.4	3.9	3.7	35.8	2.6	33.2	11.7	3.4	5.1	13.0
1970.....	42.5	7.4	35.1	12.3	14.7	3.9	4.3	39.9	2.9	36.9	12.3	4.0	5.7	15.0
1971.....	43.3	7.8	35.5	10.9	15.4	4.7	4.5	45.6	3.6	41.9	13.6	4.3	7.6	16.5
1972.....	49.4	9.5	39.9	11.8	16.9	5.5	5.6	55.8	4.7	51.1	16.0	5.9	9.0	20.2
1973.....	71.4	18.0	53.4	16.9	22.0	7.0	7.6	70.5	8.4	62.1	19.2	8.3	10.7	23.9
1974.....	98.3	22.4	75.9	26.2	30.9	8.8	10.0	103.8	26.6	77.2	27.4	9.8	12.4	27.5
1975.....	107.1	22.2	84.8	26.7	36.6	10.8	10.7	98.2	27.0	71.2	23.6	10.2	12.1	25.3
1976.....	114.7	23.4	91.4	28.3	39.1	12.2	11.7	124.2	34.6	89.7	29.1	12.3	16.8	31.4
1977.....	120.8	24.3	96.5	29.7	39.8	13.5	13.5	151.9	45.0	106.9	35.0	14.0	19.4	38.6
1978 <sup>1</sup> .....	142.1	29.9	112.2	33.5	46.7	15.5	16.4	176.0	42.6	133.4	40.6	19.4	25.0	48.4
1979.....	184.5	35.6	148.9	51.6	59.2	18.1	20.1	212.0	61.0	151.1	47.5	24.5	26.5	52.6
1980.....	224.3	42.2	182.1	64.6	75.1	17.1	25.3	249.8	79.4	170.4	52.9	31.4	28.1	58.0
1981.....	237.1	44.0	193.1	63.2	82.4	19.3	28.1	265.1	78.6	186.5	56.4	36.9	30.9	62.3
1982.....	211.2	37.2	174.0	57.4	74.3	17.0	25.3	247.6	62.0	185.6	48.9	38.4	34.0	64.3
1983.....	201.8	37.1	164.7	52.3	69.2	18.3	24.9	268.9	55.3	213.6	53.9	43.2	43.2	73.3
1984.....	219.9	38.4	181.5	56.0	74.3	22.1	29.1	332.4	58.0	274.4	66.0	60.5	56.6	91.4
1985.....	215.9	29.6	186.4	54.0	76.5	24.7	31.1	338.1	51.3	286.8	62.4	61.4	65.1	97.9
1986.....	223.4	27.4	196.0	58.7	79.3	24.9	33.1	368.4	34.4	334.0	69.9	72.1	78.1	113.9
1987.....	250.3	29.5	220.7	62.6	87.7	27.5	42.8	408.8	42.9	366.8	70.8	85.1	85.2	125.7
1988.....	319.3	38.1	281.1	81.5	112.4	32.5	54.7	446.5	39.3	407.2	83.0	101.8	87.9	134.4
1987:														
I.....	57.3	6.5	50.7	14.3	19.9	6.7	9.9	95.9	8.9	87.1	16.8	19.1	20.8	30.3
II.....	60.0	7.1	52.9	15.2	20.6	6.7	10.4	98.8	10.1	89.7	16.4	20.7	21.3	31.4
III.....	64.3	8.0	56.3	16.1	22.9	6.5	10.8	104.9	12.8	92.2	17.7	21.9	21.1	31.5
IV.....	68.7	7.9	60.8	17.1	24.3	7.7	11.7	109.1	11.2	97.9	19.9	23.4	22.0	32.5
1988:														
I.....	76.4	9.0	67.4	19.9	26.9	8.2	12.5	109.9	10.1	99.8	20.9	24.1	21.6	33.2
II.....	78.5	9.4	69.1	20.5	27.3	7.8	13.4	109.9	10.2	99.6	20.8	25.3	21.3	32.3
III.....	80.6	9.9	70.7	20.4	28.2	8.0	14.1	110.9	9.8	101.2	20.2	25.7	21.8	33.6
IV.....	83.7	9.8	73.9	20.7	29.9	8.6	14.8	115.7	9.2	106.5	21.2	26.8	23.3	35.3
1989:														
I.....	87.9	10.8	77.2	21.8	30.8	8.8	15.8	116.3	10.9	105.4	21.4	27.2	22.8	34.1
II.....	91.4	10.9	80.6	23.5	32.3	8.6	16.2	119.0	13.4	105.5	21.0	28.5	21.2	34.8
III.....	91.6	9.8	81.8	22.8	34.8	8.3	15.8	119.3	13.3	106.0	20.7	28.4	21.1	35.8

<sup>1</sup> End-use categories beginning 1978 are not strictly comparable with data for earlier periods. See *Survey of Current Business*, June 1988.

Note.—Data are on an international transactions basis and exclude military.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE C-104.—U.S. merchandise exports and imports by area, 1980-89

[Billions of dollars]

Item	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989 first 3 quarters at annual rate <sup>1</sup>
Exports.....	224.3	237.1	211.2	201.8	219.9	215.9	223.4	250.3	319.3	361.2
Industrial countries.....	137.2	141.9	127.3	128.4	141.0	140.5	150.3	165.6	206.5	234.1
Canada.....	41.6	46.0	39.2	44.5	53.0	55.4	56.5	62.0	73.5	81.1
Japan.....	20.8	21.8	20.7	21.8	23.2	22.1	26.4	27.6	37.1	43.8
Western Europe.....	67.6	65.1	59.7	55.4	56.9	56.0	60.4	68.6	86.4	98.3
Australia, New Zealand, and South Africa.....	7.1	9.0	7.7	6.6	7.8	7.0	7.1	7.4	9.4	10.8
Australia.....	4.0	5.1	4.4	3.9	4.8	5.1	5.1	5.3	6.8	8.2
Other countries, except Eastern Europe.....	82.9	90.7	80.1	70.4	74.6	72.0	71.0	82.4	108.9	121.5
OPEC <sup>2</sup> .....	17.4	21.1	20.7	15.3	13.8	11.4	10.4	10.7	13.7	12.8
Other <sup>3</sup> .....	65.6	69.6	59.5	55.2	60.8	60.6	60.6	71.7	95.2	108.8
Eastern Europe.....	4.1	4.4	3.7	3.0	4.3	3.3	2.1	2.3	3.8	5.6
International organizations and unallocated.....	.0	.1	.1	.1	.0	.2				
Imports.....	249.8	265.1	247.6	268.9	332.4	338.1	368.4	409.8	446.5	472.8
Industrial countries.....	127.9	144.3	144.1	159.9	205.5	219.1	245.4	259.7	282.4	290.5
Canada.....	42.9	48.3	48.5	56.0	67.6	70.4	69.7	73.6	84.4	89.0
Japan.....	31.2	37.6	37.7	42.8	60.2	65.7	80.8	84.6	89.8	93.4
Western Europe.....	47.2	52.9	52.9	55.6	72.1	77.5	89.0	96.1	102.2	101.4
Australia, New Zealand, and South Africa.....	6.5	5.6	5.0	5.4	5.6	5.6	5.9	5.4	6.0	6.6
Australia.....	2.5	2.5	2.3	2.3	2.7	2.7	2.6	3.0	3.5	3.7
Other countries, except Eastern Europe.....	119.1	119.2	102.4	107.6	124.7	117.1	121.1	148.2	161.9	180.2
OPEC <sup>2</sup> .....	55.6	49.9	31.5	25.3	26.9	22.7	18.9	24.4	23.0	30.4
Other <sup>3</sup> .....	63.5	69.3	70.9	82.3	97.8	94.5	102.2	123.8	138.9	149.9
Eastern Europe.....	1.4	1.6	1.1	1.4	2.2	1.8	2.0	1.9	2.2	2.1
International organizations and unallocated.....	1.3		.0	.0						
Balance (excess of exports +).....	-25.5	-28.0	-36.4	-67.1	-112.5	-122.1	-145.1	-159.5	-127.2	-111.6
Industrial countries.....	9.3	-2.4	-16.9	-31.5	-64.5	-78.6	-95.0	-94.0	-75.8	-56.4
Canada.....	-1.3	-2.2	-9.3	-11.5	-14.6	-15.0	-13.2	-11.6	-10.9	-7.9
Japan.....	-10.4	-15.8	-17.0	-21.1	-37.0	-43.5	-54.4	-57.0	-52.6	-49.6
Western Europe.....	20.4	12.2	6.8	-2	-15.2	-21.4	-28.6	-27.5	-15.8	-3.1
Australia, New Zealand, and South Africa.....	.6	3.4	2.6	1.2	2.2	1.4	1.1	2.0	3.4	4.2
Australia.....	1.5	2.6	2.1	1.6	2.1	2.4	2.5	2.3	3.3	4.5
Other countries, except Eastern Europe.....	-36.2	-28.5	-22.3	-37.2	-50.1	-45.2	-50.1	-65.8	-53.0	-58.7
OPEC <sup>2</sup> .....	-38.2	-28.8	-10.9	-10.0	-13.1	-11.3	-8.5	-13.7	-9.3	-17.6
Other <sup>3</sup> .....	2.0	.3	-11.4	-27.1	-37.0	-33.9	-41.6	-52.1	-43.8	-41.1
Eastern Europe.....	2.7	2.9	2.7	1.6	2.1	1.4	.1	.3	1.6	3.5
International organizations and unallocated.....	-1.3	.1	.0	.1	.0	.2				

<sup>1</sup> Preliminary; seasonally adjusted.<sup>2</sup> Organization of Petroleum Exporting Countries, consisting of Algeria, Ecuador, Gabon, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, United Arab Emirates, and Venezuela.<sup>3</sup> Latin American Republics, other Western Hemisphere, and other countries in Asia and Africa, less members of OPEC.

Note.—Data are on an international transactions basis and exclude military.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE C-105.—U.S. merchandise exports, imports, and trade balance, 1970-89

[Billions of dollars; monthly data seasonally adjusted;]

Year or month	Merchandise exports (f.a.s. value) <sup>1</sup>							General merchandise imports (customs value) <sup>2</sup>							Trade balance		
	Total <sup>3</sup>	Principal end-use commodity category						Total	Principal end-use commodity category						General merchandise imports (c.i.f. value) <sup>4</sup>	Exports (f.a.s.) less imports (customs value)	Exports (f.a.s.) less imports (c.i.f.)
		Foods, feeds, and beverages	Industrial supplies and materials	Capital goods except automotive	Automotive vehicles, parts, and engines	Consumer goods (non-food) except automotive	Other <sup>5</sup>		Foods, feeds, and beverages	Industrial supplies and materials	Capital goods except automotive	Automotive vehicles, parts, and engines	Consumer goods (non-food) except automotive	Other			
	F.a.s. value <sup>6</sup>							Customs value									
1970	43.2							40.0							42.4	3.2	0.8
1971	44.1							45.6							48.3	-1.5	-4.3
1972	49.9							55.6							58.9	-5.7	-9.0
1973	71.9							69.5							73.2	2.4	-1.3
1974	99.4							103.3							110.9	-3.9	-11.4
	F.a.s. value <sup>6</sup>							Customs value									
1974	99.4							102.6							110.9	-3.1	-11.4
1975	108.9							98.5							105.9	10.4	3.0
1976	116.8							123.5							132.5	-6.7	-15.7
1977	123.2							150.4							160.4	-27.2	-37.2
1978	145.8							174.8							186.0	-28.9	-40.2
1979	186.4							209.5							222.2	-23.1	-35.9
1980	225.6							244.9							257.0	-19.3	-31.4
	F.a.s. value <sup>6</sup>							Customs value									
1981	238.7							261.0							273.4	-22.3	-34.6
1982	216.4	31.3	61.7	72.7	15.7	14.3	20.7	244.0	17.1	112.0	35.4	33.3	39.7	6.5	254.9	-27.5	-38.4
1983	205.6	30.9	56.7	67.2	16.9	13.4	20.5	258.0	18.2	107.0	40.9	40.8	44.9	6.3	269.9	-52.4	-64.2
1984	224.0	31.5	61.7	72.0	20.6	13.3	24.0	330.7	21.0	123.7	59.8	53.5	60.0	7.8	346.4	-106.7	-122.4
1985	218.8	24.0	58.5	73.9	22.9	12.6	27.3	336.5	21.9	113.9	65.1	66.8	68.3	9.4	352.5	-117.7	-133.6
1986	227.2	22.3	57.3	75.8	21.7	14.2	35.9	365.4	24.4	101.3	71.8	78.2	79.4	10.4	382.3	-138.3	-155.1
1987	254.1	24.3	66.7	86.2	24.6	17.7	34.6	406.2	24.8	111.0	84.5	85.2	88.7	12.1	424.4	-152.1	-170.3
1988	322.4	32.3	85.1	109.2	29.3	23.1	43.4	441.0	24.8	118.3	101.4	87.7	95.9	12.8	459.5	-118.5	-137.1
1988:																	
Jan	24.7	2.3	6.7	8.6	2.2	1.7	3.2	35.2	2.1	9.6	7.8	7.0	7.8	0.9	36.8	-10.5	-12.1
Feb	24.8	2.5	6.7	8.6	2.4	1.7	2.9	36.3	2.2	9.6	8.3	7.4	7.9	.9	37.9	-11.5	-13.1
Mar	26.8	2.5	7.6	8.6	2.6	1.8	3.6	36.3	2.2	9.9	8.2	7.3	7.6	1.1	37.9	-9.6	-11.2
Apr	26.0	2.6	7.0	8.7	2.3	1.8	3.5	35.4	2.0	9.5	8.1	7.3	7.5	1.0	36.9	-9.3	-10.8
May	27.4	2.9	7.2	9.2	2.5	1.9	3.8	36.1	2.0	10.4	8.3	6.8	7.7	1.0	37.7	-8.7	-10.2
June	26.7	2.7	7.1	8.8	2.2	1.9	4.0	37.3	1.9	10.2	8.8	7.3	8.0	1.1	38.8	-10.6	-12.1
July	26.6	2.8	7.1	9.2	2.1	2.0	3.5	35.1	1.9	9.7	7.9	6.6	7.9	1.1	36.5	-8.5	-9.9
Aug	27.5	2.9	7.1	9.3	2.8	2.0	3.4	37.6	2.2	10.2	8.9	7.2	8.1	1.1	39.2	-10.1	-11.7
Sept	27.6	2.9	7.2	9.4	2.5	2.1	3.6	36.8	2.0	9.3	8.7	7.6	8.0	1.1	38.2	-9.2	-10.6
Oct	27.9	2.7	6.8	9.4	2.5	2.0	4.4	37.1	2.1	9.9	8.2	7.7	8.1	1.1	38.6	-9.2	-10.7
Nov	27.5	2.6	7.0	9.4	2.5	2.0	4.0	38.1	2.1	9.8	9.1	7.5	8.3	1.2	39.6	-10.5	-12.1
Dec	28.9	2.8	7.4	10.1	2.7	2.3	3.6	39.7	2.2	10.2	9.1	8.0	9.0	1.2	41.3	-10.8	-12.5
1989:																	
Jan	29.0	2.9	7.1	9.4	2.4	2.4	4.7	37.9	2.2	10.7	9.0	7.4	7.7	.9	39.5	-8.9	-10.5
Feb	28.8	2.9	7.5	9.3	2.4	2.5	4.2	38.2	2.0	10.0	9.3	7.6	8.3	1.0	39.7	-9.4	-10.9
Mar	30.1	3.2	7.6	9.9	2.5	2.7	4.2	39.5	2.1	11.0	9.3	7.7	8.3	1.1	41.2	-9.5	-11.2
Apr	30.8	3.1	8.0	10.1	2.4	2.8	4.4	39.0	2.0	11.3	9.1	7.3	8.3	1.1	40.7	-8.3	-9.9
May	30.5	3.2	7.9	9.8	2.3	2.6	4.6	40.5	2.2	11.7	9.9	7.2	8.5	1.1	42.2	-10.1	-11.7
June	31.3	3.2	8.3	10.6	2.3	2.9	4.0	39.3	2.0	11.4	9.5	6.7	8.5	-1.1	40.9	-8.0	-9.6
July	30.5	2.9	8.2	10.9	2.2	2.6	3.6	38.7	2.0	11.4	9.1	6.6	8.6	1.0	40.4	-8.2	-9.9
Aug	30.6	2.8	7.8	10.6	2.7	2.7	4.0	40.7	2.1	11.4	10.2	7.1	8.7	1.2	42.4	-10.1	-11.9
Sept	30.7	2.6	7.6	11.7	2.3	2.8	3.7	39.2	1.9	10.3	9.6	7.2	9.0	1.2	40.8	-8.5	-10.1
Oct	31.0	2.7	7.8	10.8	2.6	2.7	4.4	41.3	2.3	11.8	9.7	7.1	9.0	1.4	43.1	-10.2	-12.0
Nov	30.2	2.7	7.6	9.8	2.5	2.9	4.7	40.7	2.2	11.0	10.2	7.0	9.0	1.2	42.5	-10.5	-12.3

<sup>1</sup> Department of Defense shipments of grant-aid military supplies and equipment under the Military Assistance Program are excluded from total exports through 1985 and included beginning 1986.

<sup>2</sup> Includes undocumented exports to Canada.

<sup>3</sup> Total arrivals of imported goods other than intransit shipments.

<sup>4</sup> C.i.f. (cost, insurance, and freight) import value at first port of entry into United States. Data for 1967-73 are estimates.

<sup>5</sup> F.a.s. (free alongside ship) value basis at U.S. port of exportation for exports and at foreign port of exportation for imports.

<sup>6</sup> Total includes revisions not reflected in detail.

<sup>7</sup> Total exports are on a revised statistical month basis; end-use categories are on a statistical month basis.

Note.—Data are as reported by the Bureau of the Census adjusted to include silver ore and bullion reported separately prior to 1969. Trade in gold is included beginning 1974. Export statistics cover all merchandise shipped from the U.S. customs area, except supplies for the U.S. Armed Forces. Exports include shipments under Agency for International Development and Food for Peace programs as well as other private relief shipments.

Data beginning 1974 include trade of the U.S. Virgin Islands.

Source: Department of Commerce, Bureau of the Census.

TABLE C-106.—*International reserves, selected years, 1952-89*

(Millions of SDRs; end of period)

Area and country	1952	1962	1972	1982	1986	1987	1988	1989	
								Nov	Dec
All countries.....	49,388	62,851	147,323	361,452	451,830	539,688	574,687	616,604	.....
Industrial countries <sup>1</sup> .....	39,280	53,502	113,362	214,014	279,622	352,489	381,104	406,193	.....
United States .....	24,714	17,220	12,112	29,918	39,790	33,657	36,471	56,927	.....
Canada .....	1,944	2,561	5,572	3,428	3,348	5,778	12,037	12,638	12,781
Australia.....	920	1,168	5,656	6,053	6,202	6,441	10,383	10,975	10,488
Japan.....	1,101	2,021	16,916	22,001	35,394	57,925	72,727	65,875	64,735
New Zealand.....	183	251	767	577	3,084	2,298	2,108	2,225	2,282
Austria.....	116	1,081	2,505	5,544	5,778	6,049	6,215	6,858	.....
Belgium.....	1,133	1,753	3,564	4,757	5,724	7,958	8,113	9,141	9,250
Denmark.....	150	256	787	2,111	4,116	7,153	8,057	4,831	4,925
Finland.....	132	237	664	1,420	1,528	4,592	4,801	4,073	3,958
France.....	686	4,049	9,224	17,850	28,579	26,161	21,713	21,829	.....
Germany.....	960	6,958	21,908	43,909	45,626	58,846	46,824	49,654	49,523
Greece.....	94	287	950	916	1,357	2,007	2,808	2,099	2,572
Iceland.....	8	32	78	133	255	221	218	292	258
Ireland.....	318	359	1,038	2,390	2,658	3,393	3,793	2,799	3,100
Italy.....	722	4,068	5,605	15,108	18,674	23,631	28,131	36,865	37,884
Netherlands.....	953	1,943	4,407	10,723	10,687	12,818	13,483	14,275	14,100
Norway.....	164	304	1,220	6,272	10,281	10,105	9,901	10,293	10,531
Portugal.....	603	680	2,129	1,179	1,896	3,047	4,372	7,763	.....
Spain.....	134	1,045	4,618	7,450	12,581	22,035	28,041	32,676	32,104
Sweden.....	504	802	1,453	3,397	5,568	5,974	6,523	7,714	7,487
Switzerland.....	1,667	2,919	6,961	16,930	20,726	22,283	20,900	19,247	22,027
United Kingdom.....	1,956	3,308	5,201	11,904	15,726	30,070	33,438	27,098	27,121
Developing countries: Total <sup>2</sup> .....	9,648	9,349	33,961	147,438	172,208	187,199	193,584	210,411	.....
By area:									
Africa.....	1,786	2,110	3,962	7,731	7,453	7,549	7,748	8,567	.....
Asia <sup>3</sup> .....	3,793	2,772	8,129	44,476	81,313	99,701	112,141	121,288	.....
Europe.....	269	381	3,345	5,571	7,893	6,820	8,898	12,643	.....
Middle East.....	1,183	1,805	9,436	64,094	47,914	45,897	41,666	43,317	.....
Western Hemisphere.....	2,616	2,282	9,089	25,566	27,635	27,233	23,131	24,596	.....
Memo:									
Oil-exporting countries.....	1,699	2,030	9,956	67,163	51,898	49,146	42,993	43,688	.....
Non-oil developing countries <sup>4</sup> .....	7,949	7,319	24,005	80,275	120,311	138,053	150,590	166,724	.....

<sup>1</sup> Includes data for Luxembourg.

<sup>2</sup> Includes data for Taiwan Province of China.

Note.—International reserves is comprised of monetary authorities' holdings of gold (at SDR 35 per ounce), special drawing rights (SDRs), reserve positions in the International Monetary Fund, and foreign exchange. Data exclude U.S.S.R., other Eastern European countries, and Cuba (after 1960).

U.S. dollars per SDR (end of period) are: 1952 and 1962—1.00000; 1972—1.08571; 1982—1.10311; 1986—1.22319; 1987—1.41866; 1988—1.34570; November 1989—1.28771; and December 1989—1.31416.

Source: International Monetary Fund, *International Financial Statistics*.

TABLE C-107.—Industrial production and consumer prices, major industrial countries, 1962-89

Year or quarter	United States	Canada	Japan	European Community <sup>1</sup>	France	West Germany	Italy	United Kingdom
Industrial production (1977=100) <sup>a</sup>								
1962.....	53.2	46.6	29.2	55.7	50	56.6	49.6	68.4
1963.....	56.3	49.6	32.5	58.1	56	58.2	54.0	70.7
1964.....	60.1	54.1	37.7	62.3	60	63.3	56.1	76.4
1965.....	66.1	58.7	39.2	64.9	61	66.9	58.7	78.6
1966.....	72.0	63.0	44.2	67.4	64	67.5	65.6	79.8
1967.....	73.5	65.5	52.8	68.5	66	65.5	70.7	80.4
1968.....	77.6	69.7	60.8	73.6	68	71.5	74.8	86.5
1969.....	81.2	74.5	70.4	80.5	75	80.6	77.6	89.5
1970.....	78.5	75.5	80.1	84.5	79	85.8	82.6	89.9
1971.....	79.6	79.6	82.3	86.4	84	87.5	82.2	89.5
1972.....	87.3	85.6	86.8	90.2	88	90.8	86.2	91.1
1973.....	94.4	94.7	99.0	96.8	95	96.7	94.5	99.2
1974.....	93.0	97.7	96.7	97.5	98	96.4	98.3	97.3
1975.....	84.8	91.9	86.5	91.0	91	90.5	89.6	92.1
1976.....	92.6	97.5	96.1	97.7	98	98.7	100.0	95.1
1977.....	100.0	100.0	100.0	100.0	100	100.0	100.0	100.0
1978.....	106.5	103.5	106.3	102.8	102	102.7	101.9	102.8
1979.....	110.7	108.5	113.8	107.5	107	107.7	108.7	106.8
1980.....	108.6	104.8	119.0	107.2	107	108.0	114.8	99.8
1981.....	111.0	106.9	120.3	105.1	106	105.9	113.0	96.7
1982.....	103.1	96.5	120.7	103.9	105	102.7	109.5	98.5
1983.....	109.2	102.7	124.5	104.8	105	103.3	105.9	102.2
1984.....	121.4	115.2	136.1	107.2	106	106.2	109.5	102.4
1985.....	123.7	121.6	141.0	110.7	106	111.0	110.7	107.9
1986.....	125.1	121.5	140.8	113.3	107	113.2	114.7	110.1
1987.....	129.8	128.3	145.7	115.6	109	113.7	119.3	114.0
1988.....	137.2	136.3	159.2	120.6	114	117.8	126.4	118.1
1988: I.....	134.5	134.4	156.6	117.6	112.3	115.7	125.0	116.3
II.....	136.0	136.3	157.1	118.7	113.0	116.7	124.4	118.1
III.....	138.4	137.6	160.2	120.6	115.9	119.0	126.2	119.3
IV.....	139.9	136.7	163.1	122.6	115.6	120.0	129.6	118.9
1989: I.....	140.7	137.1	167.7	123.0	117.4	121.2	128.4	118.1
II.....	141.8	138.0	168.1	124.0	119.3	122.1	127.1	117.8
III.....	142.2	137.4	168.8		120.6	125.0	129.5	119.4
IV.....	142.3							
Consumer prices (1982-84=100)								
1962.....	30.2	27.4	24.7	22.7	21.0	43.1	12.6	15.8
1963.....	30.6	27.9	26.6	23.6	22.0	44.3	13.6	16.1
1964.....	31.0	28.4	27.7	24.4	22.7	45.4	14.4	16.6
1965.....	31.5	29.1	29.5	25.3	23.3	46.9	15.0	17.4
1966.....	32.4	30.2	31.1	26.2	23.9	48.5	15.4	18.1
1967.....	33.4	31.3	32.2	26.9	24.6	49.3	16.0	18.5
1968.....	34.8	32.5	34.0	27.9	25.7	50.1	16.2	19.4
1969.....	36.7	34.0	35.8	29.0	27.4	51.0	16.6	20.4
1970.....	38.8	35.1	38.5	30.5	28.7	52.9	16.8	21.8
1971.....	40.5	36.1	40.9	32.4	30.3	55.6	17.6	23.8
1972.....	41.8	37.9	42.9	34.3	32.2	58.7	18.7	25.5
1973.....	44.4	40.7	47.9	37.2	34.5	62.8	20.6	27.9
1974.....	49.3	45.2	59.0	42.1	39.3	67.2	24.6	32.3
1975.....	53.8	50.1	66.0	47.6	43.9	71.2	28.8	40.2
1976.....	56.9	53.8	72.1	52.6	48.1	74.2	33.6	46.8
1977.....	60.6	58.1	78.0	57.7	52.7	76.9	40.1	54.2
1978.....	65.2	63.3	81.3	61.7	57.5	79.0	45.1	58.7
1979.....	72.6	69.1	84.3	67.3	63.6	82.3	52.1	66.6
1980.....	82.4	76.1	90.9	75.3	72.2	86.8	63.2	78.5
1981.....	90.9	85.6	95.4	84.1	81.8	92.2	75.4	87.9
1982.....	96.5	94.9	98.0	92.8	91.7	97.0	87.7	95.4
1983.....	99.6	100.4	99.9	100.2	100.3	100.3	100.8	99.8
1984.....	103.9	104.8	102.1	107.0	108.0	102.7	111.5	104.8
1985.....	107.6	108.9	104.2	113.2	114.3	104.8	121.1	111.1
1986.....	109.6	113.4	104.9	117.1	117.2	104.7	128.5	114.9
1987.....	113.6	118.4	105.0	120.7	121.1	104.9	134.4	119.7
1988.....	118.3	123.2	105.7	124.6	124.3	106.3	141.1	125.6
1989.....	124.0	129.3				109.2	150.4	135.4
1988: I.....	116.4	121.1	104.8	122.7	122.7	105.6	138.6	121.8
II.....	117.7	122.6	105.6	124.1	123.9	106.2	140.0	124.8
III.....	119.0	124.0	105.7	125.2	125.0	106.4	141.5	126.5
IV.....	120.3	125.0	106.5	126.7	125.8	106.7	144.2	129.2
1989: I.....	121.9	126.5	105.9	128.5	126.8	108.2	147.1	131.2
II.....	123.8	128.7	108.4	130.4	128.4	109.3	149.6	135.0
III.....	124.6	130.5	108.6	131.5	129.3	109.3	151.1	136.3
IV.....	125.8	131.5				109.9	153.7	139.0

<sup>1</sup> Consists of Belgium-Luxembourg, Denmark, France, Greece, Ireland, Italy, Netherlands, United Kingdom, West Germany, Portugal, and Spain. Industrial production prior to July 1981 excludes data for Greece, which joined the EC in 1981. Data for Portugal and Spain, which became members on January 1, 1986 are excluded prior to 1982.

<sup>a</sup> All data exclude construction. Quarterly data are seasonally adjusted.

Sources: Department of Commerce (International Trade Administration, Office of Trade and Investment Analysis, Trade Statistics Division) and Department of Labor (Bureau of Labor Statistics).

TABLE C-108.—Civilian unemployment rate, and hourly compensation, major industrial countries, 1960-89

[Quarterly data seasonally adjusted]

Year or quarter	United States	Canada	Japan	France	West Germany	Italy	United Kingdom
Civilian unemployment rate (percent) <sup>1</sup>							
1960	5.5	6.5	1.7	1.5	1.1	3.7	2.2
1961	6.7	6.7	1.5	1.2	.6	3.2	2.0
1962	5.5	5.5	1.3	1.4	.6	2.8	2.7
1963	5.7	5.2	1.3	1.6	.5	2.4	3.3
1964	5.2	4.4	1.2	1.2	.4	2.7	2.5
1965	4.5	3.6	1.2	1.6	.3	3.5	2.1
1966	3.8	3.4	1.4	1.6	.3	3.7	2.3
1967	3.8	3.8	1.3	2.1	1.3	3.4	3.3
1968	3.6	4.5	1.2	2.7	1.1	3.5	3.2
1969	3.5	4.4	1.1	2.3	.6	3.5	3.1
1970	4.9	5.7	1.2	2.5	.5	3.2	3.1
1971	5.9	6.2	1.3	2.8	.6	3.3	3.9
1972	5.6	6.2	1.4	2.9	.7	3.8	4.2
1973	4.9	5.5	1.3	2.8	.7	3.7	3.2
1974	5.6	5.3	1.4	2.9	1.6	3.1	3.1
1975	8.5	6.9	1.9	4.1	3.4	3.4	4.6
1976	7.7	7.1	2.0	4.5	3.4	3.9	5.9
1977	7.1	8.1	2.0	5.1	3.5	4.1	6.4
1978	6.1	8.3	2.3	5.3	3.3	4.1	6.3
1979	5.8	7.4	2.1	6.0	3.0	4.4	5.4
1980	7.1	7.5	2.0	6.4	2.9	4.4	7.0
1981	7.6	7.5	2.2	7.6	4.1	4.9	10.5
1982	9.7	11.0	2.4	8.3	5.8	5.4	11.2
1983	9.6	11.8	2.7	8.5	* 7.1	5.9	11.7
1984	7.5	11.2	2.8	10.0	7.4	5.9	11.7
1985	7.2	10.5	2.6	10.4	7.5	6.0	11.2
1986	7.0	9.5	2.8	10.6	6.9	* 7.5	11.2
1987	6.2	8.8	2.9	10.8	* 6.4	7.9	10.2
1988	5.5	7.8	2.5	10.4	6.3	7.9	8.3
1989	5.3	7.5	.....	10.1	5.7	7.8	6.4
1988: I	5.7	7.8	2.7	10.4	6.4	8.0	9.0
II	5.5	7.7	2.5	10.4	6.4	7.9	8.6
III	5.5	7.8	2.6	10.4	6.3	7.9	8.0
IV	5.3	7.7	2.4	10.2	6.2	7.8	7.5
1989: I	5.2	7.6	2.4	10.1	5.8	7.8	7.0
II	5.3	7.6	2.3	10.1	5.7	8.0	6.6
III	5.3	7.4	2.3	10.2	5.7	7.8	6.2
IV	5.3	7.6	.....	10.1	5.6	7.7	5.9
Manufacturing hourly compensation in U.S. dollars (1977=100) <sup>2</sup>							
1960	35.6	30.1	6.6	15.1	10.5	13.0	24.5
1961	36.7	29.6	7.7	16.6	12.2	14.4	26.1
1962	38.1	28.9	8.8	18.4	13.9	17.0	27.5
1963	39.2	29.8	9.8	20.0	14.8	20.1	28.7
1964	40.9	31.0	11.0	21.8	16.1	21.4	30.5
1965	41.7	32.8	12.4	23.6	17.6	22.9	33.4
1966	43.6	35.5	13.6	25.0	19.1	24.4	36.1
1967	46.0	37.6	15.3	26.8	20.2	26.9	36.7
1968	49.5	40.5	17.8	30.2	21.7	28.7	34.2
1969	53.1	43.8	21.3	30.7	24.1	31.4	37.3
1970	57.0	48.8	25.3	32.3	30.5	38.2	43.2
1971	60.4	54.3	30.2	36.5	35.9	44.7	50.9
1972	63.3	59.4	39.8	44.1	43.4	53.0	60.2
1973	68.2	63.7	54.5	57.5	59.1	62.6	67.3
1974	75.9	75.0	66.4	63.4	69.1	73.2	77.0
1975	84.9	82.5	76.0	87.4	79.9	92.1	97.3
1976	92.0	97.3	81.9	90.4	84.2	89.8	91.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	108.3	100.3	137.0	123.4	124.8	119.8	128.3
1979	118.9	107.6	139.2	148.3	147.0	148.2	169.0
1980	132.8	119.3	143.2	172.9	160.7	169.0	224.7
1981	145.7	133.9	157.6	155.4	138.5	153.4	224.4
1982	158.7	143.8	146.9	152.4	134.8	152.1	212.0
1983	162.7	152.8	158.6	145.2	134.8	158.7	196.9
1984	168.1	152.3	163.5	137.8	126.9	157.5	185.6
1985	176.3	151.3	170.1	145.3	129.9	162.8	192.4
1986	184.3	155.6	252.7	197.8	183.4	217.5	233.7
1987	189.2	171.5	301.0	238.3	230.0	266.2	277.9
1988	196.0	196.1	357.9	249.0	245.0	282.1	326.0

<sup>1</sup> Civilian unemployment rates, approximating U.S. concepts. Quarterly data for France, West Germany, and United Kingdom should be viewed as less precise indicators of unemployment under U.S. concepts than the annual data. Many Italians reported as unemployed did not actively seek work in the past 30 days, and they have been excluded for comparability with U.S. concepts. Inclusion of such persons would about double the unemployment rate for Italy through 1985, and increase it to 11-12 percent for 1986-89.

<sup>2</sup> There are breaks in series for West Germany (1983 and 1987) and Italy (1986). Based on the prior series, the rates for West Germany were 7.4 percent in 1983 and 6.8 percent in 1987 and the rate for Italy was 6.3 percent in 1986.

<sup>3</sup> Hourly compensation in manufacturing, U.S. dollar basis. Data relate to all employed persons (wage and salary earners and the self-employed) in the United States and Canada, and to all employees (wage and salary earners) in the other countries. For France and United Kingdom, compensation adjusted to include changes in employment taxes that are not compensation to employees, but are labor costs to employers.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE C-109.—Foreign exchange rates, 1967–89

(Currency units per U.S. dollar, except as noted)

Period	Belgium (franc)	Canada (dollar)	France (franc)	Germany (mark)	Italy (lira)	Japan (yen)
March 1973 .....	39.405	0.9967	4.5063	2.8131	568.87	261.83
1967 .....	49.689	1.0789	4.9206	3.9865	624.09	362.13
1968 .....	49.936	1.0776	4.9529	3.9920	623.38	360.55
1969 .....	50.142	1.0769	5.1999	3.9251	627.32	358.36
1970 .....	49.656	1.0444	5.5288	3.6465	627.12	358.16
1971 .....	48.597	1.0099	5.5098	3.4829	618.32	347.78
1972 .....	44.019	.9907	5.0443	3.1885	583.68	303.12
1973 .....	38.954	1.0002	4.4534	2.6714	552.39	271.30
1974 .....	38.959	.9780	4.8106	2.5867	650.80	291.84
1975 .....	36.799	1.0175	4.2876	2.4613	653.09	296.78
1976 .....	38.608	.9863	4.7824	2.5184	833.55	296.45
1977 .....	35.848	1.0633	4.9160	2.3236	882.76	268.62
1978 .....	31.493	1.1405	4.5090	2.0096	849.12	210.38
1979 .....	29.342	1.1713	4.2567	1.8342	831.10	219.02
1980 .....	29.237	1.1693	4.2250	1.8175	856.20	226.63
1981 .....	37.194	1.1990	5.4396	2.2631	1138.58	220.63
1982 .....	45.780	1.2344	6.5793	2.4280	1354.00	249.06
1983 .....	51.121	1.2325	7.6203	2.5539	1519.32	237.55
1984 .....	57.749	1.2963	8.7355	2.8454	1756.11	237.45
1985 .....	59.336	1.3658	8.9799	2.9419	1908.88	238.47
1986 .....	44.664	1.3896	6.9257	2.1705	1491.16	188.35
1987 .....	37.358	1.3259	6.0122	1.7981	1297.03	144.60
1988 .....	36.785	1.2306	5.9595	1.7570	1302.39	128.17
1989 .....	39.409	1.1842	6.3802	1.8808	1372.28	138.07
1988: I .....	35.053	1.2665	5.6679	1.6761	1236.27	127.95
II .....	35.726	1.2299	5.7811	1.7082	1269.03	125.74
III .....	39.142	1.2196	6.3262	1.8681	1386.78	133.71
IV .....	37.181	1.2066	6.0563	1.7737	1316.06	125.14
1989: I .....	38.807	1.1921	6.2971	1.8524	1358.39	128.66
II .....	40.468	1.1934	6.5459	1.9335	1408.45	138.15
III .....	40.240	1.1823	6.5018	1.9226	1385.22	142.29
IV .....	38.072	1.1688	6.1688	1.8125	1335.69	143.13

Period	Netherlands (guilder)	Sweden (krona)	Switzerland (franc)	United Kingdom (pound) <sup>1</sup>	Multilateral trade-weighted value of the U.S. dollar (March 1973=100)	
					Nominal	Real <sup>2</sup>
March 1973 .....	2.8708	4.4276	3.2171	247.24	100.0	100.0
1967 .....	3.6024	5.1621	4.3283	275.04	120.0	.....
1968 .....	3.6198	5.1683	4.3163	239.35	122.1	.....
1969 .....	3.6240	5.1701	4.3131	239.01	122.4	.....
1970 .....	3.6166	5.1862	4.3106	239.59	121.1	.....
1971 .....	3.4952	5.1050	4.1170	244.42	117.8	.....
1972 .....	3.2097	4.7570	3.8186	250.34	109.1	.....
1973 .....	2.7945	4.3618	3.1687	245.25	99.1	98.8
1974 .....	2.6878	4.4386	2.9804	234.03	101.4	99.2
1975 .....	2.5293	4.1530	2.5839	222.16	98.5	93.9
1976 .....	2.6448	4.3579	2.5001	180.48	105.7	97.3
1977 .....	2.4547	4.4801	2.4064	174.49	103.4	93.0
1978 .....	2.1642	4.5206	1.7906	191.84	92.4	84.2
1979 .....	2.0072	4.2892	1.6643	212.24	88.1	83.1
1980 .....	1.9875	4.2309	1.6772	227.74	87.4	84.8
1981 .....	2.4998	5.0659	1.9674	202.43	103.4	100.8
1982 .....	2.6719	6.2838	2.0327	174.80	116.6	111.6
1983 .....	2.8543	7.6717	2.1006	151.59	125.3	117.1
1984 .....	3.2083	8.2706	2.3500	133.68	138.2	128.5
1985 .....	3.3184	8.6031	2.4551	129.74	143.0	132.0
1986 .....	2.4485	7.1273	1.7979	146.77	112.2	103.3
1987 .....	2.0264	6.3469	1.4918	163.98	96.9	90.6
1988 .....	1.9778	6.1370	1.4643	178.13	92.7	88.0
1989 .....	2.1219	6.4559	1.6369	163.82	98.6	94.2
1988: I .....	1.8828	5.9906	1.3759	179.91	90.0	84.9
II .....	1.9176	5.9707	1.4194	184.05	90.5	85.5
III .....	2.1081	6.4319	1.5659	169.51	97.6	92.9
IV .....	2.0010	6.1506	1.4946	179.16	93.0	88.6
1989: I .....	2.0910	6.3330	1.5838	174.51	96.0	91.5
II .....	2.1797	6.5494	1.6964	162.59	100.5	95.8
III .....	2.1681	6.5415	1.6585	159.75	100.5	96.1
IV .....	2.0461	6.3952	1.6065	158.53	97.3	93.4

<sup>1</sup> Cents per unit of foreign currency.

<sup>2</sup> Adjusted by changes in consumer prices.

Source: Board of Governors of the Federal Reserve System.



TABLE C-110.—*Growth rates in real gross national product, 1961-89*

[Percent change]

Area and country	1961-65 annual average	1966-70 annual average	1971-75 annual average	1976-83 annual average	1984	1985	1986	1987	1988	1989 <sup>1</sup>
OECD countries <sup>2</sup> .....	5.3	4.6	3.0	2.8	4.8	3.4	2.6	3.5	4.4	4.2
United States .....	4.6	3.0	2.2	2.5	6.8	3.4	2.7	3.7	4.4	3.0
Canada .....	5.3	4.6	5.2	2.7	6.3	4.8	3.1	4.5	5.0	2.9
Japan .....	12.4	11.0	4.3	4.4	5.1	4.9	2.5	4.5	5.7	4.8
European Community <sup>3</sup> .....	4.9	4.6	2.9	2.3	2.5	2.4	2.6	2.7	3.7	3.6
France .....	5.9	5.4	4.0	2.5	1.3	1.9	2.3	1.9	3.4	3.4
West Germany .....	4.7	4.2	2.1	2.4	3.3	1.9	2.3	1.7	3.6	4.3
Italy .....	4.8	6.6	2.4	3.3	3.0	2.6	2.5	3.0	3.9	3.3
United Kingdom .....	3.2	2.5	2.1	1.7	2.2	3.7	3.4	4.7	4.2	2.3
Communist countries <sup>4</sup> .....	4.4	5.0	4.2	2.7	2.3	2.3	3.4	2.0	2.2	2.0
U.S.S.R. ....	4.8	5.0	3.1	2.3	1.4	.9	4.1	1.2	2.1	1.9
Eastern Europe .....	3.9	3.8	4.9	1.3	3.5	.7	2.4	-1	1.3	1.0
China .....	-.2	8.3	5.5	6.6	12.0	12.0	7.5	9.5	11.0	4.0

<sup>1</sup> Estimates.

<sup>2</sup> OECD (Organization for Economic Cooperation and Development) includes Australia, Austria, Belgium, Denmark, Finland, France, West Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, and United Kingdom, not shown separately.

<sup>3</sup> Includes Belgium, Denmark, Greece, Ireland, Luxembourg, Netherlands, Portugal, and Spain, not shown separately.

<sup>4</sup> Includes North Korea and Yugoslavia, not shown separately.

<sup>5</sup> Not available.

Sources: Department of Commerce, International Monetary Fund, Organization for Economic Cooperation and Development, and Council of Economic Advisers.













