

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

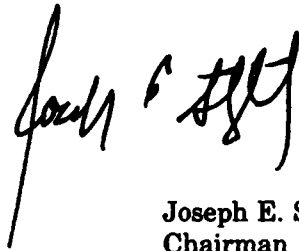
LETTER OF TRANSMITTAL

**COUNCIL OF ECONOMIC ADVISERS,
Washington, D.C., February 10, 1997.**

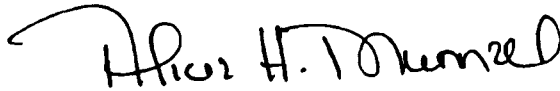
MR. PRESIDENT:

The Council of Economic Advisers herewith submits its 1997 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.

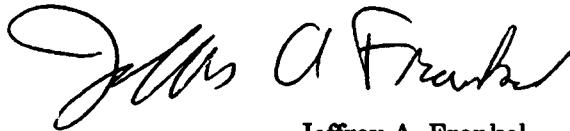
Sincerely,



**Joseph E. Stiglitz
Chairman**



**Alicia H. Munnell
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**Jeffrey A. Frankel
Member-Nominee**

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CHAPTER 1

Growth and Opportunity: Creating a New Economic Order

THE AMERICAN ECONOMY TODAY is the healthiest it has been in three decades. But just as important as the economy's current performance is the foundation being laid for its future health and strength. Like its predecessors, this *Economic Report of the President*, the last of this President's first Administration, summarizes the present state of the economy and the accomplishments of the past 4 years. But it also sets forth the economic legacy this Administration hopes to leave. That legacy includes a vibrant and evolving set of public institutions, investments that will provide the basis for continued growth, and an economic philosophy of government and markets that will help to guide these institutions and investments. Together these will constitute a bequest to future generations, contributing to rising living standards, expanded opportunities, and a greater sense of community.

The real measure of the success of any Administration's economic policies is not just today's economic statistics, but also the strength of the Nation's economy in 10 or 20 years' time. Today's economic policies will be judged favorably if, as a result, growth is stronger, the environment cleaner, and the number of children growing up in poverty fewer. History will pronounce these efforts a success if, a generation from now, opportunity has been expanded in our cities, tomorrow's senior citizens are at least as economically secure as today's, and all our citizens have the education they need not just to cope with but to profit from the challenges of a changing world. If we can look back upon a record of such accomplishments, we will know that the last years of the 20th century laid a solid foundation for the 21st.

No Administration starts with a clean slate: each must work with the assets and the liabilities it has inherited, and each Administration that follows will to some degree reshape and revise what this one has built. We are constrained and enabled not just by our physical and our fiscal inheritance, but also by our intellectual inheritance—by prevailing modes of thought and by the ways in which we and our contemporaries view and approach the world. Consequently, it is hard enough in the present to formulate the

policies that will guide us toward a more prosperous future, harder still to assess today their impact decades hence.

For more than two decades America has faced several serious problems: productivity growth has been slower than in the past, income inequality has increased, and poverty has persisted. In addition, serious challenges loom for the future, such as the aging of the baby boom, which threatens to create severe fiscal strains in the next century. In the last 4 years the Administration has taken important steps to respond to these challenges. Only if we maintain and extend these initiatives will we leave a strong legacy for the future.

This chapter begins by describing what will perhaps be viewed as this Administration's most enduring contribution, the formulation and implementation of an economic philosophy for the 21st century. The economic record, which reflects the policies articulated by this philosophy—policies that have mitigated or reversed many of the undesirable economic trends of the 1980s and early 1990s—is the second subject of this chapter. But the task of preparing for the future is far from complete. The third section of this chapter therefore focuses on the Administration's agenda for promoting the three complementary goals of growth, opportunity, and responsibility.

AN ECONOMIC PHILOSOPHY

At the center of the U.S. economy is the market: vibrant competition among profit-maximizing firms has enhanced economic efficiency and generated innovation, giving the United States one of the highest standards of living in the world. Within this market-based economy, government plays a limited, yet critical, role. It is essential to understand the proper role of government if the economy's strong performance is to continue and to improve.

In the past, two opposing visions of the American economy have vied for dominance. To put it starkly, one is a Panglossian view of an America of vigorous, self-sufficient individualism, the other of a world in which government is primarily responsible for our well-being. The first view is one of Horatio Algiers making their way on their own, of self-reliant entrepreneurs creating wealth from which everyone eventually benefits. In this vision the main job of government is to keep out of the way, to do no harm. This economic worldview has its roots in the writings of Adam Smith, was refined into the classical liberalism of the 19th century, and has persisted into contemporary times in the rhetoric of the Reagan Presidency and its supporters.

The second vision is one that distrusts markets. At its extreme, this is a vision of an America full of monopolistic firms despoiling

the environment and exploiting the masses of workers to earn huge profits for a handful of managers and shareholders. It sees pervasive market failures producing dire consequences, such as farmers and workers precluded from earning a decent living, and large parts of society—particularly in the inner cities and impoverished rural areas—simply left behind. The hero of this vision is government, endowed with both the omniscience and the omnipotence to cure these ills through active intervention in the market. The New Deal crystallized these currents into a new kind of liberalism, in some ways antithetical to the old.

THE NEW VISION

Over the past 4 years, this Administration has promoted a third vision, one that synthesizes and transcends these two polar worldviews. This vision puts individuals at its center, but it emphasizes that individuals live within and draw strength from communities. It recognizes that many have been left behind by the changing economy and may need government assistance, but that the role for government is limited: it can and should promote opportunity, not dependence.

This new vision includes a renewed conception of government—one in which government recognizes both the market's efficiencies *and* its imperfections. The government can sometimes make markets work better, but it is seldom in a position to replace them. Government has its strengths and its limitations. We need to understand those limitations and, where possible, work to improve government's performance. The government cannot ignore the role of market forces in its own programs: it needs to take advantage of the power of incentives to accomplish its objectives.

Critics of government often pose a false dilemma: which can do the job better, the government or the market? Yet the question is seldom whether government should replace the market, but rather whether government can usefully complement the market. On this question a consensus holds that, in many particular circumstances, the answer is clearly yes. In the trough of the Great Depression, for example, one out of four workers was without a job—clearly the market was not performing well. It was that harrowing experience that led to enactment of the Employment Act of 1946 (the same legislation that established the Council of Economic Advisers), which assigned to the Federal Government the responsibility to “promote maximum employment, production, and purchasing power.”

Over the years, economists have identified the various circumstances in which markets fail to produce desirable outcomes, and in which selective government intervention can complement markets. Competition may be imperfect, market participants may

lack needed information, or markets may be missing. Would-be innovators and entrepreneurs may fail to capture enough of the benefits of their activity to justify their effort, or the users of resources, such as clean air and water, may escape the full costs of their use, degrading the resources for all. Although such problems may occur throughout the economy, it is important for the government to focus on those that are particularly severe. Like any successful enterprise, it must identify a core mission and pursue it.

GOVERNMENT'S CORE ECONOMIC MISSION

Government's presence in the economy has become so pervasive that we can easily lose sight of its core mission. A few simple principles can serve as a guide to rediscovering that core mission.

The criterion for government involvement in any activity should not be how essential that activity is to the economy, or how many jobs it generates, or how much it contributes to the trade balance. In the overwhelming number of cases, the government cannot hope to surpass private firms at generating output, jobs, and exports. The proper question in circumstances where a choice between government and the market arises is whether any reason exists *not* to rely on markets. Is there—in the language of economists—a market failure?

The government should focus its attention on those areas in which markets will not perform adequately on their own, in which individual responsibility is insufficient to produce desirable results, and in which collective action through government is the most effective remedy. Americans are better off in a society in which individuals are encouraged to exercise as much responsibility as possible. But both economic theory and historical evidence indicate that, left to themselves, individuals and firms will produce too little of some goods like basic scientific research, and too much of others, such as pollution and toxic wastes. We also know that, without government assistance, many children from disadvantaged backgrounds may not be able to realize their full potential. Government social insurance programs have enabled individuals to make provision for risks that almost all individuals face and that, at the time the programs were launched, markets did not—and still largely do not—address effectively. Among them are programs that provide some insurance against unemployment, retirement benefits secured against the risk of inflation, and medical care for the aged.

It is essential to remember, whenever evaluating an existing government program or contemplating a new one, that the government cannot direct resources to someone without taking resources away from someone else. In a full-employment economy such as the Nation enjoys today and hopes to maintain, misguided subsidies pull resources away from more productive sectors and divert them to-

ward less productive ones. Some individuals gain, but society as a whole suffers a net loss.

To prepare the economy, and the government, for the 21st century, we need to rethink and revitalize our policies to respond to the new challenges. We also need to strip away outmoded programs that respond primarily to problems of the past.

AN INTERNATIONAL VISION

In international just as in domestic economic policy, two fundamentally different visions have long dominated the debate. At one extreme, countries interact atomistically in an undifferentiated world of free trade abroad and free markets at home. In this view, international economic relations are just a matter of opening markets. The other perspective harks back to 18th-century mercantilism, often supplemented with metaphors from the Cold War. It replaces ideological competition with economic competition, and sees the gains on one side of the border coming at the expense of losses on the other. The trade deficit, in this view, replaces the missile gap as the measure of our national inadequacy.

Here, too, this Administration has sought to carve a new path. It recognizes the benefits of free trade, but also the existence of international public goods, not just in the trade arena but in other dimensions of international affairs as well. This new vision does not split the difference between these two views; rather, it recognizes that the vision of trade as war is profoundly wrong. Trade is not a zero-sum game. It does not merely create a winner for every loser: *all* countries can gain. As America's trading partners grow, they buy more U.S. goods and services. As the U.S. economy grows, we buy more of theirs, so that trade can play a catalytic role in a virtuous cycle of ever-higher levels of growth and living standards. The opposite is also true: attempts by many countries in the 1930s to escape from the Great Depression by pursuing beggar-thy-neighbor policies only made everyone worse off.

Defenders of free trade can do it a disservice by promoting it as a way to create more jobs or to reduce bilateral trade deficits. Jobs, the unemployment rate, and the overall balance of payments are ultimately a consequence of macroeconomic policies, not of trade barriers. The real objective of free trade is to raise living standards by ensuring that more Americans are working in areas where the United States is comparatively more productive than its trading partners. In a full-employment economy, trade has more impact on the *distribution* of jobs than on the *quantity* of jobs.

The new philosophy recognizes that unfettered global markets are not, by themselves, sufficient. Markets function best within an institutional environment that makes rules to promote free competition while facilitating the cooperation necessary for a stable

world economy. What is required is general understanding of the issues and difficulties in international trade and mutual commitments, of the kind embodied in the General Agreement on Tariffs and Trade and the World Trade Organization (WTO), not to allow the pleadings of special interests to interfere with the gains that all enjoy from free international trade.

The new philosophy also recognizes that just as domestic public goods will be underprovided by free markets at home, so a decentralized trading system is insufficient to supply public goods that benefit people around the globe. An important example of an international public good is economic cooperation, including that essential to maintaining free trade. Basic research and a clean environment are other examples of international public goods in which cooperation can provide benefits to the United States, while also helping other countries. In making these international public goods available, we need to combine competition in the international marketplace with cooperation in establishing the rules of the game.

THE ECONOMIC RECORD

In 1992, against a backdrop of an uncertain and jobless recovery and rising budget deficits, the then-Governor of Arkansas, campaigning for President, set two basic goals for economic performance in his first term: to establish an economic environment in which more than 8 million jobs would be created, and to cut the Federal budget deficit in half. Both these goals have been surpassed.

THE ACHIEVEMENTS

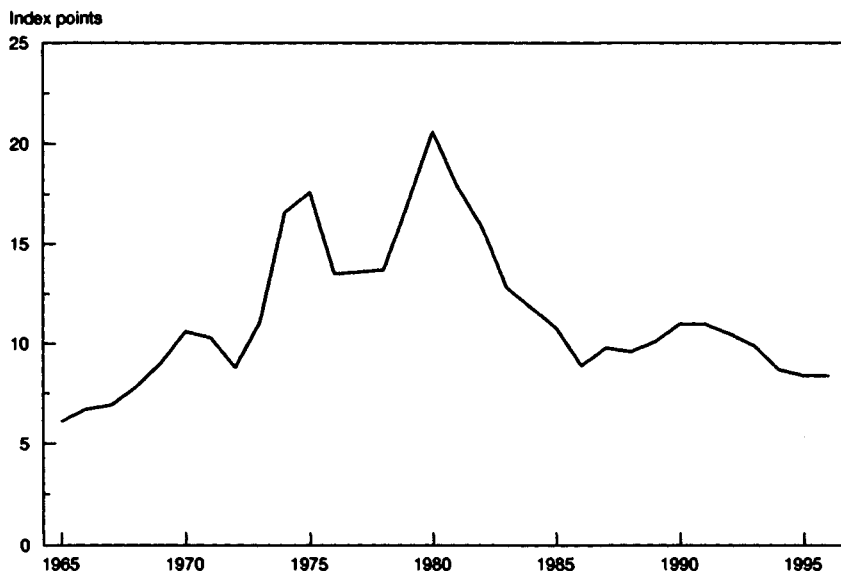
In 1992 the national unemployment rate averaged 7.5 percent. Almost 10 million people were looking for work. Over the last 4 years the unemployment rate has come down to 5.4 percent. Not only has the economy created more than 11 million new jobs, over 3 million more than promised, but the new jobs are mostly good jobs: two-thirds of recent employment growth has been in industry/occupation groups paying wages above the median.

Meanwhile underlying inflationary pressures have subsided. In 1992, inflation as measured by the core consumer price index (the core CPI excludes the volatile food and energy components) was 3.7 percent. In 1996 core inflation was only 2.7 percent. The combination of low unemployment and stable inflation has given the United States the lowest "misery index" since the 1960s (Chart 1-1). Some of the key factors contributing to the economy's increased ability to maintain both stable prices and low unemployment are analyzed in Chapter 2. Among the important ingredients are increasing competition and greater openness to the rest of the world economy.

Economic growth has been strong and sustainable. The economic expansion has been marked by a healthy balance among the components of demand. Private, not public, demand has been the engine of growth. The Administration's initiative to reinvent government has slowed the growth of the public sector. Private sector demand, by contrast, has grown at a 3.2 percent annual rate since the beginning of this Administration, up from 2.4 percent over the previous 12 years. It is particularly heartening to note that investment and exports have led the expansion. Investment is booming: real spending on producers' durable equipment has grown a stunning 11 percent per year since 1993. Not only has investment been the strongest component of demand for the past 4 years, but the new structures and equipment that it represents will remain part of the Nation's capital stock, promoting growth and productivity for years to come. The second-strongest component of growth has been exports, which have increased by 7 percent per year since this Administration took office.

Chart 1-1 The "Misery Index"

The combination of a low unemployment rate and stable inflation has produced the lowest "misery index" since the 1960s.



Note: The "misery index" is the sum of the unemployment rate and CPI inflation.
Source: Council of Economic Advisers based on Department of Labor data.

Just as important as today's conjuncture of growth, unemployment, and inflation is the question of whether the economy can continue to grow, with low unemployment and stable inflation. In terms of sustainability and sound fundamentals, this expansion is

one of the strongest in recent memory. In contrast, much of the growth of the 1980s and early 1990s was fueled by large deficits and a quadrupling of the national debt. This path of growth fueled by government spending could not have continued indefinitely. No less important, over that period changes in the tax system created perverse incentives that led to overbuilding of commercial real estate and high vacancy rates. Although investment rates were high, much of this investment did not enhance the long-run productive potential of the economy. Another factor that bodes well for this expansion to continue is the health of the financial system, which has finally recovered from the debacle of the late 1980s, caused in part by lax regulatory oversight.

Not only has the economy grown rapidly and sustainably, but the fruits of that growth have begun to be shared more equitably. Between 1993 and 1995, the most recent year for which data are available, the poverty rate fell from 15.1 percent to 13.8 percent—the largest 2 year drop in over 20 years. Poverty rates for elderly and for black Americans reached their lowest levels since these data began to be collected in 1959. Not only have the incomes of *every* quintile of the income distribution increased, but the largest percentage increase has been seen by the poorest in American society. Median real household income rose 2.7 percent in 1995—and more if, as some believe, the CPI has been overstating actual inflation. Chapter 5 provides more details on trends in household income and the factors that may account for the recent decrease in inequality, which appears to be larger than the normal cyclical improvement.

THE REASONS

Since 1993 this Administration has developed a comprehensive agenda that has contributed to the Nation's current economic health and strength. The key elements of this agenda are reducing the deficit, opening markets at home and abroad, and restoring prudence to macroeconomic management.

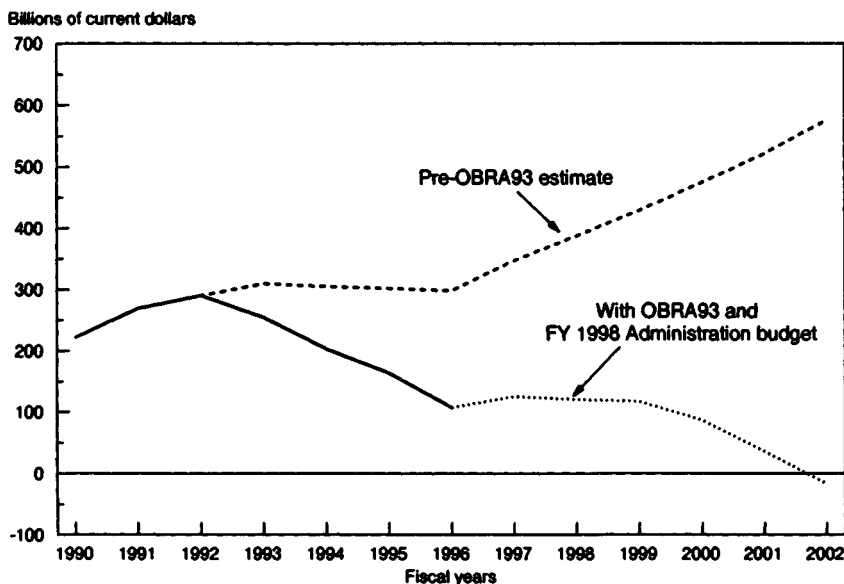
Reducing the Deficit

The Administration's most important economic policy accomplishment has been a substantial reduction in the Federal budget deficit. Since the 1992 fiscal year the deficit has been cut, not just in half as the President promised, but by 63 percent—from \$290 billion in 1992 to \$107 billion in fiscal 1996 (Chart 1-2). As a share of gross domestic product (GDP), the deficit has fallen over the same period from 4.7 percent to 1.4 percent—its lowest level in more than 20 years. In 1992 the U.S. general-government deficit (the combined deficit for all levels of government) was larger in relation to the economy than the deficits of Japan or Germany were

to theirs; today it is a smaller fraction of GDP than in any other major industrialized economy.

Chart 1-2 Federal Budget Deficit

Since fiscal year 1992, the Federal budget deficit has been cut by 63 percent.



Source: Office of Management and Budget.

The dramatic decline in the deficit over the past 4 years is the result of many factors. By far the most important are the fiscal policy changes adopted in the Omnibus Budget Reconciliation Act of 1993 (OBRA93) and the stronger economic performance to which it contributed. Under the policies in place when this Administration took office, the 1996 deficit was projected to rise to \$298 billion, even though the projection assumed 5 years of robust expansion.

Lower spending and increased revenues resulting from OBRA93 and subsequent legislation were responsible for more than \$100 billion of deficit reduction in the fiscal year that ended in September 1996. The remaining budget savings are due to a combination of higher-than-expected tax revenues and lower-than-expected spending, which resulted from the stronger economy and a variety of technical factors unrelated to legislative changes. Many of these economic and technical factors are also the product, although less directly, of the Administration's policies—including the policy of deficit reduction itself. Even though the Administration felt confident that its policies would significantly improve the economy, it continued to use conservative forecasts for budgetary purposes:

growth in every year of this Administration has turned out to exceed these budgetary forecasts.

It is difficult to say with confidence what would have happened had the Administration not put deficit reduction at the top of its economic agenda and pushed through OBRA93. A controlled experiment on the entire macroeconomy is obviously impossible, but a simple analysis can provide some insights. We can say, first of all, that if deficits had continued at the levels projected in 1992, the Federal debt today would be half a trillion dollars higher than the \$3.7 trillion currently held by the public. With so much more accumulated debt, and with higher deficits continuing, interest rates would certainly be higher than they are today. The more restrained fiscal policy helped create conditions that enabled the Federal Reserve to maintain a more expansionary stance—that is, lower short-term interest rates—than it might have otherwise. It is hard to imagine that the rapid expansion of investment in producers' durable equipment that has supported this expansion could have happened in an environment of higher interest rates.

The effect of deficit reduction on business confidence has been less tangible, but no less important. Business confidence was weak in 1992: business leaders felt genuine concern about the mounting deficits and the political system's evident inability to address the underlying issues. Such anxieties are bad for investment. After 12 years of budgetary excess, however, this government has finally showed that it can bring its own finances under control. But confidence is something that has to be continually renewed. That is why this Administration is committed to continuing to reduce the deficit to zero.

In short, had the Administration not put deficit reduction at the top of its economic agenda, the Nation's debt would surely be much larger, and its economic future bleaker, than they are today. And it is unlikely that the economy would have experienced as healthy an expansion as it has.

Opening Markets at Home

Another cornerstone of the Administration's economic strategy has been an aggressive policy of reforming regulatory structures in key sectors of the economy, including telecommunications, electricity, and banking. In reforming electricity and telecommunications regulation, the Administration's belief was that the proper regulatory structure would enhance competition, which would lead to valuable new services and lower prices. Recent financial reforms have provided greater incentives for competition and innovation, in ways that have reduced the overall cost of regulation to both the government and the banking sector itself while preserving and enhancing the safety and soundness of the Nation's banks. On the environmental front, the Administration has shown that regulatory

policies that recognize the importance of incentives can be both cheaper and more effective than traditional regulatory controls. Tradable permits for sulfur dioxide emissions are a prime example. The full import of these and other regulatory changes will not be felt for years to come.

Opening Markets Abroad

The third element of the Administration's economic policy has been an aggressive effort to increase exports through the opening of markets abroad. Two major trade agreements—the North American Free Trade Agreement (NAFTA) and the Uruguay Round accord of the General Agreement on Tariffs and Trade, which established the World Trade Organization—were enacted during the President's first term. The first major fruits of the WTO are now on the horizon, with the December 1996 agreement in Singapore to reduce tariffs on a wide variety of information technology products to zero. The United States will certainly gain, both as a major exporter of information technology and as an importer, as American industries take advantage of new foreign technologies that will lower their costs and increase their productivity. In addition, the value of NAFTA to U.S. exports was proved during Mexico's 1995 financial crisis. Despite Mexico's sharp economic contraction, NAFTA ensured that Mexico kept its markets open to U.S. products, in sharp contrast to the restrictive policies that had followed Mexico's 1982 financial crisis. As a result, U.S. exports were maintained, and by 1996 they had risen to new records. Mexico also benefited because NAFTA prevented any potential recourse to insular and protectionist policies; partly as a result, by the second half of 1995 the Mexican economy had started to recover.

Two other major regional groupings—our Pacific Rim trading partners in the Asia-Pacific Economic Cooperation forum and our Western Hemisphere neighbors engaged in talks toward a Free Trade Area of the Americas—have made commitments toward free trade among their members by 2020 and 2005, respectively. More than 200 other trade agreements have been completed since the beginning of this Administration.

As already noted, U.S. exports have boomed, especially in those areas where trade agreements have been reached. Increased trade allows the United States—and its trading partners—to exploit comparative advantage. These gains from trade are reflected in the fact that wages in jobs supported by goods exports are 13 to 16 percent higher than the national average. Some critics suggest that the growth in exports was simply a matter of exchange rates tilting in favor of the United States. Over the last 4 years, however, the trade-weighted exchange rate of the dollar (a standard measure of exchange rates with all of the United States' principal trading partners) changed by only about 2 percent.

Restoring Confidence in Economic Policymaking

Americans now have more confidence in their government's handling of the economy. Polls show that more Americans rated the conduct of economic policy favorably in November 1996 than at any time in the previous decade. This vote of confidence was the result of a number of factors. First, the government was putting into practice an economic philosophy that not only seemed to be working, but was in accord with the country's basic values. That economic philosophy, as enunciated above, understands both that neither the market nor the government can correct all the shortcomings in American society. Government has a place, but government has to know its place. The initiatives outlined above—from getting the deficit under control to securing the long-overdue passage of a new telecommunications bill—were proof that this philosophy could work.

Not only was the substance of economic policy viewed as a success; so was the process of policy development. The establishment of a National Economic Council (NEC) to oversee that process ensured that the economy would get the same attention within the White House that foreign affairs had gotten since the National Security Council was established nearly 50 years earlier. The NEC has effectively coordinated the inputs of the many Federal agencies, to ensure that the President receives the best options and advice, without setting agency against agency in wasteful internal turf battles. Also, the public differences between the Federal Reserve and the executive branch that had sometimes characterized earlier Administrations were replaced with a respect for the central bank's independence.

THE ECONOMIC AGENDA

The United States still faces major economic challenges. American technology, the economy, and society are all changing rapidly. Instead of ignoring or lamenting these changes, the Nation must embrace them, transforming problems into opportunities. We can do this only if we set a coherent economic agenda. This Administration has already accomplished much with the policies of the last 4 years. In the next 4 years the Administration will continue to build on those policies, holding fast to its new vision of the government's role in the economy as the basis for an agenda to promote growth, opportunity, and responsibility.

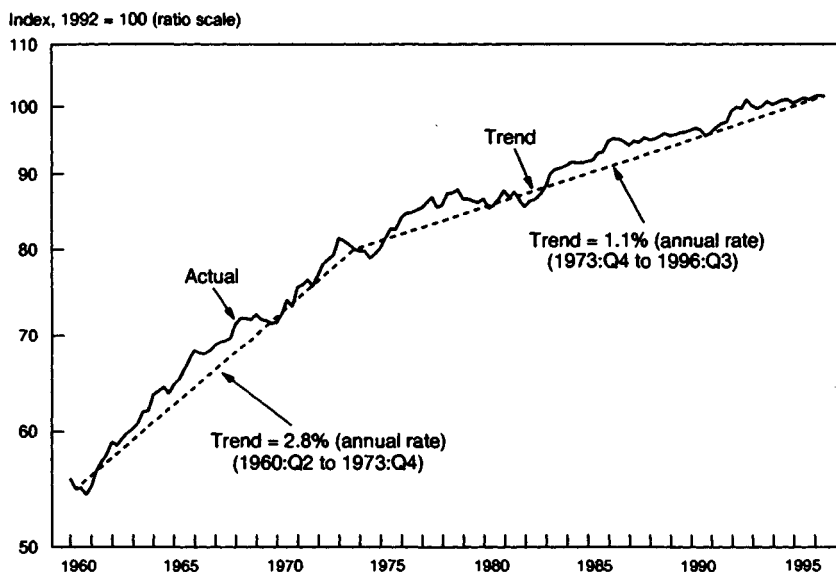
GROWTH

Productivity growth has been slow since the early 1970s. Since 1973, annual rises in productivity in nonfarm businesses have averaged 1.1 percent, a drastic decline from the 2.8 percent annual

average that the Nation enjoyed between 1960 and 1973 (Chart 1-3). Biases in the methods used to calculate these numbers may exaggerate the slowdown (a question taken up in Chapter 2), but something has undoubtedly happened to slow the pace at which output per hour increases (Box 1-1). Slower productivity growth has the direct consequence of retarding increases in the Nation's standard of living. It also places obstacles in the way of solving some of the Nation's other challenges. Americans may be less supportive of freer trade when trade liberalization has been associated, however spuriously, with slower growth. It will be harder to balance the budget over the long term, especially while supporting a growing aged population, when productivity growth is slow. And workers are more reluctant to share their resources with those who are worse off when they feel that their own wages are stagnant.

Chart 1-3 Actual and Trend Labor Productivity

Labor productivity has grown at a 1.1 percent average annual rate since 1973.



Note: Data are for the nonfarm business sector.

Source: Department of Labor.

The sources of economic growth can be grouped under three headings: increases in physical capital, improvements in human capital, and increases in the overall efficiency of the economy—the amount of output per unit of input. The Administration's economic agenda is based on strengthening each of these three pillars of economic growth.

Box 1-1.—Explaining the Productivity Slowdown

The framework that economists use to decompose growth into contributions of physical capital, human capital, and their efficiency can be used to understand the causes of the productivity slowdown. This slowdown, which began around 1973, was similar in its timing and magnitude in all the advanced industrial economies. Consequently, it cannot be explained by purely domestic factors.

Slower growth of inputs—physical capital and human capital—is not a major cause of the slowdown. The capital-labor ratio has grown a bit more slowly since 1973, but only enough to account for 0.2 percentage point of the approximately 2-percentage-point decrease in productivity growth. And the rate of increase of human capital—the education and experience of workers—has actually increased since the 1950s and 1960s. Human capital growth now accounts for not only a larger *share* of productivity growth (27 percent from 1973 to 1994, compared with 3 percent from 1960 to 1973), but a larger absolute amount as well (0.3 percentage point versus 0.1 percentage point). Policies to increase investment, education, and training, however important for other reasons, do not address the underlying causes of the slowdown.

From an accounting perspective, almost the entire slowdown is attributable to a decrease in multifactor productivity growth, that is, the efficiency with which capital and labor are used. Although the causes are murky, some insight comes from the explanation of the productivity *speedup* of the 1950s and 1960s. Some of that era's abnormally rapid productivity growth resulted from the private sector's use for civilian purposes of the burst of innovation—largely government funded—inspired by the war effort in the 1940s. Some important examples are the digital computer, other advances in electronics, and the development of nuclear energy. Thus, although we may not fully understand the causes of the slowdown, policies aimed at increased support for science and technology are obviously strong candidates to be part of the solution.

Increasing Physical Capital

The first pillar of economic growth is increases in physical capital, which enable workers to produce more goods and services. Because it reduces the government's borrowing, deficit reduction will remain the key to how much of national saving is available for private investment in physical capital. The Nation has made great

progress in bringing down the deficit in the last 4 years, but this ground will be lost unless we address the strains that some of the major entitlement programs will place on the budget over the long term. As the population ages, expenditures on Social Security are expected to grow from an estimated 4.7 percent of GDP in 1996 to around 6.4 percent in 2030, then stabilize. A much more serious challenge is posed by Medicare and Medicaid. If nothing is done to reform these programs, their outlays are projected to grow from an estimated 3.9 percent of GDP in 1996 to 13.0 percent in 2050. Their projected growth is due not just to the aging of the population, as in the case of Social Security, but also to the expectation that the volume and intensity of medical services consumed will continue their rapid rise. Chapter 3 analyzes the factors underlying these projections and some of their implications for the future of these programs.

Assuming Federal tax revenues remain at their historically constant level of around 18 percent of GDP, the projected increase in entitlements, especially Medicare and Medicaid, will have one of two effects: either it will balloon the budget deficit, or it will all but crowd out other vital government expenditures, including those necessary to sustain long-term economic growth, such as education and research and development. The deficit reduction of the last 4 years, however, has put the Nation in a position to address these long-term issues in a manner that preserves the important achievements of Medicare, Medicaid, and Social Security.

When the government runs a smaller deficit, it absorbs less private saving and frees up resources for private sector investment. But *public* investments in infrastructure, such as roads, schools, and airports, are also important. It is false economy to release funds for investment in one area by cutting back in another where the need and the return are just as great. Entrepreneurs will be reluctant to build new factories, homes, and offices if the highways and bridges that link them are inadequate for the new traffic they generate.

To be sure, government must take pains to see that every dollar it invests, like every other government dollar, is well spent. We have to think hard about how to put into place incentives that make such outcomes more likely. And we have to think carefully about which public investments should be the responsibility of the Federal Government and which the responsibility of States and localities. But fear of misdirected investment should not lead to underinvestment, because too little investment is costly to future growth. In short, we should not create an infrastructure deficit while attempting to improve the budget deficit.

Improving Human Capital

The second pillar of economic growth is improvements in what economists call human capital: the knowledge, experience, and skills of the workforce. As the economy has changed, the demands imposed on the brainpower of the American workforce have increased enormously. As Chapter 5 reveals, the returns to education, as measured by the difference in incomes between college and high school graduates, have risen sharply in the last 20 years. Much of this difference probably reflects the increasing importance of computer skills in the workplace.

Many American schools do a superb job of human capital formation, but some are failing at the task. Standardized test scores reflect only part of the learning that goes on in schools, yet the fact that American children perform less well on standard science and mathematics tests than many of their foreign counterparts is a continuing source of concern. There is no easy answer.

Recognizing the challenge that these changes pose, the President has set ambitious goals for the Nation's education system: every 8-year-old should be able to read, every 12-year-old should be able to log onto the Internet, every 18-year-old should be able to go to college, and every classroom and library in America should be linked to the Internet.

An array of policies, current and proposed, are directed toward achieving these goals. The America Reads initiative, working through the National Service program, will call on thousands of people to mobilize an army of a million volunteer tutors, dedicated to ensuring that every child in America can read by the age of 8. A good education in the early years of a child's life is necessary, but hardly sufficient to endow that child with the skills that our technological society demands. Therefore, in addition to early-education programs, we need to promote technology in the classroom and encourage young people to take more years of college.

Although the returns to additional years of education are substantial—between 5 percent and 15 percent—without government involvement many students would find it difficult to borrow for college. Not only do they lack a credit history, but they cannot borrow against expected future earnings—human capital cannot be pledged as collateral. The result is a classic market failure: markets by themselves do not provide all the education for which the benefits exceed the costs, even when the benefits are measured only in narrow economic terms. Since the G.I. Bill was passed in the 1940s, the Federal Government has had an acknowledged role in making higher education more affordable. Policies already implemented by this Administration are bringing us much closer to the day when every American who wants to will be able to attend at least 2 years of college. Under the new direct student loan pro-

gram, for example, individuals can borrow money for college directly from the Federal Government and tailor their repayments to suit their own financial circumstances. Seeking to build on the success of this program, the President has also proposed tuition tax credits, to support those seeking higher education, and penalty-free withdrawals from individual retirement accounts, to encourage them to save for it themselves.

Meanwhile the Technology and Literacy Challenge initiative is bringing advanced computer technology into every classroom in the Nation. It is making significant progress toward ensuring that all American students are computer literate, equipped with the skills they will need in the 21st century. Under this initiative, 20 percent of all the schools in California have already been wired to the Internet—a good example of government and the private sector complementing each other. The Federal Government served as entrepreneur for this initiative, but much of the work was done by 50,000 volunteers, with many of the Nation's leading high-technology firms donating equipment. The initiative also stresses the development of educational software and the training of teachers to harness the potential of these new technologies.

Other steps are important in preparing the Nation's educational system for the 21st century. Recent reports have documented the extent to which America's public schools have become dilapidated. Schools with leaky and collapsing roofs have had to be closed. Because students need a more conducive environment in which to learn, the President has proposed \$5 billion in Federal funding to support a program, administered by the States, that would spend \$20 billion for school construction and renovation. Additional efforts are focused on enhancing resources for those communities facing the hardest problems (e.g., those with disproportionate numbers of disadvantaged children), improving standards through the Goals 2000 program, and promoting new approaches through the charter school movement.

Education does not end with college. That is why this Administration has consistently emphasized lifelong learning and employability security, to boost economic growth and reduce the adjustment costs associated with a vibrant economy. Unfortunately, the legacy of past efforts in this sphere has left workers facing a complicated maze of dozens of government-assisted training programs, each with its own rules, regulations, and restrictions. The President has proposed replacing this complex system with a single choice-based system for adults. This system should use a market-oriented approach, relying on training vouchers or grants to empower people directly to seek the training that will help them the most.

Research and Development

The third pillar of growth is greater economic efficiency—learning to produce more output with fewer inputs. Additions to the Nation's technological arsenal through research and development are an important contributor to efficiency: private industry invests over \$100 billion in research and development each year. This is a huge sum, but it may not be enough: history and economic theory suggest that, left to their own devices, private firms will not invest sufficiently in improving technology, because they themselves do not realize the full benefit therefrom. Even though the patent system encourages invention by guaranteeing that inventors retain property rights to their innovations, many very useful ideas developed in more basic scientific research cannot (and should not) be patented.

The Federal Government has long played a critical role in promoting research and development. It has financed growth in telecommunications, for instance, from that industry's inception, with the first Baltimore-to-Washington telegraph line, to its latest major development, the Internet. In agriculture, government-funded research provided the basis for enormous improvements in productivity that today allow less than 3 percent of the workforce to feed the entire Nation, and have made the United States one of the world's leading agricultural exporters.

Detractors of government support for research have often distorted the issue. Some have posed a false dichotomy between basic research, for which public support is almost universal, and technology, which they say should remain the province of the private sector. Yet many areas of technology have huge spillover benefits and therefore would be underprovided without government support. Critics have also accused government of trying to "pick winners"—of seeking to supplant the market at one of the things it does best. But government support of technology is not aimed at outguessing the market. Rather, it is focused on setting up partnerships and other structures to identify, together with the private sector, those areas in which large benefits to society are not likely to be produced by the market alone.

In the spirit of the Administration's new vision for the economy, the Federal Government has placed public-private partnerships at the center of its research and development policy. The Advanced Technology Program (ATP), expanded substantially under this Administration, is a good example. ATP awards matching funds to industry, on a competitive basis, to conduct research on cutting-edge technologies and processes that, despite their great economic potential, might otherwise not have been pursued. The firms themselves set much of the research agenda, but this pairing has been an effective way to leverage government funding into larger increases in

research and development. The record shows that the success rate of this and similar programs is indeed formidable.

Increasing Competition

Improving the efficiency of the economy is not just a matter of improving technology. How the economy is organized plays just as important a role in creating incentives for firms to use their capital and labor as efficiently as possible. If the market economy is to deliver on its promise of growth and prosperity, markets have to be competitive, because it is competition that drives firms to be efficient and innovative. Firms, however, often find it easier to increase profits by reducing competition than by improving efficiency in response to competition. Monopolies and oligopolies not only can charge inefficiently high prices and restrict output, but may also have a diminished drive to innovate.

The traditional way to increase competition is to prevent the growth of monopoly power in the first place. This Administration has restored vigor to the enforcement of the antitrust laws, blocking anticompetitive mergers and, where warranted, prosecuting alleged violators. But competition is not viable in some industries, namely, those called natural monopolies. Antitrust enforcement may be of little help in these areas; instead government regulation can help to ensure that monopoly power is not abused.

The extent and the form of competition are constantly changing. Joseph Schumpeter, one of the 20th century's great economists, described capitalism as a process of creative destruction. New industries constantly come into existence as old industries are destroyed. The late 19th and early 20th centuries saw the transformation of the economy from a mostly agricultural to a mostly industrial one. Today services and information are assuming the lead position, while at the same time demand for U.S. goods is increasingly coming from abroad. Sometimes analysts focus on manufacturing as if it still represented the core of the economy. Manufacturing is important—it is the Nation's largest investor in research and development and its leading exporter—but manufacturing employment today represents only 15 percent of total employment, and service industries also produce many of our important exports, for example in telecommunications, financial services, and other intellectual property.

Today, new technologies have expanded the scope for competition in many sectors that have historically been highly regulated, such as telecommunications and electric power. Traditional regulatory structures, however, with their rigid categories of regulation versus deregulation, and competition versus monopoly, have become increasingly unhelpful in guiding policy in these areas. These new technologies do not call for wholesale deregulation because not all parts of these industries are adequately competitive. Instead they

call for appropriate changes in regulatory structure to meet the new challenges. Such changes must recognize the existence of hybrid areas of the economy, some parts of which are more suited to competition, while others are more vulnerable to domination by a few. Market power in one part of a regulated industry cannot be allowed to maneuver itself into a stranglehold over other parts, or else economic efficiency may be severely compromised. The Administration's regulatory reforms in the telecommunications and electric power industries have attempted to achieve competitive balance.

Even as these changes have intensified competition in some parts of the economy, it remains limited in others. In particular, where goods and services are locally provided, and where transportation costs are high, consumers in some areas may have too little choice, even if providers in the country as a whole are numerous. In parts of the country, for example, a single hospital may be the only one serving a large rural area. In the health care sector, new guidelines for antitrust enforcement were recently issued in response to concerns such as these, and the Administration has resisted attempts to scale back antitrust enforcement in this area. The benefits of competition can be seen in our university system, where competition remains keen—and perhaps partly accounts for the dominant position American universities hold in the world of higher education.

Expanding Trade

The third source of increasing efficiency in the economy is more-open markets abroad. Like the freeing up of domestic markets, opening of foreign markets shifts resources into relatively more productive areas. The Administration will continue to pursue its outward-oriented, protrade agenda through multilateral, regional, and bilateral means, expanding on and bringing to fruition initiatives like the Asia-Pacific Economic Cooperation group and the proposed Free Trade Area of the Americas.

The global economy, like the domestic economy, is evolving, and its change brings with it new challenges. A clean environment, a safe workplace, and competitive markets are important to us internationally just as they are at home. Trade liberalization can complement these goals in many ways. Anticompetitive practices abroad, for example, frequently cohabit with restrictions on trade and may forestall entry of American firms into foreign markets. Liberalizing trade in agriculture can lead to a more environmentally sound international allocation of farming activity. The side agreements to NAFTA, on which the Administration conditioned its approval of the agreement, demonstrate that safeguarding a shared environment, promoting better working conditions, and liberalizing trade are not mutually exclusive goods to be traded

off against each other. Pursuing these goals in the multilateral framework of the WTO will be increasingly important. At the same time, it is important that countries not allow domestic regulation to become a pretext for nontariff trade barriers whose real purpose is to restrict competition.

Some of the fastest-growing economies are the emerging markets of the developing world, many of them in East and Southeast Asia. To grasp fully the opportunities that these new markets offer, the United States needs to strengthen economic relations with these countries. Chapter 7 sets forth some of the principles on which these new relations will have to be built.

Improving Public Sector Efficiency

The fourth and final way to increase the overall efficiency of the economy is by improving the efficiency with which the government itself does its job. By freeing up resources for potentially more productive uses in other sectors, and by reducing the cost of regulation, government reform can raise economy-wide productivity. The Vice President's reinventing government initiative has been doing just that. Thousands of pages of Federal regulations have been eliminated, and thousands more are being streamlined or improved in other ways. Hundreds of obsolete Federal programs have been eliminated, and red tape has been reduced dramatically. The Federal civilian workforce has been cut by more than 250,000, and as a percentage of the Nation's total employment it is now smaller than at any time since the early 1930s (Chart 1-4).

OPPORTUNITY AND INDIVIDUAL RESPONSIBILITY

America cannot reach its full economic potential if any of its assets—including its human resources—do not live up to theirs. Just as the productivity slowdown since 1973 poses a challenge for growth, so the persistence of income inequality and the entrenchment of poverty of the past two decades make it more difficult to ensure that all Americans have the opportunity to make the most of their lives.

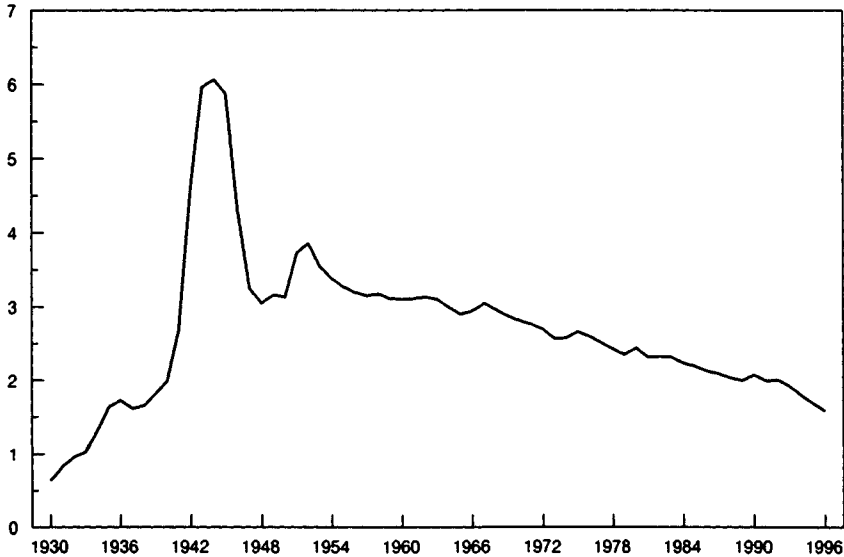
Americans of all incomes participated in the economic growth of the 1950s and 1960s. But in the two decades that followed, not only was overall growth slower, but these shrunken gains were reaped disproportionately by those at the top of the income distribution. As already noted, some evidence suggests that this trend may have begun to reverse itself in the past few years. Chapter 5 discusses trends in inequality and shows that an important contributing factor is the increasing wage gap between educated and uneducated workers.

Another major problem is the persistence in some areas of pockets of poverty. The nationwide poverty rate has hovered between 10 and 15 percent for the past 30 years, but the burdens of poverty

Chart 1-4 Federal Government Employment

The Federal workforce as a percentage of total employment was smaller in 1996 than at any time since the early 1930s.

Percent of nonfarm payroll employment



Note: Excludes Postal Service.
Source: Department of Labor.

have been spread very unevenly throughout American society. The poverty rate for blacks fell to its lowest level in 1995, yet over 40 percent of black children still grow up in poor homes. Poverty seems particularly entrenched—with poverty rates in some cases exceeding 50 percent—in the inner cities and in certain remote rural areas. The gap between rich and poor has a variety of origins. Changes in technology inevitably confer advantages on some parts of the country more than others, and citizens and governments in some places have more effectively seized upon the opportunities offered. Vestiges of discrimination, directed at the large share of minority members in many communities, may also have played a role in the geographic entrenchment of poverty.

Government programs have had much success in reducing inequality and poverty. Government cash transfers lifted over 21 million people out of poverty in 1995, lowering the poverty rate from 21.9 percent to 13.8 percent. If the effect of all taxes, the earned income tax credit (EITC), and the valuation of noncash transfers were included, the poverty rate would be still lower, at 10.3 percent. All told, more than half of all those who are reckoned poor on a before-tax-and-transfers basis escaped poverty with the help of government policies.

We must never allow the Nation's social safety net to become tattered, but it is also imperative to design policies in ways that will

fully integrate our lagging communities into the American economy. The Administration's approach is based on four principles: providing people with opportunities to find work, making sure they have the right incentives to avail themselves of those opportunities, strengthening communities, and easing the transition between jobs for dislocated workers. Education, discussed above in the context of economic growth, also plays an important role in enhancing opportunities.

Work Opportunity

One of the most important contributions that any Administration can make to the Nation's economy is to ensure that every American seeking work can find it. The decline in the unemployment rate from over 7 percent in 1992 to below 5½ percent in 1996 was a major step forward not only for growth, but also for opportunity. But moving welfare recipients into jobs takes more than just creating job openings. Access to transportation, child care, and other infrastructure support will be needed. Many job seekers will also need to acquire the critical "soft skills"—a habit of punctuality, low absenteeism, and so forth—that will make them effective members of the labor force.

Jobs, skills, and infrastructure are all important, but discrimination and its legacy can still place obstacles in the way of some Americans. Some employers continue to deny employment or advancement on the basis of race or sex. This is illegal as well as economically irrational, and the Administration is committed to the vigorous enforcement of equal opportunity laws. But this may not be enough; affirmative action programs, based not on quotas but on principles of advancing opportunity, are also called for.

Incentives

Few individuals consciously choose a life of dependency, whether on public welfare or private charity. True, the environment into which a child is born, and the opportunities he or she is afforded, strongly influence whether that child matures into a productive member of society or becomes dependent on the state. But most economists believe that incentives also play a role in determining that outcome. When a worker earns little more from a minimum wage job than what he or she could get by going on welfare and accepting food stamps and free public housing, the incentive to work is not strong. In the past, the availability of welfare made the effective wage for many low-wage workers (i.e., the addition to income from an extra hour of work) not the advertised \$4 or \$5 an hour, but half of that or less.

Over the past 4 years this Administration has increased the returns to work relative to welfare in several ways. The expansion of the EITC and the recently legislated increases in the minimum

wage have together increased the return to work for low-wage workers, to the point where a full-time, year-round minimum wage worker with two children will receive more income than ever before, even after adjusting for inflation. And the reforms of the welfare system, including the imposition of work requirements and time limits on benefits, may provide further incentives.

Incentives are not only important for individuals, but need to be designed with businesses in mind as well. The President has taken the first step in reforming welfare. As important as the public sector's role in creating opportunity is, however, the private sector must also participate if welfare reform is to result in better lives for those who have depended on support in the past. This Administration challenges the private sector to work with government to help welfare recipients move into the mainstream of work and opportunity. The welfare-to-work tax credit proposed by the President last summer is one example of how the government can help create the incentive for businesses to hire long-term welfare recipients.

Community

Many of the themes of this Administration's economic strategy are drawn together in policies that work not just with and for individuals, but with and for the communities in which they live. Part of any sensible economic strategy for reducing poverty involves concentrating on those areas where, as already noted, poverty is most entrenched. The Federal Government, however, cannot and should not be solely responsible for revitalizing these communities; rather, the most effective strategy is to provide local communities with the resources and tools they need to realize their full potential.

The Empowerment Zone/Enterprise Community initiative incorporates an entirely new approach to community revitalization. Rather than imposing restrictive Federal mandates on America's distressed central cities and rural areas, this effort begins from the premise that local residents know best how to solve their communities' problems. To be considered for an Empowerment Zone or Enterprise Community designation, communities have to meet eligibility criteria, be nominated by their State or local government, and submit a strategic plan that describes the community's vision for its future. This competition for designation provides an incentive for community leaders to develop innovative strategies to address their problems. The designated communities are then provided with access to a combination of flexible grants, tax incentives, and special assistance in removing bureaucratic red tape.

The Administration plans to expand the Empowerment Zone/Enterprise Community initiative. The Community Empowerment Act, which was introduced in the 104th Congress, embodies the Administration's proposal for a second round of zones and communities. This act would designate an additional 20 zones and 80 commu-

nities to receive, over 3 years, \$1 billion in tax incentives and \$1 billion in discretionary funds. The Administration will work with the 105th Congress in securing passage of this extension.

Dislocated Workers

It is a subject of some debate whether the pace of change today is such that individuals are more likely than in the past to lose their jobs. Chapter 4 discusses both the evidence concerning changes in the incidence of job dislocation and its economic consequences. But even if the risk of job loss is no greater than in the recent past, dislocation is still hard on workers and their families. The market does not provide insurance against job loss, which is understandably a source of anxiety for workers. Economists generally endorse the virtues of Schumpeter's creative destruction. But for individual workers and their families the costs of a changing economy are far more apparent than the broader benefits to society from an economy that is better able to adapt to changing technology and markets.

In a variety of ways, government can help individuals make the transition between jobs, and in the process help make the economy more supple, able to respond quickly to changes in markets and technology. Unemployment insurance has long been the most important system of support for dislocated workers. This Administration considers it one of its special responsibilities to help those in transition between jobs. One of the harshest ironies of an economy in which employers provide most health insurance is the fact workers typically lose their health benefits when they lose their jobs—precisely the time when they can least afford to purchase health insurance on their own. The Administration has proposed providing unemployed workers with 6 months of health insurance through the existing unemployment insurance system. At the same time, it is important to help the unemployed find new jobs through job retraining programs and “one-stop shopping” career centers to cushion and facilitate the transition for those hurt by economic change. Finally, the Administration has worked to make benefits more portable between jobs. For instance, the Health Insurance Portability and Accountability Act of 1996 (the Kassebaum-Kennedy bill) ensures that as many as 25 million workers will not be denied health insurance, including coverage of preexisting conditions, at their new jobs. Similarly, pension simplification and improved portability also make it easier to maintain crucial benefits when changing jobs.

CONCLUSION

The American economy is dynamic. This Administration's economic philosophy recognizes that American workers and enter-

prises, interacting through markets, are the source of that dynamism. The strength of this economy is its ability to adapt to change; at the same time, its dynamism sets further change in motion, ultimately enriching the lives and raising the living standards of all Americans.

Government has a limited but essential role in maintaining this dynamism. It creates an economic climate in which individuals and firms can flourish. It promotes competition. It seeks to ensure that all individuals have an opportunity to make the most of their talents. It protects our environment, our health, and our safety. This government's focus embodies elements both of continuity and of change. Many of its basic economic duties—such as enforcing property rights, maintaining a stable currency, and granting patents—are enduring, and the government's role in them is well established. As important as these areas are, this *Report* focuses on those other areas where the government's role is being, and needs to be, redefined.

Government must both adapt to and foster change. The past 4 years have demonstrated that the Federal Government is up to this challenge. And the private sector has more than amply demonstrated that it, too, can fulfill its part in this ever-evolving partnership.

The process is never-ending. Most of the challenges the Nation faces have deep roots in the past. Just as the productivity slowdown and the increase in inequality have no single, simple cause, neither do they have any single, simple solution. No magic policy wand can transport us back to the income distribution or the productivity growth America enjoyed in the 1960s. It takes time to respond effectively to, and even more time to reverse, trends that have been two decades in the making. To take just one example among myriad: the purely economic benefits of Head Start take 15 years or more to ripen—the time it takes for a Head Start child to grow up and join the labor force.

Our assessment of the success of government programs must therefore go beyond their impact on this year's or next year's GDP. Success will be measured by the kinds of lives that all Americans will live in the future. That success will be enhanced by the legacies we leave: not only investments in people, in the tools of production, and in technology that will increase our productivity, but also a philosophy of markets and of government that will guide us in the difficult choices we must make as we reach out toward the 21st century and beyond.

CHAPTER 2

Macroeconomic Policy and Performance

MACROECONOMIC PERFORMANCE over the past 4 years has demonstrated the soundness of this Administration's policies. It has also confirmed the economic analysis presented in the past three *Economic Reports of the President*, refuting critics who predicted the Administration's policies would not work.

In 1993 the President submitted to the Congress a package of measures to reduce the Federal budget deficit that cut Federal spending and raised income tax rates for the roughly 1.2 percent of taxpayers with the highest incomes. At the time, some critics said that these higher tax rates could hurt the economy by blunting incentives to work and to save. Adherents of supply-side theory went further, arguing that a combination of weaker economic performance and increased tax avoidance would result in little or no additional revenue from these higher tax rates. The 1994 *Report* explored this issue and concluded that the proposed increases in tax rates for high-income taxpayers would increase tax revenue without adversely affecting the economy. Three years later this conclusion has been justified. Between 1993 and 1994, households with adjusted gross incomes of \$100,000 or more saw those incomes increase by an average of 9.0 percent while their income tax liability increased by 8.9 percent.

Although only a minority of economists shared the specific concerns of the supply-siders, the more general economic effects of deficit reduction have been an ongoing issue. Both the 1994 and the 1995 *Reports* analyzed the short- and long-run consequences of deficit reduction. They argued that, in the short run, deficit reduction should not cause growth to slow, provided the reduction is credible, financial markets are forward looking, and the Federal Reserve responds with an appropriately accommodative monetary policy. Under these conditions deficit reduction should contribute to lower real interest rates, stimulating interest-sensitive sectors of the economy. Indeed, for the most part, this prediction has been borne out over the past 4 years, with durable goods consumption and private nonresidential and residential investment supporting the expansion. Over the longer run, the *Reports* argued, this policy would

increase saving and investment, thereby augmenting the Nation's stock of productive capital.

In 1996, with the economy growing and the deficit coming down, the question became whether the expansion, then almost 5 years old, was in danger of coming to a halt. That year's *Report* analyzed the reasons why past expansions had ended. It found that expansions do not die of old age. Instead they are brought to an end by specific (if unpredictable) factors, such as a runup of inflation followed by tight monetary policy; weak financial institutions and lack of credit; or a buildup of inventories. The combination of tame inflation, a healthy financial system, and lean inventory-to-sales ratios then prevailing augured well for the expansion to continue—as it did.

This *Report* continues the analysis of salient macroeconomic issues that inform current policy decisions. A number of these relate to inflation. One of the most striking macroeconomic developments of the last few years is the combination of low unemployment with steady inflation. We therefore examine whether changes in the structure of the economy have lowered the unemployment rate that is achievable without risking a rise in inflation—the so-called non-accelerating-inflation rate of unemployment, or NAIRU. Complementing this discussion is an analysis of the costs of inflation in the current economic environment of low and stable inflation and its implications for the conduct of macroeconomic policy.

The chapter then returns to last year's theme of the factors that cause expansions to end, focusing this time on the financial condition of households. We conclude that—notwithstanding recent increases in consumer indebtedness, credit card delinquencies, and personal bankruptcies—the overall financial condition of households poses no obvious threat to the current expansion. Households will also be helped by the recent decision by the Treasury to issue inflation-indexed government securities, discussed in the following section. This innovation will allow the private sector to broaden the array of assets available to households for longer range financial planning, providing greater financial security in retirement.

Economists' understanding of the economy and policymakers' ability to make sound economic and budget decisions are greatly affected by the quality of available economic statistics. This chapter addresses two important measurement issues: the identification of biases in measuring inflation, and the difference between income- and product-side measures of national output. We analyze the extent to which official measures may overstate inflation while understating growth in output, productivity, and the Nation's material standard of living.

Drawing on these analyses, the chapter concludes with a review of the macroeconomic highlights of 1996 and a look ahead, which

suggests that all signs point to continued stable growth. The final section describes the economic outlook and presents the Administration's economic forecast.

THE NAIRU AND ITS EVOLUTION

The nonaccelerating-inflation rate of unemployment is a useful concept for thinking about the state of the macroeconomy. The NAIRU (also called the natural rate of unemployment) is defined as the rate of unemployment consistent with a stable inflation rate. Inflationary pressure tends to increase when unemployment is below the NAIRU, and decrease when unemployment is above the NAIRU. A number of explanations for this phenomenon have been proposed, but one plausible story is that, when unemployment is low, firms have to offer higher wages to attract, retain, and motivate new workers than they do when unemployment is high. Nominal wage growth is passed on to purchasers in the form of faster growth of prices.

PREDICTING CHANGES IN INFLATION

The unemployment rate provides useful information about the future course of inflation. This can be seen in its simplest form by comparing the direction of the change in inflation—as measured by the core consumer price index (CPI), which excludes the volatile food and energy components—with the demographically adjusted unemployment rate. Some groups such as new labor market entrants may have higher “normal” unemployment rates than others. The demographically adjusted unemployment rate weights the actual unemployment rates for different demographic groups by their labor force shares in a given base year, in this case 1993. Inflation rose in the 12 months following 28 of the 32 quarters since 1958 in which the demographically adjusted unemployment rate was below 5 percent, and fell in 26 of the 32 quarters when it was above 7 percent. This empirical regularity is not only strong but also statistically significant (Box 2–1 and Chart 2–1). It shows that the NAIRU appears to have been contained between 5 and 7 percent for the period from 1958 to the present.

More typically, models of the relationship between unemployment and inflation do not just predict whether inflation will rise or fall, but also give some indication of the likely magnitude of this change. The usual result is that the further the unemployment rate is below the NAIRU, the more inflation tends to rise. In Chart 2–2 the demographically adjusted unemployment rate at the beginning of the year is plotted on the horizontal axis, and the change in core inflation over the course of that year on the vertical axis. The downward-sloping line (the regression line) in the chart depicts

Box 2-1.—Unemployment and Changes in Inflation

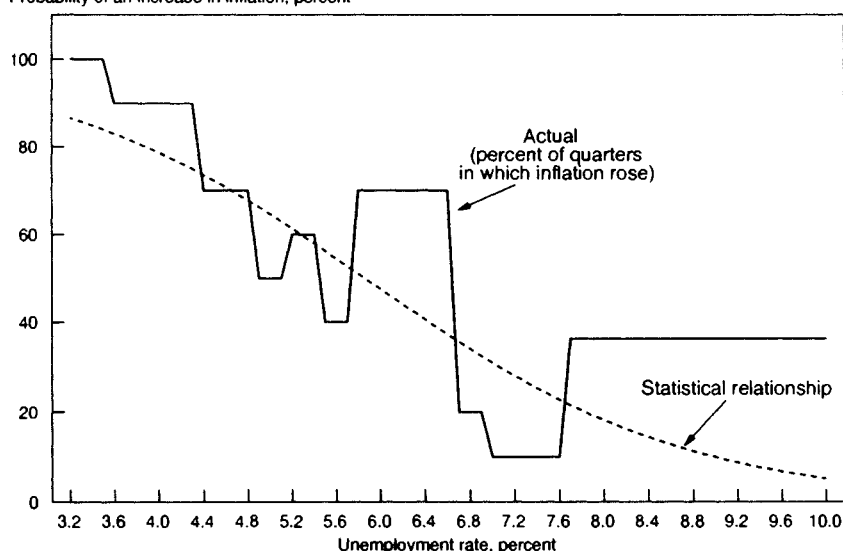
Very few economists have empirically tested the NAIRU hypothesis itself: that inflation rises when unemployment is below the NAIRU, and falls when it is above the NAIRU. The advantage of this basic hypothesis over more structured theories is that it is amenable to tests that are nonparametric, that is, that do not require as many assumptions about how the economy functions. These tests are therefore less sensitive to precise specification.

The relationship between the demographically adjusted unemployment rate and the probability of a rise in inflation is shown in Chart 2-1. For a given range of the unemployment rate, the fraction of quarters in which the core CPI inflation rate rose over the following 12 months is shown in the solid line. The dashed line is the best statistical fit for these data, estimated using a procedure called logit. This relationship supports the simple NAIRU hypothesis: when unemployment is low, inflation is more likely to rise. Further, inflation is about as likely to rise as to fall when unemployment is in the middle range of about 5 to 7 percent.

Chart 2-1 Unemployment and the Probability of Inflation

At very low unemployment rates, the probability that inflation will increase is high. But at higher unemployment rates, it becomes more likely that inflation will fall.

Probability of an increase in inflation, percent



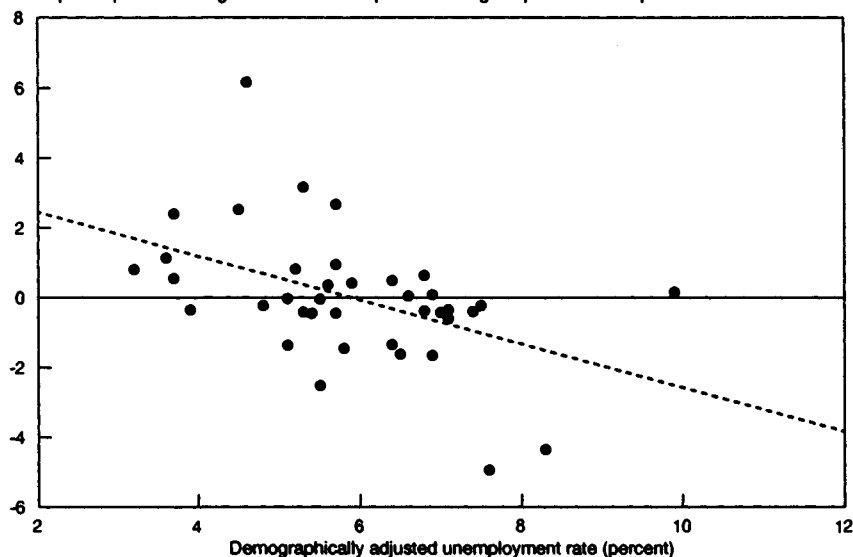
Sources: Department of Labor and calculations by Council of Economic Advisers.

the statistical relationship; it shows that increasing the unemployment rate by 1 percentage point lowers the rate of inflation by around 0.6 percentage point.

Chart 2-2 Changes in Core Inflation and the NAIRU

Each 1-percentage-point rise in the unemployment rate tends to lower inflation by 0.6 percentage point over the following year.

Four-quarter percent change in core CPI less percent change in previous four quarters



Note: Unemployment rate adjusted using 1993 labor force weights.
Source: Department of Labor.

Chart 2-2 illustrates by implication another point: other factors besides unemployment also affect inflation. If the unemployment rate were the only factor affecting inflation, all the points would lie exactly on the regression line (assuming also that this is the correct specification). Instead, some points represent periods when unemployment was low but inflation was falling, and others periods when unemployment was high but inflation was rising. These changes would have escaped any forecaster relying on the unemployment rate alone to predict inflation.

Three extensions to the approach embodied in Chart 2-2 are helpful. First, the NAIRU need not be viewed as an unchanging constant, but instead can be thought of as evolving with changes in the economy. We need to understand how it evolves in order to determine the current level of the NAIRU and thus be able to predict future inflation. This issue is explored in the next section. Second, economic slack is a general concept that is unlikely to be perfectly captured by any single measure. Accordingly, it is useful to employ other measures of slack, such as capacity utilization or job

vacancy rates, in conjunction with the unemployment rate in explaining and predicting changes in inflation. Third, other factors also affect the inflation rate; these are usually grouped under the collective heading of supply shocks. For example, the only two periods of double-digit inflation since the immediate aftermath of World War II occurred in 1974 and in 1979–81; both coincided with large increases in the price of oil. An analyst focusing exclusively on unemployment would not have predicted the severity of these inflations.

CHANGES IN THE NAIRU

The natural rate hypothesis was originally interpreted as implying a single, unchanging NAIRU. Today, however, it is recognized that the evidence is more consistent with a NAIRU that evolves over time. Accepting this time-varying NAIRU raises a number of questions: is it possible to explain why the NAIRU changed in the past, predict how it might change in the future, and perhaps even identify policies that might influence it?

A few years ago, typical estimates of the NAIRU were in the neighborhood of 6 percent. If the same natural rate prevailed today, the fact that the economy achieved below-6-percent unemployment from September 1994 through the end of 1996 should have increased inflation. To calculate the rough magnitude of the expected increase, assume for the sake of argument that the NAIRU is 6.0 percent and that a year in which the unemployment rate is a percentage point below the NAIRU raises inflation by about $\frac{1}{2}$ percentage point. Then the average unemployment rate of 5.5 percent over the roughly 2-year period from September 1994 to December 1996 should have led to about a $\frac{1}{2}$ -percentage-point increase in the inflation rate. Instead, inflation, as measured by the 12-month change in the core CPI, fell from 3.0 percent to 2.6 percent. In contrast to previous experience with unemployment below 6 percent, inflation has fallen rather than risen.

Through 1995 and 1996, inflationary pressures were milder than in previous periods when unemployment was this low—a point discussed in greater detail later in this chapter. Although potentially transitory factors, such as a slowdown in the rise of employee health benefit costs and declining import prices, partly explain why inflation is subdued, the underlying reason is probably that the NAIRU has fallen substantially. The three main forces driving this decline are the changing demographics of the labor force, the delayed alignment of workers' real wage expectations with productivity growth, and increased competition in labor and product markets.

Changing Demographic Structure

Each demographic group can be thought of as having its own natural rate of unemployment: higher for teenagers than for adults, higher for women than for men, and so on. Even if these individual natural rates were constant, the overall NAIRU would change in response to changes in the proportions of these different groups in the labor force. If it is assumed that demographic changes had about the same effect on the NAIRU as they have had on observed unemployment, then about 0.5 percentage point of the decline in the NAIRU since the early 1980s can be attributed to demographic changes. The single most important demographic change is the aging of the baby-boom generation: the United States now has a more mature labor force, with smaller representation of age groups that traditionally have higher unemployment rates.

Productivity Growth and the Wage Aspiration Effect

The second explanation for the decline of the NAIRU can be called the wage aspiration effect. Neither the level nor the rate of change in productivity seems to have any long-run effect on the unemployment rate: the average unemployment rate in different periods has been approximately unchanged despite a century of massive productivity growth and shifts in its trend. Nevertheless, changes in productivity growth can have temporary effects on the natural rate. Workers' demands for increased real wages may depend on past increases, possibly because people get accustomed to a certain rate of increase in their standard of living. But in the long run, real wage growth tracks productivity increases. Thus, after a fall in the productivity growth rate, workers may initially demand wage growth that is faster than increases in productivity can justify. This puts upward pressure on the inflation rate and requires a higher level of unemployment to stabilize the rate of inflation. But this increase in the NAIRU is only temporary, either because the productivity slowdown itself is temporary, or because workers eventually moderate their demands in response to permanently lower productivity growth. Either way, the NAIRU eventually returns to its level before productivity slowed.

This wage aspiration effect raised the NAIRU after productivity slowed beginning in 1973, and its level remained elevated for some time. However, workers have now had time to lower their aspirations for real wage growth to reflect the slower productivity growth, which has helped the NAIRU return to its earlier, lower rate. Altogether, estimates of this effect show it lowering the NAIRU by a meaningful amount since the early 1980s.

Increased Competition: The Changing Structure of Labor and Product Markets

Many of the likely suspects for the remaining decline in the NAIRU fall under the heading of increased competition in product and labor markets. This is partly the consequence of opening of markets at home and abroad through regulatory reform and trade agreements. Although imports meet only a small fraction—around 13 percent—of total demand, the fact that much of the U.S. manufacturing sector faces potential import competition may provide significant wage restraint. Changes in labor market institutions and practices may also have had some salutary effects on inflation, whatever their other impacts. Quantifying these general notions of increased competition and the institutional structure of the labor market is extremely difficult; however, they can plausibly explain much of the decline in the NAIRU that is not accounted for by demography or the wage aspiration effect.

Beneficial Effects of Persistently Low Unemployment

It has been argued that Europe's sustained high level of unemployment has raised the natural rate of unemployment there, in a process called hysteresis. High and sustained unemployment causes the skills of the unemployed to atrophy, limiting their ability to compete for employment. Attempts by the smaller number of employed workers to maintain their wages reinforce this mechanism, also perpetuating high unemployment. The opposite phenomenon may be at work in the U.S. labor market today. With the lower unemployment of the past few years, previously unemployed workers have acquired new skills from on-the-job training. Research has not shown that "reverse" hysteresis has acted to lower the NAIRU in the American economy. But if it has, it means that sustained high unemployment is even more damaging than we thought, because it can raise the NAIRU, and sustained lower unemployment is even more beneficial than we thought, because it can reduce the NAIRU.

Future Evolution of the NAIRU

A number of factors may continue to reduce the NAIRU in the future. Demographic change will probably continue to lower the natural rate of unemployment as the current bulge of workers in the 25- to 54-year-old age bracket moves into the 55-plus age bracket, where the unemployment rate is typically lower. And if hysteresis is operative in the United States, the current spell of low unemployment may help generate a lower NAIRU in the next few years. The other two factors affecting the natural rate are harder to predict, although competition in the economy seems likely to increase with liberalization of international trade and continued regulatory reform.

THE ECONOMIC CONSEQUENCES OF INFLATION

If our growing understanding of the empirical relationship between unemployment and inflation is to inform policy choices—in particular the appropriate stance of macroeconomic policy—it needs to be combined with an analysis of the costs and benefits of inflation and unemployment.

Policies to lower the inflation rate generally cause temporarily higher unemployment. The costs of this unemployment are straightforward: involuntary unemployment imposes substantial hardship on individuals without jobs and represents wasted resources that could be used in production. According to Okun's law, a well-known empirical regularity in economics, every percentage-point reduction in the unemployment rate corresponds to an increase in output relative to potential of about 2 percent. The 2-percentage-point reduction in the unemployment rate since the end of 1992, for instance, corresponds to an increase in annual output of about 4 percent—roughly \$300 billion in total, or \$3,000 for every American household.

Accounting for the costs imposed by high levels of inflation is less straightforward. Inflation is often described as if it were inherently harmful, but this is misleading. People care about the purchasing power of their wages, not about the price level itself. If, for example, the dollar value of everything doubled—including goods prices, salaries, the money in peoples' pockets, bank accounts, and debt—almost no one would be worse off; everyone could buy just as much as before. This general doubling of nominal prices and account balances in the economy would impose one direct cost: the value of the time, effort, and materials that goes into reprinting catalogs, account statements, menus, and the like to reflect the new prices. These costs are minor, however. Instead the potential damage inflation does is for the most part *indirect*, through its effect on the level and distribution of output. In the example just given, if prices and wages doubled but cash and bank accounts did not, the burst of inflation would redistribute resources away from people who held wealth and would thus be very costly to them, whereas debtors would find themselves better off. Inflation also has complicated links to the level and growth rate of output. Although “costs of inflation” is an acceptable shorthand for these links, it is the consequences of inflation, not inflation itself, that are the real concern.

THE EFFECT OF INFLATION ON OUTPUT

A number of economists argue that the current relatively low rate of inflation has substantial adverse effects and that lowering the inflation rate by approximately 2 percentage points, to achieve a situation in which the cost of living is constant (on average),

would bring large benefits. One cost they cite is that taxation of nominal interest income and nominal capital gains distorts saving and investment decisions in an inflationary environment, although in some cases these distortions may offset others elsewhere in the tax system. Other commonly cited costs of inflation, although lower when the level of inflation is lower, would remain significant, in the view of these economists. Whenever *any* inflation exists, people have trouble distinguishing relative price changes from general inflation; inflation thus creates noise in the price system, interfering with its role in allocating resources efficiently. And although higher levels of inflation are associated with greater variability of inflation, even at low levels some risks from its variation exist. The welfare of individuals is lowered, both directly and indirectly, as they take steps to mitigate these risks. These costs may sound small, but some economists argue that they can be quite substantial. More important, even if the gains from eliminating inflation are small for any given year, they can be large when aggregated over time, provided they are permanent.

Although all these costs exist in theory, several studies suggest that, in practice, the benefits of eliminating inflation in a low-inflation country such as the United States are not likely to be large. The argument for zero inflation assumes that the elimination of inefficiencies associated with inflation will raise the level or the growth rate of gross domestic product (GDP), yet studies mostly find a weak link, or none, between the level or the rate of growth of GDP and the level of inflation in low-inflation countries. Because statistical techniques cannot disentangle the many factors that influence growth, however, these studies may have failed to detect small but economically meaningful effects of low inflation. Also, no one doubts that very high inflation rates adversely affect growth.

On the other hand, maintaining price stability might impose its own costs. Some intriguing new research suggests that price stability might lead to a permanent increase in unemployment and a corresponding decrease in the level of GDP. Some evidence suggests, for example, that workers are more resistant to nominal wage cuts than to an equivalent erosion in their real wages due to inflation. If this were the case, then in a moderate-inflation environment, firms could adjust to shocks by letting real wages erode without resorting to layoffs. In a zero-inflation world, layoffs would be more common.

Another potential cost of price stability is that unemployment and output might fluctuate more over the course of the business cycle. At low levels of inflation, policymakers' tools for stabilizing demand would become less effective. For example, zero inflation would preclude using negative real interest rates (i.e., nominal interest rates below the rate of inflation) to stimulate the economy

out of recession. Although monetary policy can affect the economy through other channels, including changing the quantity of credit, establishing a floor under real interest rates could make stabilization more difficult.

THE EFFECT OF INFLATION ON THE DISTRIBUTION OF INCOME

The distributional consequences of achieving zero inflation are not widely recognized. The unemployment required to achieve, and possibly even that to maintain, zero inflation would place a disproportionate burden on the less well off. The winners from zero inflation are harder to characterize precisely. The immediate transition to lower inflation would benefit holders of nominal claims and people on fixed incomes (e.g., unindexed pensions) while increasing the burden on debtors. In the long run as the lower inflation becomes built into expectations, interest rates would fall, and it would have no added effects on debtors or creditors. Zero inflation would, however, be a permanent boon to people with large cash holdings—many of whom live abroad or are engaged in illegal activities. In summary, reaching zero inflation might require the less advantaged to take on a disproportionate amount of the burden of achieving benefits whose size and distribution are uncertain.

RISKS IN MACROECONOMIC POLICY

The previous discussion identified the uncertainties associated with estimating the changing level of the NAIRU. There are also other uncertainties facing policymakers. This Administration has a record of forecasting accurately—but conservatively—output, inflation, and unemployment. But no forecast is without uncertainty. The long and variable lags in all policies, from the initial decision through implementation to the realization of the full effects, create uncertainty about what the right policy should be. Not only do we lack precise knowledge about where the economy will be in, say, 6 months' time, when the effects of today's policy decisions may be felt; often it is hard to know with precision where the economy is today. Good policymaking recognizes this uncertainty and weighs carefully the risks of alternative courses of action. An added advantage of the stable macroeconomic environment achieved over the past 4 years is that those risks are far smaller than they would be in a more volatile environment.

The preceding discussion of the NAIRU and analyses in recent *Reports* set the stage for an evaluation of these risks. On the one hand, expansionary policies that lead to unemployment below the NAIRU may result in a slight increase in inflation, with an accompanying risk of higher unemployment later as the economy returns to its lower inflation level. On the other hand, policies that lead to

unemployment above the NAIRU result in a decrease in inflation, but also a waste of the economy's productive potential, slower growth, and unnecessary suffering, as workers who are able and willing to work cannot find it. Evaluating the risk of more expansionary policies raises several key issues. How high are the costs of a slight increase in inflation? Does the economy stand at a precipice, such that once inflation increases, it is likely to accelerate quickly? How high is the cost of disinflating should the economy overshoot?

Recent research lends support to those who advocate a cautiously expansionary policy: as the preceding discussion suggested, given the United States' recent history of low and stable inflation, slight increases in inflation do not seem to be associated with large costs. And last year's *Report* indicated that the economy does not stand at a precipice: at least in today's stable environment, runaway inflation is not a threat. Moreover, econometric evidence suggests that the relationship between the level of unemployment and inflation is such that the "extra" cost of disinflating—of wringing out inflation by temporarily increasing unemployment above the NAIRU—is no greater than the increased output resulting from the unintended lowering of unemployment below the NAIRU through cautiously expansionary policies. Moreover, the earlier discussion suggested that, in the current environment of low and stable inflation, the benefits of reducing inflation may be lower and those of reducing unemployment higher than had previously been thought.

THE FINANCIAL CONDITION OF HOUSEHOLDS

As 1996 ended, economic fundamentals appeared quite strong. Almost none of the economic symptoms that often precede a downturn, such as financial imbalances or inflationary pressures, were evident at the end of the year. The exceptions to this positive outlook were potentially worrisome trends in consumer indebtedness, credit card delinquencies, and personal bankruptcies. But upon analysis they do not seem to reflect dangerous financial imbalances or presage banking sector troubles. Indeed, at the beginning of 1997 the overall financial condition of households was sound and the banking system was very healthy.

TRENDS IN CONSUMER CREDIT

The past few years have been marked by a rapid rise in consumer credit (which does not include residential mortgage loans) and a subsequent worsening of some indicators of household financial condition. The runup in consumer credit had slowed considerably by the end of 1996, following more than 2 years of double-digit credit growth. Even in 1996, however, consumer credit ap-

pears to have grown faster than disposable income. Reflecting this rise, total required debt-service payments of households (including payments on mortgage debt) have also risen as a share of disposable income.

The largest and fastest-growing type of consumer credit is revolving credit, which consists primarily of credit card accounts (Table 2-1). Banks hold the largest share of consumer credit: almost half of the total outstanding, or about three times the shares held by finance companies and credit unions. Other holders include savings institutions, retailers, and gasoline companies. A large and rapidly rising share of consumer loans is held in securitized pools: loans are packaged by the originator and securities issued against them, which are then sold to investors (Box 2-2).

TABLE 2-1.—*Growth in Consumer Credit Outstanding*

(Percent change; simple annual rates ¹)

Period	Total	Revolving	Automobile	Other	Addendum: Disposable personal income
1993	7.5	11.3	8.8	2.7	3.0
1994	14.5	18.2	13.4	11.8	3.6
1995	14.2	22.0	10.6	9.3	5.5
1996: I	11.9	16.8	8.9	9.0	3.5
II	7.2	12.8	10.2	-2.7	6.7
III	6.9	9.3	9.2	1.4	4.4
October	6.6	3.7	3.2	14.3	.8
November	7.5	8.4	1.6	12.4	6.0
Level, November 1996 (billions of dollars)					
	1,190.6	460.0	377.7	352.8	² 5,690.6

¹ Calculated from published levels.

² Annual rate.

Note.—Annual percent changes are for December to December; quarterly, for last month in quarter to last month in quarter. Data are seasonally adjusted.

Sources: Department of Commerce and Board of Governors of the Federal Reserve System.

The rapid growth in consumer debt in recent years reflects both demand and supply factors. On the demand side, the strong economic expansion and the consequent decline in unemployment and rise in consumer confidence are likely to have increased households' willingness to borrow. Borrowing may also have been boosted by the increases in household wealth generated primarily by higher stock prices. Refinancing of residential mortgages has cut household interest burdens, increasing the amount of consumer debt that households can support. At the same time, a desired rebound in spending on durable goods following the 1990-91 recession may well have stimulated the demand for consumer credit.

On the supply side, the recovery of the banking system following the substantial losses and capital pressures of the late 1980s and early 1990s may have encouraged banks to try to increase lending

Box 2-2.—Securitization of Consumer Loans

In recent years lenders have financed an increasing share of consumer loans by selling them to investors in the form of asset-backed securities. These securities allow investors to purchase a claim on the interest and principal payments generated by a pool of consumer loans. The first sales of such securities occurred only in 1985, but by 1996 more than 20 percent of outstanding consumer loans had been securitized and sold. The largest issuers are the finance subsidiaries of automobile manufacturers, credit card banks, and nonbank credit card issuers. The structure of consumer loan-backed securities varies, reflecting the types of loans being securitized and the needs of the seller. The securities are sold to a variety of investors, including insurance companies, pension funds, and mutual funds.

Automobile loans were the first type of consumer loans to be securitized. More recently, however, credit card loans have become the largest class of securitized consumer loan. In large part this shift reflects heavy securitization by banks, virtually all of which represents sales of credit card loans. A recent Federal Reserve survey of senior loan officers at large banks found two main reasons for the increase in securitization: rapid growth in credit card lending had outstripped banks' willingness to hold such loans on their books, and banks had gained experience in arranging securitizations. In addition, the banks pointed to the capital market's greater receptiveness to securitized loans, and the rising costs of carrying loans on their own balance sheets.

Most securities backed by consumer loans have what are known as credit enhancements, which can substantially reduce default risk. These features include third-party guarantees; "set-asides" in which either the lender puts up money at the time of the sale to cover possible losses, or a portion of the interest paid on the securitized loans is accumulated in a fund for the same purpose; and the sale of a subordinated class of securities that are paid only after payments on the senior securities have been made. As a result, the securities generally obtain top ratings from independent rating agencies. When losses on consumer loans were high during and after the 1990-91 recession, these enhancements proved quite robust: none of the securities missed a payment.

by easing their standards and terms. Simultaneously, three other changes may have reduced the apparent risk of consumer lending relative to other types of loans. First, improvements in computerization and credit scoring may have improved banks' ability to measure and manage consumer lending risk. Second, the development of a market for securitized consumer loans, especially credit card loans, allowed banks to shift some of the risk of these loans to security holders. Third, consolidation in the banking industry may have improved the geographical diversification of banks' consumer loans. Reflecting these trends, Federal Reserve surveys of senior loan officers between 1991 and 1995 consistently showed a net increase in willingness to provide consumer installment loans.

Other supply and demand factors also contributed to the particularly rapid growth in revolving credit. On the household side this rise may reflect, at least in part, increased convenience use of credit cards, as more nontraditional outlets such as grocery stores began accepting credit card payments. This sort of card use also reflects supply-side factors. Card issuers have offered incentives, such as frequent-flyer miles, to cardholders to encourage them to make purchases with their cards. In addition, lenders have aggressively pursued new credit card customers, with extensive promotions including widespread mailings of preapproved applications, and an increased willingness to provide card accounts to riskier customers. Data from the 1995 Survey of Consumer Finances by the Federal Reserve show that the share of lower income households with credit card debt has increased somewhat in recent years. However, the survey also shows that the largest increases in consumer credit use are not among low-income households, but rather among those with incomes of \$50,000 to \$100,000. The expansion in bank credit card activity, in turn, has been driven by the high profitability of credit card lending.

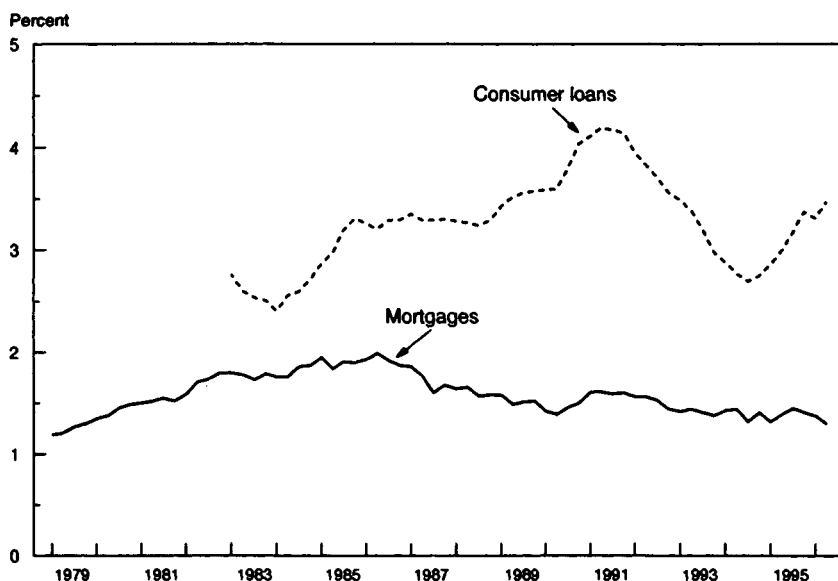
IMPACT ON HOUSEHOLDS

Measures of consumer loan delinquencies and increased losses on bank consumer loans, as measured by net charge-offs, suggest that at least some households are facing significant financial strains. The rise in the charge-off rate over the past 2 years has brought it back to near its 1991 peak. Consumer loan delinquency rates, however, remain well below their previous peak (Chart 2-3).

But both of these patterns need to be put into proper context. In the case of both delinquencies and charge-offs the recent deterioration has been more dramatic for credit card loans than for other consumer loans. For residential mortgages, the other major type of household loan, delinquency rates have declined recently and are near their lowest level in almost two decades. The number of non-

Chart 2-3 Delinquency Rates

In contrast to the rise in consumer loan delinquencies, the mortgage delinquency rate has dropped.



Note: The mortgage delinquency rate is the percentage of all loans 60 days or more past due. The consumer loan delinquency rate is the percentage of loan balances that are 30 days or more past due or nonaccruing.

Sources: Mortgage Bankers Association of America and Board of Governors of the Federal Reserve System.

business bankruptcies, which reached their highest quarterly level ever (more than 290,000) in the third quarter of 1996, represents another possible sign of distress among some households. As discussed in Box 2-3, however, this rise is probably at least partly the result of such factors as changes in bankruptcy law and a number of broader societal changes, which have increased the willingness of households to file for bankruptcy. Nonetheless, the pickup in bankruptcies has surprised many lenders.

One problem in assessing the implications of recent movements in bankruptcies and delinquencies is distinguishing between long-term trends and normal cyclical variations. Normally, as the economy goes into an expansion, bankruptcy and delinquency rates might be expected to decline at first and then rise. Since economic turnarounds are hard to predict, at the beginning of a recovery a large number of firms and households will do better than expected. As a result, delinquency rates will turn out lower than expected. Moreover, the pace of lending increases during recoveries, which may subsequently depress delinquency and loss rates because the new loans are unlikely to become delinquent soon after they are extended. Eventually, however, as banks lower their lending standards in response to their greater optimism about the economy and their own improved financial position, delinquencies and bankruptcies increase.

Box 2-3.—Nonbusiness Bankruptcy: Trends and Causes

The recent rise in nonbusiness bankruptcies is probably the result of changes in bankruptcy law and a number of broader societal changes, in addition to economic conditions. Indeed the trend has been evident for many years. The number of non-business bankruptcy filings was fairly stable between the late 1960s and the late 1970s, but it has grown steadily since from about 200,000 a year in the late 1970s to more than 1 million for the 12 months ending in September 1996.

In recent years about two-thirds of nonbusiness bankruptcies have been filed under Chapter 7 of the U.S. Bankruptcy Code. Under Chapter 7, assets of the petitioner in excess of the State exemption level (if any) are liquidated, and the proceeds are distributed to the creditors. In return, most remaining unsecured debts of the petitioner are "discharged," that is, forgiven. Virtually all other nonbusiness bankruptcies are filed under Chapter 13. Those filing under Chapter 13 are not required to give up any assets but must instead provide a plan under which they will repay a portion of their debts from future income, generally over several years.

Researchers generally attribute much of the increase in bankruptcies since the late 1970s to effects of the Bankruptcy Reform Act of 1978. This act increased the protections available to petitioners and established Federal asset exemption levels that were quite generous compared with State exemption levels. However, the act also allowed States to override the Federal exemption levels, and many did so. The Federal exemption levels were doubled in the Bankruptcy Reform Act of 1994, which may have given further impetus to the rise in bankruptcy filings in 1995 and 1996.

Other economic and social factors may have contributed to the recent rise in bankruptcies. Improvements in the supply of consumer credit likely increased borrowing by households with lower levels of wealth and income, and such households seem more likely than others to file for bankruptcy after a financial shock. Bankruptcies may also have been boosted by a reduction in the social stigma attached to bankruptcy. The increase in the number of divorces may also have contributed. Finally, advertising by lawyers, which became legal in 1977, may have made households more aware of bankruptcy as an option.

As asset quality declines, banks are led to reassess their lending strategies. Recent Federal Reserve surveys have found that about half the banks had tightened their standards for approving new credit card accounts, and a significant share had also tightened some terms on these accounts. About a quarter of the banks reported having tightened lending standards for non-credit card consumer loans. More generally, surveys since the middle of 1996 have indicated that, on balance, banks have become slightly less willing to extend consumer loans.

POSSIBLE EFFECTS ON LENDING INSTITUTIONS AND CONSUMER SPENDING

Increased delinquency rates and loan losses could put the financial position of lending institutions in jeopardy, or they could depress consumer spending and thus adversely affect the economic expansion. Neither outcome appears likely at present.

Today, banks are in sound financial condition. Bank capital and reserve ratios are robust relative to their levels in the mid-1980s, and bank profitability is near record levels. Moreover, despite the rise in delinquency and charge-off rates on consumer loans, overall bank asset quality remains high: measures of business and real estate loan quality are near their best levels in recent years. Finally, credit card loans, which have shown the greatest deterioration, account for only about 5 percent of bank assets. Thus, bank regulators can react in a graduated manner to lending excesses at some banks. Indeed, Federal banking regulators, while continuing to monitor banks' consumer lending activities, have not taken any broad regulatory actions.

Households' spending could be adversely affected by their financial position either directly, because they become unwilling to borrow further to finance continued purchases, especially purchases of consumer durables, or indirectly, because banks become unwilling to lend to them. It seems unlikely that banks will pull back from consumer lending by enough to affect consumer spending on durable goods substantially. Because their condition is healthy, banks can respond to higher losses in a measured way, without drastic reductions in consumer lending. As already noted, the bulk of the loan quality problem appears to be in the credit card sector, where some banks may have eased standards excessively in earlier efforts to gain market share. Nonetheless, profitability among the largest credit card banks, although not as high as it was a few years ago, remains high relative to profits at other banks (Box 2-4).

Banks are also likely to pull back selectively, because rising delinquencies and losses on credit card loans may reflect the behavior of a relatively small group of riskier borrowers who have been able to obtain card accounts in recent years; the fact that other meas-

Box 2-4.—Profitability of Credit Card Operations

The credit card operations of large banks appear to have been far more profitable than other bank activities in recent years. However, competitive pressures and higher loan losses have eroded this difference since the early 1990s.

The profits of the large credit card banks significantly exceeded those of the banking industry as a whole through the late 1980s and early 1990s. In 1993 and 1994, before-tax profits at these banks, which account for about two-thirds of the banking industry's credit card loans outstanding, were roughly 4 percent of outstanding balances. By contrast, banking industry profits, before taxes, were only about 1.7 percent of assets in those 2 years. Since then this large gap has narrowed. Before-tax profits at large credit card banks fell to just 2.7 percent in 1995, and to just 2.1 percent in the first half of 1996. Over the same period, profits for the industry as a whole have increased slightly, to more than 1.8 percent of assets. The relative decline in profits at large credit card banks reflects a rise in loan losses, a reduction in fee income, and narrower interest spreads. Nonetheless, because of rising levels of securitization, returns on assets and equity at these banks remain quite high relative to returns for the industry as a whole.

ures of household financial strength have not deteriorated to the same degree supports this notion. Even the rise in the delinquency rate on non-credit card consumer loans at banks may be an overstatement: these loans include loans for automobiles, the delinquency rate for which may have been boosted in recent years by the shift of many relatively low risk customers to lease financing. Finally, banks may find it difficult to limit credit card lending in the short run, because unused lines of credit are currently more than three times the dollar volume of credit card loans outstanding, and these lines have been growing rapidly.

The high level of indebtedness is also unlikely to affect consumer spending significantly. Indeed, standard theoretical models of consumer spending indicate that indebtedness has no independent effect; consumer spending is determined by income patterns over people's lifetimes. Some research suggests that high levels of indebtedness may have an adverse effect. But in the current situation this effect should be offset by other influences. The ratio of households' net worth to disposable income is as high now as it has been in three decades. Historically, high levels of aggregate net worth relative to disposable income have been associated with high levels of consumer spending. In addition, high levels of consumer confidence should help to bolster consumer spending.

INFLATION-INDEXED SECURITIES

In September 1996 the Treasury announced that it would issue inflation-indexed debt securities starting in early 1997. Inflation-indexed securities provide two main benefits. First, they offer investors an asset that is protected against unexpected inflation. No other financial asset offers the same degree of protection against both credit risk and the risk of inflation. Moreover, financial firms may use indexed securities to provide other assets valued by households, such as indexed annuities. Second, since investors should be willing to accept a lower average yield on securities that provide such a hedge against inflation, a shift from conventional securities to indexed securities of the same maturity is likely to reduce the Treasury's average borrowing costs. Indexed securities offer other benefits as well: the spread that emerges in the market between rates on indexed and on comparable conventional securities will provide better information than is now available about investors' expectations of future inflation, which should prove useful in formulating monetary policy; and indexed securities could reduce the sensitivity of the Federal budget to unexpected fluctuations in real interest rates, by allowing the Treasury to lock in real financing costs over a relatively long horizon.

HOW INFLATION-INDEXED SECURITIES WORK

The first indexed securities issued carry a 10-year maturity. In the future the Treasury will issue indexed securities once each quarter. As with the current 2- and 5-year Treasury notes, the sales are single-price auctions in which all successful bidders receive the same return. Investors can make noncompetitive tenders so that they are assured of receiving securities at the rate determined in the auction. Indexed securities are available in denominations as small as \$1,000, to encourage demand from small savers. The securities can also be stripped, that is, the interest component separated from the principal component to suit the needs of different investors for differing income streams. The Treasury expects to issue one other maturity of indexed security within a year. In addition, the Treasury intends to sell, starting in about a year, inflation-protected savings bonds that pay rates based on those on marketable indexed securities. Conventional EE savings bonds, which are not indexed, will continue to be available.

The principal of indexed Treasury securities is protected from inflation because its value is adjusted periodically (indexed) in line with changes in the consumer price index. The version of the CPI used for these calculations is the CPI for all items for urban consumers (CPI-U), without seasonal adjustment. Investors will receive semiannual interest (coupon) payments based on the indexed

value of the principal. At maturity the indexed value of the principal or the par value, whichever is larger, is repaid. Because the coupon payments are based on the inflation-adjusted principal, both they and the principal of indexed securities are protected against increases in the general price level. The fact that the value of the principal can increase before it is repaid raises special issues of tax treatment, which are discussed in Box 2-5.

Box 2-5.—Tax Treatment of Indexed Securities

Before the first indexed securities were issued, the Internal Revenue Service proposed regulations on their tax treatment. Interest payments on indexed securities will be taxable as current income, as are those on conventional Treasury securities. However, increases in the inflation-indexed principal will also be taxable as interest income. If the CPI-U declines, the resulting reduction in the indexed principal may be used (subject to some limitations) to offset taxation of interest payments on the indexed securities.

Because holders of indexed securities receive the increase in the inflation-indexed principal only at maturity, in periods of high inflation the income tax they owe on the interest plus that on the increase in principal could exceed the interest payment received. The inflation rate at which this occurs depends on the interest rate on the indexed securities and the investor's marginal tax rate. With a real interest rate of 3 percent on indexed securities, for a taxpayer in the 28 percent tax bracket, taxes will exceed interest received if inflation exceeds about 8 percent. Investors in this position could cover the tax payment by selling a portion of their indexed securities. Holders of conventional Treasuries do not face this problem because inflation automatically reduces the real value of their principal.

Of course, many households will invest in indexed securities through tax-deferred accounts such as individual retirement accounts and 401(k) plans. For these investors the tax treatment of indexed securities will generally be immaterial unless they make a taxable early withdrawal. Similarly, holders of inflation-indexed savings bonds (as opposed to marketable indexed securities) will not pay taxes on interest received until maturity.

BENEFITS OF INDEXED SECURITIES

Indexed securities provide households with a savings vehicle that automatically adjusts to compensate for the effects of inflation. History suggests that the returns on most assets do not fully reflect

changes in the inflation rate. Among financial assets, Treasury bills have provided the best protection against inflation (Table 2-2). Stocks and long-term government bonds have not provided such protection. Investments in new homes, and to an even greater degree in existing homes, have provided protection against inflation, but real estate investments are not liquid. Thus, families looking for a flexible and low-cost way to save for future expenditures such as retirement or a child's education should find inflation-indexed securities a valuable new option (Box 2-6). The availability of indexed Treasury securities may also allow private firms to develop other desirable financial instruments, such as inflation-indexed mutual funds and annuities, or to hedge pension liabilities. Indeed, at least one mutual fund manager has already filed with the Securities and Exchange Commission to offer a mutual fund investing primarily in indexed securities.

TABLE 2-2.—Average Increase in Rate of Return When Inflation Rises by 1 Percentage Point
(Percentage points; annualized)

Item	Holding period		
	3 months	1 year	5 years
Financial assets:			
Equities	-1.74	-1.34	-0.54
Long-term government bonds	-.97	-.79	-.11
Treasury bills	.53	.65	.69
Nonfinancial assets:			
New homes (median sales price)	.17	.26	.80
Existing homes (median sales price)	.95	.78	1.16

Note.—Data shown are the slope coefficients on the inflation rate taken from regressions of each rate of return on a constant and CPI inflation over the corresponding holding period.

Returns on financial assets are from Ibbotson Associates; equity returns are for the S&P 500 index.

Data for financial assets begin in 1955; for new home prices, in 1963; and for existing home prices, in 1968.

Sources: Council of Economic Advisers, based on data from Ibbotson Associates, National Association of Realtors, Department of Commerce, and Department of Labor.

Much of the attention surrounding the introduction of indexed securities has focused on their likely impact on households, but indexed securities also raise two important issues for the Treasury. First, many economists believe that the Treasury now pays an inflation risk premium on its intermediate- and long-term conventional securities. In other words, investors require a higher interest rate on these securities to compensate them for the possibility that higher-than-expected inflation will erode the real value of future interest payments and principal repayments received on the security. One recent study concluded that investor concerns about inflation risk might add as much as $\frac{1}{2}$ to 1 percentage point to the required yield on some Treasury securities. Thus, by issuing indexed securities, the Treasury may be able to reduce average borrowing costs.

Box 2-6.—How Indexed Securities Reduce Inflation Risk

The table below illustrates how indexed bonds can reduce the risk of meeting a future expenditure. In this case the expense is the cost of a year of college for a child who is 8 years old today and will be attending college in 10 years. If the cost of a year of college rises at the same rate as the CPI, an indexed security guarantees the parents enough money to cover that cost, no matter how high the inflation rate in the intervening years.

Note that although the indexed security reduces risk, it may underperform the conventional security. In the example shown, if inflation turns out to be only 1 percent, the holder of the conventional security will end up with a larger net return than the holder of the indexed security. However, if inflation turns out to be 5 percent, the holder of the conventional security will end up with a smaller net return and will be unable to meet the cost of college with the security and its accumulated interest.

Savings Outcomes After 10 Years Under Different Inflation Assumptions

[Initial investment of \$10,000; expected inflation of 3 percent]

If inflation turns out to be:	Conventional bond (Subject to inflation risk)	Indexed bond (Not subject to inflation risk)
1 percent	Investment outcome: \$18,771 College cost: 14,728 Net: 4,043	Investment outcome: \$14,845 College cost: 14,728 Net: 117
5 percent	Investment outcome: \$18,771 College cost: 21,718 Net: -2,947	Investment outcome: \$21,891 College cost: 21,718 Net: 173

Note: Real rate of return of 3 percent on indexed bond; nominal rate of return of 6.5 percent on conventional bond (3 percent real rate of return plus 0.5 percent inflation risk premium plus 3 percent expected inflation); current college cost of \$13,333, assumed to grow at the same rate as the CPI; returns are assumed to accumulate tax free.

Source: Council of Economic Advisers calculations.

The second issue for the Treasury is the effect of the indexed securities on the riskiness of Treasury payments: indexed securities increase the risk to the Treasury of having to meet high interest payments if inflation is high. This uncertainty, however, is about the nominal payments that the Treasury will make; indexed securities actually reduce uncertainty about the *real* value of those payments. Fixed real payments on at least a portion of the Treasury's debt may be desirable, since an increase in inflation would increase nominal interest costs but would also be expected to increase nominal GDP and thus tax revenues. This effect of indexed securities on payments made by the Treasury can be seen in the example of

household savings in Box 2-6. Since indexed securities provide for less variation in the real value of the household's savings, they must also provide for less variation in the real value of payments by the Treasury. Thus, indexed securities reduce real uncertainty not only for investors, but also for the Treasury.

Indexed securities may also have implications for monetary policy. Some economists have worried that substantial issuance of indexed securities could reduce the political pressure on the Federal Reserve to keep inflation low, because holders of Treasury securities would become, as a group, less anxious about inflation. On the other hand, indexed securities may increase the government's incentive to fight inflation, because it would not be possible to inflate away the value of inflation-indexed debt.

Whatever the effect on incentives, indexed securities could also provide the Federal Reserve with useful information about real interest rates and investors' expectations of future inflation rates. At present this information can only be inferred from nominal interest rates and survey data on expected inflation. Once a substantial market for indexed securities has developed, policymakers will be able to decompose interest rates for a given maturity into real and inflation-related components. Changes over time in these components may provide useful insights into the working of the economy that can be used in formulating monetary policy.

EXPERIENCE IN OTHER COUNTRIES

A number of other countries already issue indexed securities. The largest issuer is the United Kingdom, which began issuing non-marketable indexed securities in the mid-1970s and marketable ones in 1981. Currently, indexed securities account for about \$60 billion of U.K. marketable debt, about a sixth of the total. The indexed security market in Israel accounts for more than 85 percent of that country's marketable debt, probably because past periods of very high inflation there have made indexed securities more attractive. Australia issued indexed securities as early as 1985, as did Canada, New Zealand, and Sweden, starting in the 1990s. In these countries the share of debt that is indexed remains well below that in the United Kingdom.

Because the issuance of indexed securities in countries with financial systems similar to ours is so recent, one cannot yet use these experiences to evaluate the likely impact of indexed securities in the United States. The relative real returns on conventional and indexed securities (and therefore the relative real payments by the government) depend on the happenstance of inflation, especially unexpected inflation, following the issuance of the securities. As a result, relatively long periods are needed to evaluate their relative returns with any confidence.

Finally, the experience in other countries does suggest that the market for indexed securities may be relatively illiquid. In the United Kingdom, where the indexed security market is largest, indexed securities are traded much less often than conventional securities. Purchasers, who are often pension funds and insurance companies, apparently buy these securities to hold in their portfolios rather than trade them. This pattern suggests that indexed securities satisfy a real need in the market, but the reduced liquidity might raise the return demanded by investors concerned about their ability to sell the securities on short notice at reasonable cost. This "liquidity premium" may offset to some degree the elimination of the inflation risk premium, at least until the new market becomes well established.

MEASUREMENT ISSUES

The quality of economic statistics affects the assessment of economic performance and the formulation of economic policy. The issues of possible bias in the measurement of consumer price inflation and the difference between income- and product-side measures of national output provide two important illustrations.

THE CONSUMER PRICE INDEX

Many researchers have argued that the CPI overstates increases in the cost of living. Much of this research comes from the Bureau of Labor Statistics (BLS), which produces the CPI. This research has identified several possible sources of bias; the degree of consensus on the importance of each varies.

Substitution Bias

The CPI prices a fixed market basket of commodities. Shares of these commodities in the basket are based on spending patterns observed in a base period. But consumers do not buy the same basket of goods from year to year. When the prices of some goods rise more quickly than those of other goods, consumers often substitute away from those that have become relatively expensive and toward others that have become relatively cheap. Increases in the CPI measure how much additional income a typical consumer would need to buy the base-period market basket at the new prices. In contrast, a true cost-of-living index would measure how much more income a consumer needs to maintain the same level of economic well-being, taking into account the ability to substitute among goods. By ignoring substitution, the CPI overstates increases in the cost of living.

Substitution bias takes place at two levels, given the way the CPI is constructed. At the "upper" level, substitution occurs among the basic categories that make up the CPI's market basket—for ex-

ample, when consumers switch from apples to oranges (2 of the 207 categories). But these 207 categories are themselves made up of numerous individual items. For example, the apples category consists of a sample of Delicious, Granny Smith, Macintosh, and other varieties. Thus a second, "lower" level of substitution takes place within categories when the price of, say, Delicious apples rises and consumers shift to other varieties.

The market basket is divided into categories, and each category's weight is determined by its share in total consumption as measured by the Consumer Expenditure Survey. (Data for this survey are collected by the Bureau of the Census under contract with the BLS.) The current categorization is based on 1982–84 data; an updated categorization based on 1993–95 data will go into effect in 1998. The category weights are fixed for approximately 10 years. Within categories, the component weights are updated every 5 years on a rolling basis.

Certain other price indexes, called superlative indexes, take into account consumers' ability to substitute, and hence are not subject to substitution bias. Unlike fixed-weight indexes, superlative indexes use information about consumer purchases, both at the beginning and at the end of the period over which inflation is measured. Using a superlative index to aggregate the 207 expenditure categories, BLS researchers calculated that, on average, annual inflation was 0.14 percentage point per year lower than the change in the official CPI from 1988 to 1995.

Replacement of the CPI with a superlative index might seem an easy fix. But these indexes cannot be constructed in a timely fashion because the required data on spending patterns are compiled almost a year after the corresponding price data. Users would have to accommodate themselves to the inevitable lag or else accept a provisional forecast, to be revised when complete data became available. In contrast, one of the strengths of the current CPI is that it is up-to-date and virtually never revised. Because price indexes are used for several purposes, such as macroeconomic management, adjusting tax brackets, and Social Security payments, it may be desirable to have more than one index: a timely one that is sufficiently accurate for macroeconomic management, and a more accurate but less timely one for other purposes.

Substitution bias within categories is parallel to bias between categories: the current procedure for combining the price increases of individual items in a category is appropriate only if consumers do not make substitutions. Unfortunately, superlative indexes can be used neither to estimate the magnitude of the bias within categories, nor to redress it, because the necessary data on spending patterns are not available at the level of individual items. Instead, researchers have estimated this bias by comparing a geometric

index with the fixed-market-basket index, on the grounds that a geometric index approximates a cost-of-living index if goods are moderately substitutable. (A geometric index, like a fixed-market-basket index, requires only beginning-of-period expenditure shares.) The BLS has estimated that a geometric index measures about 0.25 percentage point per year less inflation than the CPI does at the within-category level.

It is open to debate whether all or only part of this 0.25-percentage-point difference reflects actual substitution patterns, because the conditions under which a geometric index actually approximates a cost-of-living index may not hold. These conditions are likely to apply to the more narrow categories in the CPI, such as apples and oranges, where consumers can easily shift their purchases. However, they may not hold for broad categories such as prescription drugs, where purchases are based on doctor's orders and are little affected by prices. A similar problem occurs in categories like "toys, hobbies, and music equipment," which includes dolls, stamps, guitar picks, and grand pianos—items so different that they cannot plausibly substitute for one another. Another obstacle to substitution occurs where goods are normally used together—such as washers and dryers in the laundry equipment category or carburetors and air filters in the "other automobile parts and equipment" category. For these categories the fixed-market-basket index may only slightly overstate inflation and thus come closer to the truth than the geometric mean.

Even for the narrow categories, the bias from using a fixed market basket may be limited. Within these categories (such as between two varieties of apples) commodities may be highly substitutable. But some evidence suggests that for these categories relative price changes are small.

Quality Adjustment

Measuring inflation properly requires distinguishing between changes in the underlying price and changes in quality. The BLS measures quality changes when it can. Some are easy to measure, for example when bakers double the size of their chocolate chip cookies. Others are more difficult but straightforward: for example, optional automobile equipment that later becomes standard, such as air bags or antilock brakes, can be quality-adjusted by its price when it was sold as an option. Quality adjustments generally have a significant effect on price increases as measured by the CPI. For example, the BLS estimates that in 1995 quality adjustment reduced the increase in the CPI by 2 percentage points compared with what it would have been based on listed prices.

The BLS does not adjust for other, more difficult problems because the agency cannot make direct quality adjustments in the absence of quantifiable data. For example, televisions are less likely

to need repair than they were a decade ago, and some surgical procedures are more likely to be successful today than in the past. But repair rates for televisions and success rates for surgery cannot be computed until years after the purchase. Several studies on quality adjustment are available; most suggest that BLS methods fail to capture a wide range of quality changes. However, these studies focus on a relatively few categories of the CPI—possibly those where the quality bias is presumed largest—making it difficult to assess the magnitude of the overall quality bias in the CPI.

New Products

New products, such as air conditioners in the 1950s or videocassette recorders in the 1980s, usually decline sharply in price during the first years they are available for sale. But these products are not usually included in the CPI basket until years after their introduction, and so the CPI never records their initial price declines.

Outlet Substitution

Over time, consumers may change their shopping patterns, shifting from high-priced to low-priced outlets, where the quality of service is often lower. Current methods assume that all of the difference in price between high- and low-priced outlets reflects differences in the quality of service. To the extent this assumption is not appropriate, current methods overlook one source of price decline.

To sum up, recent research has identified several possible sources of bias in the CPI. A commission appointed by the Senate Finance Committee recently reported on these sources of bias (Box 2–7). The magnitudes of some of these biases are based on hard estimates around which there is broad agreement. On the magnitudes of other biases, however, consensus has yet to emerge.

Implications of CPI Bias for Other Economic Statistics

The CPI is used as an input for calculating many other economic statistics, and therefore the potential biases in its measurement have consequences beyond our view of inflation. The accuracy of many economic measures is critically dependent on how well we measure price changes. Most of the individual consumption items used in calculating real GDP are deflated by component-level price indexes from the CPI. Most of the biases in the CPI result in an overdeflation of GDP, biasing real output growth downward. (Between-category substitution, however, is handled properly in the national income and product accounts.) Productivity is also calculated from real GDP, so overestimates of CPI inflation would lead us to underestimate productivity growth. The accuracy of many other statistics, such as real median household income and

Box 2-7.—Estimates and Recommendations of the Advisory Commission to Study the Consumer Price Index

An advisory commission appointed by the Senate Finance Committee has estimated that the current CPI overstates inflation by 1.1 percentage points per year. Their estimate of bias is the sum of the following parts:

Source of bias	Estimate of bias (percentage points)
Substitution	
Upper level (between-category)	0.15
Lower level (within-category)	.25
New products and quality change	.60
Switching to new outlets	.10
Total	1.1
Plausible range	.8-1.6

The commission made several recommendations based on its findings. It proposed that the BLS establish a cost-of-living index as its objective in measuring consumer prices. It recommended that the BLS develop two indexes: one to be published monthly and the other annually, with historical revision to the annual index. The annual measure should use a superlative index for aggregation at the between-category level and a geometric index at the within-category level. The monthly index would be called the CPI and should move toward geometric weighting at both levels, with the weights kept as up to date as possible.

The commission also recommended that the Congress provide additional resources to expand the surveys upon which the CPI is based. It further advised that the President and the Congress should reevaluate the indexing provisions in various Federal programs and features of the tax code in light of the commission's estimated bias in the CPI.

real earnings, that are directly converted from nominal values by the CPI would also be affected.

Although removing CPI bias would change some of the details of our views of productivity and income trends, it would not radically alter our views on such fundamental issues as the productivity slowdown that began around 1973 or the increase in income inequality over the past two decades. Although bias in the CPI would mean that real growth and productivity have been higher recently than official measures indicate, that bias would also apply to longer term measures of growth and productivity. To explain away the decrease in productivity growth, the CPI would have to be not merely

biased but *increasingly* biased over time. It is certainly plausible that the increased share of the service sector in the economy has made it harder to measure quality, with the consequence that the approximately 2-percentage-point estimate of the slowdown in productivity overestimates the true reduction. Yet it would require an implausibly large increase in CPI bias to explain away the entire slowdown as an artifact of mismeasurement.

Similarly, CPI bias might be depressing measures of real wages, but that does not change the fact that real wages today are growing more slowly than in the 1950s and 1960s. Also, the increase in income inequality described in Chapter 5 is one widely discussed phenomenon that is completely unaffected by CPI measurement: inequality is measured by comparing income between groups; converting to real values is irrelevant, and in any case any bias in the deflator would affect all of the groups equally.

INCOME- AND PRODUCT-SIDE MEASURES OF OUTPUT

Another measurement issue that has a large effect on our assessment of the economy is the difference between two key measures of national output: gross domestic product and gross domestic income. The size of the economy can be measured by adding up either all the output produced (GDP) or all the income generated in producing that output (GDI). In theory these measures should yield the same result, but in practice they differ because of measurement error; this difference is called the statistical discrepancy. Over eight consecutive recent quarters, for example, measured real GDI grew faster than measured real GDP: 3.1 percent versus 2.1 percent at an annual rate from the third quarter of 1994 to the third quarter of 1996.

Which Is More Accurate?

Measurement problems exist on both sides of the accounts. A significant share of the published national income and product accounts estimates consist of extrapolations based on various indicators and trends until the full annual revision, when most of these projections are replaced with more complete and consistent source data. The latest year to have passed through the usual annual revision process is 1994.

The major problem on the output side is the measurement of services consumption, where about 30 percent of reported output is based on projections until the annual revision, and State and local purchases, where the figure is about 25 percent. The measurement problems in services consumption may be getting worse, as sales in such new and rapidly growing areas as casino gambling, cellular telephone service, and on-line services are not fully measured.

On the income side, estimates of several components of nonwage income, especially proprietors' income, are on shaky ground. Unlike

the projections on the product side, which are for the most part replaced with more complete source data during the annual revision, the income projections are replaced only with a very long lag or, in some cases, never. For example, the problems with proprietors' income may persist, as such income is chronically underreported, and the correction for underreporting is based on an out-of-date (1988) taxpayer compliance study that has been discontinued.

In several ways the recent behavior of the economy is more consistent with the strength shown on the income side. Several economic relationships are currently misbehaving. Although the errors in each of these relationships are within their historical ranges, together they add up to a suspicion that the product-side measure of GDP is understating real growth:

- According to Okun's law, the unemployment rate is stable when GDP is growing at its potential rate, and falls when GDP is growing faster than its potential. Through the middle of 1994, potential output appeared to be growing a bit over 2 percent per year. Thus the 2.1 percent per year growth between the third quarter of 1994 and the third quarter of 1996 should have resulted in a stable unemployment rate. Instead, the unemployment rate dropped almost 0.4 percentage point per year. The drop in the unemployment rate is, however, perfectly consistent with the growth rate of real GDI over these 2 years (3.1 percent).
- Personal income tax payments in 1996 for the 1995 tax year were far higher than expected by the Treasury or the Congressional Budget Office, yet these estimates were calibrated to the relatively high income-side estimates—suggesting that even more income may have been generated than the official estimates of the Bureau of Economic Analysis indicate.
- The real product wage (hourly compensation deflated by the prices received by producers) usually rises at the same rate as labor productivity growth. But over the last 2 years the real product wage has grown at a 1.8 percent annual rate—much faster than the official measure of productivity, which has grown at only a 0.3 percent annual rate. However, income-side productivity (discussed below) has grown at a more compatible 1.6 percent annual rate over this period.

Implications for Recent Productivity Growth

Nonfarm business productivity can be measured using either an income- or a product-side measure of real output. The BLS formerly measured productivity on the income side (except for the advance estimate). Then, in February 1996, the agency changed to a product-side measure, in part to minimize revisions between their advance and their final estimates.

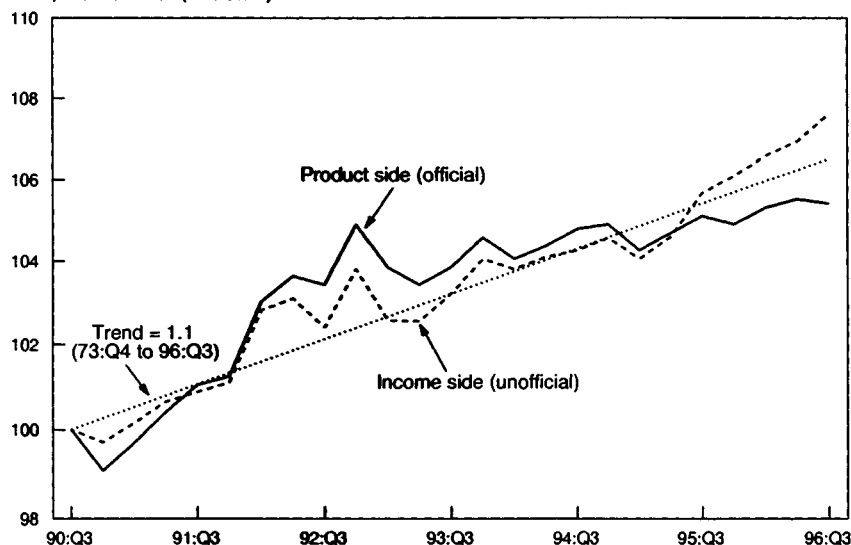
The recent difference between the two measures of productivity growth is dramatic. According to the official (product-side) measure, productivity growth has slowed to only a 0.3 percent annual rate over the past 2 years. In contrast, the income-side measure shows a 1.6 percent annual rate of growth over the same period. Similarly, over the 6 years since the last business-cycle peak, productivity has grown at a 0.9 percent annual rate by the official measure but at a 1.2 percent annual rate on the income-side measure.

The difference between the income- and the product-side measures of output obscures our view of recent productivity growth. The best guess is that productivity has been trending upward at about a 1.1 percent annual rate during the current business cycle. This rate is no different from that measured over the entire post-1973 period (Chart 2-4).

Chart 2-4 Alternative Measures of Productivity

Growth in the official measure of nonfarm productivity has been below trend recently, but growth in the income-side measure has been above trend.

Index, 1990:Q3 = 100 (ratio scale)



Sources: Department of Labor, Department of Commerce, and Council of Economic Advisers.

REVIEW AND OUTLOOK

OVERVIEW OF 1996

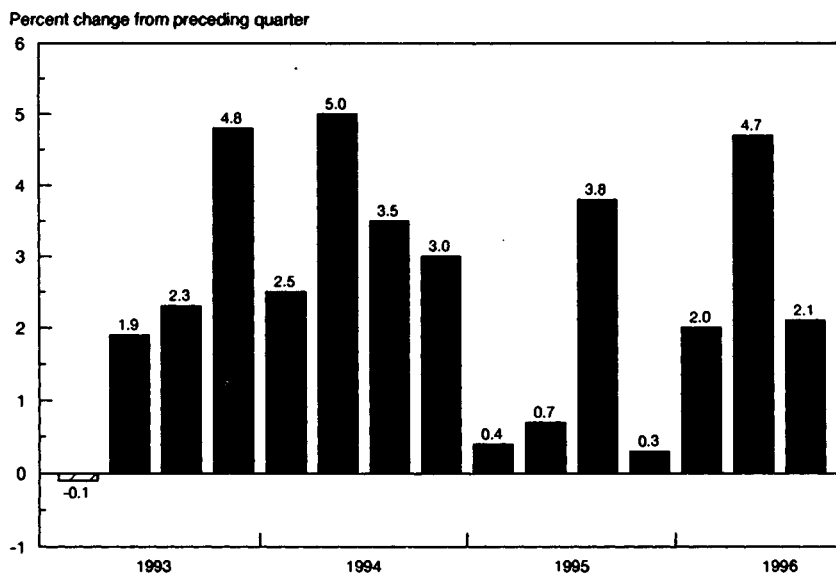
Economic growth exceeded expectations in 1996. In February 1996 the Administration had forecast that real GDP would grow 2.2 percent over the four quarters of 1996. This forecast was in line

with private forecasts at the time. As growth picked up in the first half, that forecast was revised upward to 2.6 percent in July 1996. The consensus of private forecasters now indicates that real GDP expanded 2.8 percent in 1996.

Growth over the last several quarters has been solid, but has fluctuated. Chart 2-5 shows that real growth was weak in the fourth quarter of 1995 and recovered slightly in the first quarter of 1996. Several transitory factors account for that sluggishness: the dispute between the President and the Congress over the budget, which led to two partial Federal Government shutdowns in the fall of 1995 and the following winter; unusually severe weather in January; and a March strike at a major automobile manufacturer. Much of the strong growth in the second quarter of 1996 was directly traceable to the rebound from these factors. Growth moderated in the third quarter to a 2.1 percent annual rate. However, as discussed above, the product- and income-side measures of output diverged: whereas real GDP was estimated to have increased at only a 2.1 percent annual rate in the third quarter, real GDI grew at a 4.2 percent annual rate. Estimates of fourth-quarter GDP are unavailable as this *Report* goes to press, but other data indicate that growth was robust.

Chart 2-5 Growth in Real GDP

Despite some fluctuations from quarter to quarter, growth has been solid.



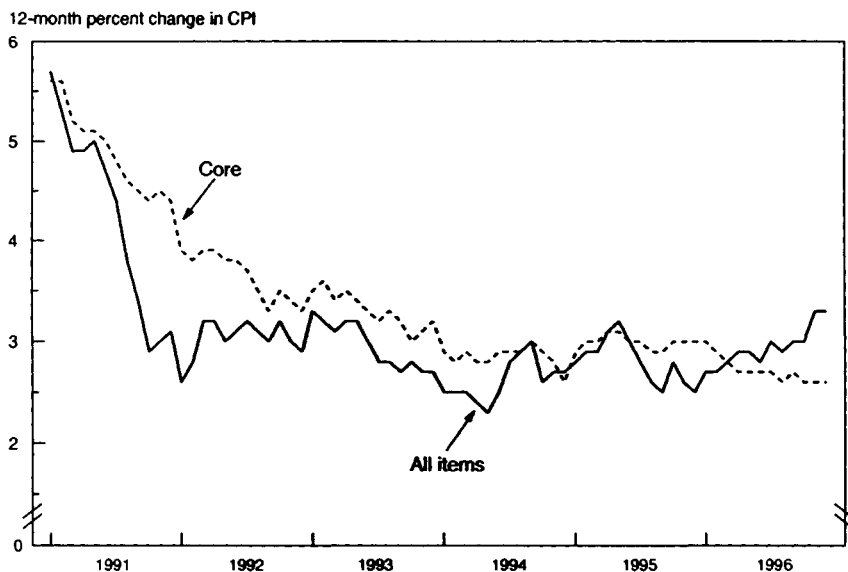
Note: Changes are at annual rates.
Source: Department of Commerce.

After holding fast at around 5.6 percent for all of 1995, the unemployment rate edged down about 0.3 percentage point over the 12 months of 1996. As measured by the *Current Employment Statistics* survey of the BLS, nonfarm employment grew at a brisk pace of 240,000 per month during the first 8 months of the year. But reflecting the deceleration in output in the second half, employment growth moderated to 162,000 per month over the last 4 months of 1996. Since January 1993, payroll employment has increased by 11.2 million.

Inflation, as measured by the 12-month change in the CPI, rose in 1996 (Chart 2-6). All of the increase, however, was attributable to the acceleration in food and energy prices. An acceleration in these prices was anticipated in the Administration's forecast. The core CPI, which excludes these volatile components, moved down 0.4 percentage point from its year-earlier pace to 2.6 percent for the 12 months ending in December 1996. This deceleration was somewhat surprising given the decline in the unemployment rate (Chart 2-7) and the strong growth over the first half of the year. But as the earlier discussion of the NAIRU showed, the ability of the economy to sustain low unemployment and low inflation is the best it has been in years.

Chart 2-6 **Consumer Price Inflation**

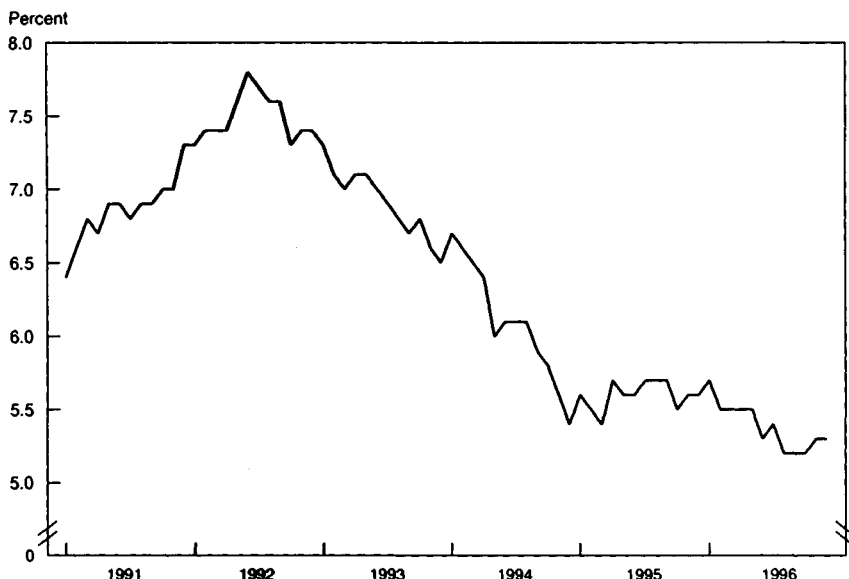
Excluding the volatile food and energy components, consumer price inflation edged lower in 1996.



Source: Department of Labor.

Chart 2-7 **Civilian Unemployment Rate**

Unemployment fell below 5.5 percent in the first half of 1996 and remained low.



Source: Department of Labor.

Solid growth was achieved in 1996 despite a fiscal policy that has been very restrictive. The standardized-employment deficit (that which would result if the economy were at full employment) as a share of potential nominal GDP has fallen in each of the past 4 years, for a cumulative total of 2.1 percent of potential GDP. As a result, the Federal budget deficit in the 1996 fiscal year fell to only 1.4 percent of actual GDP on a unified-budget basis. Both the President and the Congress are committed to eliminating the deficit; hence fiscal policy should continue to tighten in the intermediate term. In 1997, however, the standardized-employment deficit as a share of potential GDP is expected to rise slightly from 1996.

With inflation contained and the economy expanding at a sustainable pace, the Federal Reserve kept the Federal funds rate flat after lowering it in January 1996. Over the course of the year, long-term interest rates ebbed and flowed with the pace of economic activity, rising from early in the year through the summer, declining in the fall, and then rising again toward the end of the year.

Private Domestic Spending

Consumption expenditures grew at a 3.4 percent annual rate in the first half of 1996, with growth concentrated in durable goods, which expanded at nearly a 10 percent pace. Purchases of new automobiles grew rapidly in the first quarter, and expenditures on

other durable goods also picked up substantially in the first half. Spending on durables was probably stimulated not only by lower interest rates, but also by the rise in household wealth due in part to the very substantial increase in stock prices. The high level of mortgage refinancing activity last winter may also have contributed to the pickup by reducing households' mortgage payments.

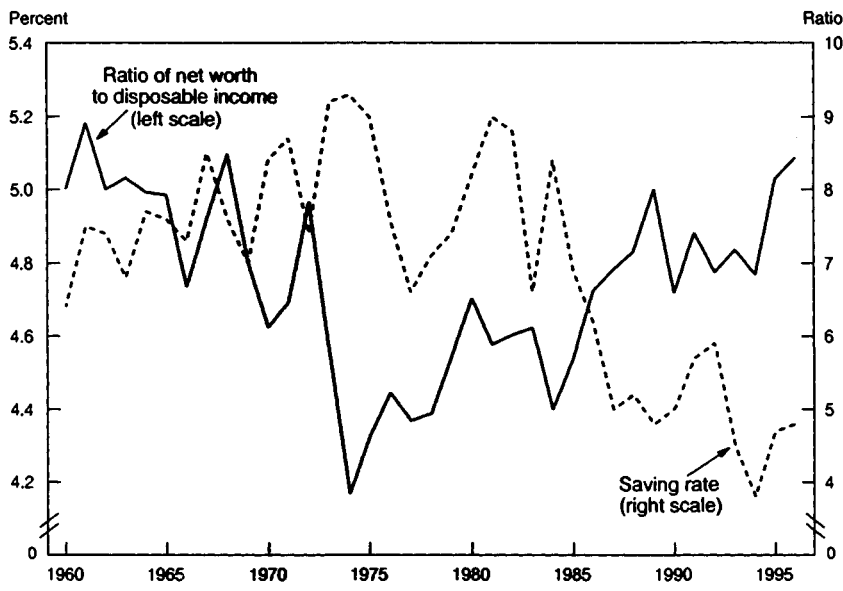
Consumer spending growth slowed substantially in the third quarter. Again the effect was most dramatic for consumer durable goods, partly reflecting the effects of higher intermediate- and long-term interest rates. In addition, higher debt burdens and rising delinquency rates on consumer loans may have led some households to limit spending and some banks to tighten lending standards. However, the discussion of the financial condition of households earlier in this chapter suggests that concerns about consumer distress may have been exaggerated. Consumer fundamentals remain positive: consumer confidence is high, income growth is healthy (real disposable personal income expanded at a better than 3 percent rate over the four quarters ending in the third quarter of 1996), and the growth in household liabilities has been offset by rapid growth of assets. Moreover, as Chart 2-8 shows, the saving rate tends to be low when the ratio of net worth to income is high—at least over long periods; this ratio is at its highest level since 1969. Thus, it is likely that the third-quarter slowdown in consumption will prove largely temporary. Indeed, advance retail sales for the fourth quarter indicate a pickup.

The general soundness of the household sector is affirmed by the market for new homes. Residential investment expanded rapidly through the first half of 1996 despite harsh winter weather early in the year and rising long-term interest rates through the late winter and spring. In part, the effect of higher rates may have been offset by a substantial shift of purchasers to adjustable-rate mortgages, which offer considerable upfront savings. Moreover, despite the rise in rates, measures of housing affordability were the highest they have been since the 1970s. Residential investment did fall in the third quarter, perhaps reflecting the continued rise in interest rates over the summer. However, residential construction appears to have rebounded in the fourth quarter: new home sales were well maintained through November, and inventories of unsold new homes were low relative to sales. Long-term interest rates declined in the fall, with the rate on conventional mortgages retracing about half of its rise earlier in the year. Housing starts, after declining in September and October, increased sharply in November, although they fell back again in December.

As it has been over most of the expansion, private fixed investment was a bright spot in 1996. Investment in producers' durable equipment was particularly robust, growing at a better than 13

Chart 2-8 Wealth and Saving

The saving rate tends to fall when the ratio of net worth to income rises, but 1995 and 1996 did not conform to this pattern.



Note: Data for 1996 are for third quarter; household net worth estimated by Council of Economic Advisers. Sources: Department of Commerce and Board of Governors of the Federal Reserve System (unpublished data).

percent annual rate through the third quarter, with computer investment especially strong. In part this strength is likely to have reflected firms' efforts to upgrade their equipment in a period of increasing demand, substantial profits, and rapid technological change.

In contrast, business investment in structures rose more modestly in the first three quarters of 1996, as this sector continued to grow out from under the large excess supply resulting from overbuilding in the 1980s. Construction in the office segment rebounded in the second and third quarters following declines in late 1995 and early 1996. Construction of industrial buildings fell off in early 1996, although it rebounded late in the year.

Investment in nonfarm business inventories declined in late 1995 as firms took steps to work off excess stocks. This effort continued into 1996, and with the March auto workers' strike cutting automobile inventories sharply, overall inventories declined in the first quarter. Inventory investment remained low in the second quarter, probably reflecting the unexpected strength in demand and, perhaps, further efforts by some firms to limit stocks. Inventory investment picked up in the third quarter, however, as final sales slowed and some firms may have moved to replenish stocks. Yet despite the third-quarter rise, inventory-to-sales ratios remained

historically lean, suggesting that the increase should not cause a drag on production into 1997.

International Influences

The Nation's trade deficit expanded in the first three quarters of 1996, riding a combination of strong domestic demand and weaker activity in foreign markets. In real terms the deficit on trade in goods and services (on a national accounts basis) reached a 2-year low in the fourth quarter of 1995. The deficit expanded in each of the three subsequent quarters. This increase reflected a large rise in imports. Real imports of goods and services over the first three quarters rose at a 10.0 percent annual rate, while exports increased at only a 2.2 percent rate. In 1996, slower growth in economic activity in our major foreign markets negatively affected U.S. exports. Although weak growth in our trading partners was the main cause of the increased deficit, the strength of the dollar against the yen and the major continental European currencies may also have played a small role.

In Canada, our largest export market, growth has been slowing for the last 2 years: the Organization for Economic Cooperation and Development estimates growth for 1996 at 1.5 percent, down from 2.3 percent in 1995 and 4.1 percent in 1994. This slowdown, which was partly due to slower growth in government spending, was partly responsible for slower growth of U.S. exports to Canada: merchandise exports grew by only 3 percent in the first half of 1996, down from 11 percent in 1995. The Canadian economy picked up in the third quarter, and U.S. exports rose substantially from 1995 levels.

In the European Union, our second-largest export market, GDP growth slowed to an estimated 1.6 percent in 1996, about a percentage point lower than in 1995. Among the major EU countries, investment spending was weak in France and Germany, while government consumption expenditures contracted in Italy. Low consumer confidence also held back aggregate demand in Continental Europe. As a result of this weaker economic performance, growth in U.S. exports to the European Union slowed sharply in the first 11 months of 1996.

Growth is estimated to have slowed in Singapore and South Korea, because of oversupply in the market for certain electronic goods, and to have stayed virtually unchanged in Hong Kong and Taiwan. U.S. exports to these four markets expanded only 2 percent in the first 11 months of 1996, after growing at a rapid pace in 1995.

Activity in some other key export markets picked up in 1996. Japan saw substantial growth for the first time since 1991, although it was concentrated in the first quarter. Growth for all of 1996 is estimated to have been 3.6 percent, after 4 years of annual

growth averaging less than 1 percent. U.S. exports to Japan expanded by a healthy 6 percent in the first 11 months of 1996, although this was below the strong pace in 1995. This partially reflects fluctuations in the value of the yen, which peaked at about 80 to the dollar in April 1995 and has since depreciated over 40 percent, making imports from the United States more expensive for Japanese residents.

Mexico pulled out of its severe 1995 recession last year, with estimated growth of 4.0 percent following a 6.9 percent contraction in 1995. Reflecting this turnaround, U.S. merchandise exports to Mexico expanded 21 percent in the first 11 months of 1996, after contracting sharply in 1995.

Although the growth rates of our trading partners have probably been the more important determinant of our trade balance, the level of the dollar might have had an influence as well. The dollar, measured against the currencies of the other major industrialized countries, fell to its lowest levels in almost 3 years in mid-1995. Since then it has appreciated by around 33 percent against the yen and around 11 percent against the deutsche mark. This pattern of depreciation followed by appreciation may explain part of the slowing in imports in late 1995 and the increase in 1996. However, exchange-rate movements were probably not the dominant cause of recent increases in the trade deficit for three reasons. First, although the dollar has moved against some currencies, its effective exchange-rate index, when weighted according to trade shares, has appreciated only 6 percent in real terms since mid-1995. Second, a lag of 2 or more years generally is seen before an import price change has its full effect on volumes. Third, the initial effect of an appreciation is generally to lower import prices, and therefore lower the dollar value of import spending (the valuation, or J-curve, effect), not to raise it.

Fiscal Policy

The Federal Government budget deficit for fiscal 1996 was \$107 billion, a reduction of \$57 billion from 1995. The deficit has now declined in each of the last 4 years, for the first time since the 1940s. Last year's unified deficit was just 1.4 percent of GDP, the smallest deficit by this measure since 1974. The U.S. general-government (combined Federal, State, and local) deficit was the smallest among the large industrialized countries. Moreover, the budget last year showed a primary surplus (defined as revenues less outlays other than net interest) of \$134 billion, the largest ever, and the largest as a share of GDP since the 1950s. Indeed, the budget would have been in balance last year were it not for the interest due on the debt run up between 1981 and 1992. The low level of the budget deficit in recent years is reflected in the ratio of publicly

held Federal debt to GDP, which has stabilized since 1993, after nearly doubling over the previous 12 years.

Part of this improvement in the deficit reflects the economic expansion. As output and employment grow, tax revenues are boosted and some types of expenditures, especially transfers to low-income households, decline. But policy changes have been important as well. As already noted, the standardized-employment deficit, as a share of potential GDP, which is measured holding the level of economic activity constant, has fallen for 4 straight years and was lower last year than it has been since 1974.

The recent progress on the deficit reflects in large part the increases in revenue and reductions in government spending due to the Omnibus Budget Reconciliation Act of 1993. The Administration has worked hard to increase the efficiency of government and has reduced the Federal workforce substantially. By October 1996, Federal civilian employment (excluding the Postal Service) had declined by more than 250,000 since January 1993. The Federal workforce is smaller than it has been in 30 years, and smaller as a share of the total workforce than it has been since the 1930s.

As a result of disagreements between the White House and the Congress over the budget, two partial Federal Government shutdowns occurred in late 1995 and early 1996. Although these closures temporarily interrupted the disbursement of some Federal spending, the overall stance of fiscal policy was largely unaffected because most of the spending was later restored. The shutdowns did, however, have a small, temporary effect on the level of real GDP because a large proportion of Federal workers did not work during the shutdowns. A related disagreement over passage of an extended increase in the debt ceiling on Federal borrowing authority forced the Secretary of the Treasury to take a number of extraordinary actions to ensure that the United States did not default on its debt obligations for the first time in its history. The debt ceiling bill was not passed until March, and the final spending bills for fiscal 1996 were not passed until April, more than 6 months after the start of the fiscal year.

Monetary Policy and Interest Rates

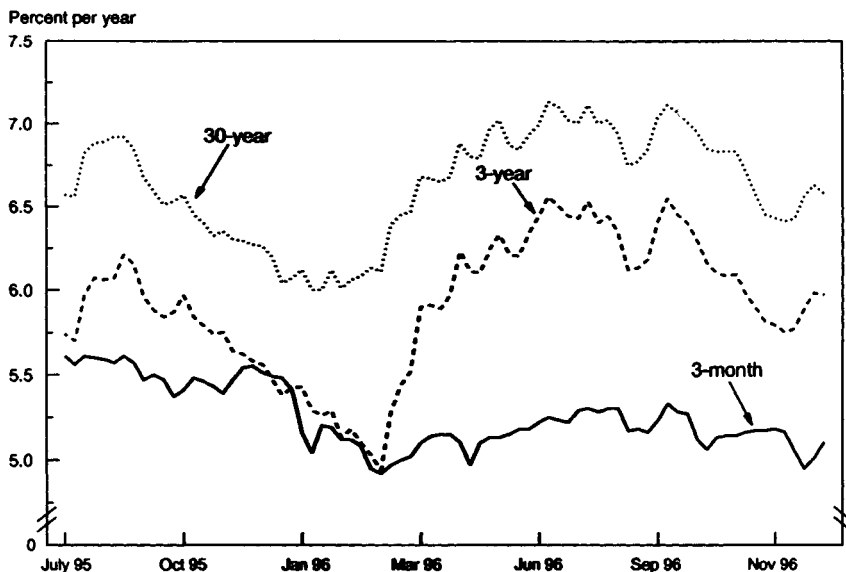
Monetary policy changed little during 1996. The Federal Reserve cut the Federal funds rate by one-quarter percentage point at the end of January 1996. This cut, following a similar-size cut in December 1995, brought the funds rate down to about 5.25 percent, where it remained for the rest of the year. Other short-term market rates declined with the Federal funds rate early in the year but drifted slightly higher over the late spring and summer. Evidently the pickup in economic growth was seen in the markets as eliminating the possibility of further policy easing, and later led many investors to expect tighter monetary policy. Indeed, the minutes of

the Federal Open Market Committee meetings held in the summer and fall show that, although the committee chose to leave policy unchanged, the members did see the risks as skewed toward an intensification of inflation pressures, to which they would have had to react with tighter policy. However, expectations of Federal Reserve action subsided as economic growth moderated without a change in monetary policy and as new data continued to show few signs of a pickup in inflation. As a result, short-term rates retraced some of their earlier rise. By year's end, expected future Federal funds rates, as measured by prices in the Federal funds futures market, were about flat, suggesting that market participants no longer thought that policy was likely to change in the near term.

Intermediate- and long-term rates followed the same general pattern as short-term rates over the course of the year, but the movements were considerably larger (Chart 2-9). By late February, intermediate- and long-term rates began to rise, and throughout the spring and early summer stronger-than-expected economic data pushed rates higher. By July the yield on 30-year Treasury bonds had risen more than a percentage point from its January low. Later in the year, when economic growth moderated and concerns about possible Federal Reserve policy action eased, longer term rates fell; they rebounded, however, to finish 1996 more than half a percentage point higher than at the start of the year.

Chart 2-9 Yields on Treasury Securities

Intermediate- and long-term interest rates fluctuated with the pace of economic activity, rising between February and September, easing somewhat in the fall, but then picking up again.

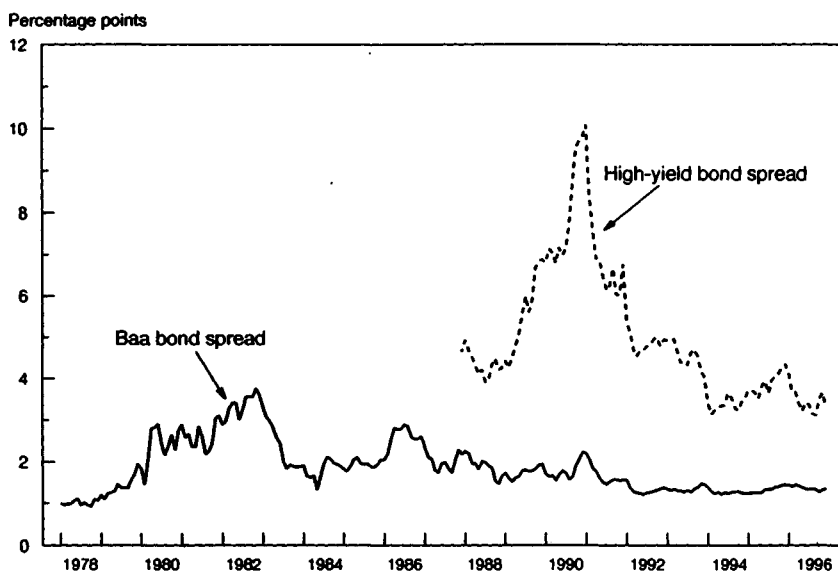


Source: Department of the Treasury.

Rates on corporate bonds followed those on Treasury securities, as risk spreads remained quite narrow (Chart 2-10). The average spread between the rate on Baa-rated corporate bonds and that on 30-year Treasury bonds changed little over the course of the year, ending up at about 1.35 percentage points, fairly narrow by historical standards. The spread between rates on the high-yield bonds issued by riskier firms and those on comparable Treasury securities narrowed considerably in early 1996, following a steady increase in 1995. This spread, which was about 3.5 percentage points at year's end, is also quite narrow by historical standards. Similarly, spreads between rates on bank loans to businesses and market rates remained narrow as banks reported heavy competition from other banks and, to a lesser extent, nonbank lenders.

Chart 2-10 Bond Yield Spreads

Risk spreads between corporate bonds and Treasury securities remained narrow in 1996.



Note: Baa spread is the difference between yields on Baa-rated corporate bonds and 30-year Treasuries. High-yield spread is the difference between yields on the Merrill Lynch High-Yield Master II index and 10-year Treasuries. Sources: Department of the Treasury, Moody's Investors Service, and Merrill Lynch.

These narrow spreads suggest that the markets believe the risk of corporate default to be unusually low, reflecting in part the robust profits enjoyed by U.S. firms in 1996. Indeed, in contrast to some measures of household stress, measures of business financial difficulties remain quiescent. Delinquency and charge-off rates for business loans at banks are near their recent lows and well below their levels in the mid-1980s. Similarly, the number of business bankruptcies remains quite low.

Strong profitability helped boost broad stock market indexes to successive record highs over the course of the year despite the rise in longer term interest rates. Indeed, the rise in stock prices outran corporate profits, so that the ratio of stock prices to recent earnings was elevated at year's end, but still below its 1992 and 1993 peaks. The runup in stock prices could reflect a number of factors. Investors may anticipate further rapid growth in earnings and dividends, or a decline in real interest rates as further progress is made in reducing the budget deficit. Investors may also have gradually reduced the compensation they demand for bearing the risk associated with holding stocks, because they expect the current, more stable, low-inflation environment to persist, or because of the influence of well-publicized research showing that equities have consistently outperformed other financial investments over long holding periods. The rise in stock prices may also reflect the impact of financial market innovations that have led to an unprecedented channeling of savings into the equity market through pension and mutual funds.

OUTLOOK AND FORECAST

One way to project the future is to extrapolate the recent past. For such a calculation it matters how fast real GDP has grown during the current expansion. Measured on the product side, real output has grown at a 2.0 percent annual rate since the business-cycle peak in the third quarter of 1990, while the income-side measure has grown at a 2.3 percent annual rate (Table 2-3, line 13). As already discussed, it seems that the truth is likely to be closer to the income-side measure.

Components of Long-Term Growth

It is useful to begin the discussion of the long-term outlook with the components of aggregate supply. Whether one considers income- or product-side measurement more accurate, it remains true that real output has decelerated during the current business cycle from its pace between the business-cycle peaks in 1973 and 1990. The deceleration is more than explained by the slowing of both of the two components of labor force growth, the working-age population and the labor force participation rate.

Since 1989 the participation rate has been virtually flat, in sharp contrast to the rising participation rates of the 1970s and 1980s. This stalling of the overall participation rate is due mainly to a deceleration in the participation rate for women; the participation rate for men has fallen no faster than in earlier years. The flattening of the female participation rate is probably the result of long-term demographic trends. The child dependency ratio (the number of children per woman aged 20 to 54) fell between the late 1960s and the early 1980s, echoing the earlier pattern in the birth rate.

TABLE 2-3.—*Accounting for Growth in Real GDP, 1960–2003*

[Average annual percent change]

Item	1960 II to 1973 IV	1973 IV to 1990 III	1990 III to 1996 III	1996 III to 2003
1) Civilian noninstitutional population aged 16 and over	1.8	1.5	1.0	1.0
2) PLUS: Civilian labor force participation rate ¹	.2	.5	.0	.1
3) EQUALS: Civilian labor force ¹	2.0	2.0	1.0	1.1
4) PLUS: Civilian employment rate ¹	.0	–.1	.1	.0
5) EQUALS: Civilian employment ¹	2.0	1.9	1.0	1.1
6) PLUS: Nonfarm business employment as a share of civilian employment ^{1 2}	.1	.1	.3	.1
7) EQUALS: Nonfarm business employment	2.1	2.0	1.3	1.2
8) PLUS: Average weekly hours (nonfarm business)	–.4	–.3	.1	.0
9) EQUALS: Hours of all persons (nonfarm business)	1.6	1.7	1.4	1.2
10) PLUS: Output per hour (productivity, nonfarm business)	2.8	1.1	.9	³ (1.2)
11) EQUALS: Nonfarm business output	4.5	2.8	2.3	³ (2.7)
12) LESS: Nonfarm business output as a share of real GDP ⁴ ..	.3	.1	.3	³ (.4)
13) EQUALS: Real GDP	4.2	2.7	2.0	³ (2.3)

¹ Adjusted for 1994 revision of the Current Population Survey.² Line 6 translates the civilian employment growth rate into the nonfarm business employment growth rate.³ Income-side definition.⁴ Line 12 translates nonfarm business output back into output for all sectors (GDP), which includes the output of farms and general government.

Note.—Detail may not add to totals because of rounding.

Except for 1996, time periods are from business-cycle peak to business-cycle peak to avoid cyclical variation.

Sources: Council of Economic Advisers, Department of Commerce, and the Department of Labor.

The decline in this ratio allowed an increasing fraction of women to enter the labor force between the mid-1970s and the mid-1980s, but its subsequent flattening in the late 1980s has limited further increases in participation.

The participation rate rose 0.15 percentage point in 1996, an acceleration from its recent stagnation, but below its pace in the 1970s and 1980s. Both male and female participation rates contributed to the acceleration in 1996. The male participation rate flattened out, after years of decline, while female participation rose 0.32 percentage point—faster than its recent pace but more slowly than in earlier decades.

Table 2-3 shows the contributions of population, labor force participation, and productivity growth to output growth, both historically and as projected. In the past, the contributions of these supply-side factors have varied substantially across time periods, and in ways that have tended to be offsetting. During the 1960–73 period, output growth was fueled by a rapid increase in both the working-age population and productivity. When productivity slowed after 1973, the slowdown was partially offset by an increasing rate of labor force participation. Growth in the working-age population was dramatically slower after 1990, but this slowdown was partly countered by stabilization in the length of the workweek.

The last column of Table 2-3 illustrates how the Administration's forecast of 2.3 percent average annual GDP growth for the

next 7 years is consistent with projections of 1.0 percent growth in population, 0.1 percent growth in participation, and 1.2 percent growth in productivity.

As noted, the participation rate has turned up in the past year and may even rise faster to the extent that the recently enacted welfare reform legislation moves greater numbers of former recipients into the paid labor force. Measured productivity is expected to grow a bit faster than in the recent past, as further deficit reduction boosts investment, and as planned adjustments to the CPI, which will affect the measurement of productivity, are implemented.

As of December 1996 the current expansion had lasted 69 months, making it the third longest in the postwar record. There is no foreseeable reason why this expansion cannot continue. As last year's *Report* argued, expansions do not die of old age. Rather, most recent expansions have ended because of rising inflation, financial imbalances, or inventory overhangs. None of these conditions exists at present. As discussed earlier in the chapter, the financial condition of households is sound, inventories remain lean, and inflation remains under control.

Inflation Considerations

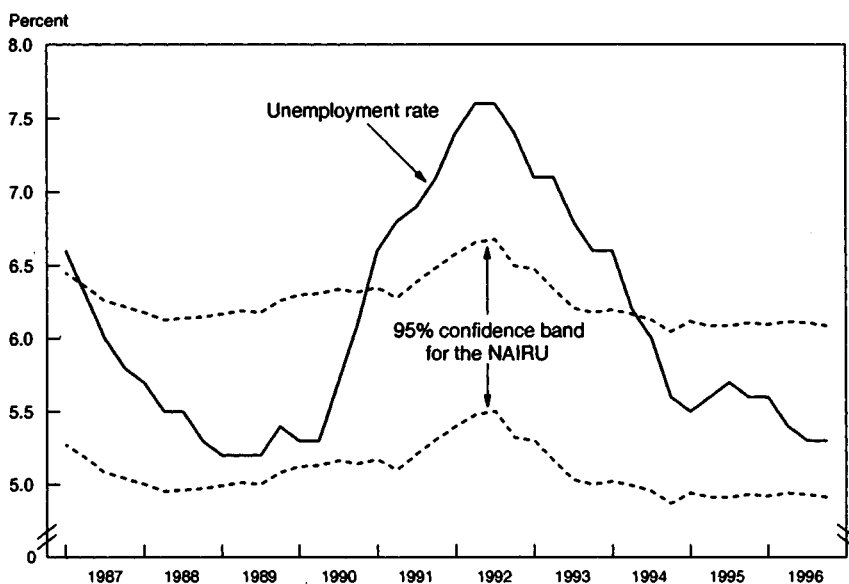
The unemployment rate has fallen during the past 6 months, although it remains within a range that most economists would view as consistent with stable prices (Chart 2-11). The chart shows the band of uncertainty about the natural rate, and this band is wide. Despite the recent decline in unemployment, inflation remains stable, and economists are gradually revising down their consensus estimate of the natural rate.

Some have pointed to the acceleration in wages and salaries over the past year as proof that labor markets are tight enough for inflation to begin rising. However, wages and salaries are only one part of labor costs; the other component, hourly benefits, has slowed dramatically over the past few years. Most of the slowing has been in health insurance premiums. As a result, total hourly compensation for private industry workers as measured by the employment cost index (ECI) increased only 2.9 percent during the 12 months ending in September 1996—not much different from its rate during the previous 2 years. This pace for hourly compensation, less the 1.1 percent trend for productivity growth, implies that trend unit labor costs are increasing at a 1.8 percent annual rate. As this is far below the pace of recent price inflation, labor costs are not putting any upward pressure on prices (Chart 2-12).

This reduction in the rise of employers' health premiums may be temporary. Therefore it is worth entertaining the notion that wages and salaries are the best measure of the trend in compensation. In this case, trend unit labor costs would increase by the 3.3 percent

Chart 2-11 Unemployment and the NAIRU

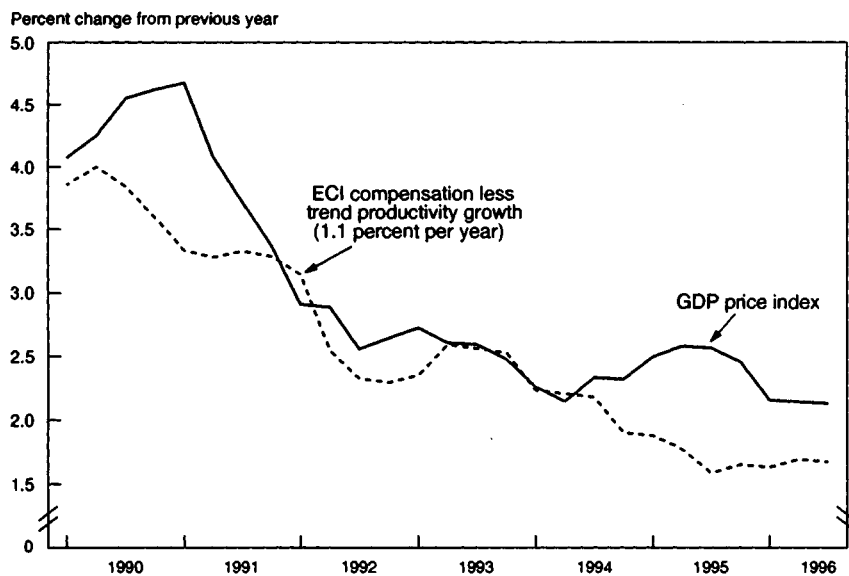
For the past 3 years, the unemployment rate has been within the (wide) band of reasonable estimates of the NAIRU.



Source: Calculations based on Department of Labor data.

Chart 2-12 Inflation and Trend Unit Labor Costs

Inflation has been held down recently by low increases in trend unit labor costs.



Sources: Department of Commerce and Department of Labor.

rate of ECI wage growth seen recently, less the 1.1 percent trend rate of productivity growth discussed earlier, resulting in an estimate of 2.2 percent. This differs little from the recent rate of inflation as measured by the price index for GDP (which is lower than CPI inflation). Wage increases are thus high enough so that workers share in productivity increases, but low enough that they do not put upward pressure on inflation.

But the case against a near-term outbreak of inflation is stronger. First, as already noted, slow growth in hourly benefits has been holding down labor costs and may continue to do so. Second, corporate profits are very high; profits as a share of GDP during the first three quarters of 1996 were higher than for any three-quarter period since the 1960s. Thus, profits could be a temporary buffer preventing accelerating wages from being immediately passed through to accelerating prices. In sum, with continued growth of productivity, with sustainable wage growth and with high profits as a buffer, the U.S. economy has room for a sustained increase in real wages—without rising inflation.

The rate of inflation in 1996 has been elevated by rapid increases in food and energy prices. These prices are not expected to grow any faster than other prices over the next year, and so the rate of increase in the CPI is expected to edge lower. Also holding down measured inflation over the next 2 years, by about 0.3 percentage point per year, are methodological changes that are already under way. The BLS estimates that by fixing a problem encountered when new stores are rotated into the sample, CPI inflation will be lowered by 0.1 percentage point. (This fix was completed in July 1996.) The forecast assumes that new procedures for calculating the hospital services price index will lower CPI inflation by about another 0.1 percentage point. Beginning in 1997, the BLS will collect transaction prices where available rather than list prices for hospital services, and will reorganize their categories so that inpatient and outpatient surgery might be substitutable. Finally, in 1998 the BLS will also replace its current market basket, based on 1982–84 data, with one based on 1993–95 data. Usually the items with the smallest price increases receive the largest increase in weights. The forecast assumes that the incorporation of the new market basket will lower CPI inflation by 0.1 percentage point. The importance of information-processing equipment alone will rise by enough to lower CPI growth by 0.02 percentage point per year, assuming prices for such goods continue to fall at a 10 percent annual rate as they have recently.

The Near-Term Outlook

With inflation not a problem, the economy can continue to move forward at a sustainable rate. Aggregate demand is likely to be sufficient. Consumption, which is two-thirds of the economy, should be

supported by a combination of high income growth, high consumer confidence, and a high level of household net worth relative to income. Business investment in equipment probably will continue to react to the rapid improvements in technology—especially in computers and telecommunications equipment. However, it seems likely that equipment investment will not continue to grow at the torrid rate of the past few years. The market for business structures should remain on track as vacancy rates continue to decline. Finally, net exports were a drag on economic growth in 1996, as growth in many of our trading partners lagged behind our own. But there are signs that foreign growth is picking up, and exports should soon reflect this.

TABLE 2-4.—*Administration Forecast*

Item	Actual		1997	1998	1999	2000	2001	2002	2003
	1995	1996							
	Percent change, fourth quarter to fourth quarter								
Nominal GDP	3.8	¹ 5.0	4.6	4.7	5.0	5.0	5.0	5.0	5.0
Real GDP (chain-type)	1.3	¹ 2.8	2.0	2.0	2.3	2.3	2.3	2.3	2.3
GDP price index (chain-type)	2.5	¹ 2.2	2.5	2.6	2.6	2.6	2.6	2.6	2.6
Consumer price index (CPI-U)	2.7	3.2	2.6	2.7	2.7	2.7	2.7	2.7	2.7
	Calendar year average								
Unemployment rate (percent)	5.6	5.4	5.3	5.5	5.5	5.5	5.5	5.5	5.5
Interest rate, 91-day Treasury bills (percent)	5.5	5.0	5.0	4.7	4.4	4.2	4.0	4.0	4.0
Interest rate, 10-year Treasury notes (percent)	6.6	6.4	6.1	5.9	5.5	5.3	5.1	5.1	5.1
Nonfarm payroll employment (millions)	117.2	119.5	121.1	122.4	123.9	125.6	127.4	129.1	130.8

¹ Estimates.

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

In 1997 and 1998 the Administration projects a 2.0 percent increase in output (Table 2-4), slightly below the potential pace, but in line with the consensus. The balance of the Administration's forecast is built around a 2.3 percent growth rate of potential output. The Administration does not think that 2.3 percent real growth in the long term is the best the United States can do. This projected pace reflects a conservative estimate of the effects of Administration policies to promote education and investment and to balance the budget. The outcome could be even better. But the Administration's forecast is used for a very important purpose: to project Federal revenues, outlays, and the Federal deficit. For this purpose the most important virtues are credibility and conservatism, and the Administration has remained close to mainstream

thinking on these issues. The Administration's forecasting record is good, and the projections here are close to the consensus of private forecasters.

CHAPTER 3

Economic Challenges of an Aging Population

IN 1993 THE ADMINISTRATION'S first job was to get the economy moving. The deficit reduction package enacted that year helped to reduce interest rates and restore business confidence. Since then the Federal deficit has been cut by more than half, and the economy has expanded robustly. The next task is to complete the work of deficit reduction. In 1995 and 1996 the Administration and the Congress both put forward plans to balance the Federal budget, but could not reach agreement at that time. The Administration is now submitting another proposal to balance the budget while protecting important national priorities. Legislation should be enacted this year to accomplish this goal.

Balancing the budget in the medium term, however, is not the end of the story. The United States faces two important economic challenges now and after the turn of the century. First, without changes in current policy, as the baby-boom generation retires, entitlement spending, particularly for health care, will rise rapidly and budget deficits will increase. Second, the Nation needs to raise its overall rate of saving to improve long-term economic growth. These two issues are closely related. The President believes that action on these issues can come about only from a carefully considered, bipartisan process. This chapter discusses these challenges.

THE AGING OF THE POPULATION

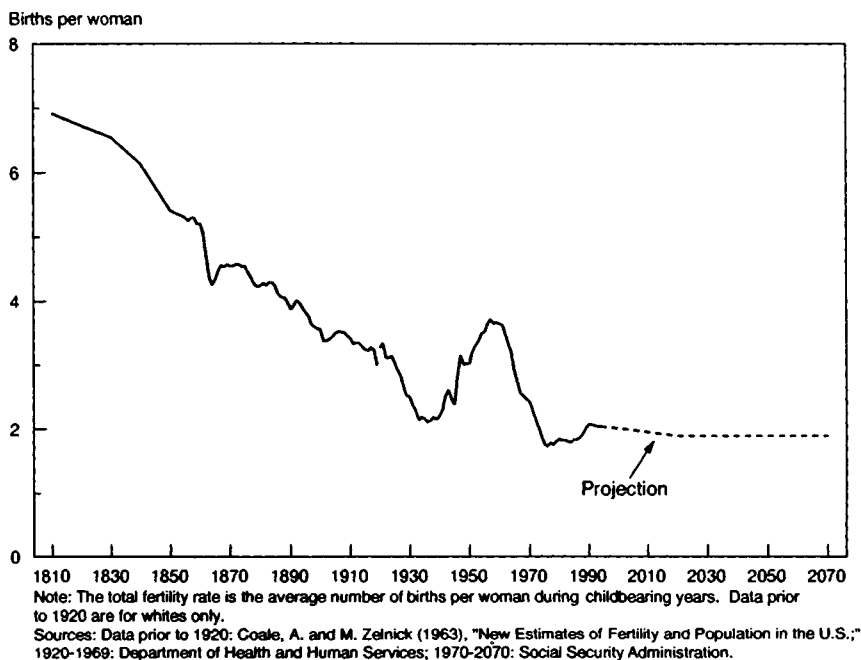
The proportion of the elderly in the U.S. population will rise sharply in coming decades. This aging of the population is the inevitable result of a long-term decline in fertility rates and an enormous improvement in life expectancy.

Over two centuries, the fertility rate—the number of children that an average woman will bear over her lifetime—has declined fairly persistently, from 7.0 in 1800, to 3.6 in 1900, to roughly 2.0 today (Chart 3-1). The post-World War II baby boom and the immediately preceding baby bust, associated with the Great Depression and World War II, were temporary aberrations in a long-run trend of declining fertility. As the baby boom ended, the fertility

rate resumed its decline, reaching a low point of 1.7 in 1976 before rebounding to roughly 2.0 in recent years.

Chart 3-1 Total Fertility Rate

The total fertility rate has been falling steadily over time, with the exception of the post-World War II baby boom.



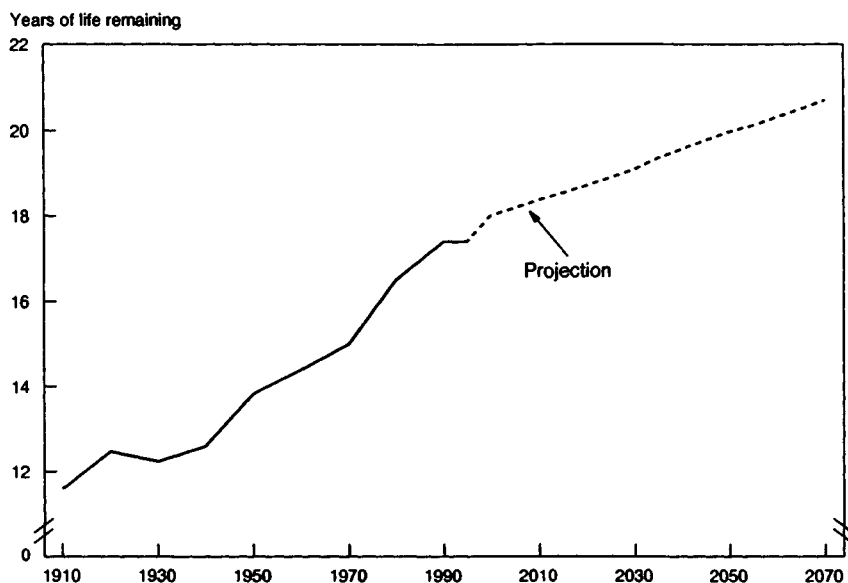
The sequence of baby bust and baby boom thus has no impact on the elderly dependency ratio (the ratio of elderly Americans to those of working age) projected for 2070 and beyond; it does, however, alter the path to that ultimate ratio, and this has important implications for the medium term. The baby bust will produce a relatively constant ratio of retirees to workers over the next 15 years, as the small cohort born in the 1930s and 1940s reaches retirement, but the baby boom will produce a rapid swelling of the ranks of retirees after about 2010, as the large cohort born in the period from 1946 through 1964 retires.

Gains in life expectancy have been just as dramatic as the decline in fertility but have shown less fluctuation over time. In 1935, when Social Security was enacted and the retirement age was set at 65, life expectancy at 65 was about 12 years for men and 13 years for women (Chart 3-2). Today those figures are 15 years and 19 years, respectively, and by 2070 they are projected to be 18 and 22. The probability that a young adult just entering the workforce will survive to collect benefits has also risen dramatically. In the mid-1930s the probability of a 20-year-old man surviving to age 65 was only 58 percent, and that for a woman 66 percent. By the mid-

1990s these fractions had increased to 77 percent and 87 percent, respectively, and by 2070 they are projected to rise to 86 percent and 92 percent.

Chart 3-2 Life Expectancy at Age 65

Life expectancy has risen steadily and substantially throughout the 20th century. This rise is expected to continue.



Sources: Data prior to 1995: Department of Health and Human Services; 1995-2070: Social Security Administration.

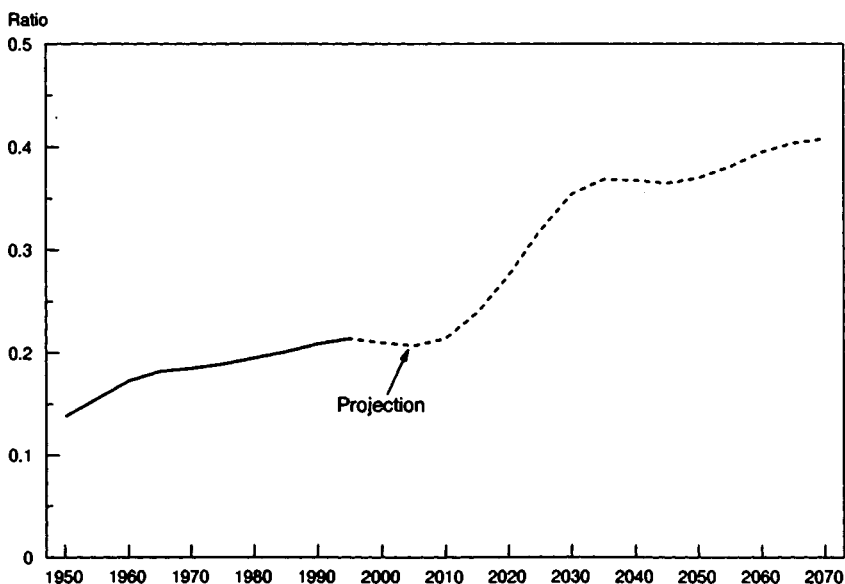
Declining fertility and mortality together produce a permanent increase in the elderly dependency ratio (Chart 3-3). Most of the increase in this ratio occurs by the time the last of the baby-boomers retires around 2030; the ratio drifts only slightly higher thereafter.

THE IMPACT OF DEMOGRAPHICS ON NATIONAL SAVING

Demographics can affect future national saving through effects on personal saving and on public saving. The first effect is captured in the simple life-cycle model. In this model younger people are expected to save some of their income in anticipation of retirement, and older people are expected to dissave—that is, to spend more than their income. According to this theory, the shift in the elderly dependency ratio should produce a dramatic increase in dissavers relative to savers, substantially reducing national saving. Even if the elderly do not dissave but only save at a lower rate than the

Chart 3-3 Dependency Ratio of the Aged

The ratio of retirees to individuals of working age will remain roughly constant through 2010, rise rapidly until 2030, and then increase slightly thereafter.



Note: The dependency ratio is population age 65 and over divided by population age 20-64.
Source: Social Security Administration.

working-age population, these demographics would be expected to affect national saving.

Given the already low U.S. saving rate, this prediction of the life-cycle model is a source of concern. The evidence, however, suggests that demographics may not be as important a determinant of saving patterns as the theory suggests. For example, several studies of individual behavior have been unable to document dissaving among the elderly. And during the 1980s the aggregate saving rate was quite low, even though the life-cycle model says that it should have risen because the increase in the proportion of the population in its prime saving years swamped the increase in the proportion that was old. Some simulations predicted that the personal saving rate should have been as high as 12.8 percent in the 1980s; instead it averaged 4.3 percent. Economists have been at a loss to explain much of the behavior of personal saving during the 1980s. (In fact, it is difficult enough to explain variation among households at a given point in time. One study using a variety of variables and models was able to explain only 7 percent of the total variation in the level of saving among households reported in the Federal Reserve's Survey of Consumer Finances.)

However uncertain the impact of demographics on *private* saving, its likely impact on *public* saving—unless significant changes are made in programs for the elderly—is clear. Growing deficits in the

Social Security program and the increasing costs of Medicare and Medicaid will tend to raise Federal outlays—that is, they will reduce government saving for any given level of revenue. Some economists have argued that lower government saving might cause an offsetting rise in private saving, as individuals anticipate an eventual rise in taxes due to the government's chronic failure to save. However, evidence for such a large offset is lacking. Thus, the most likely effect of demographically driven expenditure increases would be a net reduction in national saving.

THE IMPACT OF DEMOGRAPHICS ON THE BUDGET

Without changes in policy, the costs of government programs that provide the elderly with retirement income and insure their health and nursing home care will rise rapidly as the number of elderly increases. In addition, social insurance taxes and contributions are likely to be pinched somewhat, because the number of people working—and paying taxes—will be growing more slowly.

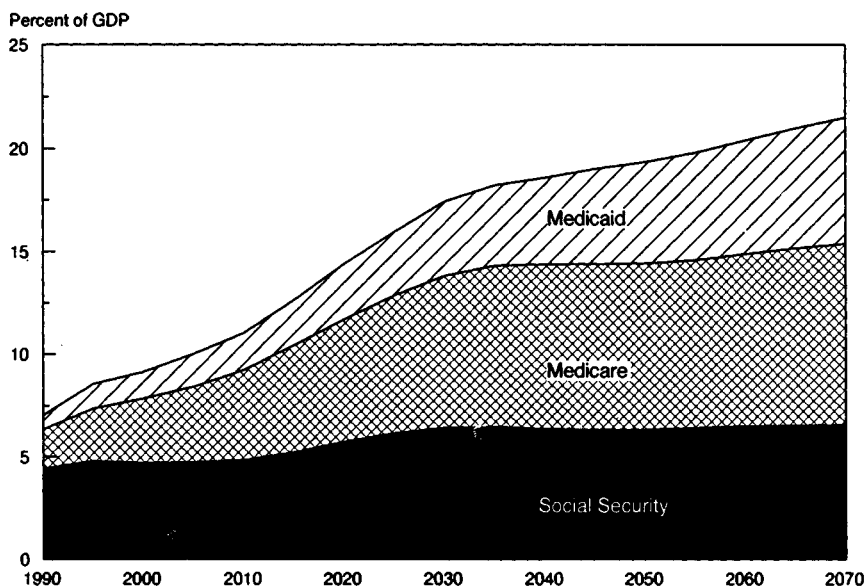
The largest increases in programs benefiting the elderly are projected to be for Medicare and Medicaid. The Trustees of the Medicare program project spending to increase from 2.7 percent of gross domestic product (GDP) in 1996 to 8.1 percent in 2050. The Office of Management and Budget projects that under current policy Federal Medicaid outlays will rise from 1.2 percent of GDP to 4.9 percent over the same period. And the Social Security Trustees estimate that spending will grow from 4.7 percent of GDP to 6.3 percent between 1996 and 2050. This is a smaller increase, both absolutely and relative to current levels, than that projected for the health programs. Nevertheless, in combination, these forecasts suggest a more than doubling of expenditures on these key programs, from under 9 percent of GDP to roughly 19 percent in 2050 (Chart 3–4). By 2070 expenditures for the three programs are expected to reach 22 percent of GDP.

By contrast, Federal revenues have historically been around 18 percent of GDP. Hence, absent any changes, expenditures on Social Security, Medicare, and Medicaid could consume all government revenues by 2050 and exceed them thereafter.

The effect of these rising expenditures on the unified Federal deficit—the broadest measure of the deficit, which includes these programs and all other revenues and spending—is even more powerful than these numbers suggest: deficits in the early years must be funded with borrowing, and the interest on that borrowing will require even larger outlays in later years. Most long-term budget projections based on current policy show the deficit mounting to around 20 percent of GDP by 2050, while the debt held by the public reaches a level somewhere between two and three times GDP.

Chart 3-4 Growth in Entitlement Spending

Federal expenditures on Medicare and Medicaid are projected to increase rapidly over time as a percent of GDP, with slower projected growth in Social Security spending.



Note: Medicaid expenditures after 2050 are projected by the Council of Economic Advisers.

Sources: Social Security Administration, Department of Health and Human Services, Office of Management and Budget, and Council of Economic Advisers.

In fact, no one believes that the economy could withstand such large deficits and increases in debt, with their adverse effects on interest rates and growth. Something will be done before the deficits and debt reach these levels. The only questions are what will be done, and when. Delay has two consequences. First, as already noted, borrowing to cover shortfalls in the near term boosts later deficits as interest charges accumulate. Second, any reform that is adequate to the problem will need to be phased in gradually, to allow citizens time to adjust their personal financing plans accordingly. Thus, the most useful exercise is to examine the financial situation of each individual program separately and explore the various approaches to restoring balance.

SOCIAL SECURITY

Of the several financing problems to be solved, that of Social Security is the most tractable. Without changing current law in any way, Social Security can pay full benefits well into the next century. Thereafter, without any changes in the structure of the program, funding will be sufficient to cover about 70 percent of benefits even 75 years from now. Nevertheless, the program faces a funding gap over the 75-year projection period and permanent imbalance after 75 years. The challenge is to restore balance to the

program, raise national saving, and allow Social Security to continue to fulfill its many missions.

For almost 60 years, Social Security has provided elderly Americans with a basic level of retirement security. Currently, about 90 percent of "aged units"—married couples one of whom is aged 65 or older, and nonmarried persons aged 65 and over—get Social Security benefits. These benefits are the only form of retirement pension for about half of these households. Social Security is particularly important for the low-income elderly. For example, more than three-quarters of the money income (which includes earnings from work and interest, as well as retirement benefits) of households in the bottom two income quintiles comes from Social Security benefits. The comparable shares are about a quarter for the highest income quintile and about half for the second-highest.

Social Security benefits keep some 15 million people above the poverty line and millions more from near poverty. As recently as 1959, when these data began to be collected, the poverty rate among the elderly was more than twice that for the rest of the adult population. Since then this rate has trended lower and is now slightly below that for other adults. Social Security has been a key factor behind this drop. Moreover, although the benefit schedule is progressive and some benefits are subject to partial taxation, Social Security benefits are not subject to an explicit means test. The lack of means testing allows many people to add other resources to their Social Security benefits and achieve a level of income not too far below that when they were working.

Social Security also provides protection against loss of family income due to disability or death. Roughly 5 million disabled adults and 3 million children receive monthly benefits; about half the children receiving benefits have lost one or both parents. In short, Social Security is an extremely valuable program that has raised the living standards of millions of Americans and markedly increased their sense of economic security by providing fully indexed annuities in the event of retirement, disability, or death of a breadwinner.

THE SIZE OF THE PROBLEM

In their annual report, the Trustees of the Social Security system publish projections of the system's revenues and outlays for the next 75 years. Three sets of projections are made, corresponding to three sets of assumptions about future levels of system costs. The intermediate cost projections in the 1996 report show that, from now through 2011, the Social Security system will bring in more money than it pays out. That is, payroll tax receipts plus receipts from income taxation of Social Security benefits will exceed outlays.

By that time the baby-boomers will have begun to retire, and growth in the labor force will slow, reflecting the decline in the fertility rate that occurred after 1960. The resulting increase in the ratio of retirees to workers will cause the outlays of the system to rise above taxes. In the relatively short period from 2012 through 2018, the annual interest income on assets in the Social Security trust funds will, together with tax receipts, produce enough revenues to cover benefit payments. After that, if no action is taken, total income will fall short of benefit payments, but the shortfall can be covered by drawing down trust fund assets until the funds are exhausted in 2029. Of course, the exhaustion of the trust funds does not mean the end of Social Security benefits. Even if no changes are made on the tax or the benefit side of the equation, payroll and benefit taxation at current rates will provide enough money to cover 75 percent of promised benefits in 2040 and nearly 70 percent in 2070.

The financing of Social Security is projected to put increasing pressure on the Federal budget before the trust fund balances are exhausted, however. In the near term, Social Security reduces the annual unified budget deficit. The amount of that reduction and the number of years it encompasses depend on the budgetary treatment of interest payments from the Treasury to the Social Security trust funds. For example, Social Security income, excluding interest, exceeded Social Security outlays by \$30 billion in fiscal year 1996. Thus, the effect of Social Security's *current* operations was to lower the deficit by \$30 billion. This operating surplus remains at about that level for about a decade, then drops sharply. As noted earlier, by 2012 Social Security outlays exceed taxes. However, in 1996 the Treasury also paid more than \$36 billion in interest to the Social Security trust funds, and this interest can be viewed as payments that the Treasury would have had to make to the public were it not for *past* Social Security surpluses. If they are included in the calculation, one can say that the current and past operations of the Social Security system shaved \$66 billion from the unified budget deficit in fiscal year 1996. By this measure, the deficit-reducing effect of Social Security is projected to rise to more than \$100 billion in less than a decade, remain above that level for more than 10 years, and then drop rapidly. Regardless of the treatment of intragovernmental transfers, by 2019 outgo exceeds income. Between 2019 and 2029, the subsequent shortfalls can be met by drawing down the investments in the trust funds, but this puts pressure on the unified deficit. This pressure gets progressively worse over time. Using the broader measure of Social Security's contribution to the unified deficit, Social Security currently reduces the deficit by nearly 1 percent of GDP, but by the time the trust

funds are exhausted in 2029 it will boost the deficit by nearly 1.5 percent of GDP.

When the Social Security surpluses in the early years are combined with the deficits in the later years, projected income falls short of projected benefit payments over the 75-year forecast period as a whole. Projecting the size of this shortfall over such a long horizon is very difficult. One measure provided by the Social Security Trustees, based on their intermediate assumptions, is that the 75-year deficit amounts to 2.19 percent of taxable payroll over that period. One way to think about a deficit of this magnitude is in terms of the hypothetical tax increase that would be required to eliminate it. That is, if the gap over the next 75 years were to be financed solely by raising taxes, today's combined employee-employer tax rate of 12.4 percent would have to be raised to 14.6 percent right away. No one proposes to meet the deficit in this way, but it provides a way to think about the solvency problem.

Social Security's long-term financing problem is somewhat more complicated than just described. Under current law the tax rate is fixed while costs as a percentage of payroll are rising, and this pattern produces surpluses now and large deficits in the future. As a result of this profile, each passing year adds another year with a large projected deficit to the 75-year projection period. Assuming nothing else changes, this phenomenon increases the projected 75-year deficit slightly (by 0.08 percent of taxable payroll with today's projected deficits) each year.

How Reliable Are the Projections?

Projecting costs for the next 75 years is necessarily an uncertain exercise. Imagine actuaries and economists in the Harding Administration trying to project fertility rates, life expectancies, wages, and so on from 1922 until the present. They would have had no idea about the coming Great Depression, World War II, or a host of other demographic, economic, and social developments. Nevertheless, such long-range planning is a useful exercise. Precisely because Social Security is such a long-run program, major demographic trends are important factors in its solvency. Short-run fluctuations in, say, fertility or mortality rates will not fundamentally alter the long-run financial picture. The usefulness of the exercise depends crucially, however, on the reasonableness of the underlying assumptions and on the ability to modify them as new information becomes available. The actuaries' calculations involve numerous variables, but two demographic assumptions and one economic relationship are key.

On the demographic side the primary issues are fertility and mortality; fluctuations in immigration and emigration are expected to have only modest effects. Fertility tells us how many people will be in the labor force paying taxes, and mortality how many people

will be receiving benefits and for how long. As already noted, the total fertility rate is currently about 2.0 children over a woman's lifetime. Demographers generally believe that U.S. fertility rates, like those in most other industrialized nations, will remain low. The intermediate estimates in the 1996 Trustees' report are based on the assumption that the total fertility rate in the next 75 years will be 1.9 children per woman, slightly below its recent level. The consensus is that mortality will continue to decrease; the question is how fast. For the 75-year projection, life expectancy at 65 is projected to reach 18.4 years for men by 2070 and 22.2 years for women.

On the economic side the important variables relate to changes in wages and prices. The system operates more or less on a pay-as-you-go basis, whereby taxes currently received from workers are used to pay old-age, survivors, and disability insurance (OASDI) benefits to current beneficiaries. In 1997, workers and their employers each pay taxes of 6.2 percent on the first \$65,400 of earnings. Benefits are calculated by applying a progressive benefit formula to an average of the beneficiary's historical earnings, which have been indexed to reflect overall increases in average wages. After benefits are awarded, they are adjusted annually to keep up with inflation. In this type of pay-as-you-go system, a key relationship is the difference between the rate at which tax revenues rise (which, assuming no change in tax rates, is equivalent to growth in covered wages) and the rate at which benefits increase after retirement or disability (that is, the rate of increase in the consumer price index, or CPI). This difference is called the real-wage differential.

The assumption about the size of the real-wage differential is often viewed as the most controversial in Social Security forecasting, as the actual value has varied dramatically over time. During the 20-year period before 1973, when productivity growth was high, the real-wage differential averaged 2.2 percentage points. From 1973 to the present, however, it has averaged 0.3 percentage point. The question is how much weight to put on recent years as compared with the pre-1973 period. The Trustees have roughly split the difference and adopted a long-run assumption of 1.0 percentage point. What if they are wrong? By how much would a real-wage differential of 0.6 percentage point (the average for the 1980s and 1990s), rather than the assumed 1.0 percentage point, raise the 75-year deficit? Sensitivity analysis shows that such a miscalculation would increase the 75-year deficit by roughly 0.5 percent of taxable payroll. In other words, a relatively large error in this assumption, taken in isolation, would worsen long-term Social Security financing by a relatively modest amount during the next 75 years.

Of course, if a large number of assumptions all turn out optimistic, or all pessimistic, their cumulative effect could be quite large. The Trustees' reports show the results for two extreme cases: a "high-cost" alternative in which all of the main assumptions take pessimistic values, and a "low-cost" projection that assumes optimistic values. According to the 1996 report, under the high-cost alternative, the 75-year balance is in deficit by 5.67 percent of taxable payroll, more than twice the 2.19 percent deficit under the intermediate assumptions. In contrast, the balance under the low-cost assumptions is a small surplus of 0.46 percent of taxable payroll.

These two projections give a sense of the level of uncertainty about the long-term projections. Nonetheless, a 1994–95 Technical Panel to the Quadrennial Advisory Council on Social Security evaluated each individual assumption and concluded that, "The 'intermediate' projection . . . for the OASDI program provide[s] a reasonable evaluation of the financial status. Although the Panel suggests that modifications be considered in various specific assumptions, the overall effect of those suggestions would not significantly change the financial status evaluation."

In 1983 the Congress enacted legislation based on the recommendations of the National Commission on Social Security Reform. The Commission's reforms were intended to keep the Social Security system solvent for 75 years, with positive trust fund balances through 2060. Only a year later, however, the Trustees began to project a small deficit. The projected deficit has grown more or less steadily since then, to its current level of 2.19 percent of taxable payroll. How did this happen?

Three factors account for most of the projected increase in long-range costs. The first one was discussed earlier. That is, as time passes, the 75-year valuation period ends in a later year, so that more of the higher cost outyears are included in the projections. Including more deficit years raises the 75-year deficit. The second is that the disability caseload grew much faster than anticipated, primarily because of legislative, regulatory, and judicial action that made it easier for individuals to qualify for disability benefits. The third source of the post-1983 deficit reflects the net effect of one-shot changes in the methodology used in the projections.

Changes in economic and demographic assumptions are not on balance responsible for the reemergence of the deficit since 1983. Most of the discussion of Social Security's financing problems is couched in terms of the demographic shifts that will occur as the baby boom ages. Indeed, the numbers are impressive: whereas today 3.3 workers support each retiree, by 2040 that number drops to 2.0; it stabilizes around 1.8 in 2070. The problem with this story is that the projected decrease in the ratio of workers to retirees,

frequently cited as the cause of the emerging deficit, is little changed from 1983. This decrease was fully incorporated in the estimates at that time. Demographic developments since 1983 have been, if anything, positive—at least from the program's perspective. Life expectancy is lower and birth rates have been higher than were assumed in 1983, thereby reducing long-range costs. The positive impact on long-range costs from changing demographic assumptions was roughly offset, however, by changing economic assumptions. In particular, the Trustees gradually lowered the assumed rate of real wage growth as it became clear that the slower trend in productivity growth was likely to continue. On balance, the economic and demographic changes have roughly offset one another.

RECOMMENDATIONS OF THE QUADRENNIAL ADVISORY COUNCIL

The Quadrennial Advisory Council on Social Security was charged in 1994 with finding ways to eliminate the current deficit in the OASDI program. It released its report in January 1997 after more than 2 years of deliberations. Instead of offering a single set of consensus recommendations, this 13-person panel split and presented three very different visions for the future of the Social Security system.

All three are designed to restore 75-year balance, stabilize the trust funds in the 76th year, and address the decline in the rate of return to Social Security contributions that has occurred as the system has matured. It is important to remember that, although the Advisory Council distilled these three specific sets of options, many alternatives are possible. The report characterizes the three alternatives as the "Maintenance of Benefits," "Individual Accounts," and "Personal Security Accounts" proposals. The following descriptions are summaries of the three proposals and should not be viewed as endorsements of particular approaches.

The Maintenance of Benefits Proposal

The Maintenance of Benefits (MB) plan is designed to eliminate the Social Security deficit without altering the basic nature of the program. Roughly half the savings comes from long-discussed—but never accepted—proposals. These include extending coverage to State and local government employees hired after 1997 who under current law would not be covered by Social Security; making Social Security benefits taxable to the extent that they exceed worker contributions (this would make the program comparable in that respect to other contributory defined-benefit plans); lengthening the averaging period for the Social Security benefit calculation from 35 years to 38 years; and incorporating technical corrections in the CPI made by the Bureau of Labor Statistics in 1995 and 1996,

which reduced the upward bias in measured inflation by about 0.2 percentage point per year. These proposals are expected to eliminate about half of the 75-year deficit.

To reduce the rest of the financing gap MB proponents suggest three new proposals. The first is to explore the possibility of investing 40 percent of trust fund assets in corporate equities on a graduated basis beginning in 2000. The implications of such a change are discussed in greater detail below. Second, the plan would redirect into the OASDI fund the share of revenues from the taxation of Social Security benefits that are currently paid into the Medicare hospital insurance trust fund, phasing in the change between 2010 and 2019. Finally, to correct the tendency of the fund to drift out of balance, this plan would, if necessary, increase the payroll tax by 0.8 percentage point each on employers and employees starting in 2045.

The Individual Accounts Proposal

The Individual Accounts (IA) plan has two components: it would make certain changes to balance the existing program, and it would create a system of supplementary required savings accounts for all participants. The first part of the plan begins with three proposals that are also in the MB plan: coverage of newly hired State and local government employees, taxation of benefits that exceed contributions, and incorporation of the CPI changes. In addition, the IA plan would raise the normal retirement age to 67 faster than under current law and index it to longevity thereafter. Finally, benefits for middle- and upper-income recipients would be cut by roughly 20 percent to allow the current 12.4 percent payroll tax rate to cover the program's 75-year cost.

The mandatory savings portion of the IA plan would increase the employee's payroll contribution by 1.6 percentage points to fund government-administered individual accounts, beginning in 1998. Proponents of the IA proposal recommend that the funds in these accounts be allocated by workers to a relatively small number of government-managed index funds, which would provide a variety of investment alternatives at low cost. At retirement, the savings would be paid out as an annuity, with payouts adjusted for inflation, and added to the regular Social Security benefit. Total retirement benefits would thus depend on the returns achieved by the savings accounts.

Supporters of the IA plan argue that it would directly boost funding for retirement (although they acknowledge that individuals might reduce their non-Social Security saving to some extent). In terms of national saving, they view it as superior to increased funding through the Social Security trust funds because they fear that annual surpluses in the trust funds would simply be used to cover deficits in the non-Social Security part of the budget. They also be-

lieve that adding an individual account component is a way to introduce equity investments without raising all the issues associated with direct investment of Social Security in stocks, as suggested in the MB plan. It should be noted that under the proposal the accounts would be held by the government, and the government would constrain the range of investment alternatives in the individual accounts.

The Personal Security Account Proposal

The Personal Security Account (PSA) plan calls for a more extensive change in the structure of the system, phased in over a period of time. It would divert 5 percentage points of the 12.4 percent payroll tax into mandatory "personal security accounts." Unlike the individual savings accounts described above, which would be held by the government and annuitized upon retirement, these accounts could be placed with private investment companies, and individuals would have broader choice over how the savings are paid out during retirement. The remaining 7.4 percentage points of the payroll tax would pay for a flat retirement benefit for full-career workers equivalent to \$410 a month in 1996 (and indexed for future wage growth beginning in 1998) and for reduced disability and survivor benefits. The \$410 flat benefit by itself would provide an income about one-third below the poverty line for an elderly person living alone; the proceeds of the personal accounts would supplement the flat benefit.

The plan also would reduce the financing gap through many of the same features as the MB and IA proposals: it would expand coverage to newly hired State and local government workers, alter the taxation of benefits, speed up the increase in retirement age and index it to longevity (as in the IA proposal), and incorporate adjustments made to the CPI.

Social Security has, for the most part, operated on a pay-as-you-go basis, with benefits coming from workers' current contributions rather than from accumulated trust fund savings. Therefore moving to personal accounts to the extent provided for in the PSA plan would require the handling of substantial transition costs. Today's younger workers not only would have to support those already retired or nearing retirement, but would also have to contribute to a savings account for themselves. The PSA plan spreads these costs over 72 years, paying for them with a tax equal to 1.52 percent of payroll during this period. Because a level tax rate is used to finance the transition, the plan is underfunded in the early years and overfunded in the later years. This smoothing of the transition costs requires that the trust funds borrow roughly \$2 trillion in 1995 dollars from the Treasury between now and 2035, repaying this debt with the proceeds of the 1.52 percent tax thereafter.

Supporters of the PSA proposal claim three main advantages over the others. First, their proposal would lead to greater national saving and investment by fully funding in advance a major component of the Social Security system. Second, it would avoid the potential for politicizing the investment decisions that they believe could arise with direct trust fund investment in equities. Third, they believe that private accounts would increase confidence in the system.

ISSUES FOR FURTHER STUDY

The Advisory Council's three proposals differ on a variety of dimensions and raise a host of issues that need to be considered. These issues include:

- the social insurance that Social Security provides in addition to retirement benefits
- the issue of defined benefits versus defined contributions
- the effect of Social Security on national saving
- the desirability of further changes in the normal retirement age
- the rate of return on Social Security contributions (the "money's worth" issue), especially for younger workers
- the risks and benefits of investing a part of the Social Security trust funds in equities
- the relative importance of other structural features of the Social Security system, and
- other considerations.

Social Insurance

Social Security plays an important role not only in providing retirement pensions but also in offering social insurance features that are of great value to both individual households and the Nation. The design of the reforms will determine the extent to which the system can continue to provide progressive benefits and other social insurance components.

At the beginning of our careers none of us know whether we will be financially successful or will have to struggle to make ends meet, or whether we will die early and leave behind a family, or become disabled, or live long into retirement. Social Security has an important redistributive dimension, whereby those with low lifetime incomes receive higher returns on their contributions than their higher paid counterparts. Social Security was intended to free the elderly from poverty, and in that it has made great progress (see Chapter 5). Social Security also offers protections against other risks. For example, it provides income for disabled workers and benefits to deceased workers' families. Public attitudes toward maintaining these protections will play an important role in evaluating the Advisory Council's proposals and other options.

Defined Benefits Versus Defined Contributions

The current Social Security system is a defined-benefit plan, whereby the insurer—in this case the government—guarantees a benefit based on a prescribed formula. Under the MB proposal Social Security would continue to be a defined-benefit plan, but under the IA plan, and to an even larger degree under the PSA plan, a portion of Social Security would become a defined-contribution plan. A defined-contribution plan is one in which the insurer prescribes periodic contributions, and the size of the benefit depends on the size of the contributions and the returns they earn.

Proponents of a move toward a defined-contribution arrangement cite several possible advantages. First, they assert individuals would be more directly involved in the investment of their funds, which may allow them to make investment choices that more closely match their preferences for risk and other investment features. Second, they believe that by creating a more direct link between contributions and benefits, defined-contribution plans may alleviate some labor market distortions of the current system. Finally, proponents argue that giving workers ownership rights over their contributions reduces political uncertainty surrounding the future level of benefits.

Critics of this approach claim that the primary result of a shift toward defined-contribution plans would be to transfer risk from the government to the individual. Payments under this system would depend on the performance of the investments selected. Individuals might opt for all low-yielding investments and end up with much less than anticipated, or load up with high-risk assets and be forced to claim benefits at a market low. In addition, critics claim that returns on contributions would be hurt by relatively high administrative costs: the Advisory Council estimates that administrative costs for PSAs would be about 1 percent of invested assets annually, as opposed to just 0.1 percent for the IA plan accounts and less than 0.01 percent for the MB plan. Some critics are also concerned that, if participants are not required to annuitize their withdrawals, some might underestimate the amount of money they need over their retirement years and use the funds for other purposes. Private annuities should help alleviate this problem, but so far the market is underdeveloped, in part because of adverse selection problems (see Box 3-1 later in this chapter). Finally, one of the major arguments cited in favor of defined-contribution plans in the private sector is portability, but Social Security already follows workers from employer to employer.

The Effect of Social Security on National Saving

When thinking about the impact of the Social Security system on national saving, it is useful to consider three time periods: the system's startup phase, the current mature system, and the future.

The Startup. The Congress enacted the Social Security legislation in 1935. Payroll taxes were first collected in 1937, and the first monthly benefits were paid in 1940. In 1939 the Congress made a series of decisions that slowed the buildup of reserves, and the system has operated mostly on a pay-as-you-go basis since then.

This meant that the first generation of retirees received benefits far in excess of their tax payments. According to the life-cycle model, whereby individuals or households plan to consume all their income and wealth over their expected lifetimes, such an increment to lifetime income would increase consumption and reduce saving. That is, workers would perceive that they have received a wage increase in the form of a future annuity, and they would choose to consume part of that increase in the present. To increase their current consumption, they would have to either reduce saving or increase borrowing. Lower personal saving, without any offsetting accumulation of reserves within the Social Security system, would be expected to reduce national saving and leave future generations with a lower capital stock than they otherwise would have had.

A great many other things were happening in the economy at the same time Social Security was introduced; therefore isolating the program's effect on national saving is a daunting task. This might explain in part why a thorough review of the literature shows no compelling evidence of a sharp decline in saving in the wake of the introduction of Social Security. On the other hand, several plausible explanations are possible for the lack of any impact on saving. The first is that Social Security may have changed retirement expectations at the same time that it increased lifetime income. That is, before Social Security workers may have expected to work until they died, but *after* Social Security was enacted retirement at age 65 became the norm. To the extent that Social Security encouraged people to retire earlier, they may have chosen to save over a shorter working life for a longer retirement. This retirement effect would have increased personal saving. Similarly, before Social Security most elderly people lived with their children; after Social Security they were in a position to maintain their own households. The increased demand for independent living in old age could also have increased saving. Finally, many individuals save little or nothing at all, with or without Social Security. The only way they could have increased current consumption in response to the program's introduction would have been through borrowing. But these same individuals are likely to have had low or moderate incomes; as such, they may have been unable to borrow enough to achieve their ideal distribution of consumption over time. For such individuals, the introduction of Social Security would have left savings unaffected, dampening the effect on aggregate saving.

The Mature Pay-As-You-Go System. The existence of a mature pay-as-you-go Social Security system is one of many factors influencing the national saving rate. The permanent effect of a pay-as-you-go system on saving is determined primarily by its initial impact on saving and the capital stock; that impact then tends to be perpetuated through time. The permanent effect on the saving rate is thus likely to be small if the initial effect was small; similarly, the permanent effect is likely to be substantial if the initial effect was large. In addition, there is no reason to believe that the effect—whatever its size—will be exacerbated over time. Of course, it is still the case that a transition from a pay-as-you-go to a funded system could be expected to lead to some increase in the national saving rate and the capital stock.

The Future. Although the introduction of a pay-as-you-go Social Security system may not have had a discernible effect on national saving or the capital stock because of a variety of mitigating factors, moving toward a funded system could increase saving. This increase would reflect the lowered consumption of workers in the “transition generation,” who pay the taxes to support benefits for the elderly while also saving for their own retirement. Even though the resulting increase in the saving rate is temporary, the higher capital stock is permanent. Once the transition to a fully funded system is complete, the saving rate is likely to drop back to near its level before the shift.

Prior to the question of whether particular changes in the Social Security system will increase national saving, however, is a more basic question: is this the best way to raise saving, or should it be done through other means—for example, through reductions in the non-Social Security budget deficit? Even if it is determined that changes to the Social Security system are the best way to boost national saving, that decision does not resolve the issue of how best to structure the program. The effect on national saving results from shifting Social Security further from a pay-as-you-go toward a funded system. This can be done through the trust funds—net of any offsetting effect on the non-Social Security portion of the Federal budget—or through individual accounts.

Raising the Retirement Age

Under current law, the normal retirement age is scheduled to increase in two steps from 65 to 67 years. It will rise gradually to age 66 for workers who attain age 62 in 2005, remain at age 66 for 11 years, and then start rising again to 67 for workers who reach 62 in 2022. Two of the Advisory Council’s three proposals would raise the normal retirement age to 67 more quickly than scheduled under current law and then index it for increases in longevity thereafter.

The rationale for this change is that, since life expectancy has increased, so should the length of the work life. As was noted earlier, since Social Security was enacted in 1935, life expectancy at age 65 has increased by 3 years for men and 6 years for women. Moreover, these life expectancies are projected to rise by a further 3 years for both men and women by 2070. Proponents of a more rapid rise and indexation of the normal retirement age argue that a portion of these increases in longevity should be matched by additional years in the workforce. Increasing the retirement age would ease the pressure on Social Security financing by offsetting some of the increase in the elderly dependency ratio caused by the aging of the population.

Opponents of raising the retirement age offer two main arguments. First, greater longevity has not so far been accompanied by an increase in years worked; indeed, people are retiring earlier and earlier. Therefore, we should wait to see how people accept the currently scheduled increase to age 67. Second, opponents are concerned that accelerating the change in the retirement age would hurt those who are forced by poor health or lack of employment opportunities to retire before 65. The law already provides for an actuarial reduction in benefits of 20 percent for those who retire at age 62; this reduction will rise gradually to 30 percent with the scheduled increase in the normal retirement age to 67. Increasing the retirement age beyond 67 would reduce the age-62 benefit further still.

Two key issues emerge here. The first is empirical: how many people who retire at age 62 would find it a serious hardship to extend their work life? A preliminary analysis of early retirees shows them falling into two groups. One consists of relatively prosperous individuals with some wealth, who tend to be in good health. The other is made up of less wealthy, less healthy individuals, some of whom have irregular preretirement work histories. Raising the retirement age for the first group creates few problems; raising it for the second may well produce hardship. The second issue, therefore, is how to protect low-income individuals with no work possibilities. Those who cannot work because of physical disability might be eligible for disability insurance. Of course, a shift of early retirees to the disability insurance program would reduce the savings realized from the higher normal retirement age. A variety of options are possible, but any proposal to increase the retirement age should consider those unable to work the additional years.

The Rate-of-Return Issue

All three of the Advisory Council's proposals rejected an increase in current and future tax rates sufficient to establish long-term balance. In part this alternative was rejected because it would increase the costs of the program for current workers relative to the

benefits that they will receive. Current workers already face the prospect of making greater Social Security contributions relative to their lifetime earnings than was required of workers in the past without a fully compensating increase in their benefits. The consequent decline in the ratio of benefits to costs (commonly referred to as the "money's worth" ratio) is primarily the consequence of the maturation of a pay-as-you-go system. Workers retiring early in the program's history had only a few years of wages subject to the Social Security payroll tax. Over time, new retirees had more and more years of wages subject to taxation, and the additional tax payments sharply reduced the rate of return. The situation is actually somewhat more complicated in that benefit levels were raised several times over the period. Analytically, these increases in benefits can be seen as introducing new pay-as-you-go programs on top of the old, temporarily boosting returns. But the essence of the story is the maturation of a pay-as-you-go system.

In a mature pay-as-you-go system financed by a fixed tax rate on wages, the rate of return on payroll tax contributions depends on the rate of growth of aggregate real wages. Slower growth in aggregate real wage income, owing to slower population and productivity growth, has reduced the return that can be obtained from a mature pay-as-you-go system. Looking forward, with a constant or slow-growing working-age population, the rate of growth of aggregate wages will depend primarily on the rate of growth of productivity.

To address the problem of declining rates of return, all three plans at least consider allowing individuals to have some of their Social Security contributions invested in equities. Proponents of the Maintenance of Benefits approach suggest further study and evaluation of having the Social Security trust funds invest directly in equities. In the Individual Accounts proposal equity investments would be done through newly created private accounts, and the assets would be held by the government. In the Personal Security Account proposal individuals could invest in equities through individually owned and privately managed accounts. Because equities on average earn higher returns than other financial assets, proposals that produce the largest equity holdings yield the highest projected returns on Social Security contributions. Investment in equities also raises concerns about risk, as noted in the discussion of defined-benefit versus defined-contribution plans above, and in the following section.

Investing the Trust Fund in Equities

Proponents of the MB proposal suggest giving serious consideration to investing a share of the trust funds in equities. They argue that such investments are necessary to increase the return on the funds, which are currently invested entirely in Treasury securities. Both private pension plans and many State and local systems in-

vest a substantial portion of their assets in stocks. The Advisory Council estimates that investing 40 percent of the trust funds in equities could raise the ultimate projected return on trust fund assets from 2.3 percent to 4.2 percent. Proponents note that, if the higher returns on equities over long holding periods that have prevailed in the past continue, the change in investment strategy would extend the life of the trust funds, perhaps substantially.

Critics point out that investing a portion of the trust funds in equities would increase risk as well. Eight times in the last 70 years, a broad index of equity returns has declined by more than 10 percent over 1 calendar year; on three occasions the drop over a year or two was more than 35 percent. Such declines could cause anxiety among both retirees and those nearing retirement, undermine public confidence in the system, and possibly even lead to pressure to divest equities after a substantial drop. Proponents respond to this concern by arguing that, at least based on historical experience, the Social Security system is in a good position to wait out fluctuations in market value, particularly as the trust funds increase in size. Critics argue that the past may not be prelude and just as the last 15 years have seen an eightfold increase in the market, it is conceivable that the market could experience a dramatic multiyear decline. (For example, a broad index of Japanese stock prices fell more than 50 percent during the 1990–92 period.) Any proposal for equity investment must consider the consequences when markets fall.

Another criticism of allowing the trust funds to invest in equities is that such investments would primarily represent a reallocation of assets between those held in the trust funds and those held—either directly or indirectly—by households. It could improve the financial position of the trust funds, because of equities' historically higher average returns, but for a given level of saving it would not increase the returns for the Nation as a whole. Investing a portion of the trust funds in equities would raise the price and lower the return on equities, and lower the price and raise the return on Treasury securities. Higher Treasury yields would raise Federal interest costs and, all else equal, the non-Social Security portion of the deficit. No one can say with any certainty by how much interest rates on Treasuries would rise, and therefore what would be the likely impact on the deficit. (It should be noted that the MB plan incorporates other measures that do increase national saving; as a result, the net effect of that plan on the interest rates paid by the Treasury is ambiguous.) The analysis is complicated because the initial effects on rates of return could be moderated as corporations restructured their finances to take advantage of cheaper equity financing, and as international buyers increased their purchases of now-higher-yielding Treasury securities. The size of these

feedback effects is an important issue that would have to be explored in a thorough assessment of any equity investment proposal.

An additional set of issues involves the practical operation of the trust funds. For example, critics claim that political interference in investment decisions could hurt returns. Proponents argue, however, that this problem could be addressed by having the trust funds hold a broad portfolio whose performance mimics an index of the overall market. They suggest that an expert board could select, through competitive bidding, one or more private sector managers to achieve this end. An obvious concern, however, is that although such an arrangement could be implemented as part of a reform package, changes could be made later that would allow much political influence on investment policies. Another issue is how the government should vote the shares it holds. Proponents of the MB plan suggest that once the portfolio shift was complete, the trust funds' equity holdings would still be less than 5 percent of the market, but such projections are uncertain, and the actual share could well be higher. In any case, advocates of equity investments contend that so long as legislation provided that government shares were either not voted, or voted in the same pattern as other common shareholders, government ownership could be structured so as to not affect private control. Critics respond that, because this policy could be changed in the future, government-owned shares could allow the government to influence firms regardless of the protections in existing law. It is clear that the administrative aspects of investing in equities would require solving some tough problems.

Investing a portion of the Social Security trust funds in equities would be a dramatic departure from current procedure. All the considerations discussed above demonstrate that such a proposal would require careful scrutiny.

Structural Issues

Although the Advisory Council focused most of its attention on the financing aspects of the Social Security system, it recognized that the structure of the program also raises some equity and efficiency issues.

Household Composition. Under current law, Social Security benefits for spouses are equal to either the amount that they could receive on their own, or 50 percent of the benefits of the primary earner, whichever is greater. When the primary earner dies, the surviving spouse receives 100 percent of the primary earner's benefit. Married couples with a single earner do better under this system than unmarried single earners or two-earner married couples with similar earnings. The spouse's benefit was introduced at a time when most wives stayed home and cared for children; today, however, married couples in which both husband and wife work make up the majority of families. The Advisory Council's IA and

PSA proposals include reductions in benefits for nonworking spouses and increases in survivors' benefits when one member of a couple dies.

Effect on Labor Supply. As already noted, some Advisory Council proposals would increase the retirement age, but in general, issues of labor supply were not a focus. Social Security is thought to have little effect on the labor supply of younger workers for two reasons. First, although economists profess a range of views, most believe that labor supply generally is not very sensitive to changes in after-tax wages. Thus, to the extent that Social Security is viewed as a tax, the substitution effect, by which the lower after-tax wage discourages work in favor of leisure, is roughly offset by the income effect, whereby lower after-tax wages require individuals to work more to maintain their consumption. Second, to the extent that individuals view their Social Security taxes as a form of forced saving, those taxes exert even less of the modest disincentive effects usually associated with a tax.

It is possible that Social Security, in combination with private pensions and nonpension wealth, encourages retirement at age 62, the age of first eligibility. Economists remain divided, however, concerning the size of this effect. Most previous research has found little evidence to suggest that even substantial changes in the structure of Social Security would have much effect on the average retirement age as long as benefits continued to be available at age 62. Critics of this research argue, however, that it is difficult to capture the impact of large benefit changes with existing models. They also cite the increased generosity of Social Security benefits and the expansion of private pension benefits as a major reason for the shift toward age-62 retirement.

One Social Security provision that formerly provided an incentive to withdraw from the labor force was the sharp decline in the lifetime value of benefits for those who retire after age 65 as compared with the lifetime value for those retiring at age 65 or earlier. Although benefits have long been fully actuarially reduced for retirement *before* age 65, until 1983 no parallel provision was made for retirement *after* 65. The 1983 amendments will eventually raise the delayed retirement credit to a full actuarial adjustment of 8 percent a year for each year benefits are postponed after age 65; that credit will be phased in completely by 2008. Although the increase in the credit will increase the system's costs somewhat, it will remove a disincentive for postponing retirement beyond 65.

Other Considerations

The economic analysis presented earlier makes it clear that the impact of the Advisory Council's three proposals on national saving depends primarily on how benefits and contributions are changed. That is, the impact depends on how far the proposal would move

Social Security from a pay-as-you-go toward a funded system. Whether the accumulated reserves are held by Social Security trust funds or by individuals should, according to economic theory, have little impact on overall national saving. Therefore, the economics alone cannot explain why proponents of the various positions argue their cases so vehemently. Although the *Economic Report of the President* generally focuses on the economic aspects of issues, in this case some additional considerations raised in the Advisory Council's report need to be noted in order to understand the debate.

Proponents of individual accounts argue that economics is only half the story. They contend that "The IA plan provides...new saving and the MB plan does not." Since the MB plan does boost funding, this argument must be based on the assumption that either the public is unwilling to see large surpluses build up in the public sector or, if such surpluses emerge, they would be used to cover deficits in the rest of the budget. This has occurred since 1983, and IA supporters may view it as likely to continue in the future. Therefore, they conclude, the only way to increase national saving is to fund retirement saving through individual accounts.

Supporters of the PSA proposal also contend that investing the Social Security trust funds in equities would be harmful to the economy: "We believe that with the accumulation of such vast equity holdings...the pressures to use the funds for socially or politically 'desirable goals' would be tremendous, putting at risk not only workers' taxes and retirees' benefits, but also the allocation of capital in the economy."

Proponents of the MB proposal put much less weight on these arguments and instead focus on what they see as the dangers of moving toward individual accounts. First, in addition to the economic arguments advanced above, they foresee a good chance that funds in the IA and PSA accounts will not be held until retirement: "If the money is seen as belonging to the individual as it builds up during the worker's career, he or she will feel aggrieved if access to the funds is denied." They believe that "[E]xceptions will undoubtedly be sanctioned, and in many cases the individual's PSA funds will have been reduced or exhausted before retirement, with the individual left to rely on the low-level flat benefit." Second, they contend that even the more modest IA proposal contains the "seeds of dissolution": "...[A]s the plan developed over time, with beneficiaries doing less and less well under the reduced Social Security plan compared to individual accounts (at least those of the more successful investors), there would be every reason for many average and above-average earners, particularly, to press for further reductions in contributions to Social Security in order to make more available for their individual accounts. Thus, the IA plan is

inherently unstable, and could lead to the unraveling of the redistributive provisions that are so integral to Social Security and so crucial to its effectiveness."

Whatever weight one assigns to these political economy considerations, they help explain the strength of feeling about the future direction of Social Security.

CONCLUSION

Social Security retirement and disability benefits now equal 4.7 percent of GDP. According to the intermediate assumptions in the 1996 Trustees' report, outlays will amount to 6.6 percent of GDP in 2070. Although this is a substantial increase, it can be explained entirely by the growth in the elderly as a share of the total population. With no changes to current law, the Social Security system will be able to meet all of its obligations well into the next century, and a large portion of those obligations indefinitely. Nonetheless, the Social Security program is running a deficit over a 75-year projection period and faces a permanent imbalance thereafter. These long-term challenges to Social Security need to be addressed in a bipartisan manner, as was done in 1983. A variety of approaches should be considered, but any possible changes must also ensure that the benefits of reduced poverty and increased economic security for the aged and disabled are not put at risk.

MEDICARE

Medicare is the largest public health program in the United States. It covers virtually all Americans age 65 and older and most recipients of Social Security disability benefits. Since its enactment in 1965 it has contributed substantially to the health and well-being of older and disabled Americans. Medicare operates with relatively low administrative costs and enjoys widespread public support. Today, however, Medicare faces serious financing problems and continues to have important gaps in coverage. This Administration has taken significant first steps to address Medicare's short-term financing and has proposed additional reforms to strengthen Medicare's trust fund to 2007. This will provide more than enough time to establish a bipartisan process to develop additional reforms to guarantee the strength of the program for future generations.

Medicare presents a much greater challenge than Social Security, both in the magnitude of the projected deficits and in the complexity of the issues. Unlike with Social Security, reform involves not simply selecting among a list of plausible options, but rather figuring out how to control long-run costs and ensure the efficient

delivery of quality care in one component of a very complicated health care system.

Medicare is composed of two parts. Part A (hospital insurance) covers inpatient hospital services, care at skilled nursing facilities, home health care, and hospice care. Part B covers primarily physician and outpatient hospital services. Part A is financed by a 2.9 percent payroll tax, shared equally by employers and employees. Like their Social Security counterparts, the Medicare Trustees project the status of the hospital insurance trust fund over a 75-year period. These projections are highly uncertain given the time horizon and the difficulty in estimating future medical costs. Nevertheless, they constitute the best available estimate of the status of the Part A portion of Medicare. The projected 75-year deficit in Part A is more than twice the Social Security deficit in absolute terms, and many times larger relative to the size of the program. As a fraction of GDP, Part A expenditures are projected to triple over the next 75 years, from 1.7 percent in 1996 to about 5 percent in 2070.

Medicare Part A is also facing a pressing short-term problem. If no action is taken, the Part A trust fund is projected to be exhausted by 2001, and the gap between revenues and benefit payments widens very rapidly thereafter. Medicare reforms proposed by this Administration would extend the life of the Part A trust fund well into the next decade. Enacting these reforms is an absolutely necessary first step, but none of the current proposals completely solves the long-run problem.

Medicare Part B is financed primarily from general revenues and enrollee premiums. In 1996, premiums contributed about 25 percent of Part B income, with most of the remainder from general revenues. Although spending from this fund has grown rapidly, insolvency is not an issue, since general revenues are required to cover any shortfalls. However, the growth in Part B spending increases Federal expenditures and contributes directly to the unified deficit.

Reforming Medicare will require slowing the growth in health care prices and utilization. Since either Medicare or private insurance pays for most health care expenditures for the elderly, individuals have little incentive to seek out the most cost-effective delivery of medical care. Moreover, fee-for-service payment still dominates the Medicare market. Approximately 90 percent of Medicare beneficiaries have fee-for-service care, compared with fewer than 30 percent of the nonelderly. Hence, some Medicare providers may have an incentive to supply costly services that offer uncertain medical benefits. This potential misalignment of incentives is reinforced by the fact that the relative effectiveness of alternative

treatments is often poorly understood, and consumers generally rely on providers' recommendations.

For the nonelderly, any tendency toward overuse of medical services is increasingly kept in check by employers and their insurers. The dramatic movement toward managed care (discussed below) reflects determined efforts to ensure that health care is delivered in a cost-effective manner. Some working individuals may also have incentives to keep costs down because they face substantial out-of-pocket payments. These incentives may be muted for retirees, who frequently have virtually complete insurance coverage on a fee-for-service basis for an array of services.

In short, incentive issues are likely to be more important for Medicare than for Social Security. Any changes in incentives, however, must recognize the system's important advantages, such as the wide array of choices available to beneficiaries and their ability to continue longstanding relationships with physicians and other providers.

Moreover, altering incentives is not a call to reduce benefits. Discussions of Medicare are often framed as if the program were excessively generous and the problem one of cutting back. In fact, Medicare's coverage is less comprehensive in some ways than much private sector insurance. For example, Medicare does not cover prescription drugs and provides only very limited mental health benefits. Nor does Medicare place an upper bound on cost-sharing responsibilities for hospital stays, skilled nursing care, or physician services. As a result, participants who have long and complicated illnesses and lack insurance (called medigap insurance) to cover what Medicare does not may incur tens of thousands of dollars of out-of-pocket expenses. Thus, the challenge is not only to control the costs of the benefits currently provided by Medicare, but also to create some room for improvement in the benefit package.

SOURCES OF THE FINANCING PROBLEMS

The easiest way to understand the nature of Medicare's financing problems is to contrast Social Security with Medicare. Both programs provide a defined benefit—the one cash, the other insurance for a package of medical services—to roughly the same population: the aged and disabled. In recent years the Congress has not changed significantly either the population covered or the benefits provided under either program. (The 1988 Medicare Catastrophic Coverage Act added a drug benefit, limits on out-of-pocket expenditures, and an income-related premium to the program, but those provisions were repealed shortly after enactment.) Yet whereas Social Security is expected to remain solvent for more than 30 years and faces a relatively modest 75-year deficit, Medicare's hospital

insurance trust fund, as already noted, is projected to be exhausted in 2001 and to deteriorate rapidly thereafter, if no action is taken.

This very different outlook can be explained by two factors. First, whereas the cost of Social Security is precisely defined by the benefit provided, the cost of Medicare's bundle of health services depends on health care prices in the economy at large and the volume and intensity of services used by Medicare beneficiaries. Thus, even though the types of services reimbursed by Medicare have remained substantially unchanged, outlays have soared, as overall health care costs per capita (not just those paid for by the government) have risen at twice the rate of inflation. Second, as a result of these accelerating costs, Medicare financing has been aimed at staving off short-term insolvencies; Social Security, in contrast, was put in projected long-run actuarial balance in 1983. As a result, Social Security tax rates were set taking into account the upcoming retirement of the baby-boomers, while Medicare's Part A tax rates were set only to cover short-range outlays, and no prefinancing is provided for Medicare Part B. The result is that the demographic shifts looming after the turn of the century, when the baby-boom generation retires, have a much more profound impact on the long-run outlook for Medicare than for Social Security.

For most of Medicare's history, the increase in outlays per capita reflected the general rise in health care prices and a general increase in the volume and intensity of health services, rather than a particular problem with Medicare. As Chart 3-5 shows, Medicare and private health insurance costs per enrollee have tracked each other closely since the early 1970s, despite considerable year-to-year fluctuations. On a per-beneficiary basis, Medicare's average annual growth rate was actually lower than that of the private health insurance market between 1969 and 1994 (10.9 percent versus 12.2 percent).

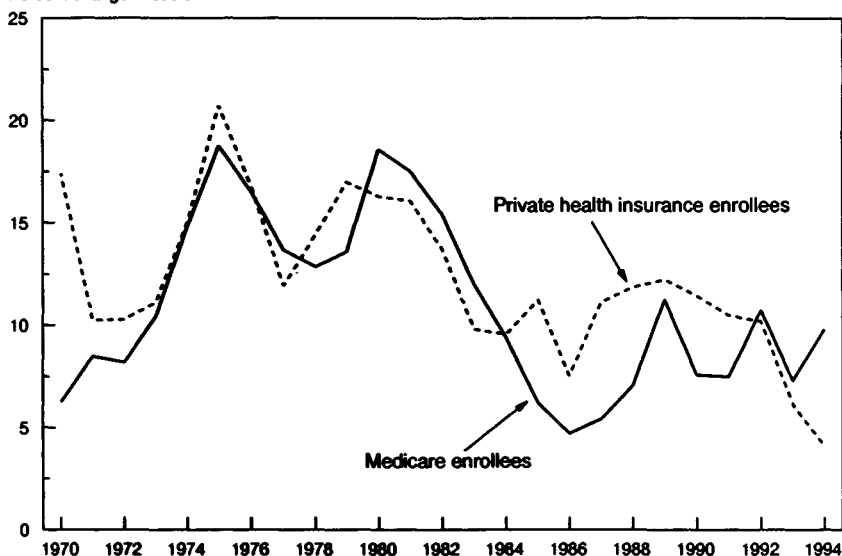
For the last few years, however, health spending per capita in the private sector has slowed. One reason is rapidly increasing enrollments in managed care plans, but the slowdown is not limited to these plans. The growth of expenditures in private fee-for-service plans has also declined, as these providers have responded to the greater competition from the managed care segment of the market. Medicare spending has not slowed commensurately, in part because the current system for setting managed care payments probably raises rather than lowers program costs. Program costs have also been pulled up by rapid growth in services such as home health care that private insurance often does not cover.

Two other factors complicate Medicare reform. First, more players are involved than with Social Security. Social Security has two main stakeholders: taxpayers and current beneficiaries. Besides these two groups, Medicare must deal with health care providers—

Chart 3-5 Growth in Per-Enrollee Costs of Health Care

Since the early 1970s, health care costs per enrollee have generally risen at similar rates for Medicare beneficiaries and persons with private health insurance plans.

Percent change in costs



Source: Department of Health and Human Services.

doctors and hospitals—and, to some extent, the private insurance industry. More players mean more decisionmakers and more sets of incentives and disincentives to consider.

Second, adverse selection plays a far more important role in the Medicare program than it does in Social Security (Box 3-1). For any structure of premiums, insurers have a strong incentive to cherry-pick the healthiest individuals. Healthy beneficiaries also have an incentive to opt for low-cost programs, since they pay a low price and still get all the health care they need. Although government can *reduce* adverse selection through risk-adjustment mechanisms, which peg the payment made by the government to the health status of the individual, risk adjustment is currently, and is likely to remain, very imperfect. Any proposed reform, therefore, must limit the extent to which insurers can cherry-pick and to which individuals can select health plans based on their health status.

SHORT-TERM OPTIONS

As explained above, until recently Medicare's short-run problems were caused mostly by the same factors that were increasing health expenditures in the private sector. The long-run problem, discussed in the next section, is driven both by the projected continuing rise in expenditures per capita and by demographic factors

Box 3-1.—The Problem of Adverse Selection

Adverse selection is a potentially serious problem for many types of insurance markets. It commonly occurs when the purchasers of insurance have more information about their risks than do insurance companies. Those who expect to incur losses are more likely to buy insurance than those who do not. This raises average expenses per beneficiary and forces insurance companies to raise premiums. Higher premiums discourage persons with lower risks from buying insurance. A cycle of increasing insurance premiums and decreasing participation could ultimately make the insurance unavailable. This is one justification for public provision of some types of insurance.

Adverse selection problems are likely to be particularly severe for health insurance, and there they may take several forms. When employers offer a number of different insurance plans, healthier workers are likely to choose less generous plans than workers who expect to require more health care. Similarly, if public health insurance programs such as Medicare offer more than one type of coverage, with rebates going to those choosing lower cost plans, sicker individuals (or households) will probably choose policies with more comprehensive coverage, whereas those with lower anticipated risks are likely to select less generous plans. As a result, those with higher risks will incur higher costs or may lose coverage altogether. Conversely, if the total premium expense is the same for all types of insurance, plans will have strong incentives to seek out those individuals expected to have relatively low health expenditures. Plans that are less able to select beneficiaries with low expected costs are then likely to be left with those with high average expenses. Adverse selection may also occur over time. For instance, individuals may select a relatively low cost insurance plan with limited coverage when they are healthy, but then to switch into a more comprehensive plan when they get sick.

Adverse selection can be eliminated if all individuals are placed into a common insurance pool. However, doing so reduces or eliminates choice and, under some circumstances, may reduce incentives for plans to operate efficiently. Alternatively, the problem could be avoided by risk-adjustment mechanisms that take into account all differences in risk that are known by the individual. However, mechanisms with the required degree of precision do not currently exist and are likely to be extremely difficult to develop.

that will increase the number of beneficiaries. When the demographics kick in, a broad array of options, including changes in eligibility and benefit design, are likely to be considered in a bipartisan context to resolve the program's financing problems. Short-run changes are required immediately, however, to extend the solvency of the hospital insurance trust fund. These changes, which are likely to focus mainly on reimbursement rates and policies, will also help balance the Federal budget. The Administration proposed a set of reforms along these lines last year and has submitted similar reform proposals in its current budget.

Controlling Provider Payments

Medicare's major tool for controlling short-run costs is adjusting payments to providers. Indeed, this represents the primary source of Medicare savings in the 1980s and 1990s. The two important payment innovations during this period were the prospective payment system for inpatient hospital care and the relative value scale for physician services. The prospective payment system substantially altered the incentives of hospitals by providing a fixed payment for an entire episode of care. Since hospitals no longer received additional revenue for additional services, they had a strong incentive to limit lengths of stay and unnecessary procedures. The reform in physician payments based on relative value scales tied physician payments to a schedule, which placed additional limits on the amount they could charge.

These innovations have helped control inpatient costs and physician prices, but they have not succeeded in curbing total Medicare spending, because they have little effect on the volume and intensity of certain services and because the types of services provided change rapidly. Also, spending on the portions of the Medicare program not yet subject to reform—outpatient services, skilled nursing facilities, and home health care—has risen at a rapid pace. Several factors may explain this outcome. First, many of these services, particularly home health care, differ from traditional medical services in ways that may make demand for them more sensitive to price and raise uncertainty regarding the medically appropriate level of care. Moreover, the supply of home health care providers is virtually limitless given that they do not require extensive training as do doctors and other medical personnel. Second, improvements in technology have made it easier to substitute outpatient care for hospitalization. Finally, spending controls on physician and inpatient hospital services create incentives for providers to substitute other types of services in order to maintain their incomes.

As noted above, most previous efforts to hold down price increases have been aimed at inpatient hospital care and physician services. Partly as a result, these are now the two slowest-growing components of Medicare. Some additional savings are achievable in

these areas, but squeezing down on prices has its limits. If prices become too low, physicians and hospitals might eventually become less willing to accept Medicare patients. Moreover, as already noted, it is hard to curb expenditures by focusing on prices alone. For example, the introduction of the Medicare fee schedule in 1992 placed additional limits on the reimbursements physicians could receive for services to Medicare beneficiaries. Yet until the last year or so Part B spending continued to increase markedly, in part because of higher volumes and new technologies.

The limit to how much Medicare can save by controlling payments to hospitals and physicians is likely to be determined by what happens in the private sector. Historically, Medicare payment-to-cost ratios have been well below those of private payers. However, as employers have turned to managed care in order to constrain costs, this gap has narrowed considerably: between 1991 and 1994, the private insurer-Medicare differential for hospitals fell from 48 percent to 28 percent. The reduction in the gap between public and private sector payments makes providing care to Medicare beneficiaries relatively more attractive than in the past. On the other hand, even if Medicare were able to hold down fees, total expenditures could rise if the volume of services provided increased. Moreover, if Medicare remains the primary insurer of fee-for-service care, cost containment efforts in the private sector may tempt providers to supply extra services to Medicare enrollees in order to maintain their incomes.

Expanding Prospective Payment—Getting Providers to Control Costs

Medicare has paid for inpatient hospital care on a prospective basis since 1983. Acute care hospitals receive a fixed fee for most inpatient episodes, regardless of how long the patient stays or how many services are performed. The fixed payment encourages hospitals to control the costs of treatment and has been credited with reducing Medicare inpatient costs. Despite concerns that prospective payment might lead to too little treatment, evidence suggests that hospitals have not compromised quality in their efforts to reduce costs. However, the prospective payment system may encourage hospitals to transfer patients quickly out of the acute care hospital and into a skilled nursing facility or long-term care hospital, which continue to be paid on a fee-for-service basis. This incentive could be contributing to the high growth rates of Medicare spending in these areas.

Some have suggested bundling more services together as a method of combating these perverse incentives and controlling costs. In general, the broader the set of services in the bundle, the stronger the incentive to reduce costs and the greater the scope for trading off treatment alternatives in a cost-effective manner. Some ana-

lysts advocate, for example, incorporating services for care following hospitalization into the fixed amount provided under the prospective payment system. Hospitals would be paid a fee for both the hospital stay and for all related medical services for a limited period of time thereafter. This might lower costs by preventing premature discharges that move patients from prospective payment hospitals into fee-for-service facilities. Bundling acute and postacute care, however, raises a number of challenges. For instance, it may be more difficult to set the reimbursement rate appropriately when a more diverse set of services is covered. Also, the need for postacute care may depend on factors beyond the hospital's control, such as the quality of care available at home, and this may place some hospitals at financial risk, unless appropriate adjustments can be made in the payment rate.

An alternative to bundling is to extend some type of prospective payment to those areas of Medicare where costs are increasing most rapidly. As already discussed, prospective payment reduces or removes the financial incentive for providers to supply additional services, and so may reduce costs. The Administration has proposed significantly expanding the use of prospective payment for Medicare services. New long-term care hospitals (defined as those with average stays of more than 25 days), which are currently paid on a fee-for-service basis, would become subject to the hospital prospective payment system. Skilled nursing facilities would also be moved quickly to prospective payment. Similarly, a prospective payment system would be established for home health services, one of the fastest growing areas of Medicare expenditure. Finally, a prospective payment system for hospital outpatient services is proposed, with implementation around the turn of the century. One challenge associated with reimbursing these services prospectively is that the episode of care, on which the fixed payment is based, may be harder to define than for hospital visits.

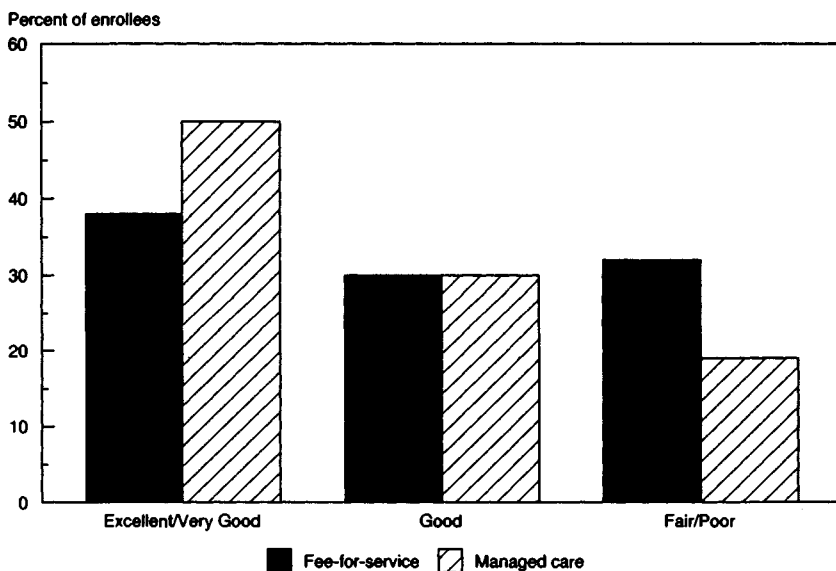
Improving Medicare Managed Care

The dominant form of Medicare managed care is the health maintenance organization (HMO), which receives a fixed payment for each covered beneficiary. The government's payment to a Medicare HMO is 95 percent of fee-for-service Medicare spending per capita in the same county, adjusted for a limited number of risk factors. Only about 10 percent of Medicare beneficiaries are enrolled in managed care plans, compared with 74 percent of workers in large companies, and the evidence suggests that those Medicare beneficiaries who do switch to managed care probably cost, rather than save, the program money. Part of the reason is flaws in the reimbursement formula, which exacerbate the problem of adverse selection, and part relates to the inherent difficulty of preventing adverse selection.

HMOs tend to enroll relatively healthy people at low risk of requiring expensive care (Chart 3-6). The payment made to HMOs for Medicare patients should reflect the lower costs associated with serving this relatively healthy population. To the extent it does not, Medicare payments may be higher than if the patients were in fee-for-service plans. Previous health history is a good indicator of future health expenditures, and one study indicates that the medical expenses of seniors shifting into HMOs were 25 to 30 percent lower than those of the average Medicare enrollee in the year or so immediately prior to their enrollment in the plan. Another analysis estimates that the introduction of managed care has increased Medicare costs by 7 percent per HMO beneficiary.

Chart 3-6 Self-Described Health Status of Medicare Enrollees

Medicare beneficiaries in managed care plans typically report better health than those in the traditional fee-for-service program.



Source: Department of Health and Human Services.

The selection problem is exacerbated by two additional factors. First, if healthier individuals migrate into managed care, average costs in the fee-for-service sector will rise. Since the reimbursement rate for managed care is based upon fee-for-service costs, this will drive up the HMO per capita payment. Second, HMOs have an incentive to offer coverage in counties with high reimbursement rates and to avoid counties in which the per capita payment is low. The current reimbursement formula results in payments that are almost four times larger in some counties than in others. By con-

trast, local input prices (labor and supply costs) vary by only a factor of two.

HMOs' incentives to cut costs may be limited somewhat because they are not allowed to earn higher profit margins on plans covering Medicare beneficiaries than on those for their private sector enrollees. In cases where the allowed per capita payment would generate a higher rate of profit, the HMO has the option of providing coverage not normally included in Medicare, such as for prescription drugs, or waiving some or all of the premium that it could otherwise charge. Thus, profit margins will not directly increase if HMOs develop or implement more cost-effective methods of providing care for Medicare beneficiaries. However, total profits may increase because of larger numbers of plan participants or economies of scale that raise profits on private sector enrollees.

To address selection bias, the Administration has proposed reducing the size of local variations in per capita payments, testing new risk-adjustment methodologies aimed at linking reimbursements more closely to predicted expenses, and making the reimbursement formula less generous. The use of more-uniform payment rates should lessen the tendency of HMOs to locate mainly in high-cost areas. But the likelihood of identifying risk-adjustment mechanisms accurate enough to eliminate the remaining selection bias is poor. The best currently available risk-adjustment mechanisms are likely to account for only a fraction of the variation in annual health care spending that individuals or insurers can anticipate. A less generous reimbursement formula further recognizes and attempts to take account of the remaining tendency of HMOs to enroll relatively healthy people.

To provide better incentives for cost reduction, the Administration has proposed some experimentation with competitive price setting and with the creation of partial payments, whereby plans would be paid on a fee-for-service basis but would also share in any cost savings achieved beyond some minimum threshold. The Administration has also proposed to broaden the range of managed care plans available to Medicare beneficiaries by adding options for coverage by preferred provider organizations, provider service networks, and for expanded availability of point-of-service plans, all of which are increasingly popular in the private sector. The goal in offering these new plans is both to expand the choices available to beneficiaries and to encourage plans to compete on the basis of quality of care rather than risk selection.

Increasing Part B Premiums

When Medicare was enacted, Medicare enrollees were required to pay a premium equal to 50 percent of the costs of Part B. The costs of physician services rose so quickly, however, that legislation in 1972 limited premium increases to inflation. As Medicare costs

soared, the premium dropped rapidly to 25 percent, and would have fallen further had legislation not been enacted to maintain this level. Most Medicare beneficiaries also pay a premium for their supplemental medigap policies. These premiums plus copayments and deductibles bring total out-of-pocket expenses to about 20 percent of family income for the typical elderly household and cover about 40 percent of their total costs of medical care. Proposals to increase Part B premiums have included both across-the-board increases and income-related options.

Shifting the Financing of Home Health Care

Since 1981 home health care has been financed under Medicare Part A. The rapidly increasing expenditures for these services are therefore contributing to the deteriorating financial condition of the hospital insurance (Part A) trust fund. The Administration proposes to continue reimbursing under Part A the first 100 visits following a hospital stay of 3 days or more, but shift the payment for all other home health care services to Part B. This change is consistent with the notion that Part A should be dedicated to hospital-related services, and Part B to expenditures for ambulatory care. Although this shift would not reduce total Medicare spending, it would extend the life of the hospital insurance trust fund, without excessive reductions in payments for hospitals, physicians, or other providers, and would restore the apportionment of home health care payments between Part A and Part B to that existing in law before 1980. It would not affect the Part B premium.

Global Budget Caps and Medical Savings Accounts

Two options sometimes considered for reforming Medicare are global budget caps and medical savings accounts (MSAs). In a global target system, the budget cap would limit total Medicare spending per enrollee at a congressionally mandated amount. Typically, separate spending targets would be established for HMO and fee-for-service Medicare expenditures. Projected spending (for example, in the fee-for-service category) would then be calculated by using estimated services and allowable prices. If total spending exceeded the sector target, prices for all services in the sector would be reduced proportionately to achieve the target level of spending.

MSAs combine a high-deductible insurance policy with a tax-advantaged savings account to cover expenditures below the deductible. A fixed dollar amount would be allocated to each beneficiary, out of which Medicare would then pay the premium for the high-deductible insurance policy and deposit any remaining funds into the beneficiary's savings account. Withdrawals from this account could be made for qualified medical expenses on a tax-free basis—or for other types of consumption as taxable income. Since individuals covered by MSAs would be responsible for all medical ex-

penses up to the deductible, MSA proponents say they would have incentives to avoid care in circumstances where the costs exceed the benefits.

Global targets, and MSAs have some attraction, but both also have potentially serious problems. In particular, unless risk-adjustment methodologies become much more sophisticated, selection bias could create grave difficulties under either approach, especially (for the former) if a separate budget cap were established for fee-for-service and managed care plans. If relatively healthy persons enrolled in managed care in disproportionate numbers, and the risk-adjustment methods failed to capture fully the differences in expected costs, fee-for-service spending per capita would rise relative to that in managed care. The fee-for-service budget cap would likely be reached, leading to relatively large reductions in prices. Pressure on providers would be likely to lead to lower quality of service and would encourage more beneficiaries to enroll in managed care. This process could continue in a vicious cycle, until only the sickest individuals remained in the traditional Medicare program, and the allotted prices might then be far too low to address their medical needs. The end result could be, in effect, more limited choice for most individuals and, if prices were too low, queuing for some types of medical care, as some providers became less willing to provide services to Medicare enrollees.

MSAs have a similar problem. Relatively healthy individuals may have a strong incentive to opt for the MSA, since payments into their savings accounts would exceed their expected medical costs. This would leave the less healthy in the fee-for-service part of Medicare, raising costs there. Higher costs might encourage further shifts to MSAs and could set up a dynamic similar to that created by the global caps. In addition, individuals in MSAs who fell ill might want to switch back into the fee-for-service program. Thus, Medicare would be likely to pay higher costs for the healthy individuals who accept the MSA option than it would if they stayed in fee-for-service, but the program would still have to pay the high expenses of sicker individuals. For example, in 1996 the Congressional Budget Office projected that one Medicare MSA proposal would have increased Medicare spending by \$5 billion over 7 years.

LONG-RUN OPTIONS

Incremental changes in Medicare such as those outlined earlier can provide substantial budget savings in the short term, create incentives for more efficient delivery of health care, and extend the life of the hospital insurance trust fund. Nonetheless, in the long run, the combination of demographic developments and continued cost pressures resulting from improvements in medical technology and increased volume of services will require additional reforms.

The President has proposed policies to address Medicare's short-term financing and has called for a bipartisan process to develop solutions for Medicare's long-run challenges.

The remainder of this section briefly reviews some of the approaches that analysts outside this Administration have proposed to improve the long-term financing of Medicare. None of them is a magic bullet; claims of spectacular benefit from any single approach should be viewed with skepticism. Some combination of policies is likely to be needed to meet the long-run challenges. All raise issues that must be examined and resolved in a bipartisan fashion.

Increasing the Age of Eligibility

Some have suggested raising the age of first eligibility for Medicare in order to reduce the number of beneficiaries and cut expenses. Retirees are now eligible for Medicare benefits at age 65; some have suggested raising this to 67 to reflect the scheduled increase in Social Security's normal retirement age. As with Social Security, this is likely to pose few problems for those persons who retire early because they have considerable wealth, good pensions, and retiree health insurance from their former employers. Others, however, have low incomes, poor job prospects, and poor health.

Denying health care coverage to this latter group could produce considerable hardship, because some elderly people may not have access to any protection other than Medicare. Unless other measures were taken in tandem, raising the eligibility age would probably increase the number of uninsured, and at least some of those losing coverage would be likely to have high medical costs. To reduce these problems, persons retiring before the age of 67 would have to be guaranteed some way of getting health insurance. One possibility would be to extend existing continuation-of-coverage provisions, whereby individuals who leave jobs are able to purchase group health insurance through their previous employer for a limited period. This could allow persons retiring at age 62 or later to maintain continuous coverage until they become eligible for Medicare. However, since individuals using this option would pay the full coverage premium plus a small administrative charge, the costs of obtaining health insurance might be quite high. Employer health expenses would also rise if older and less healthy individuals were added to the insurance pool.

Alternatively, some have suggested that Social Security beneficiaries between the ages of 62 and 67 could be allowed to buy Medicare coverage at unsubsidized rates. Although this would improve access to insurance, Medicare might still lose money on these beneficiaries, since persons in poor health would have particularly strong incentives to enroll. Some provision would also have to be made to reduce the burden on low-income individuals, probably

through Medicaid, which might reduce the financial savings and introduce other complexities.

Increasing Cost Sharing

The annual Medicare deductible for physician services is \$100, whereas that for inpatient hospital care is \$736. The former is relatively low by historical and private sector standards, but the latter is relatively high, especially when combined with substantial copayments for lengthy hospital stays. Home health care coverage has no deductibles or copayments of any kind. This means that Medicare has very high cost sharing on those services where inappropriate use is unlikely—namely, inpatient hospital services—and very low cost sharing where individuals have a lot of discretion—namely, physician visits and home health care. Since one goal of cost sharing is to give individuals the incentive to use services carefully, the current structure might at first glance seem in need of immediate reform.

The difficulty is that Medicare does not operate in isolation. Approximately three-quarters of senior citizens have some type of medigap coverage, either provided by their former or current employer or purchased directly. Medigap insurance pays for some or all of the cost-sharing requirements of Medicare and often covers services not included in Medicare, such as prescription drugs or preventive care. In addition, some 13 percent of enrollees with low incomes have secondary coverage through Medicaid. For those individuals with the lowest incomes, Medicaid covers all Medicare copayments and deductibles, as well as the entire Part B premium. Those with slightly higher incomes can also have their Part B premiums paid through Medicaid but are responsible for the other types of cost sharing.

Since so many beneficiaries have secondary sources of insurance, changes in Medicare cost-sharing arrangements may be unlikely to reduce total medical expenditures unless accompanied by changes in the structure of the supplemental coverage. The most likely effect would be merely to shift some of the expense away from the Federal Government and onto individuals (in the form of higher medigap insurance premiums) or State governments (in the form of higher Medicaid expenses).

Secondary Insurance Reform

Because medigap policies and Medicaid provide first-dollar coverage for most services, they shield individuals from the incentive effects of cost sharing. When individuals are not responsible for any of the costs, they tend to consume more health care and incur higher expenses. Thus, medigap policies and Medicaid coverage are likely to raise Medicare costs.

Several reforms have been suggested to avoid the problems associated with current medigap policies. One possibility would be to require any medigap policy to cover Medicare's basic package as well as any supplemental coverage. The insurance company would receive a payment from Medicare equal to the expected costs of the basic package and would bear any additional cost caused by incentives for overuse. This approach is quite similar to that currently used in Medicare's managed care plans, which frequently combine Part A and Part B coverage with additional insurance, and is fully consistent with efforts to increase the use of managed care arrangements. However, adverse selection may again be a problem since the health plans would have incentives to cherry-pick the healthiest beneficiaries.

Alternatively, some have argued that medigap policies could continue to be used as a supplement to Medicare but with a payment assessed to compensate for the overuse caused by first-dollar coverage, or with restrictions to prevent the policies from covering the initial copayments or deductibles for some types of services. Were this done, new types of medigap policies would presumably emerge that would mitigate the adverse incentives in the current system while providing some of the types of protection found in current policies. The challenge would be to find the right balance between incentives and protection.

Others have suggested that Medicare require at least some cost sharing for Medicare beneficiaries who also receive Medicaid. They argue that even modest deductibles are associated with significant reductions in health expenditures for individuals with average incomes. Deductibles and copayments for Medicaid beneficiaries could perhaps be set at levels considerably below those faced by other Medicare enrollees. Even low levels of cost sharing may be sufficient to induce more careful use of services among those with limited incomes. But they also might place some persons with low incomes at additional financial risk or deter them from seeking medically necessary care.

Switching from a Defined-Benefit to a Defined-Contribution Plan

Medicare currently offers a defined package of services to all enrollees. This places the government at significant risk for any rise in the cost of these services, whether it is related to changes in technology, prices, or volumes. Some have suggested that the government could limit future expenses by guaranteeing a specified contribution toward health insurance expenses for the elderly, while leaving the choice of the specific insurance plan to the individual.

For such a proposal to have any chance of being viable, the size of the fixed payment would have to be carefully determined. If the

amount were set in a base year and simply indexed thereafter, it could quickly become inadequate (if, for example, technological improvements led health expenditures per capita to rise faster than the rate of inflation) and place the elderly seriously at risk. To surmount this problem, some advocates have proposed asking health plans in a given geographical market to bid on the cost of insuring a minimum package of services and then using the average of the bids to set the dollar payment for each Medicare beneficiary in that market. Beneficiaries who wanted lower deductibles or copayments could then use their own money to buy more expensive policies, whereas those who wished to save money could join cheaper plans and receive the difference between the fixed payment and their premium contribution. The competitive bidding process is likely to tie the average payment somewhat more closely to costs. Success, however, would depend crucially on defining the market appropriately: defining it too large might result in considerable heterogeneity in medical costs within the region, whereas defining it too small could lead to inadequate competition in the bidding process.

Switching to a defined-contribution system has a number of other potential problems, the most serious of which is selection bias. Unless sophisticated risk-adjustment methods, which currently do not exist, could be used to vary the government payment rate with the level of expected medical expenses, market forces would put those in poor health at particular risk. Healthy individuals would have incentives to take policies with low premiums and limited coverage, which would drive up costs in the more comprehensive plans favored by less healthy persons. Better risk-adjustment mechanisms are needed. But solutions should be constructed with an understanding that our ability to adjust for risk is currently quite poor and may be inherently limited.

CONCLUSION

The conclusion that emerges from this brief overview of Medicare's financing problems is that, whereas short-term savings are currently achievable, long-run viability will require consideration of innovative reforms that will need to be agreed upon in a bipartisan process. Bold but thoughtful efforts to solve some of the issues raised here could lay the foundation for addressing one of America's greatest long-run challenges.

The most constructive approach would be to implement the structural reforms and savings proposals included in the President's budget and to continue the Administration's use of demonstration projects to explore different approaches to reining in costs and ensuring protection. Efforts are also needed to develop risk-adjustment mechanisms to alleviate the adverse selection problems. The Administration's proposals to extend the life of the Part A trust

fund and to control Part B spending should buy enough time to allow careful evaluation of a range of alternatives in a bipartisan process. With more evidence under its belt, the Nation will be able to proceed with more confidence.

MEDICAID FINANCING OF LONG-TERM CARE

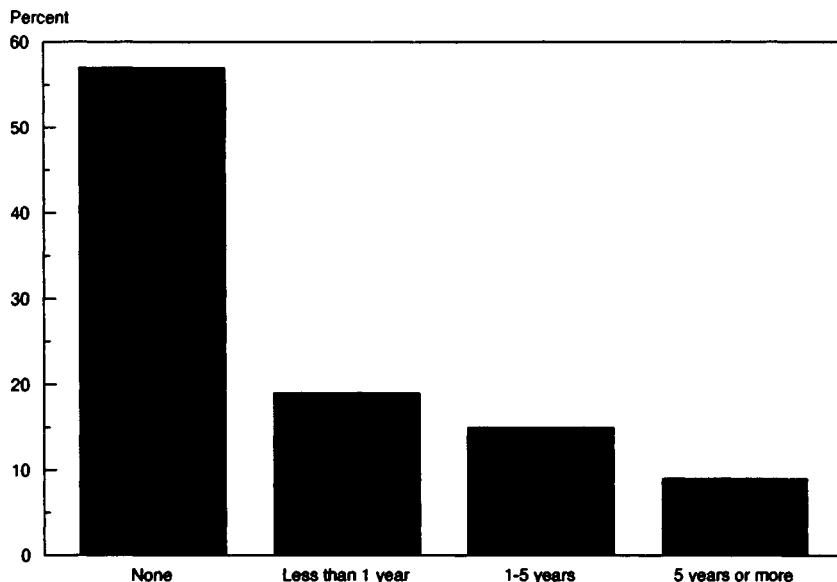
Medicaid was enacted, along with Medicare, in 1965 to provide health and custodial care for people with extremely low incomes. It continues to finance much of the medical care for the worst off in our society. Medicaid also pays for nursing home care for those who have low incomes and few assets. Since nursing home residents are typically quite old, the program provides significant financial support to the sick elderly. In 1995 roughly one-third of total Medicaid expenditures went to those aged 65 and over; the remaining two-thirds were split about equally between people with disabilities and the nonelderly, nondisabled poor. About half of all nursing home expenditures are paid for by Medicaid.

Medicaid expenditures have been growing rapidly over time, as a result of rising numbers of beneficiaries combined with higher costs for each. The nursing home component of Medicaid has also increased rapidly over the last 25 years, although at a slightly slower pace than other program expenses.

The aging of the population will significantly increase the number of people needing long-term care assistance. Not only will the number of older people increase, but so will the average age of those over 65. People over 85 made up about 10 percent of the elderly population in 1994; the Census Bureau projects that by 2050 this figure will be almost 24 percent. The very old are much more likely to reside in nursing homes: in 1993, about 25 percent of those 85 and older were in nursing homes, compared with just 5 percent of the general population over 65. If this rate of nursing home utilization is maintained, population aging will bring significant increases in the nursing home population and in expenditures on long-term care.

Some analysts suggest that one way to hold down future Medicaid nursing home outlays is to shift the financing of long-term care to some form of insurance. By its nature, insurance is particularly desirable for events that are rare but expensive. A majority of persons reaching age 65 can expect never to receive care in a nursing home. Of the rest, most are likely to stay a relatively short time. Only 9 percent will spend more than 5 years in a nursing home (Chart 3-7). With the cost of skilled nursing home care averaging over \$35,000 per year and rising over time, a lengthy stay can be extremely expensive. Therefore the need for long-term nursing home care is an event for which insurance may be appropriate.

Chart 3-7 Projected Lifetime Nursing Home Use by Current 65-Year-Olds
Only a small fraction of the aged will have an extended stay in a nursing home.



Note: Data projected for persons who reached age 65 in 1990.
Source: New England Journal of Medicine.

Yet even though nursing home stays are relatively rare, and the costs high, the market for private nursing home insurance is underdeveloped. Just 3 percent of nursing home expenditures were paid by private insurance in 1994. Several factors are likely to account for the limited importance of private long-term care policies.

First, Medicaid pays the long-term care expenses of persons who have no financial assets or who spend down their assets after entering a nursing home. To the extent that people think government will pick up the tab, they have less incentive either to engage in precautionary saving or to purchase insurance for long-term care.

Second, premiums for private insurance are relatively high. One reason is that the vast majority of long-term care policies are individual rather than group policies, and individual policies have higher administrative costs. Another is that those who do purchase long-term care insurance, especially when they are older, may be less healthy than others their age, and this will be reflected in premiums. This is another example of the familiar problem of adverse selection, discussed above. Finally, premiums will be higher to the extent that people with insurance use nursing home care in situations where they would not if they had to pay the full cost at the time of use.

Third, many disabled elderly persons are currently cared for by family members. Senior citizens who consider nursing homes less

desirable than living with family might not be interested in purchasing insurance that reduces out-of-pocket nursing home expenses if, as evidence suggests, this makes their families less willing to care for them.

A limited private insurance market means that most people reaching age 65 remain vulnerable to catastrophic nursing home costs that could potentially wipe out their assets. It also means that Medicaid outlays are larger than they would be if the private insurance market were more extensive. Medicaid outlays are also higher to the extent that seniors needing long-term care are able to find ways to transfer assets to family members, despite provisions in current law designed to prevent this, rather than spend them on nursing home care before becoming eligible for the program.

The proportion of the elderly with long-term care insurance could be increased in a number of ways, although all raise serious issues. One possibility would be for the government to require universal coverage, either directly through Medicare or indirectly through the purchase of private insurance (ideally at a young age and possibly through one's employer). Alternatively, individuals could be provided with stronger incentives to buy insurance within the current voluntary system. To a large degree, the recently enacted Kassebaum-Kennedy legislation (the Health Insurance Portability and Accountability Act of 1996) does so by offering tax advantages for some long-term care insurance expenses similar to (and in some ways more generous than) those previously provided for other medical costs or health insurance premiums. A third possibility would be to increase the ability of individuals to exempt some of their assets from the "spend-down" requirements of Medicaid if they purchase sufficient amounts of long-term care insurance.

Insurance of nursing home care for individuals with a lifetime of low income is a good example of a program that the private sector is unable or unwilling to supply. However, the presence of a safety net for the poor may also reduce the incentives for those who are better off to save for nursing home expenses. Unless people can be encouraged to put aside more money for this purpose, the aging of the baby boom is likely to put an increasing burden on the Medicaid system—and thus on the finances of the Federal Government and the States.

CONCLUSION

Each of the government programs for the elderly discussed in this chapter poses different policy challenges. The costs of providing Social Security benefits are going to increase as the population ages. Although this trend has largely been taken into account

through 75-year budgeting, the system needs additional revenue or benefit changes to restore long-run balance. A range of options has already been described and proposed.

The problems facing Medicare, and those facing Medicaid's financing of long-term care, are more complicated and the solutions more elusive. Unless action is taken, the Part A trust fund is projected to be exhausted by 2001, and to face growing deficits thereafter. Adequate provisions have not yet been made for Part B spending increases, or for future Medicaid nursing home outlays. Innovative approaches are needed to provide quality health and nursing care to an increasing number of elderly Americans.

Many of the key elements of any solution are already known. We must improve the incentives for individuals to seek and providers to supply quality care in a cost-effective manner. Better risk-adjustment mechanisms are needed to mitigate adverse selection. Where possible, market-oriented approaches should be used to help determine the size and form of third-party payments.

The various government programs supporting our elderly represent different ways in which each generation of taxpayers offers assistance to its parents. In combination, these intergenerational transfers limit the resources available for other worthwhile purposes. Historically, Federal revenues have averaged around 18 percent of GDP. In 1970, Social Security, Medicare, and Medicaid expenditures were equivalent to 4 percent of GDP; in 1996 they stood at about 9 percent; they are projected to grow to roughly 19 percent of GDP in 2050. These programs as currently structured ultimately could crowd out virtually all other government spending.

Examining how society distributes its resources between the aged and the rest of the population provides one lens through which to view these programs. Economics cannot answer how the allocation should be made, but it does offer the fundamental lesson that society faces choices. The choices are often difficult because the tradeoffs are between two or more worthy objectives. Economics can help illuminate the nature of the choices and provide theoretical arguments and empirical evidence about the impacts of alternative policies. Armed with this information, we must then make the hard decisions within a bipartisan process and with full awareness of the difficult tradeoffs they imply. The choices we make will say a great deal about the kind of society we are and the kind of society we aspire to become.

CHAPTER 4

The Labor Market

THE RECENT STRENGTH OF THE ECONOMY has created a large number of new jobs, and the unemployment rate is low by historical standards. Between January 1993 and December 1996, economic growth produced 11 million new jobs. At the end of 1996 the unemployment rate was 5.3 percent. Jobholding increased dramatically even among groups whose members traditionally have difficulty finding employment.

Economic progress has greatly benefited many American workers, but it poses important challenges as well. New technologies have led to explosive growth in some industries, but to the decline of others. With deregulation and expanding international trade, firms that once enjoyed market power and could share the resulting economic rents with their workers are now forced to compete more aggressively in the marketplace. Technological change and greater competition have eliminated the jobs of some workers, but many others have found new jobs in industries that these same powerful forces are causing to expand. Yet some workers may discover a mismatch between the skills they needed for their old jobs and those required in the newly expanding sectors. These workers are at risk of significant unemployment and may have to accept lower wages when they finally do find work. The benefits that come from an economy that has been strengthened by technological progress and more intense competition should be tempered by the recognition that these same changes may have hurt some working Americans.

To what extent have structural changes in the labor market reduced the well-being of American workers? Some analysts claim that a fundamental change in the nature of employment has taken place. While acknowledging the robust growth in the number of jobs, they maintain that this growth is concentrated in low-paying jobs, that wages overall are falling, that layoffs are increasing despite a growing economy, and that the promise of long-term employment on which many American workers rely can no longer be kept.

Recent studies suggest that these claims are exaggerated. Although it is true, as some critics point out, that the number of low-paying jobs has increased, that of high-paying jobs has increased even more rapidly. It is the jobs in the middle, the ones offering

wages close to the median, that have become somewhat scarcer. Layoffs, meanwhile, are not rising: the rate of job loss has actually declined somewhat, although it does appear that certain categories of workers previously less affected by job loss are now more at risk. Real, inflation-adjusted wages have generally been stagnant over the longer term, but standard methods of adjusting wages for inflation may have masked a real rise, and total compensation, including fringe benefits, has increased. Finally, some evidence indicates that the high level of average job tenure first identified in the early 1970s has changed little since then, although other recent research disputes this claim. This chapter examines these and other labor market trends in some detail, describes how workers have responded to these changes, and discusses policy alternatives to address some of the real problems that exist.

TRADITIONAL LABOR MARKET INDICATORS

Traditional indicators of labor market performance point to substantial improvement in the last few years. Perhaps the single most important indicator, the unemployment rate, is as low today as it has been at virtually any time in the last 20 years—and lower than it was through most of the economic expansions of the late 1970s and the mid- to late 1980s (Chart 4-1). The unemployment rate for the whole of 1996, at 5.4 percent, was below the rate for any full year since 1973, except for 1989 when the rate was 5.3 percent. And not only is the overall unemployment rate low, but groups that traditionally have experienced greater difficulty in finding jobs are doing better as well. For example, the unemployment rate for blacks in both 1995 and 1996 was almost a full percentage point lower than in any of the last 20 years.

The unemployment rate measures unemployment as a percentage of the labor force, not of the entire working-age population. It would be little cause for celebration if the unemployment rate has fallen merely because some jobless workers have become discouraged and have stopped seeking work, thus removing themselves from the labor force altogether. Recent data, however, strongly reject this explanation of today's low unemployment picture. Employment gains have been strong over the last 4 years: the employment-to-population ratio indicates that almost as large a share of the population is working now as at any time since annual statistics began to be collected (Chart 4-2).

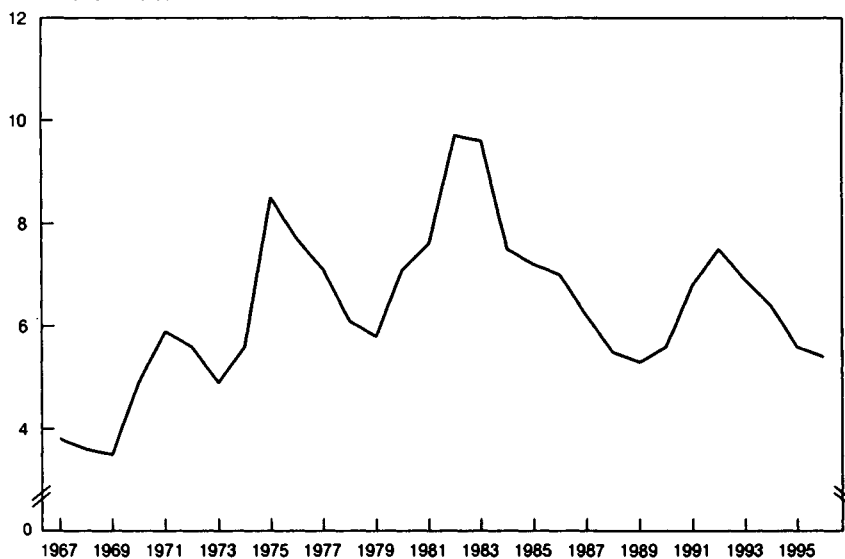
THE QUALITY OF NEW JOBS

A large number of new jobs have been created over the past 4 years, but concerns have been expressed about the quality of these

Chart 4-1 Unemployment Rate

The unemployment rate in 1996 was as low as it has been at virtually any time since the early 1970s.

Percent of labor force

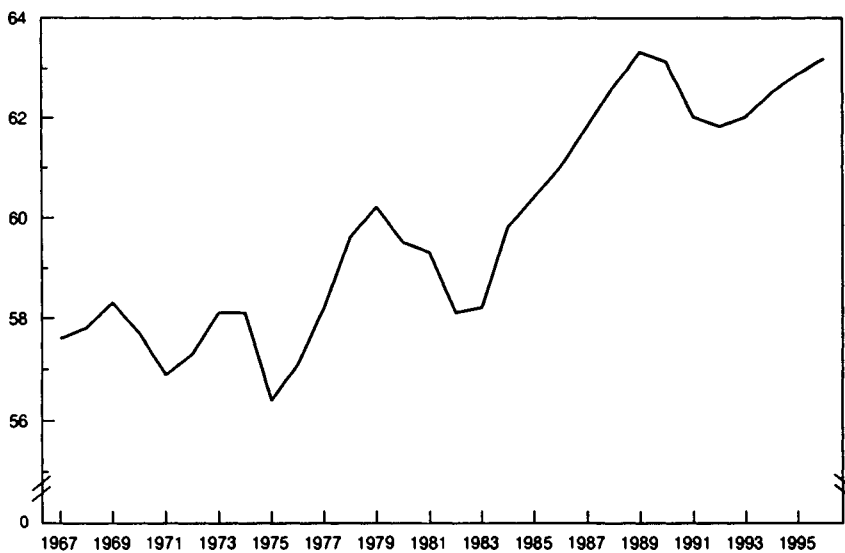


Source: Department of Labor.

Chart 4-2 Employment-to-Population Ratio

The percentage of the population employed was near a record high in 1996.

Percent



Note: Data adjusted for the Current Population Survey redesign.
Sources: Department of Labor and Council of Economic Advisers.

jobs. Recent research finds that most of the new positions created in the 1990s are "good" jobs. The number of lower paying jobs also increased, however, as employment in the middle of the earnings distribution fell.

JOB GROWTH WITHIN SERVICE-PRODUCING INDUSTRIES

A disproportionate share of employment growth in the current expansion has occurred in service-producing industries. But contrary to the popular notion that service jobs are primarily low-paid positions, jobs in these industries are actually quite diverse, including many high-wage positions in such industries as financial services, health care, and computer and accounting services. For this reason it is important to determine at which end of the wage spectrum the employment growth within services has mainly occurred.

The evidence indicates that managerial and professional occupations have been the main contributors to recent job growth within service-producing industries, accounting for most of the net increase in employment in this sector occurring between February 1994 and February 1996 (1994 is chosen as the base year because the Current Population Survey, or CPS, underwent a major redesign that makes comparisons before and after 1994 difficult; see Box 4-1). Managerial and professional occupations within service-producing industries have been large contributors to employment growth in each of the past three major expansions. But gains in these occupations have been even more important in the current expansion. Employment increases in these generally higher paying occupations may not necessarily translate into high pay for workers immediately, but the greater opportunities for advancement in these jobs promise higher wages in the future.

ECONOMY-WIDE JOB GROWTH

A more detailed picture of recent job creation emerges from an examination of changes in employment within specific industry and occupational categories. A study conducted by the Council of Economic Advisers and the Department of Labor compared full-time employment in February 1994 with that in February 1996 in 45 specific occupations in each of 22 major industries, for a total of almost 1,000 industry/occupation "cells." For each of the 287 cells in which employment was large enough to provide reasonably reliable within-cell wage levels, median weekly earnings as of February 1994 were determined, along with the median wage across all cells in that month. Employment growth between February 1994 and February 1996 in high-wage job cells, defined as those in which median earnings were above the overall median, was then compared with overall employment growth. The study found that 68

Box 4-1.—Effects of the Redesign of the Current Population Survey

The Current Population Survey (CPS), conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics (BLS), is a major source of data regarding the U.S. labor market, including the monthly unemployment rate. In January 1994 the BLS revised the questionnaire to adjust for changes in work patterns and implemented computer-assisted interviewing to improve the quality of data collected.

The BLS estimates that the overall unemployment rate was not significantly affected by the redesign. This finding is contrary to early reports that the new survey produced a slight rise in measured unemployment. The new survey did change the measured composition of unemployment, however. For example, measured unemployment among 55- to 64-year-old workers and workers 65 and older increased by about 12 and 50 percent, respectively.

The breakdown of reported reasons for unemployment was also affected by the redesign. Whereas the old survey asked directly whether the unemployment spell began because of a quit or a lost job, now respondents must first report that they were working just prior to their unemployment spell before that question is asked. Evidently, asking the question directly induced some workers to report that their unemployment spell began for one of these reasons, because the number of workers classified as job losers or job leavers declined using the new survey. In addition, expanding the definition of previous work experience to include part-time work led to more workers being classified as reentrants rather than as new entrants.

The redesign also affected reported unemployment durations, because computer-assisted interviewing allows the interviewer to check whether a respondent's answers are consistent from month to month. Respondents used to overestimate short-term and underestimate long-term unemployment spells. These changes increased the proportion of spells longer than 14 weeks and decreased that of spells shorter than 5 weeks.

Other labor market indicators were also affected. Both the labor force participation rate and the employment-to-population ratio are about half a percentage point higher when measured using the new techniques.

percent of the net growth in full-time employment over this period occurred in these higher paying job categories.

The results of this research were similar to those reported in a BLS study that divided employment into 90 industry/occupation categories and then identified jobs in these categories as either high-, middle-, or low-paying. Between 1989 and 1995, employment in the high-paying and low-paying categories increased by 13 percent and 7 percent, respectively, while employment in the in-between category fell by about 3 percent.

An alternative disaggregation of jobs into extremely detailed occupational categories (also by the BLS) supports these findings. The BLS compiles responses from a full year of CPS data to examine wages and employment growth for almost 500 occupational categories. Between 1994 and 1995, some of the categories with the largest employment gains included sales supervisors and proprietors, electricians, marketing and advertising managers, and electrical and electronic engineers. Consistent with the Council's calculations, occupations in the top half of the wage distribution accounted for 70 percent of net employment growth.

FULL-TIME VERSUS PART-TIME JOBS

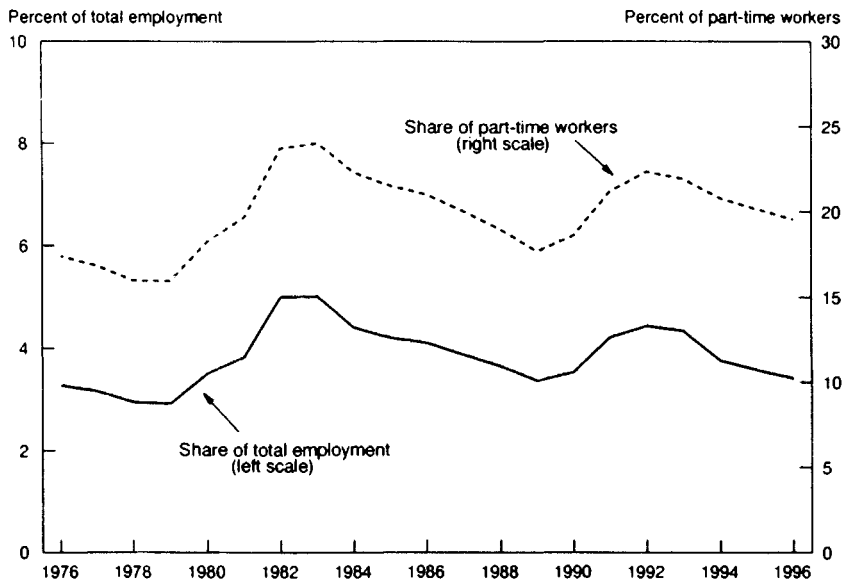
Even if today's new jobs are more likely than before to be in the higher paying sectors of the labor market, not all of these jobs provide workers with full-time employment. Data from the CPS provide an opportunity to explore trends in part-time employment. Chart 4-3 depicts the proportions of employed persons reporting that they work part-time for "economic" reasons (i.e., who would prefer a full-time job but cannot find one). Most of those who work part-time seem to do so by choice; moreover, the proportion of part-time workers who do so for "economic" reasons has been declining.

THE LEVEL OF WAGES

The economic growth of the 1980s produced only small real wage gains for workers. Moreover, real wages, when adjusted for inflation by consumer prices, have failed to keep pace with worker productivity since about 1983—a clear departure from the pattern of preceding years. (See Box 4-2 for a discussion of potential biases introduced in measuring consumer price inflation.) Although productivity growth has slowed, from around 2.8 percent per year before 1973 to 1.1 percent per year since, it has not stagnated; it therefore cannot explain these wage trends. After documenting the trends, the following discussion explores two possible explanations for them: changes in the relationship between the consumer price indexes, used for measuring real wages from the worker's perspective, and overall price indexes used for measuring real wages from

Chart 4-3 Part-Time Employment for Economic Reasons

The share of part-time workers who work part time for economic reasons and the level of such employment have declined recently.



Note: Data adjusted for the Current Population Survey redesign.
Sources: Department of Labor and Council of Economic Advisers.

the producer's perspective; and changes in the relationship between wages and total compensation, which includes fringe benefits as well as wages.

Box 4-3—The Influence of Inflation Adjustments on Measured Real Wages and Incomes

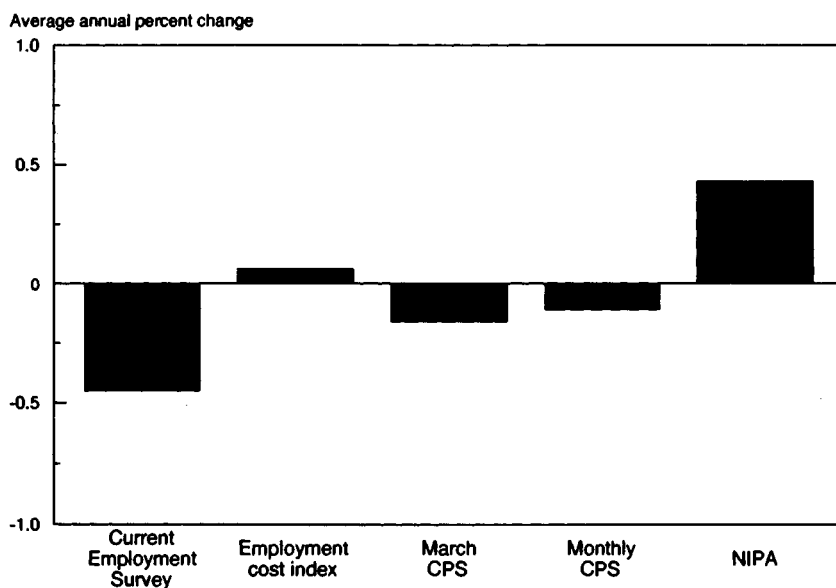
Standard analyses of wage and income trends use the CPI to adjust for inflation. But the CPI is a biased measure of the cost of living because it does not adjust for substitution between goods and may not fully account for changes in their quality—problems that are described more fully in Chapter 2. To the extent that the CPI overstates inflation, adjustments to wages and income using the CPI will understate actual growth in purchasing power.

Chart 4-5 displays trends in wages from the ECI, adjusted by the official CPI and adjusted by CPI inflation less 0.5 percentage point. If the CPI overstates inflation by $\frac{1}{2}$ percentage point, real ECI wages have actually risen by almost 10 percent since the early 1980s. Trends in real income, described in the following chapter, show the same sensitivity to bias in inflation adjustment.

TRENDS IN WAGES

Chart 4-4 shows annualized real changes in wages and earnings over the past decade and a half using five different data sources (Box 4-3) adjusted for inflation by the consumer price index (CPI). For three of the sources, wages were virtually unchanged over the period. Changes in median real weekly and annual earnings for full-time workers, estimated from the monthly CPS and the annual March CPS, were similar to those from the employment cost index (ECI) despite several differences in methodology: the ECI data measure mean rather than median wage changes, compute hourly wages rather than weekly or annual earnings, and include part-time as well as full-time workers. Of the five series, only average hourly earnings, as measured in the BLS's Current Employment Statistics (CES) program, fell noticeably over this period. Unlike the other series, the CES covers only production and non-supervisory workers, who suffered relative wage declines in the 1980s.

Chart 4-4 Measures of Annualized Real Wage and Earnings Growth Since 1982
Most indicators show that real wages have remained relatively flat over the past 15 years.

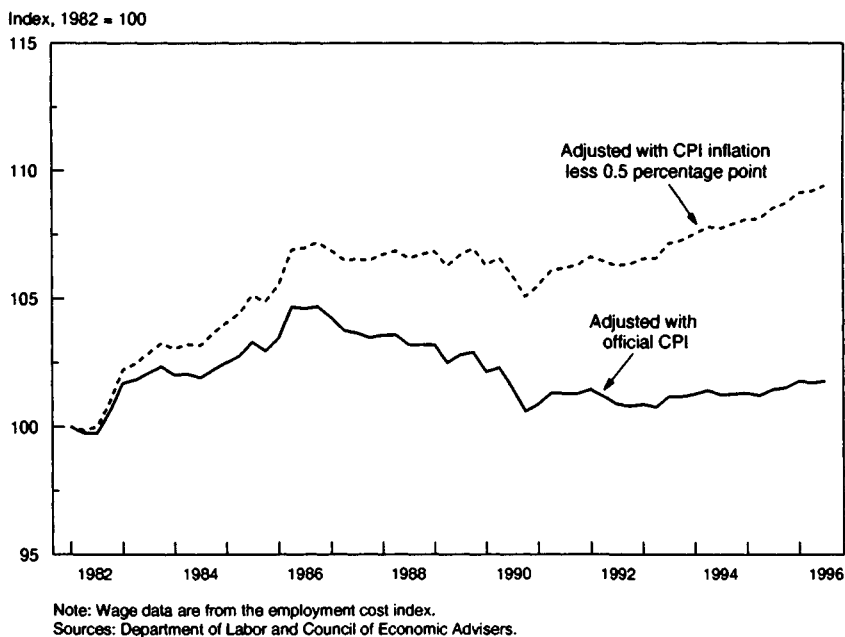


Note: Series deflated by CPI-U-X1.

Sources: Department of Commerce, Department of Labor, and Council of Economic Advisers.

An interesting feature of wage trends is that they display no apparent pattern over the business cycle. Economic theory does not offer a clear prediction of how real wages should move over the

Chart 4-5 Alternative Inflation Adjustments to Wages
Real wage trends are understated if the CPI overstates inflation.



cycle. On the one hand, we might expect the greater demand for labor during an expansion to lead to real wage increases. On the other hand, as the economy expands, it puts into production its less efficient capital stock. To induce firms to do this, prices of the goods they sell must rise relative to wages, which means that real wages must fall. Empirically, the fact that aggregate measures of the real wage show little cyclical may indicate that these two effects are offsetting.

A difficulty in identifying changes in wages over the business cycle, however, is that the pool of employed workers changes. During recessions, lower skilled and less experienced workers are more likely than others to lose their jobs. When the economy recovers, these same workers become reemployed. Therefore, during an expansion the labor force is likely to include more low-paid workers; this depresses the average wage. Research shows that once the composition of the pool of employed workers is controlled for, the wages of male workers are considerably more procyclical than the aggregate wage statistics indicate.

WAGES VERSUS TOTAL COMPENSATION

The discussion so far has mainly focused on wages. However, for many purposes total compensation, which includes fringe benefits, may be a more useful measure. Although real wages have changed

Box 4-3.—Sources of Wage Data

Several data sources can be used to track trends in wages. Five commonly used sources are the following:

- The *March CPS*, conducted by the Bureau of the Census, reports median annual earnings for full-time, year-round workers for the preceding calendar year.
- The *monthly CPS*, conducted by the Census Bureau for the BLS, asks one-quarter of all respondents about their “usual” weekly earnings and hours worked on their main job, in order to estimate the median wage for all full-time workers. Earnings data from this source are reported quarterly.
- The *employment cost index*, produced by the BLS, is based on a survey of wages, salaries, and benefits in approximately 4,700 establishments in the private sector. Firms surveyed are chosen so as to maintain a constant industry and occupational mix of workers, to eliminate the effects of employment shifts between industries and occupations.
- The *Current Employment Statistics* survey, conducted by the BLS, obtains data from nearly 400,000 establishments in private nonagricultural industries regarding earnings and hours worked for all production and non-supervisory employees. The data can be used to construct a measure of average hourly earnings.
- The wage data in the *national income and product accounts*, produced by the Bureau of Economic Analysis, are based on quarterly earnings records for workers covered by State unemployment insurance. Data on the number of paid hours from the Current Employment Statistics survey are used to translate these quarterly data into mean hourly wage measures, and these data are supplemented by imputation for those workers not represented in that survey.

little in the last decade and a half, total compensation has risen modestly since the mid-1980s. Meanwhile fringe benefits, which comprise roughly 30 percent of total compensation, have risen sharply. This rise is driven primarily by rapid increases in the cost of employer-provided health benefits, which increased over 20 percent in real terms between 1982 and 1994. However, employer health costs have stabilized since 1994, reflecting some combination of slower increases in the prices of medical care services, a

shift toward managed care, increased premium cost sharing with employees, and a reduction in the share of the workforce with employer-paid health insurance (Box 4-4). In competitive labor markets, a rise in one component of compensation might be expected to lead firms to reduce another component, so as to keep total compensation in line with worker productivity. This may have happened during the 1980s and early 1990s, as wages remained relatively stagnant to compensate for sharply rising health benefit costs.

Even so, total compensation has risen more slowly than have increases in productivity, when nominal compensation is adjusted for changes in the prices of consumer goods. A possible explanation is that producer prices have fallen relative to consumer prices, largely as a result of the decline in the prices of many industrial goods, such as computers. From the perspective of firms, prices for all output, including investment goods, offer a better method of adjusting trends in compensation. Because firms hire an additional employee only if the cost of doing so is less than or equal to the value of that employee's output, a more appropriate measure to compare with productivity may be compensation adjusted for all output prices. As can be seen in Chart 4-6, changes in real compensation, when deflated by output prices, have tracked changes in total productivity more closely since the mid-1980s than when consumer prices are used for the adjustment.

JOB LOSS

The threat of losing one's job engenders justifiable anxiety, because job loss can result in a lengthy spell of unemployment and a long-lasting reduction in earnings even after a new job is found. Economic expansion creates dynamism in the labor market, with reallocation of workers across sectors, and in such periods growth in new jobs typically is sufficient not only to lower the aggregate unemployment rate and to create jobs for new entrants into the labor force, but also to accommodate those workers displaced from their old ones. Historically, the highest rates of job loss tend to occur during recessions. Some have claimed that it is high today for an expanding economy.

TRENDS IN THE RATE OF JOB LOSS

The Displaced Workers Survey, published by the BLS since 1984 as a biennial supplement to the Current Population Survey, has become an important source of data on job loss. This survey identifies workers who have lost jobs within the 3 to 5 years before the survey date, either because their plant closed or moved, because their position or shift was abolished, or because of insufficient work. The

Box 4-4.—Trends in Employer Health Care Costs

The cost to employers of providing health insurance to their employees rose more rapidly than inflation throughout the 1980s and early 1990s. Since then, however, this trend has reversed: in the past few years firms' health insurance costs have actually fallen in real terms. This turnaround is the result of a combination of factors including slower growth in medical expenditures, employers switching to lower cost managed care plans, declining health coverage of retirees, and, possibly, modest cost shifting to employees.

Slower Growth in Medical Spending. Overall private medical expenditures are increasing much more slowly than in the past. Premiums (employer and employee) at medium-size and large firms rose by about 11 percent in 1991 and 1992, but only 2.1 percent in 1995 and 0.5 percent in 1996. The move to managed care may help explain why growth in health costs has moderated so sharply. Not only are managed care plans cheaper, but their expansion may also be forcing the competing traditional plans to become more efficient.

Coverage Trends. Over the past 15 years, employers have reduced the number of workers for whom they provide health insurance coverage. But most of that reduction occurred before the recent slowing in health benefit costs. However, employers have continued to decrease the share of their retirees eligible for health benefits.

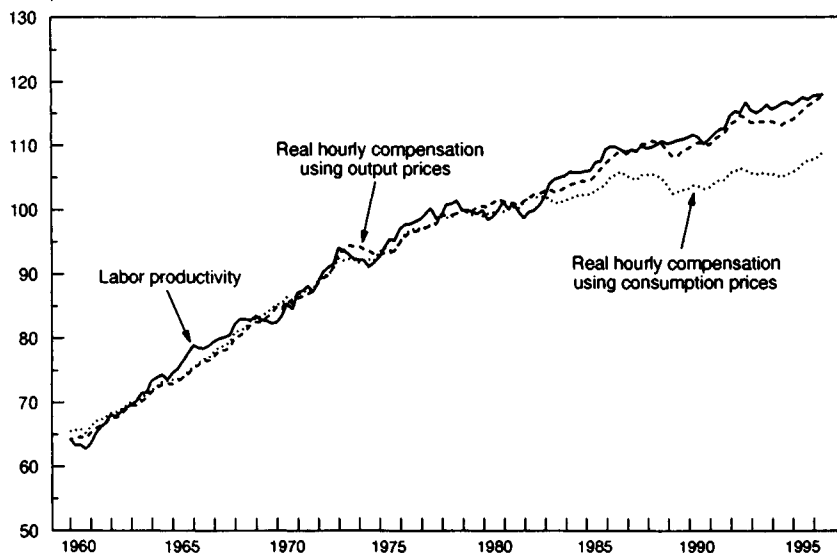
Cost Shifting. Employers have tried to hold down rising health benefit costs by shifting more responsibility for premiums and other expenses onto employees. But this trend has moderated recently. Since 1992, the percentage of workers whose employers fully finance their health insurance has changed little. Nor has the average premium contribution that firms require their employees to make been modified much in recent years. Deductibles and out-of-pocket spending have increased little in the same period. One reason is that coverage has shifted dramatically into managed care plans, which typically have low copayments and deductibles.

survey, which is conducted in January or February of every even-numbered year, can be used to examine trends in displacement rates, the characteristics of dislocated workers, and the costs associated with permanent job loss. Most of the results reported in the survey, and all those reported here, reflect job displacement for so-called long-tenure workers: those who were employed in their previous job for 3 or more years. The rationale for this focus is that

Chart 4-6 Real Compensation and Labor Productivity

Real hourly compensation when deflated by output prices has risen at the same rate as productivity.

Index, 1979 = 100



Note: Series refer to nonfarm business sector. Compensation measures are deflated by the consumption deflator for the real consumption wage and by the nonfarm business deflator for the real output wage.
Sources: Department of Commerce, Department of Labor, and Council of Economic Advisers.

individuals with lengthy job tenure are likely to have the most severe adjustment problems when displaced.

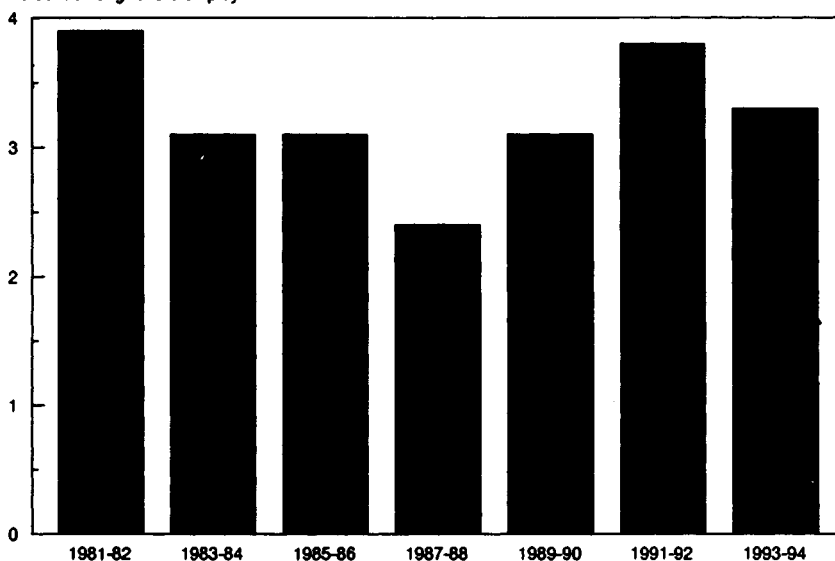
Chart 4-7 shows trends in the rate of job displacement among long-tenure workers since the early 1980s. As one might have expected from the deep recession of 1981-82, job dislocation rates were high during this period. As the economy recovered in the mid-1980s, displacement rates fell. The recession of the early 1990s again saw increasing rates of displacement: job loss in 1991-92 was as prevalent as it had been in 1981-82, even though the earlier recession was much more severe. Although displacement statistics from the 1993-94 period are calculated from unpublished data and may not be directly comparable to earlier years, displacement rates appear to have subsided to the level that prevailed for most of the late 1980s. Displacement rates were quite a bit lower, however, in 1987-88, even though the unemployment rate in those years was close to that in 1993-94. One may infer from these data that some of the problems of job loss are persisting even in the face of a healthy economic expansion.

Other measures, such as the monthly CPS, indicate that the rate of job loss has fallen significantly in recent years. The monthly CPS obtains information not only on labor market status, but also on the reasons why an unemployed worker began looking for work and the length of time spent looking. Job losers who are not on layoff

Chart 4-7 Displacement Rate Among Long-Tenure Workers

The rate of job displacement in 1993-94 was roughly comparable to that in most of the mid-1980s except for the 1987-88 period, when it was much lower.

Percent of long-tenure employment



Note: Data after 1989-90 are adjusted for nonresponse and are not strictly comparable with data from earlier years.

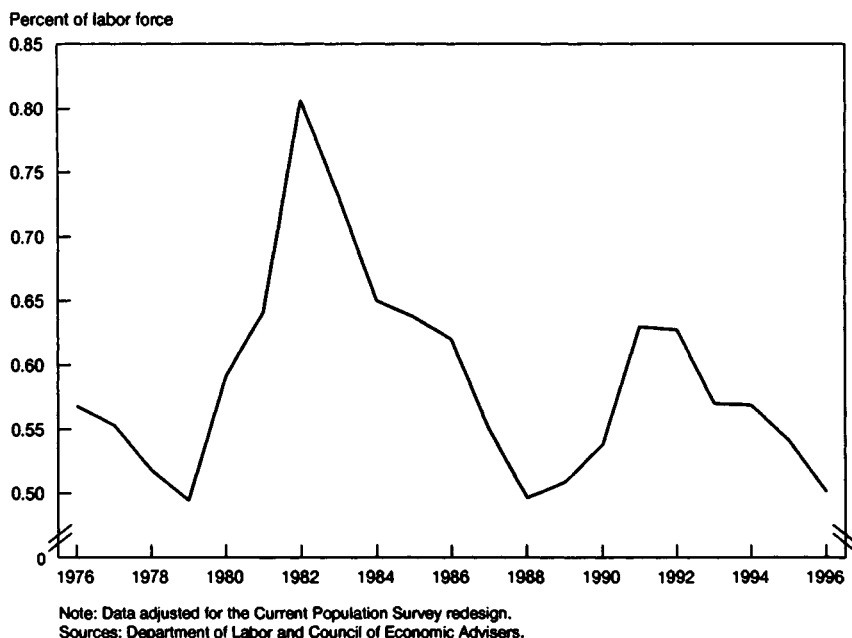
Sources: Through 1991-92, Department of Labor. Calculations for 1993-94 are by H. Farber, Princeton University, using Department of Labor data and unpublished data.

may be thought of as “permanent” job losers, even though they may have been fired for cause or have some chance of eventually being recalled. The number of these job losers unemployed for less than 5 weeks is an indicator of the number experiencing permanent job loss. These data are valuable because the CPS is the standard survey of labor market behavior and because the data are available on a regular basis. However, displaced workers who find a new job without an intervening spell of unemployment are not captured by this measure. Chart 4-8 shows that job loss by this measure has declined over the last few years and is currently comparable to the rates observed throughout much of the late 1980s.

Initial unemployment insurance (UI) claims provide another measure of job loss. Initial UI claims have declined throughout the current expansion: weekly claims have fallen by about one-third since the 1990-91 recession. Although the share of unemployment spells that are compensated has declined over time, recent trends fairly accurately reflect changes in the number of workers who have lost jobs or been laid off. These data are obtained from the administrative records of the UI system and represent a complete count of layoff activity that leads to a UI claim, rather than a sample. The weaknesses of these data are that they include temporary as well as permanent job loss and that they do not capture job losses that do not lead to a UI claim.

Chart 4-8 Permanent Job Losers Unemployed Less Than 5 Weeks

The percentage of unemployed workers who recently experienced a permanent job loss was low in the mid-1990s.



The distribution of job displacements has apparently changed over time. Workers in service-producing industries and white-collar occupations have become more vulnerable to job displacement, whereas blue-collar and manufacturing workers have become relatively less prone to lose their jobs. Thus, whereas service-producing industries accounted for about a third of all long-tenure displaced workers in the 1979–84 period, this sector's share has recently climbed to over one-half. Similarly, white-collar workers represented about 40 percent of those displaced in the early 1980s but now constitute more than half of job losers. Older and more educated workers also are exposed to greater risk of displacement than in the past. The bottom line is that the risk of job loss is now spread over a wider cross section of employees.

THE COSTS OF JOB LOSS

The costs of losing one's job include lost wages during any subsequent unemployment and any wage reduction or loss of fringe benefits that results when a new job is obtained. Displaced workers are now finding new jobs more quickly than in the past, thus reducing the first of these costs. Among workers displaced in the 1979–83 and 1981–85 periods, 60 percent and 67 percent were re-employed by 1984 and 1986, respectively. In contrast, 68 percent and 74 percent of workers displaced in the 1991–93 and 1993–95

periods were reemployed by 1994 and 1996, respectively, even though the shorter time period should have produced lower reemployment rates. The shift in the composition of displacement, from less educated to more educated workers, may explain some of the increase in reemployment probabilities, as more schooling generally helps ease workers' adjustment into alternative career paths.

Dislocated workers who find new full-time jobs often suffer a lingering decline in real earnings. Some evidence indicates that 6 or more years after displacement, the median displaced worker's earnings remain roughly 10 percent below what that worker might otherwise have expected to earn. That figure does not appear to have changed much over time. More educated workers appear to face smaller displacement costs, as their earnings losses are smaller than those of less educated workers. Furthermore, currently almost 15 percent of reemployed workers who had health insurance at their old jobs receive no such coverage from their new employers. However, this represents a considerable improvement from the early 1980s, when over one-quarter of previously insured displaced workers did not receive health insurance at their new jobs. Nevertheless, the costs of displacement are substantial for a large number of workers.

Taken as a whole, these results suggest that any sense of greater vulnerability to job loss is likely to be the result of a broadening of the risk of job displacement to groups of workers who had been relatively immune. Among those who do lose their jobs, the adjustment difficulties that follow job displacement are actually modestly less than in previous years.

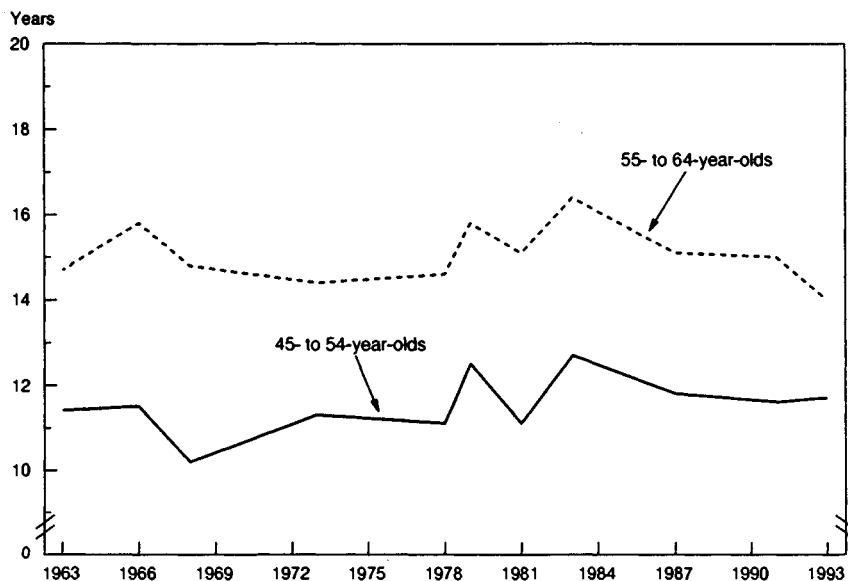
JOB STABILITY

A number of prominent U.S. firms that used to maintain policies of "lifetime employment" for their workers have recently abandoned those policies. These well-publicized reversals may have led to the widespread perception that jobs in general are less stable than they used to be. However, jobs at these firms probably never comprised more than a very small share of national employment. To arrive at a more accurate picture of job stability in the United States, one needs to examine the evidence for the labor market as a whole.

One well-known study that explored job duration in the 1970s found that many workers could reasonably look forward to "lifetime jobs." A significant proportion of workers held their jobs for 20 years or more. A more recent investigation shows that lifetime jobs are just as prevalent in the 1990s as they were during the 1970s. For instance, in 1993 the median 45- to 54-year-old male worker and the median 55- to 64-year-old male worker had been employed at their current jobs for about 12 and 14 years, respectively, and

over one-quarter of both groups had held their jobs for 20 years or more. These statistics are virtually identical to those obtained in several different surveys throughout the 1970s and 1980s (Chart 4-9), refuting the notion of a widespread reduction in employment stability.

Chart 4-9 Median Job Duration for Males by Selected Age
Job attachment between firms and workers has changed little over time.



Source: Unpublished calculations by H. Farber, Princeton University.

Job durations have changed for certain demographic groups, however. In particular, the trend toward greater female labor force participation is likely to have contributed to greater job tenure among currently employed women. Conversely, employment stability appears to have declined for high school dropouts.

A study conducted by the National Commission on Employment Policy, however, reported potentially contradictory evidence regarding job stability for the workforce as a whole. Using a method similar to the study just discussed, this study also found no change in employment stability. It also implemented an alternative method, using longitudinal data for each year of the 1970s and 1980s and examining respondents' answers to the question, "Did you have another main employer during the previous 12 months?" It found that the share of workers reporting having had another main employer two or more times in that period had increased between the two decades. Because these data pertain to other main jobs, they do not

necessarily provide direct evidence for job stability on the first job when workers hold multiple jobs.

WORKER ANXIETY

How have workers responded to the changes facing them in the labor market? Press reports suggest that a prevailing general sense of economic uncertainty has led workers to worry about their own prospects in the labor market. Researchers can get a reading of workers' anxiety over their economic circumstances in at least two ways. Public opinion polling directed at workers' sense of job security is one approach. Another is to examine aspects of worker behavior that are linked to feelings of security.

PUBLIC OPINION POLLS

For more than two decades, a leading nationwide opinion research organization has been asking workers, "How likely is it that you will lose your job over the next 12 months?" The proportion of respondents who believed that they were "not at all likely" to lose their jobs was lower in 1996 (51 percent) than in 1991 (about 60 percent), even though the economy was suffering through a recession in the earlier year. In fact, the low proportion of workers with this strong sense of job security in 1996 is similar to the unusually low level reached in 1983, shortly after the unemployment rate peaked at nearly 11 percent during the worst recession since World War II. However, the decline in the share of respondents who considered job loss "not at all likely" has been mirrored by an increase in the share saying that it was "not too likely." The share saying that it was "very or fairly likely" that they would lose their jobs has changed little. Accordingly, these polls suggest that more people than before are feeling a moderate, but not a high, risk of job loss.

At the same time, workers also express a perception that jobs are readily available. For many years a national business association has surveyed individuals about their views on the availability of jobs. The pattern of their responses has closely matched trends in unemployment. Another survey of consumer sentiment, conducted by the University of Michigan, also shows that consumer perceptions about the job market are consistent with economic conditions prevailing at the time. Appropriately, the current low level of unemployment is reflected in recent results from both these surveys, which indicate that workers are not overly concerned about job availability.

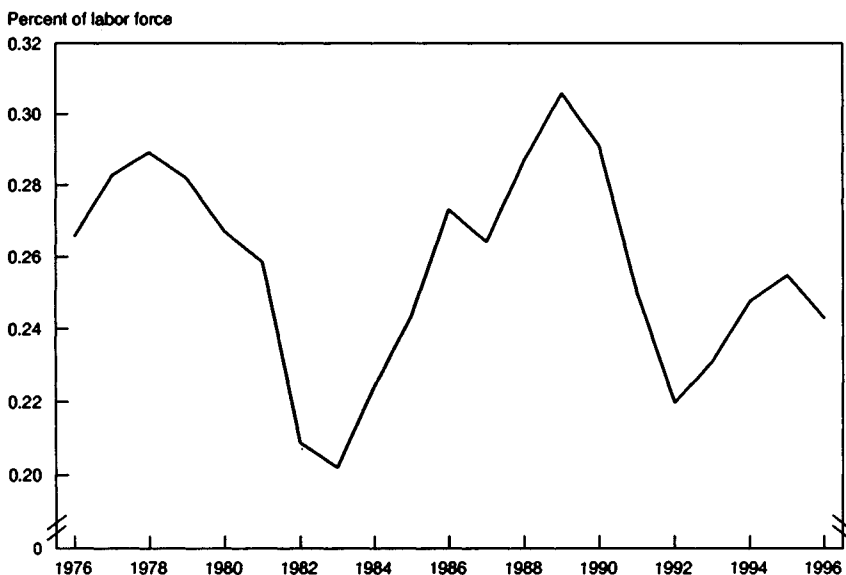
QUIT BEHAVIOR

Workers do appear to have changed their behavior in ways that are consistent with feelings of increased anxiety about their jobs. In particular, workers have become more reluctant to quit their jobs. Typically, during periods of prosperity, workers employed in jobs they feel are a bad match for them often quit to look for new work for which their skills would be more appropriate. Quits generally fall during recessions, when new jobs are harder to find. For any two comparable points in the business cycle, a lower overall quit rate may indicate greater worker anxiety, because it suggests that workers fear they will not be able to find or keep a new job if they quit their current one.

One measure of how many workers are quitting their jobs to look for new work is provided by the CPS, which reports the percentage of the labor force that has become unemployed within the previous 5 weeks because of having quit. Chart 4-10, which plots this measure, shows the expected strong cyclical pattern to quit behavior. The current expansion is no exception, although the rise is less sharp than that in the previous expansion, and quits fell slightly last year. Five years into the current expansion, quits are still considerably less prevalent than in the 1970s or 1980s—a finding that is consistent with lingering worker anxiety.

Chart 4-10 Job Leavers Unemployed Less Than 5 Weeks

The percentage of unemployed workers who quit their jobs in the last 5 weeks was relatively low in the mid-1990s given the length of the expansion.



Note: Data adjusted for the Current Population Survey redesign.
Sources: Department of Labor and Council of Economic Advisers.

POLICIES TO MITIGATE THE COSTS OF ECONOMIC CHANGE

The Federal Government has many policies and programs at its disposal to reduce the costs that economic growth and change impose on some workers. The main policy instrument that addresses some of the immediate needs of workers who lose their jobs is the unemployment insurance system. Other policies, such as mandatory advance notice of layoffs, may provide short-term benefits as well. Still other policies, including education and training programs, are vital for improving the longer term fortunes of those hurt by economic change. These are discussed briefly here and in more detail in Chapter 5.

UNEMPLOYMENT INSURANCE

Created in 1935 as part of the Social Security Act, the UI system has two main goals: to work as an economic stabilizer, expanding consumer spending during periods of heavy job loss, and to provide economic security for workers through income maintenance. The Federal Government maintains control over the broad design of the UI system, but States have considerable autonomy in tailoring the program's features within their jurisdictions. UI provides weekly benefits to workers who have been laid off or who have lost their jobs for reasons other than misconduct or a labor dispute. Only workers with a sufficiently long employment history (usually two calendar quarters of significant employment) are eligible. Benefits are a fraction of average weekly earnings on the job that was lost, up to a maximum dollar amount, and paid up to 26 weeks in most States. This fraction, called the replacement rate, is typically between 50 and 70 percent. Benefits are financed, in most States, by a payroll tax levied on firms.

UI benefits help workers weather periods of unemployment, since the benefits allow workers to maintain consumption patterns closer to those observed prior to the job loss. Another potential benefit of the UI system is that it may improve the match between workers and firms upon reemployment: UI may provide individuals the financial resources to prolong their job search until they receive an offer appropriate to their skills. However, little empirical evidence supports the proposition that longer search periods translate into better job matches, as measured by higher future earnings.

Although the UI system has benefited millions of workers over the years, these benefits do not come without costs. In particular, a significant body of evidence supports the contention that higher UI benefits lead to longer unemployment spells. Providing benefits to unemployed workers reduces their incentive to search intensively for a new job. Research suggests that a 10-percentage-point

increase in the replacement rate of UI benefits leads to an additional 1 to 1.5 weeks of unemployment, when an insured unemployment spell typically lasts roughly 15 weeks. Job-finding rates also increase somewhat as the exhaustion of benefits approaches.

Some States and the U.S. Department of Labor have investigated whether changes in the UI program can reduce unemployment durations and improve subsequent employment outcomes in a cost-effective manner. The research was undertaken in the form of controlled experiments. Workers were randomly assigned to treatment and control groups; those in the control groups received benefits under the rules of the existing program, while treatment-group participants were subject to an alternative, experimental set of rules. With random assignment, members of the different groups can be assumed to have similar characteristics, so that any differences in outcomes can be attributed specifically to the difference in policy.

The first set of experimental policies included job search assistance. Treatment-group members were eligible for services such as instruction in how to find a job, and for periodic meetings with employment counselors. These programs were generally found effective both in reducing unemployment durations and in increasing earnings during the first year or two following reemployment. One difficulty in interpreting the results, however, is that one cannot be sure whether the favorable effect was caused by the job search services themselves or by the more rigorous monitoring of worker search activities that accompanied them. Nevertheless, the apparent success of these experiments led the Congress to pass a law in 1993 requiring States to institute job search assistance for workers identified as likely to be hard to place.

States have also experimented with paying reemployment bonuses to workers who find jobs within a certain period after filing a UI claim; self-employment assistance programs with UI payments as support; and training programs targeted at dislocated workers. Of these, only the self-employment assistance programs yielded generally positive results. The proportion of unemployed workers starting their own businesses roughly doubled, although it remains quite low. Over an 18-month follow-up period, failure rates for these businesses were no different from those observed for businesses started by control-group members.

The reemployment bonus experiments yielded mixed results: in some but not all cases the savings in reduced UI benefits exceeded the costs of bonus payments and additional administrative expenses. It is also possible, however, that a more widespread use of bonuses would increase the share of workers filing UI claims.

Short-term training programs generally have not been as successful as other policies in improving the labor market outcomes of

dislocated workers—a result that contrasts with the findings of similar programs targeted at low-income, low-skilled workers. Programs to support longer term training—for example, those that provide funding for higher education—may yield significant benefits, but no formal, controlled experiment has so far examined such programs.

Changes in the economy have also had profound effects on the UI system. Most notably, the share of unemployed workers who received UI benefits has fallen dramatically since the early 1980s. This reduction has been attributed to demographic shifts in the workforce, a reduction in union membership, regional shifts in employment, and tightened State eligibility requirements. Payment of extended benefits during recessions (beyond the regular maximum duration) has been less likely, because the trigger that starts these payments is tied to an *insured* unemployment rate that now is a less reliable indicator of economic conditions. As a consequence, during the last two recessions the Congress authorized temporary emergency programs that did not depend on the extended benefits triggers. Such ad hoc adjustments may not be well timed to the beginnings and ends of recessions. The question of which is the correct trigger to use for this program has resulted in changes in the law, which now authorize States to adopt a *total* unemployment rate trigger for the extended benefits program if they so desire.

In addition, inflation has significantly eroded the value of the taxable wage base, upon which UI taxes are imposed. The Federal wage base, currently set at \$7,000, is not indexed for inflation and has fallen dramatically in real terms. (Although many States have a higher base, it is less than \$10,000 in most larger States.) Early in the life of the UI system, in the late 1930s, the taxable wage base was set at \$3,000 (over \$35,000 in 1996 dollars), and only relatively small, infrequent adjustments have been made since then. Such a low base makes the UI tax similar to a head tax that is disproportionally levied on firms that employ low-wage workers. The nominally rigid taxable wage base, combined with the fact that UI benefits are indexed in many States and increased regularly in others, requires periodic adjustments in State UI tax rates.

ADVANCE NOTICE

Another way to reduce the costs of job loss is to require firms to give advance notice to workers about to be displaced. Prenotification has a variety of potential benefits. It gives individuals time to search for a new position while still working, which may shorten unemployment spells or prevent them altogether. Other types of adjustment assistance (e.g., job counseling, skills retraining, or outplacement assistance) may also be more effective and easier to administer if individuals are still reporting for work.

Finally, if the notice is given sufficiently far in advance, workers may be able to switch their human capital toward skills that are likely to be useful to their future employers. Although legislation requiring advance notice has been enacted, a variety of exemptions limit the number of firms required to provide notice. It is unclear whether the legislation has increased the share of workers who are actually notified.

For those displaced workers who receive it, advance notice does appear to reduce adjustment problems. Recent studies suggest that individuals receiving at least 2 months of advance notice are out of work up to 1 week less and earn around 10 percent more in their new jobs than do those receiving no notice. Despite only modest reductions in joblessness, pay might increase through at least two mechanisms. First, employers who provide advance notice may also tend to provide other forms of readjustment assistance that might lead to wage gains upon reemployment. Second, notified workers remain jobless almost as long as other workers, but may find new jobs that better match their skills and qualifications. The available evidence lends support to both of these possibilities.

REFORMING TRAINING AND REEMPLOYMENT SERVICES

Both the Administration and the Congress have proposed consolidating many of the roughly 100 separate education and training programs now administered by the Departments of Labor and Education and reforming the overall system. Some of the proposed reforms are intended to help dislocated workers. A crucial element is the establishment of one-stop career centers where workers can find out about employment opportunities and training programs and apply for unemployment benefits. These centers are already being established in many States.

PORTABILITY OF PENSION AND HEALTH CARE BENEFITS

The costs of job transition are higher than they need to be in part because of the frictions involved in transferring pension and health care benefits. This is a significant cause of "job lock," in which workers are reluctant to leave their current jobs because they fear they will not be able to transfer their benefits. Many of these frictions can be eliminated, and recently some important strides down this path have been made. The minimum wage legislation passed in August 1996 contained a pension simplification initiative aimed at making portable pensions more available. New Internal Revenue Service regulations seek to do the same. Another recent success is the enactment of the Health Insurance Portability and Accountability Act of 1996 (the Kassebaum-Kennedy bill),

which ensures continued health care coverage for workers with pre-existing conditions who lose or change their jobs. The Administration has also proposed continuing health insurance for unemployed workers. Such a policy would further the goal of reducing the frictions associated with changing jobs.

CONCLUSIONS

Over the long run, sound economic policies that lead to low levels of unemployment and high rates of economic growth are likely to produce gains for most workers. Technological change and an increasingly competitive marketplace also help promote the conditions necessary for such growth. Most of the available evidence suggests that the U.S. labor market is quite robust, with significant job growth in the higher paying sectors, some evidence of reduced job loss, and a level of job stability that probably is no different today from what it was 20 years ago.

Nevertheless, some costs have been incurred. Government has a role in lessening the burden that economic growth causes for some workers. Some policies have been put in place, and others have been proposed, that should help reduce these costs without sacrificing growth in the economy.

One important potential cost of economic growth that this chapter has not addressed is increased inequality: the danger that those at the bottom of the earnings distribution will find themselves falling ever further behind the rest. Chapter 5 explores issues of inequality in far greater detail.

CHAPTER 5

Inequality and Economic Rewards

IT WAS OVER 30 YEARS AGO that President John F. Kennedy said, "A rising tide lifts all the boats." The decade preceding his Presidency and the decade thereafter supported this optimism. Tremendous economic growth raised the incomes of American families at all levels, including the poor, and income inequality fell dramatically. Beginning in the late 1970s, however, this broad tide of equalizing growth turned, and inequality began to increase. The gap between rich and poor continued to widen through the 1980s and into the early 1990s, regardless of economic conditions. In the last few years some signs have begun to emerge that inequality may be stabilizing and perhaps even declining slightly, but the gap in economic rewards between rich and poor is still much larger than it was 20 years ago.

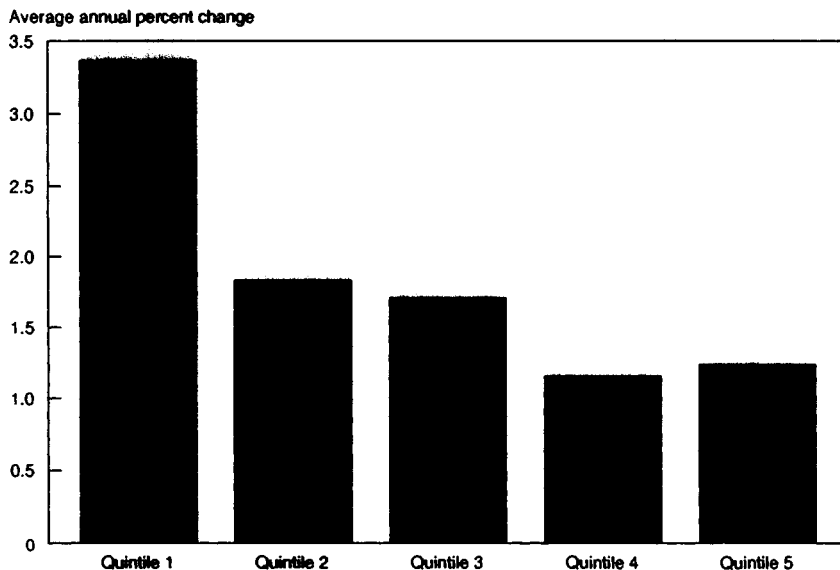
Economic inequality has several different dimensions. We begin by looking at trends in earnings inequality across and among workers as grouped by age, sex, and level of education. Earnings inequality is an important indicator in its own right, because it helps characterize the structure of the labor market. It is also an important contributor to inequality in household incomes, a broader measure of economic well-being that aggregates the resources of all household members and incorporates other income flows besides earnings. Finally, we consider some alternative measures of inequality that may better address differences in lifetime income across households.

Concerns with inequality are inseparable from concerns about the well-being of the poor, but a rise in inequality does not necessarily mean the poor are worse off. A rise in inequality is consistent with a scenario in which the circumstances of the poorest are improving, but the richest are experiencing even greater gains. Such a state of affairs is less troubling than one in which those at the top prosper while the living standards of those at the bottom stagnate or decline. It makes a profound difference to our understanding and to our policies which of these depictions of rising inequality is the correct one. Therefore, in addition to documenting trends in inequality, this chapter will focus specifically on the well-being of those at the bottom of the distribution.

RECENT TRENDS IN INEQUALITY

Before addressing longer term trends in inequality, we briefly explore the record of the recent past. Although it is too soon to tell whether a break in the long-term trend toward greater income inequality has occurred, income statistics over the past few years do show some reduction. From 1993 to 1995, income gains were observed throughout the income distribution, but the percentage increases were the largest for low-income households. One way to view these changes is to separate households into five equal groups based on their income (called quintiles) and estimate the increase in income received by each quintile. Chart 5-1 displays the results of such an analysis for the 1993-95 period. It shows that this period has seen gains for each quintile, which were largest for the lowest quintile and smallest for the highest.

Chart 5-1 **Real Household Income Growth by Quintile from 1993 to 1995**
Poor households experienced the largest income gains from 1993 to 1995.



Note: Household income adjusted by CPI-U.
Source: Department of Commerce.

The “rising tide” theory might have predicted such results, given the ongoing economic expansion. Yet recent historical experience indicates that expansions do not always reduce inequality. Consider, for example, three years—1979, 1987, and 1995—when economic performance was similar: in all three years gross domestic product (GDP) grew by about 2 to 3 percent, the unemployment

rate was about 6 percent, and the economy had been expanding for a few consecutive years. Yet whereas the percentage of the population living in poverty (i.e., the poverty rate) fell by 0.7 percentage point in 1995, it actually rose by 0.3 percentage point in 1979 and fell by only 0.2 percentage point in 1987. The Gini index of household income inequality (which ranges from 0, indicating perfect equality across income quintiles, to 1, which would indicate that all income is going to the top quintile) rose in both 1979 and 1987, but fell in 1995. Recent data show that inequality has been reduced beyond what would have been predicted by cyclical factors.

Although these results are encouraging, it is too soon to tell whether the longer term trends of increasing inequality have been reversed. The remainder of this chapter focuses on these longer term trends.

EARNINGS INEQUALITY

The incomes of most people consist mainly of earnings from labor. A large component of income differentials across households can be attributed to differences in the earnings of individuals. An examination of earnings is also facilitated by the individual nature of the measure: it is not necessary to adjust for the changes in household composition that so complicate discussions of household income. This section documents trends in earnings inequality in general, trends across workers with different characteristics, and trends across workers with similar characteristics, before attempting to identify the factors that can help explain the observed rise in inequality over time.

DOCUMENTING TRENDS IN EARNINGS INEQUALITY

Because earnings are a function of both the wage rate and the number of hours worked, we concentrate here on full-time, year-round workers so as to abstract from any biases due to changes in working hours over time. Men's earnings are the focus of this analysis, because the increasing labor force participation of women over time may have altered the composition of the female workforce in ways that might distort the results. For instance, if women with higher earnings potential have entered the labor market at a faster rate in recent years, measured inequality would appear to have increased, even if the underlying distribution of wages for women continuously employed has remained unchanged. After examining earnings inequality among men, we briefly examine trends among women.

For male workers we examine two ratios that compare earnings between workers at different points in the earnings distribution. One of these is the ratio of the earnings of a male worker at the

90th percentile (i.e., one whose wages exceed those of 90 percent of all male workers) to those of a male worker at the 50th percentile (i.e., the median male worker). This ratio is called the 90/50 earnings ratio. The other ratio, called the 50/10 earnings ratio, is that between the median worker and a worker who earns more than only 10 percent of workers. Estimating both these ratios is more useful than the common alternative of estimating the 90/10 ratio alone, because the 50/10 ratio provides more information on the well-being of those at the bottom of the distribution. Because the median male worker's wages have fallen somewhat in real terms, an increase in the earnings ratio between the 50th and the 10th percentiles indicates a larger reduction among those with low earnings. In 1995, annual earnings at the 10th, 50th, and 90th percentiles were \$12,920, \$31,497, and \$70,314. (Note that the 90th-percentile figure is well below the huge salaries paid to top corporate executives; see Box 5-1.)

Trends in the 90/50 and the 50/10 earnings ratios for full-time, year-round male workers are shown in Chart 5-2. These data reveal that the male worker at the middle of the earnings distribution earned about 2.4 times the wages of the worker at the 10th percentile in 1995, compared with 2.2 times in 1979. The 90/50 earnings ratio rose by a similar amount, from about 1.9 in 1979 to 2.2 in 1995. The overall trend in both ratios is upward over most of this period, indicating increasing inequality across the wage spectrum.

Another way to document increasing wage inequality is to calculate the percentages of the workforce falling in each of several different earnings categories at different points in time. Chart 5-3 shows that a larger proportion of workers earned less than \$15,000 in 1995 than in 1979 (when earnings are measured in constant 1995 dollars); at the other end of the distribution, a larger share of the workforce earned in excess of \$75,000 in 1995 than in 1979. (The consumer price index, or CPI, is used in both calculations to adjust for inflation; potential biases introduced by using this index are described in Chapter 2.) These increases at the top and bottom of the distribution are offset by a reduction in the share of workers earning between \$35,000 and \$75,000.

BETWEEN-GROUP INEQUALITY

The trend in inequality may be better understood by first grouping workers according to certain key characteristics (educational attainment and age are two that are commonly used) and then separating observed wage differentials into two components: the differential observed between workers so grouped (between-group inequality) and the differential observed among workers in the same group (within-group inequality). Taking first the education dimen-

Box 5-1.—Executive Compensation

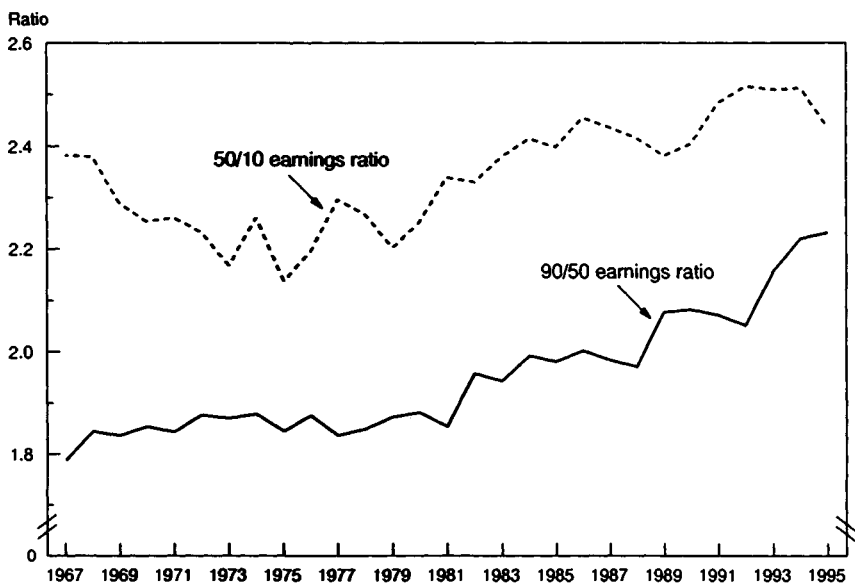
One much-publicized aspect of earnings inequality has been the extraordinarily high level of compensation of top corporate executives. In 1995 the average compensation package for chief executive officers (CEOs) in a sample of 362 of the largest 500 U.S. firms was \$1.5 million, and some CEOs received more than \$10 million that year. Defenders of current corporate pay scales argue that today's executive compensation packages, with their moderate base pay and generous stock options, encourage high-level management to act in the shareholders' interests by providing greater rewards for good long-run performance. Critics respond that it is unclear in practice how much executive compensation is even designed to be "performance-based." For example, compensation in the form of stock options rewards executives for share price increases even when these are attributable to market-wide price gains rather than the executives' own actions. In addition, such compensation practices may have adverse effects on worker morale, when, for instance, a firm pays its top management very high salaries at the same time that it is laying off workers.

However this debate is resolved, the effect of high executive compensation on measured earnings inequality throughout the economy is minimal, because top executives represent only a tiny fraction of the workforce. As we saw in Chart 5-2, earnings disparities have been growing even when measured by the 90/50 earnings ratio. The executives whose compensation is the subject of this controversy receive a level of earnings that places them well above the 90th percentile, and therefore even a doubling of their salaries would have no impact on trends in this measure. And executive earnings obviously have no influence at all on the 50/10 ratio, which has been increasing as well.

sion. Chart 5-4 shows the trend in the ratio of the earnings of the median male college graduate to that of the median male high school graduate. The chart reveals that returns to education grew tremendously during the 1980s and early 1990s. In 1980 the median male college graduate earned roughly one-third more than the median male high school graduate, but this wage premium grew to over 70 percent by 1993. Since then that trend has slowed, and the ratio even declined slightly in 1995.

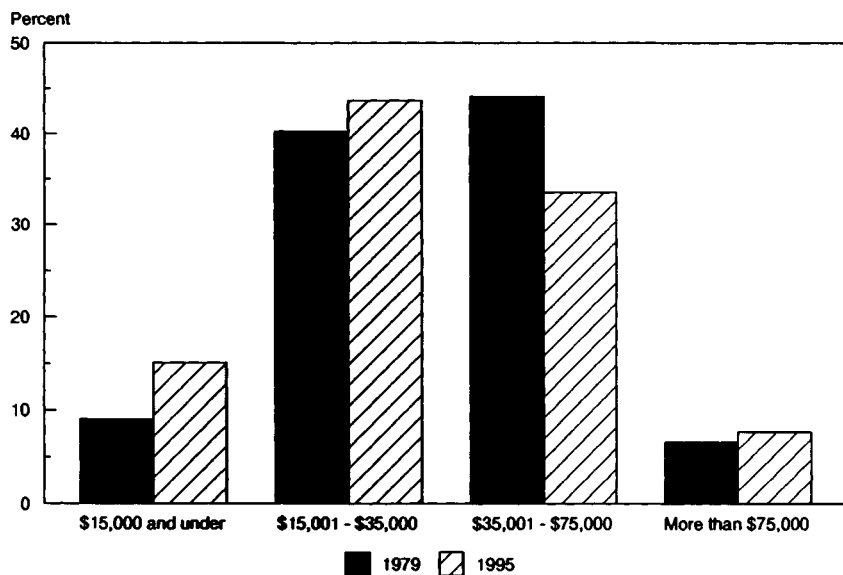
Experience on the job is another important dimension in studying inequality. The premium paid to more experienced workers has also been increasing over the past two decades or so. As shown in

Chart 5-2 Earnings Ratios for Male Full-Time, Year-Round Workers
Two measures show that earnings inequality for men has risen since the late 1970s.



Source: Council of Economic Advisers tabulations of the March Current Population Survey.

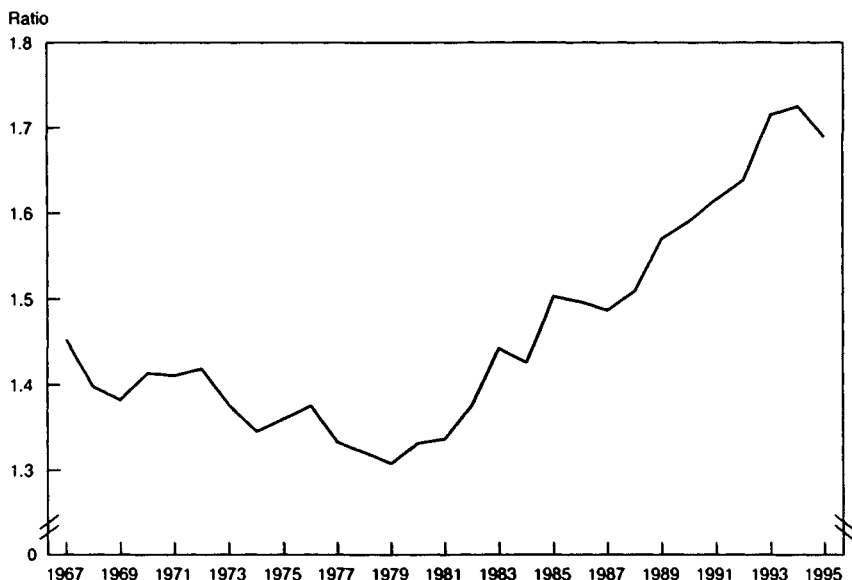
Chart 5-3 Male Full-Time, Year-Round Workers by Real Earnings Range
The share of male workers earning \$15,000 and under increased dramatically between 1979 and 1995.



Note: Earnings in 1995 dollars, adjusted by CPI-U-X1.

Source: Council of Economic Advisers tabulations of the March Current Population Survey.

Chart 5-4 College/High School Median Earnings Ratio for Male Full-Time, Full-Year Workers
The earnings premium associated with college attendance has risen dramatically for men since the late 1970s.



Source: Council of Economic Advisers tabulations of the March Current Population Survey.

Chart 5-5, the median 45- to 54-year-old male worker earned roughly 50 percent more than the median 25- to 34-year-old worker in 1995, compared with a difference of less than 20 percent in 1979. The main reason for the increase is that young workers were paid less in 1995, not that older workers were paid more.

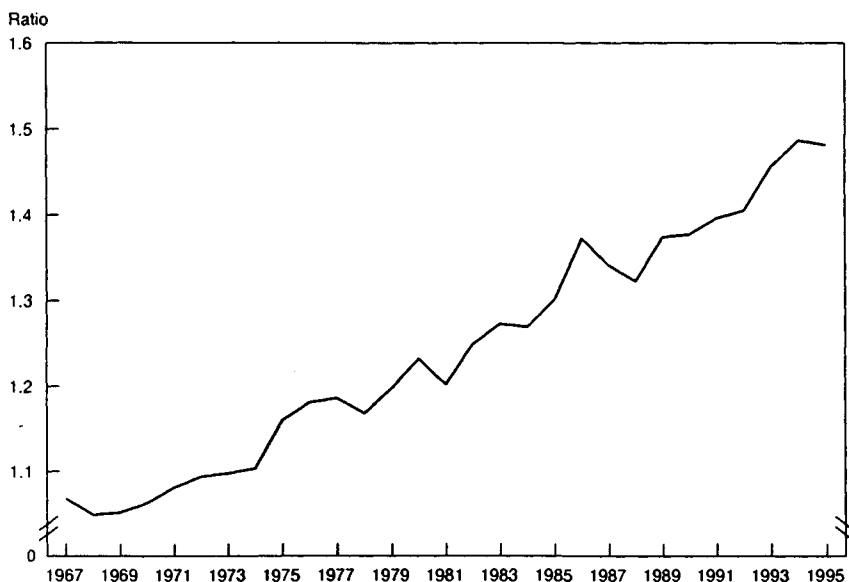
WITHIN-GROUP INEQUALITY

Within-group inequality is also on the rise and in fact accounts for about two-thirds of the total increase in earnings inequality. For instance, among male high school graduates both the 90/50 and the 50/10 earnings ratios have risen since about 1970 (Table 5-1). Although the upward trend in the 50/10 ratio apparently stopped in the late 1980s, that of the 90/50 ratio continues. Similar findings emerge for groupings of workers by age. Table 5-1 also shows the 90/50 and 50/10 ratios for 25- to 34-year-old full-time, year-round male workers. Within this group, the 90/50 ratio increased from about 1.6 to about 1.9 between 1979 and 1995.

EARNINGS INEQUALITY AMONG WOMEN

Women have experienced increases in earnings inequality similar to those of men. The 90/50 and 50/10 ratios of earnings for women working full-time, year-round began rising in the late 1970s and have continued upward through the 1980s and 1990s, as have

Chart 5-5 Ratio of Median Earnings of Males Age 45-54 to Those of Males Age 25-34
The wage advantage of a 45- to 54-year-old man relative to a 25- to 34-year-old man has increased virtually continuously, particularly since the mid-1970s.



Source: Council of Economic Advisers tabulations of the March Current Population Survey.

those for men. The results presented in Charts 5-2 through 5-5 and Table 5-1 for men, with respect to overall, between-group, and within-group inequality, generally find parallels in the patterns for women. For instance, the wage premium received by college-educated women roughly doubled between 1978 and 1995, from 38 percent to 70 percent.

EXPLANATIONS FOR INCREASING EARNINGS INEQUALITY

Alternative explanations for the observed increase in earnings inequality can be categorized into three broad groups: supply-side factors, demand-side factors, and institutional factors. (A provocative alternative hypothesis is presented in Box 5-2.) Although no clear consensus has emerged regarding the relative strength of these alternatives, demand-side explanations play a large role.

A simple model of the labor market for more skilled, usually higher paid workers and for relatively low paid, less skilled workers will help clarify the role of supply- and demand-side factors. Supply-side factors can increase inequality if they cause the supply curve in the market for less skilled workers to shift outward by relatively more than the supply curve in the market for more skilled workers. As shown in Chart 5-6, such shifts would lead wages to fall by a greater amount in the less skilled labor market than in

TABLE 5-1.— *Earnings Ratios for Male High School Graduates and 25- to 34-Year-Old Male Full-Time, Year-Round Workers*

Year	Male high school graduates		25- to 34-year-old male workers	
	90/50 ratio	50/10 ratio	90/50 ratio	50/10 ratio
1967	1.62	1.89	1.64	2.03
1968	1.57	1.86	1.58	2.01
1969	1.61	1.76	1.64	1.84
1970	1.61	1.80	1.65	1.81
1971	1.64	1.85	1.65	1.85
1972	1.62	1.91	1.65	1.91
1973	1.66	1.90	1.65	1.92
1974	1.68	1.94	1.66	1.97
1975	1.62	1.89	1.64	1.82
1976	1.59	1.89	1.65	1.83
1977	1.62	1.99	1.63	1.98
1978	1.61	2.02	1.64	1.94
1979	1.60	1.98	1.65	1.94
1980	1.62	2.00	1.68	1.88
1981	1.63	2.02	1.68	1.98
1982	1.69	2.08	1.72	1.98
1983	1.69	2.12	1.73	2.03
1984	1.69	2.13	1.72	2.10
1985	1.74	2.16	1.81	2.09
1986	1.73	2.22	1.83	2.08
1987	1.71	2.21	1.81	2.12
1988	1.71	2.17	1.84	2.15
1989	1.79	2.18	1.87	2.11
1990	1.79	2.15	1.83	2.16
1991	1.77	2.19	1.84	2.17
1992	1.78	2.19	1.91	2.16
1993	1.87	2.11	1.96	2.13
1994	1.88	2.17	1.96	2.14
1995	1.83	2.16	1.93	2.16

Source: Council of Economic Advisers tabulations of the March Current Population Survey.

the more skilled labor market, increasing inequality. What might cause such an asymmetry? The increasing numbers of immigrants in the labor market, and the increasing labor force participation rates of women, who tend to have less work experience, could have led to a disproportionate supply shift in the market for less skilled workers.

In analogous fashion, demand-side factors could have influenced the relative wages of more and less skilled workers if they caused the demand curve in the market for more skilled workers to shift outward by more than that in the market for less skilled workers, or (especially) if the demand curve in the latter shifted inward. As shown in Chart 5-7, these changes would increase wages in the more skilled labor market and reduce them in the less skilled labor market, increasing inequality. Technological developments favoring skilled workers (called skill-biased technological change) could have led to such shifts. The integration of new production technologies may have increased firms' demand for workers capable of using these technologies. Evidence indicates, for instance, that workers

Box 5-2.—Earnings Inequality and the Winner-Take-All Society

One provocative hypothesis offered to explain part of the increase in within-group inequality is the expansion of “winner-take-all” markets, where top performers reap far greater rewards than do others whose ability is only slightly inferior. For example, it is not uncommon to see a star professional athlete making millions of dollars a year while another, only slightly less talented athlete earns far less. It has been argued that markets such as these have become more pervasive in the American economy, with the result that ours is increasingly a winner-take-all society.

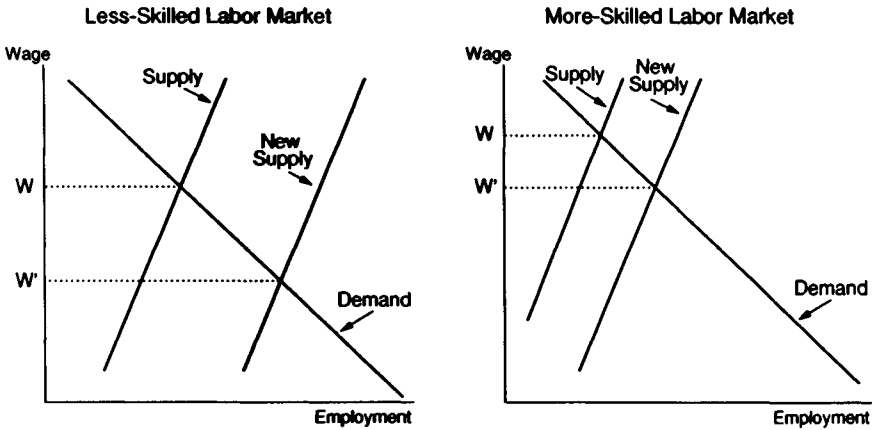
Huge wage premiums for small differences in performance may now be observed in law, medicine, investment banking, academics, and other professions. Windfalls to the top producers in these fields have become increasingly common as computing and telecommunications technology have advanced, facilitating the flow of information, and as transportation costs have been reduced, increasing mobility. These factors increase competition to hire the best performers, increasing their wages. How large a share of the observed increase in earnings inequality may be attributed to the expansion of winner-take-all markets remains unknown.

who use a computer on the job earn significantly more than those who do not.

The expansion of international trade could also have produced the hypothesized shifts in demand curves. Because import industries tend to employ relatively less skilled workers, it is argued that the wages of less skilled American workers are coming under pressure either from direct job loss or from more intense wage bargaining with their own employers, who are now forced to compete internationally. Of course, the demand and supply shifts just described may occur simultaneously, compounding the effect on earnings inequality.

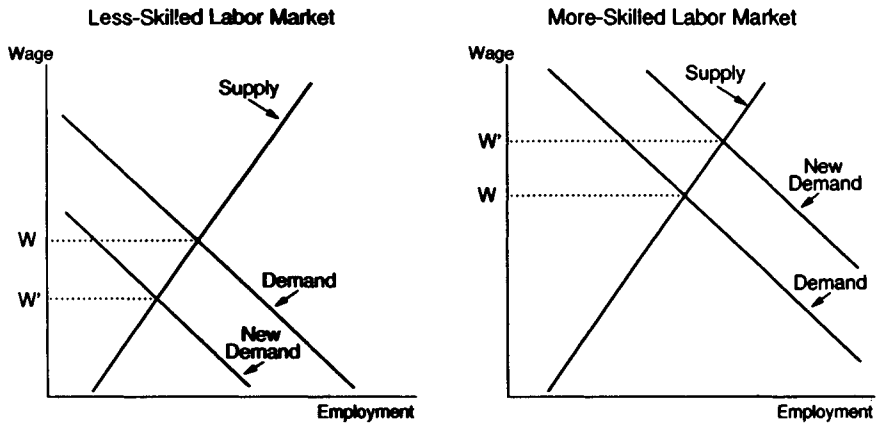
Within this framework, demand shifts appear to play the larger role in explaining growing inequality. Trends in the returns to education provide perhaps the most accessible evidence of the influence of demand shifts, if the assumption is valid that more education translates into higher levels of skill. The returns to a college education rose throughout the 1980s, as noted earlier, even though the college enrollment rate among recent high school graduates grew dramatically over this period. If relative demand for more and less skilled workers had remained constant, the greater supply of college-educated workers should have led to a decline in the college wage premium. The fact that the college wage premium instead

Chart 5-6 Increase in Inequality Due to Supply Shifts
 Increasing inequality may occur because of shifts in the supply curve in the less-skilled and more-skilled labor markets.



Source: Council of Economic Advisers.

Chart 5-7 Increase in Inequality Due to Demand Shifts
 Increasing inequality may occur because of shifts in the demand curve in the less-skilled and more-skilled labor markets.



Source: Council of Economic Advisers.

rose sharply suggests that demand shifts must have more than outweighed any concurrent supply shock. This framework is useful in explaining within-group inequality as well, because skill differentials will remain within broad demographic categories.

Evidence shows that skill-biased technological change is probably the main contributor to these demand shifts (many experts support this view; see Box 5-3). Some evidence suggests that international trade may be responsible for only a relatively small share of the increase in inequality. For example, even manufacturing firms whose products face little foreign competition have reduced their demand for less skilled workers. Nevertheless, direct evidence of the importance of skill-biased technological change in explaining trends in within-group inequality is difficult to come by. Some studies avoid this difficulty by treating technological change as a residual, attributing rising inequality to this factor when their findings have excluded all other likely candidates.

A final set of explanations suggests that changes in institutional arrangements in the labor market, such as the declining influence of unions and a reduction in the real value of the minimum wage, have led to lower returns for workers in the lower tail of the earnings distribution. Unions have long provided wage premiums to such workers. But the share of employed workers belonging to unions has eroded from a peak of roughly 30 percent through much of the 1950s and 1960s to about 15 percent in 1995. Although research indicates that the decline of unions may indeed have played some role in increased earnings inequality, it probably can explain only a small share of the increase. This finding is consistent with the fact that inequality also increased among groups of workers, such as college graduates, who are unlikely to belong to unions.

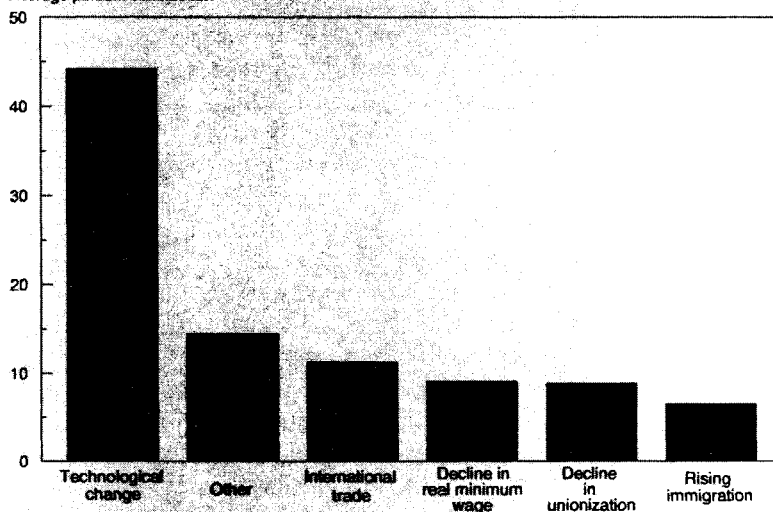
The eroding value of the minimum wage also could contribute to earnings inequality. A minimum wage truncates the earnings distribution at its lower end. If more than 10 percent of workers receive the minimum wage, inequality on such measures as the 50/10 earnings ratio will be less than it would be otherwise. Inequality on this measure could even be reduced if the fraction receiving the minimum were less than 10 percent, if "ripple effects" exist whereby workers who would otherwise earn slightly over the minimum instead receive higher wages because of greater competition for their labor. The decline in the real value of the minimum wage through the 1980s is similar in its timing to that of the increase in inequality. It is unlikely to be a leading explanation of rising inequality, however, because inequality also increased within groups of workers, such as older workers, who are unlikely to be affected by the minimum wage.

Box 5-3.—The Experts' Consensus on Earnings Inequality

Possible explanations for the observed rise in earnings inequality during the 1980s and early 1990s include skill-biased technological change, trade liberalization, demographic shifts, declining unionization, and rising immigration. Although the relative importance of each of these is difficult to determine precisely, some leading economists generally agree as to which are the main culprits. Participants at a recent colloquium on this topic at the Federal Reserve Bank of New York—a group that included many prominent labor economists—viewed technological change as the strongest contributor.

Some Contributors to Rising Inequality

Average percent contribution



Source: Federal Reserve Bank of New York.

INCOME INEQUALITY

Household income is a broader measure of economic well-being than individual earnings, because it aggregates the incomes of all household members and incorporates other flows of income besides earnings. Although labor earnings are typically its largest component, household income also includes interest and dividend receipts, cash transfer receipts, and rental payments. Household size and composition are clearly important factors in determining observed household income. In this section we document the increase in inequality since the late 1970s and explore its possible causes.

DOCUMENTING THE INCREASE IN INCOME INEQUALITY

One way to trace changes in income inequality is to separate households into income quintiles and estimate the share of income received by each quintile. (Box 5-4 discusses some problems in income measurement.) Increasing inequality would be manifested by a fall in the share of income going to the lowest quintile and a corresponding rise in the share going to the highest quintile. Chart 5-8 shows just such a pattern in household income quintiles for 1979 and 1995: since 1979 the shares going to the bottom four quintiles have declined, while the share going to the highest quintile has increased.

Changes in income shares over time may mask how well those at the bottom of the income distribution are doing. For instance, if the richest quintile is getting richer but the incomes of all other quintiles are holding constant, the shares of total income received by the lower quintiles would fall, misleadingly suggesting that they are becoming worse off. An alternative approach to documenting changes in the distribution of income, one that examines levels of income for those in different segments of the distribution, may prove beneficial.

Chart 5-9 displays this sort of information for 1979 and 1995. Households are divided into four categories: those with incomes less than \$15,000, those between \$15,000 and \$35,000 (roughly the median in 1995), those between \$35,000 and \$75,000, and those over \$75,000. Incomes are converted into 1995 dollars using the CPI. The chart shows that the share of households in the highest income bracket increased from 10.9 percent to 14.8 percent between 1979 and 1995, while the share in the lowest income bracket remained unchanged. These statistics suggest that some middle-income households have moved up into the higher income categories, but the number of households toward the bottom of the income distribution has remained nearly constant.

This approach may be misleading, however, because the unit of analysis is the household, not the individual. Because household composition has been changing over time, the observation of an unchanged number of households lying below a particular income cut-off may overlook the reality that more people are residing in these households.

One way to focus more directly on the well-being of individuals near the bottom of the income distribution is to examine trends in the poverty rate. Throughout the 1960s and early 1970s the poverty rate fell dramatically, from 22.2 percent in 1960 to 11.1 percent in 1973. (Chart 5-10 shows the trend since 1967.) It remained low throughout the 1970s, ranging from 11.1 percent to 12.6 percent over the decade. In the 1980s the poverty rate rose dramati-

Box 5-4.—Shortcomings of Household Income Measures

Household income is a useful indicator of economic well-being because it is relatively easy to measure and interpret. It has its shortcomings, however. For instance, it does not incorporate taxes or payments made in kind, such as food stamps and housing subsidies. To the extent that the tax system is progressive and that in-kind transfers are means-tested, use of an after-tax-and-transfer definition of income would reduce the measured level of inequality. Although some analysts have adapted the standard income-based measures to include the value of in-kind income, economists have not agreed on the best method for doing so. Some value in-kind benefits according to the cost of providing them, and others according to what an individual would be willing to pay to receive the benefit. In any case, research incorporating taxes and in-kind payments shows trends in inequality that are similar to those reported by standard measures.

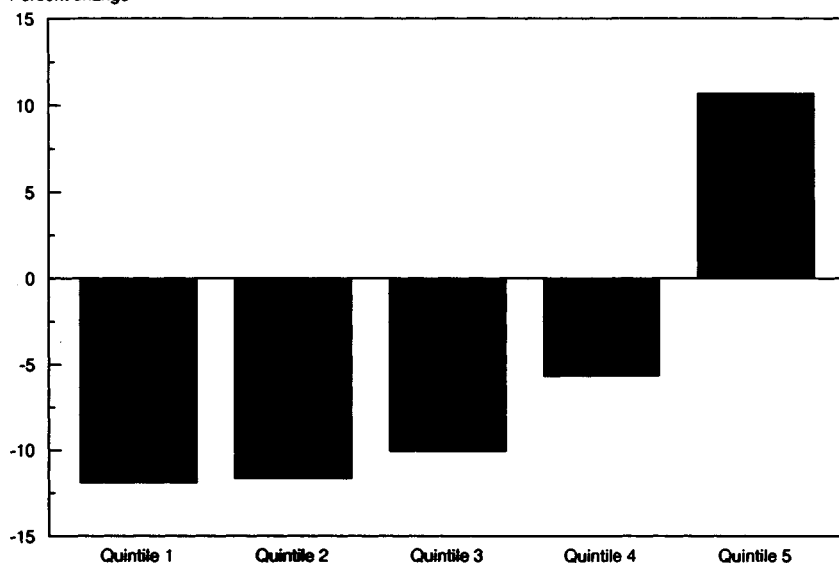
Another problem is that differences in household size will lead to different assessments of the economic well-being of individuals with the same household income. Attempts to abstract from differences in household size have proceeded by developing "equivalence scales" that adjust household income for the number of household members. Other approaches scale the incomes of larger households by progressively smaller amounts for each additional member. Even after making these adjustments for differences in household size, however, income inequality appears to be increasing.

Despite these obstacles, alternative measures of income are being tested by the Bureau of the Census, and others have been proposed by the National Academy of Sciences (NAS). The Census Bureau produces a series of 17 experimental estimates of income in an attempt to gauge the effects of various noncash government benefits and taxes on income levels and on poverty. The NAS proposes another definition of income to be used in the measurement of poverty that adds noncash benefits to money income and subtracts taxes, some work expenses, some child care expenses, child support payments, and medical out-of-pocket expenses. It would also adjust the equivalence scale currently used in poverty calculations. Measures such as the Census experimental series and those proposed by the NAS are intended to reflect the effects of government policy initiatives. Nevertheless, no clear consensus exists regarding certain complex methodological issues, including valuation of some benefits such as medical and child care.

Chart 5-8 Change in Share of Income Received by Each Quintile from 1979 to 1995

The share of money income going to the top 20 percent of all households increased between 1979 and 1995 at the expense of all other households.

Percent change

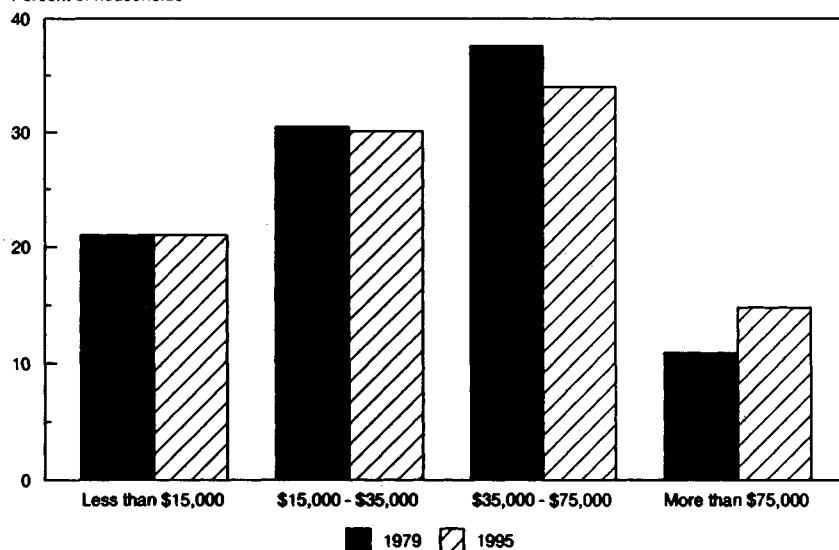


Source: Department of Commerce.

Chart 5-9 Share of Households by Real Income Range

In 1995, a larger proportion of households had incomes over \$75,000 (in 1995 dollars) than in 1979.

Percent of households



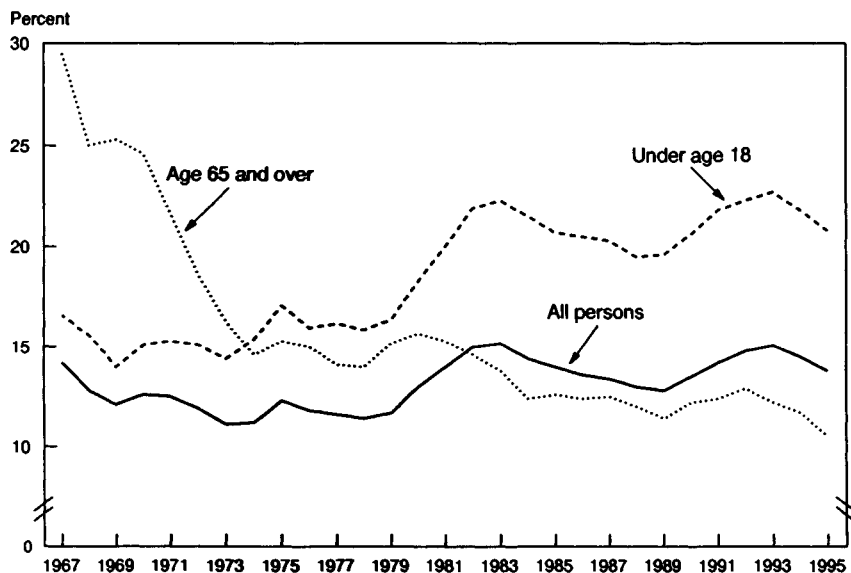
Note: Income adjusted by CPI-U-X1.
Source: Department of Commerce.

cally and has fallen below 13 percent only once since then, in 1989 following 6 years of economic expansion.

The composition of the impoverished population has also changed over time, especially with respect to age. The percentage of children living in poverty rose from 14.4 percent in 1973 to 22.7 percent in 1993, but has fallen somewhat since then. On the other hand, the poverty rate for those over 65 used to be considerably higher than that for the population as a whole (24.6 percent compared with 12.6 percent in 1970), but mainly because of the Social Security system, poverty among this group has actually fallen below the overall poverty rate since 1982. The elderly poverty rate reached an all-time low of 10.5 percent in 1995, falling significantly below that for the 18- to 64-year-old population for the first time ever.

Chart 5-10 Poverty Rates

The overall increase in poverty since the 1970s comprises an increase in poverty among children but a decrease in poverty among those age 65 and older.



Source: Department of Commerce.

The transition from a poverty population that is disproportionately elderly to one that is more heavily weighted toward households with children suggests that the household size of the low-income population has increased over time. This is consistent with the coexistence of a rising share of low-income individuals and a constant share of low-income households. The effect of

changes in household composition on income inequality is explored more fully below.

EXPLANATIONS FOR INCREASING INCOME INEQUALITY

Because measurements of income inequality incorporate all sources of a household's income, including labor market earnings, it should come as no surprise that a major contributor to increasing income inequality across households is rising earnings inequality across workers. In fact, about half of the increased inequality in household incomes over the 1980s can be explained by trends in earnings inequality among men.

Part of the remaining share can be attributed to changes in household composition and, in particular, to the increase in female-headed households. The share of family households headed by women has risen rapidly, from just over 10 percent in 1970 to about 18 percent in 1995. These households are more likely to receive lower incomes because they lack a second wage earner, because women earn less on average than men, and because some of these women do not work at all. Therefore the growing share of this type of household has worsened income inequality. In fact, the rise in the percentage of children in poverty over the past 25 years is strictly due to the increase in the number of children residing in female-headed households, whose poverty rates are higher than those for children living in other circumstances. The poverty rate among children in female-headed households has actually decreased over time.

Research suggests that the rapid rise in female labor force participation has also contributed to growing inequality. This finding is not obvious, however, because in some ways a rise in the number of working women serves to reduce inequality. For instance, the distribution of women's earnings is more compressed than that of men, so that increasing female labor force participation should reduce overall earnings inequality. If all men and women lived alone, this reduction in earnings inequality and the reduction in the number of people with zero earnings (because of increased employment) would also reduce income inequality.

Inequality may nonetheless increase in response to greater female labor force participation because people tend to marry persons whose earnings potential is similar to their own. For example, more educated men may be more likely to marry more educated women. The increase in employment among married women could therefore increase household inequality in one of two ways. First, if women in high-income households are joining the labor force in greater numbers than women from low-income households, their earnings will push their household incomes even further beyond

the middle of the distribution, and income inequality will increase. This hypothesis is not supported by the data, however, as labor force participation rates for women have risen roughly equally across households ranked by the husband's earnings level. Second, for working couples, rising earnings inequality will be compounded at the household level if men with high earnings are married to women with high earnings. Taken as a whole, the evidence suggests that women's increasing labor force participation has contributed somewhat to growing income inequality during the 1980s.

Income inequality can also be affected by changes in unearned income across households. The source of the unearned income determines whether or not it increases or decreases the income inequality that would occur from earnings alone. For example, property income is more likely to be received by individuals with higher earnings, and therefore an increase in property income would tend to worsen inequality. Transfer payments are more likely to go to individuals with lower earnings, and an increase in transfers would therefore tend to reduce inequality. Research suggests that, on balance, nonlabor income tended to increase inequality during the 1980s. The effect of these changes is still significantly less than that caused by growing earnings inequality, however.

ALTERNATIVE MEASURES OF INEQUALITY

This discussion, like much of the economic literature on inequality, has focused on inequality in annual earnings and household income. However, appropriate borrowing and saving behavior can smooth year-to-year fluctuations in income, making consumption less variable, provided households have appropriate access to credit markets. Therefore differences in lifetime income across households may offer a more valuable perspective on differences in well-being.

Of course, one cannot reliably measure lifetime income when much of that income has yet to be received. Lifetime income is thus an inherently unmeasurable concept, and analysts must resort to using related measures as a basis for estimating it. One such measure is consumption, on the theory that households set consumption levels according to their own assessments of their lifetime income. A potential problem here is that a household may have large asset holdings, indicating the potential to raise its consumption in the future, but choose to limit its consumption for the present. Therefore, another indicator used to examine lifetime income inequality across households is household wealth.

Another way to address differences in lifetime income across households is to examine income mobility—the extent to which households move across the income distribution over time. Increasing annual income inequality is more meaningful as an indicator

of lifetime income differences across households if income mobility does not increase as well.

CONSUMPTION INEQUALITY

If consumption decisions are based on households' assessments of their lifetime income, then inequality in consumption can be used as a proxy for inequality in lifetime income. For example, a middle-income household that suffers a brief spell of reduced income will not change its consumption habits much, whereas a household with regularly low income will consume considerably less. Therefore we can expect to see less inequality in consumption than in annual income.

Some evidence supports this proposition: studies have found that the distribution of consumption is more concentrated than that of income. In other words, individuals do appear to prefer to smooth their consumption levels across their lifetimes through borrowing and saving. One difficulty in comparing the distributions of income and of consumption is that income is measured before taxes and in-kind transfers, whereas consumption is based on after-tax income and includes in-kind transfers. To the extent that taxes and in-kind transfers reduce inequality (an issue that is discussed below), one would expect consumption inequality to be less than income inequality. During the 1980s, consumption inequality rose along with income inequality, but in the early 1990s the two diverged. Between 1989 and 1993, consumption inequality leveled off while income inequality continued to rise. Some demographic groups, particularly households headed by a high school graduate or dropout, experienced large declines in consumption inequality over the period. No obvious explanation for the timing of the turnaround in consumption inequality or its comparison to income inequality exists.

WEALTH INEQUALITY

Another shortcoming in using annual income as a measure of differences in economic well-being is that it does not capture the purchasing power of a household's asset holdings. Therefore differences across households in terms of net wealth (which consists of cash savings, financial assets, and the value of physical assets such as a house or a car, less any outstanding debt) provide an alternative indicator of inequality.

Data on wealth are limited, but one source, the Survey of Consumer Finances, sponsored by the Federal Reserve Board does provide comparable data for 1983, 1989, and 1992. Over these years median family net wealth (estimated at \$52,000 in 1992) has been fairly stable. Wealth is concentrated in the hands of a small number of families, and the degree of that concentration has re-

mained fairly constant. The wealthiest 10 percent of families have owned roughly 67 percent of total net wealth since the early 1980s. The top 1 percent of families did increase their wealth holdings from around 30 percent of total net wealth in 1983 to 37 percent in 1989, but their share fell back to 30 percent by 1992. The stock market boom of the 1980s might have led one to predict increasing concentration, but stock ownership has become more widespread over time. In addition, home values increased over the period, and home ownership is far more common than stock ownership.

MOBILITY

If a household's income varies widely from year to year, annual measures of inequality may provide a very inaccurate picture of lifetime inequality. If the increase in annually measured income inequality over the past 20 years or so has been accompanied by an increase in income fluctuations, it is possible that lifetime incomes have been unaffected. For instance, if new labor market entrants make less than previous entrants, but their wages grow more rapidly as they gain experience, then annual measures of income inequality will be greater, as will income mobility, but lifetime income may be unchanged. Therefore the degree of mobility through the income distribution is another means of examining the difference between annual and lifetime income. (A related issue of mobility between parents and children is explored in Box 5-5.)

Studies of mobility have compared household incomes over varying periods, such as 1 year, 5 years, and 10 years. One-year changes in income are likely to reflect short-term changes, such as temporary job loss, as well as measurement errors in reported income that are not perfectly correlated between years. Longer term changes will also incorporate these events but are more likely to identify more permanent changes in incomes, which are particularly large among younger households. Therefore one might expect mobility over longer periods to be greater than that from year to year.

A standard approach in estimating income mobility is to rank households by their income in each of two years, separate them into quintiles in each year according to their rank, and then see to what extent households have moved from quintile to quintile between the two years. Results from these studies indicate a reasonably high degree of mobility over time. One study finds that about 3 out of every 10 households move between quintiles from one year to the next. As one would expect, mobility is greater over longer periods: almost two-thirds of households change income quintiles over 10 years. These mobility rates do not appear to be increasing over time. The probabilities of making a transition between income quintiles over periods of varying lengths have remained roughly

Box 5-5.—Intergenerational Mobility

Another issue relating to income mobility is the extent to which income is transferred between parents and children. If the correlation between parents' income and their children's income as adults is high, then a child is likely to experience a level of economic well-being similar to that of his or her parents (i.e., intergenerational mobility will be low). If the two generations' incomes are not correlated, children will have no greater probability of ending up in one income quintile than in another. Early studies found a low correlation: intergenerational mobility was quite high. The son of a high-income father would have the same probability as anyone else of residing at any given point in the income distribution after only two generations.

An important problem with these studies, however, is that they ignored measurement error in reported income. If reported levels of income of either the father, the son, or both were inaccurate, the resulting estimates of the correlation in income would be biased toward zero. More recent studies have paid careful attention to the measurement error issue and the bias it introduces. These studies found a considerably higher correlation and thus a considerably smaller degree of intergenerational mobility than did previous work. Their results indicate that it would take four generations before the son of a high-income father had a roughly equal probability of residing at any point in the income distribution.

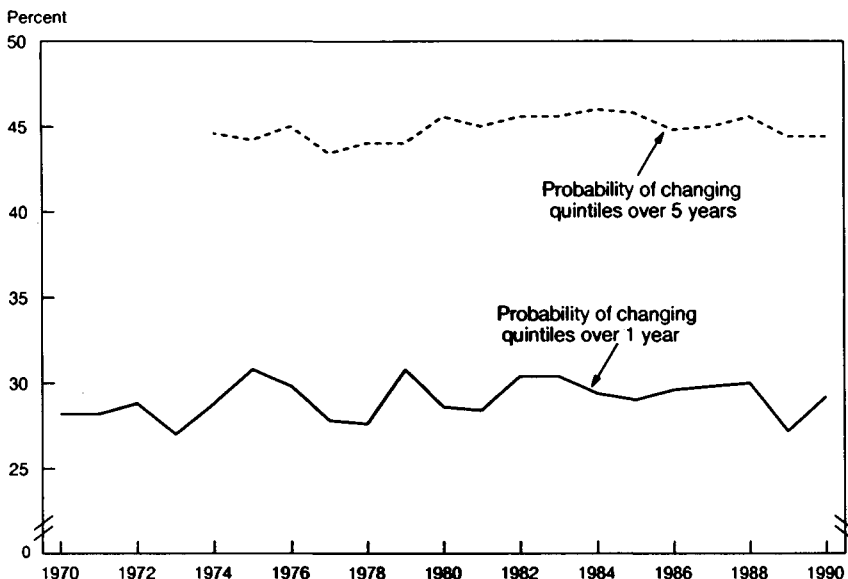
steady through the 1970s and 1980s. The evidence thus does not appear to support the proposition that rising income inequality has been offset by increasing income mobility.

One issue in interpreting these studies is that transitions over time between income quintiles may occur because of changes in the flow of income (mainly earnings) or changes in household composition. A person who marries is likely to experience a significant increase in household income if his or her spouse works, even if that person's earnings remain constant.

An alternative approach that some researchers have taken in examining mobility is to focus exclusively on individuals' earnings and transitions that occur between earnings quintiles over time. Again, mobility rates are reasonably high, with higher transition rates over longer time periods. Roughly 3 in 10 individuals change earnings quintiles between one year and the next, and almost half make such a transition over 5 years, according to one study. As

Chart 5-11 **One-Year and Five-Year Mobility Rates**

Mobility through the earnings distribution has not changed much over time.



Source: Unpublished calculations by R. Burkhauser, D. Holtz-Eakin, and S. Rhody, Syracuse University.

with income mobility, no trend over time is apparent in earnings mobility (Chart 5-11).

GOVERNMENT POLICY AND INEQUALITY

Without government intervention, the distribution of income would be even more dispersed than it is. A progressive Federal income tax and a variety of Federal and State transfer programs have for decades worked to reduce inequality. More recently, several new policies have been put in place to reduce inequality further, particularly by improving the conditions of those toward the bottom of the income distribution.

ASSESSING THE IMPACT OF GOVERNMENT POLICY

Incorporating the effect of tax and in-kind transfer policies into income measures poses two challenges. First, a household's tax burden and the value of noncash benefits such as food stamps and Medicaid need to be calculated, and this calculation is subject to ambiguities (Box 5-4). Second, calculating income in the absence of government as conventionally measured income less transfers assumes that the availability of the transfers has no impact on recipients' other income. Still, after taxes and transfers have been taken into account to the extent possible, government policy is shown to

reduce inequality significantly. The progressivity of the Federal individual income tax system, together with all payroll taxes and State income taxes, reduces the Gini index by about 5 percent. Transfer payments account for an even larger reduction in the Gini index, of around 20 percent. The program that contributes perhaps the most to reducing inequality is Social Security, as one might expect from the relatively low poverty rate among older Americans.

The incidence of poverty is similarly affected by government policies. The officially reported poverty rate of 13.8 percent in 1995 would have been 21.9 percent if cash transfers were not included in income. Moreover, when incomes are measured according to the most comprehensive measure, which includes all taxes and the earned income tax credit (EITC) as well as the valuation of in-kind transfers, the poverty rate is estimated to be only 10.3 percent.

ADDITIONAL POLICIES TO REDUCE INEQUALITY

Both short-run and long-run policies are needed to help reduce income inequality. In the short run, the EITC can help raise the incomes of workers with low earnings. The EITC is a refundable tax credit of up to 40 percent of earnings, depending on family size. The credit was expanded in both 1990 and 1993, with both an increase in its value and a broadening of the covered population to include very low wage workers who do not reside with children. The number of families receiving the credit rose from 12.6 million in 1990 to an estimated 18 million in 1996. Between 1990 and 1996 the average credit per family more than doubled, from \$601 to an estimated \$1,400. In 1995 almost 3.3 million people were lifted out of poverty by the EITC, more than twice as many as only a few years before.

The recent increase in the minimum wage may also play a part in reducing inequality. Between 1981 and April 1990, the minimum wage remained constant at \$3.35 per hour even as inflation eroded its value by 44 percent. The 27 percent increase in the minimum wage in April 1990, to \$4.25 an hour, did not restore it to its real 1981 level. Inflation then eroded the value of the minimum wage another 23 percent up to October 1996, when it was increased to \$4.75; that increase is to be followed in September 1997 with a further increase to \$5.15.

Although even these raises will not restore the purchasing power of the minimum wage to its 1981 level, the minimum wage and the EITC together do more to reduce inequality today than they did then. For example, a single parent with two children earning \$5.15 per hour for 40 hours per week, 50 weeks per year in 1998 would make \$9,775 (in 1996 dollars) before the EITC and \$13,343 including the EITC. Without the 1996–97 minimum wage increases, this family's income including the EITC would have been only \$11,294.

The combination of the recent rise in the minimum wage with the expansion of the EITC makes the returns to work for minimum wage workers greater than in 1981, when the minimum wage was higher in real terms. In that year the same family, with the parent working the same hours but earning the minimum wage of \$3.35, would have received \$11,336 (in 1996 dollars) before the EITC and \$12,034 including the less generous EITC available at that time.

In the long run, greater access to education and training programs should reduce inequality by reducing the wage premium associated with additional training. In terms of the simple labor market model presented above, as more workers obtain additional education, the supply of more highly skilled workers shifts outward and that of less skilled workers shifts inward (again assuming that more education translates into higher levels of marketable skill). These shifts increase the wages of the less skilled relative to those of the more skilled, reducing inequality between the two groups.

Improved access to education and training can also reduce inequality if it allows individuals from lower income households to make investments in their human capital that they could not make otherwise. Programs such as Head Start can provide disadvantaged preschoolers the opportunity to begin formal schooling with the intellectual tools they need to flourish. The recently inaugurated Federal direct student loan program has also provided benefits to students and schools. The Federal Government now issues loans directly to students through the financial aid offices of their colleges, rather than through commercial financial intermediaries, and offers four different repayment options, including an income-contingent payment plan. In the 1996/97 academic year, 1.9 million students will have participated in the program, which is widely viewed as successful in providing more timely, flexible, and accessible service to both students and universities.

CONCLUSION

Income inequality in the United States has risen over the past two decades. Its very persistence means that this trend will be difficult to change. Even recognizing the reversal when it does occur will be difficult enough, because statistical analysis cannot easily distinguish a decisive turnaround in inequality from a relatively brief pause in its rise. It is still too soon to tell whether the promising statistics reported in the past few years represent a true reversal or just such a pause.

Because of this uncertainty, continued vigilance is required to find ways to help alleviate inequality, particularly to the extent that it can reduce hardship for those at the bottom of the economic ladder. Some changes have already been instituted, such as the in-

crease in the minimum wage and the expansion of the EITC. Improved access to education and training is also essential. Although these represent useful first steps, much remains to be done.

CHAPTER 6

Refining the Role of Government in the U.S. Market Economy

WHAT IS THE APPROPRIATE ROLE, IF ANY, of government in regulating the manufacture, distribution, prices, and quality of products in the U.S. economy? Much of the 20th century has seen an expansion of the role of government as regulator. But since the late 1970s the regulatory tide has ebbed in many important respects.

The first major deregulatory efforts were in industries such as airlines, railroads, trucking, banking, and natural gas. (Box 6-1 illustrates some of the benefits of deregulation.) Deregulating the traditional utilities, particularly telephones and electricity, has taken a slower course. However, both of those industries have been the object of significant procompetitive policy initiatives in the past year. On February 8, 1996, the President signed into law the long-awaited Telecommunications Act of 1996. Two and a half months later the Federal Energy Regulatory Commission (FERC) issued its Orders No. 888 and No. 889, which set rules for opening up interstate transmission networks to all generators and resellers of electricity.

These two enormous steps toward bringing competition into the utilities sector represent a sea change in the traditional relationship between public policy and private enterprise. During most of the 20th century, government and markets were typically viewed as substitutes. Citizens and policymakers had to choose between government mandate and market forces. As the 21st century approaches, we see that market forces and public policy are less often substitutes than complements. The Telecommunications Act, the FERC's Order No. 888, and the ongoing Federal and State efforts to implement their principles and mandates show how judiciously crafted public policy can increase rather than decrease the role and effectiveness of market forces in the economy, and thereby improve the economic and social prospects for the American people.

Complementarity between markets and government extends in the other direction as well. Just as well-crafted government policy can make markets work better, so the introduction of market mechanisms into the regulatory process can help government achieve society's goals. For example, to ensure that wireless technologies best

meet the public's demand for communication services, the Federal Communications Commission (FCC) has turned to auctioning off portions of the electromagnetic spectrum. These auctions not only have been enormously successful in getting licenses quickly into the hands of those who can use them most efficiently, but have raised over \$20 billion for the U.S. Treasury in the process. A second success story has been the use of market forces to provide greater flexibility in meeting environmental goals (e.g., tradable permits for sulfur dioxide emissions). Last but not least, market forces can help improve the management, use, and disposal of public lands.

Box 6-1.—The Benefits of Deregulation

That deregulation produces economic benefits when it leads to effective competition is not merely a theoretical proposition. Data from the field bear this assertion out as well. An assessment by a Brookings Institution scholar finds that deregulation not only has brought considerable short-run benefits, by making markets work better, but also has led to technical and operating innovations that promise even greater benefits in the long run. The table below gives some examples of this study's findings.

Industry	Cost Reductions	Innovations
Airlines	24 percent decline in costs per unit of output	Hub-and-spoke systems Computer reservations
Trucking	25-35 percent decline in operating costs per unit	Computer networking Coordinating with logistics firms
Railroads	50 percent decline in costs per ton-mile; 141 percent increase in productivity	Better contracts Double stack cars Intermodal operations
Natural gas	35 percent decline in operating and maintenance expense	Computer planning Contracting through market centers

Source: Clifford Winston, Brookings Institution

MARKETS, GOVERNMENTS, AND COMPLEMENTARITY

As a prelude to discussing the potential for complementarity between private markets and the public sector, we review the purposes each serves in a primarily market-driven economy.

THE ADVANTAGES OF MARKETS

The argument in favor of deferring to markets typically relies on the efficiency of their outcomes. If markets are competitive and function smoothly, they will lead to prices at which the amount sellers want to supply equals the amount buyers demand. Moreover, the price in any market will simultaneously equal the benefit that buyers get from the last unit consumed (the marginal benefit) and the cost of producing the last unit supplied (the marginal cost). These two conditions ensure efficiency: when they hold in all markets, the Nation's labor and resources are allocated to producing a particular good or service if and only if consumers would not be willing to pay more to have those resources employed elsewhere.

This familiar story is profound and important, yet it understates the role of private markets in making economies work. Since at least the 1930s, economists have noted that in theory the government could reach efficient outcomes without relying on markets, if government officials had sufficient information and the right incentives. But it is markets' superior information-processing ability and preservation of individual incentives that explain their general superiority to government management of the economy. Markets allow transactions to be decentralized to the level where decisions are made by those most affected by them, in direct response to budget constraints and tradeoffs. Market participants themselves then have powerful incentives to generate and gather information and make the deals that best serve their interests.

Information

An insufficiently appreciated property of markets is their ability to collect and distribute information on costs and benefits in a way that enables buyers and sellers to make effective, responsive decisions. Because market prices measure the marginal benefits of goods and services to consumers, firms that maximize their profits simultaneously maximize the difference between benefits and costs. Similarly, consumers look to market prices to decide which goods and services to purchase, and how to use their labor, resources, and financial wealth to generate the income to pay for them. As tastes, technology, and resource availability change, market prices will change in corresponding ways, to direct resources to the newly valued ends and away from obsolete means. It is simply impossible for governments to duplicate and utilize the massive amount of information exchanged and acted upon daily by the millions of participants in the marketplace.

That markets normally process all of this information so well and so rapidly tends to be taken for granted. In light of all the investments, hires, plans, purchases, marketing efforts, sales, contracts, and exchanges necessary to bring goods to market, the fact that the price system normally works as well as it does—for instance, that

the products consumers want are usually on the shelves—ought to be regarded as astounding. Instead, it's literally business as usual.

Incentives

Even if the public sector could gather and quickly respond to all available information on changing consumer tastes and production technologies, private markets would still have the advantage of preserving the incentive to produce efficient outcomes. In private markets, buyers and sellers directly reap the benefits and bear the costs of their demand and supply decisions. Each makes decisions aimed at achieving the greatest benefit, or economic return, net of cost. These incentives not only affect how resources are used today, but also lead to innovations that will increase the efficiency with which resources are deployed in the future and result in new products that raise living standards.

In contrast, the links between the government and the individuals who reap the benefits and who bear the costs of its decisions are frequently weak. The nature of day-to-day legislative, executive, judicial, and regulatory proceedings runs a risk of favoring organized, established interests rather than the public at large. Accordingly, government's role in the operation of the private economy must be limited and judicious. Initiatives to increase our economy's reliance on markets, and to improve the efficiency of regulation through market mechanisms, reflect an awareness of the tremendous benefits that market forces can bring to bear by employing private incentives to achieve social goals.

WHY HAVE GOVERNMENT AT ALL?

If markets generally outperform government, why not leave everything to the market? To begin with, it is useful to remember that markets and governments can and do work together. For markets to function effectively, deals must be enforced and fraud discouraged. Without a governmental legal system to guarantee property rights and enforce contracts, corporate organization and market exchange would be virtually impossible. Anarchy and the free market are not synonymous. (Box 6-2 discusses the role of government in protecting property rights in information in an era of electronic, global markets.)

But government has other roles beyond refereeing private transactions. Markets left to themselves sometimes produce inefficient outcomes. For example, markets efficiently transmit information and provide proper incentives only when sellers compete with enough intensity to drive prices down to cost. But in some circumstances, firms can impede the forces of competition by agreeing among themselves to maintain high prices, or by merging to the point where individual production decisions substantially affect prices. The antitrust laws are the public policy instrument for pre-

Box 6-2.—The Role of Copyright in an Electronic Global Economy

The growth of telecommunications, computing power, and their joint progeny, the Internet, is revolutionizing the way in which information is created and shared. Whether by satellite or by fiber-optic cable, electronic telecommunications networks today transmit vast amounts of scientific and commercial information, and entertainment, around the globe in a heartbeat.

Since the 18th century, markets for the products of creative expression and technical innovation have been supported through copyright and patent laws, which extend private property rights to intellectual property. These laws have historically attempted to strike a balance between enhancing economic incentives to create and promoting widespread use of the thing created. By preventing unauthorized copying, intellectual property laws allow creators and innovators to profit from their original works and inventions.

Strong copyright and patent protection can help provide the appropriate incentives to create, by allowing creators to capture a greater share of the marginal benefit of their efforts. The cost of strong protection, however, is that prices to use copyrighted works or patents may remain high for some period of time. Ironically, because patents and copyrights build on the work of others, overly strong intellectual property protection today could discourage innovation and creativity in the future.

An increasingly important policy question is whether these traditional legal means for striking the balance between incentives to create and incentives to use will continue to apply in a global information-based economy. Difficult issues to resolve include:

- rights to display copyrighted information on computer screens
- the applicability of copyright to electronic data bases
- “fair use” rights and other traditional exceptions for the educational and research community, and
- competition within broad-based collective copyright licensing organizations.

The need to coordinate our efforts with other nations makes the resolution of these crucial questions even more complex.

venting such anticompetitive collusion and mergers. Public anti-trust enforcement complements market forces by supporting conditions conducive to competition. A second important means of promoting competition in U.S. markets is the reduction of trade bar-

riers and other distortions that deter entry by foreign providers of goods and services. There may also be a role for government when large firms have cost advantages that discourage entry by other firms and thus make sustained competition impossible. For instance, the government may directly regulate prices as a substitute for market forces in such circumstances.

Markets also produce inefficient outcomes when the prices that buyers and sellers agree on do not take account of benefits and costs falling on third parties. The result is called an externality, a textbook example of which is air pollution. It would be prohibitively costly to define and enforce property rights to the use of clean air. Therefore, unless polluters can be made to pay a compensatory tax, purchase emission permits, comply with regulations, or face liabilities imposed by environmental or tort law, they do not take the cost of their pollution into account. This leads to excessive levels of undesirable emissions—a negative externality. Externalities can be positive as well as negative, conferring benefits rather than imposing costs on third parties. For example, inoculations not only protect those who receive them from contagious disease, but may prevent its spread through the rest of the population.

An important example of a public good with positive spillovers is basic scientific research, whose benefits can far exceed those realized by the firm or institution undertaking the research. In such cases, targeted Federal support can more than pay for itself through the technological innovations and product improvements bestowed upon the economy overall. Investments in transportation and communications infrastructure are another example. Numerous recent initiatives, such as the Department of Transportation's programs to provide and leverage financing for public highways and private toll roads, can generate widespread benefits by promoting regional economic development.

Information asymmetries, where one party to a transaction knows more than the others, can also undercut market efficiency. Health insurance offers an instructive example. If consumers of health insurance know better than providers the chances of their falling ill in a given year, only those who know they are more likely to get sick might purchase insurance. As premiums rise to reflect the higher risk of the those buying insurance, the healthier among them—for whom the insurance costs now exceed their expected care needs—drop out of the market. This process of adverse selection can repeat itself to the point where the market collapses. One reason why the government, rather than private insurers, provides health insurance for the elderly through Medicare is that the elderly may have more knowledge regarding their health status than any private insurer, giving rise to an adverse selection problem (see

Box 3-1 in Chapter 3). Maintaining a population-wide risk pool eliminates the problem.

Finally, the efficiency standard is not the only basis for judging the performance of an economy. Probably the most frequent indictment laid against markets is that they can be consistent with significant inequality of opportunities and outcomes. Progressive income taxation, free public education, and numerous transfer programs—all acts of government—moderate some of the inequality in our market-based economy. Civil rights laws prohibit discrimination that market forces may fail to eliminate. In addition, because markets are driven by the pursuit of personal, not collective, interests, market transactions may not fully support our shared social values. Prohibitions on child labor, laws to preserve habitats for endangered species, and public support for the arts exemplify ways in which government seeks to give our important social values their due.

This list of potential limitations to the market is not meant to be exhaustive. And markets, of course, often can and do respond to these and other imperfections on their own. If a market is not competitive, firms may enter that market or buyers may begin production in-house rather than continue to deal with a monopolist. Markets may internalize externalities in cases where it is possible to define property rights or to bring within the same organization all those who reap the benefits and bear the costs. In some cases, warranties and independent testing agencies can mitigate adverse selection and other problems resulting from imperfect information.

The pursuit of goals other than efficiency, such as alleviating inequitable distributions of wealth, is of paramount importance. Chapter 5 of this Report discusses an array of policies for addressing inequality, from transfer payments to progressive taxation to the earned income tax credit. Because reducing inequality is so vital a concern, we need to recognize that few strictly regulatory decisions will have much of an effect on the distribution of wealth or income. The controlled pricing of telephone service, electricity, or other products of regulated firms may promote other social objectives, but it is unlikely to have much effect on the prevalence and intensity of poverty. Efforts to reduce inequality will be more effective if directed at wages, taxes, and other determinants of disposable income, rather than at prices for particular products, especially those that make up only a small fraction of household budgets. However, firm and even-handed enforcement of broad public health, environmental, and other regulatory protections can help to ensure that low-income and minority communities are not disproportionately affected by pollution and other activities that generate harmful spillovers.

MARKETS AND PUBLIC POLICY AS COMPLEMENTS

The conventional emphasis on markets and governments as substitutes, rather than complements, has often led well-meaning, thoughtful people to take extreme positions on the role of the public sector in the economy. Proponents of a strong government role frequently compare real market failures with an idealized vision of a government possessing unlimited information and purely beneficent objectives. Opponents of government often fall prey to the opposite fallacy, contrasting the qualities of an ideal market with the behavior of real governments, which must act upon limited information and often with distorted incentives. Both institutions have limitations; neither measures up to the ideal.

A more useful approach is to compare real markets with real policy effects, to understand when and where lines between the public and the private sectors should be drawn. Finding this boundary is difficult; reasonable people can and do differ on its location. Comparing the actual performance of markets and governments also helps us see how public policies can make private markets work better, and how using market incentives can improve the performance of the government.

Nineteen ninety-six saw the realization of major initiatives to establish and extend competition in two markets where it had long been absent: local telephone service and electricity generation. Last year's *Economic Report of the President* examined the future of deregulation of those two industries in detail. When that *Report* was written, these initiatives were optimistic prospects. Now the complex task of implementing the visions behind them has begun. Policymakers are working to devise ways to bring about competition while protecting against the undue exercise of market power. Much of the responsibility for maximizing competition in electricity sales and telephone service falls to State government. As we report below, the States have not shied from the task.

Markets also help the government do its job. A profound innovation of the last few years has been the use of market mechanisms to help the government achieve its goals at least cost to consumers and taxpayers. Even where the case for government intervention is persuasive, policymakers have been able to exploit the advantages of the market so that public policies generate greater benefits at lower cost.

Three examples of that success are especially noteworthy. The first is the use of tradable emission permit programs, in which the government distributes rights to emit some pollutant and then allows firms to allocate those rights across their plants and to buy and sell them among themselves. Programs such as these encour-

age abatement of pollution at least cost. The second example is spectrum auctions. Here the policy goals are twofold: get spectrum into the hands of communications service providers who can generate the greatest economic benefit from it, and raise funds to reduce the need for taxes to cover government expenses. The third example is the use of market-based prices to lead to more efficient use of public lands for mining, grazing, timber, and water supply, while protecting their environmental value. The remainder of this chapter discusses all three examples and concludes by looking at the limits to transferring public responsibilities to the private sector.

USING PUBLIC POLICY TO BRING COMPETITION TO REGULATED INDUSTRIES

In light of the Federal Government's success in introducing competition into airlines, banking, trucking, and natural gas, its delay in deregulating the telephone and electricity industries may be puzzling. The reasons for the delay explain why government is likely to be a complement to the development of competitive markets in these industries for some time to come.

REASONS FOR THE DELAY IN DEREGULATING ELECTRICITY AND TELEPHONE SERVICE

Jurisdictional issues have made it legally and politically more difficult for the Federal Government to deregulate electric and telephone utilities than other industries. Much of the regulation of these industries takes place at the State level, through public utility commissions. The Federal Government generally regulates only those portions that involve interstate commerce. (Box 6-3 discusses some of the economic issues involved in assessing whether regulation should take place at the State or the Federal level.) In the telephone industry the FCC has traditionally asserted authority over long-distance calling between States, wireless services, and interstate access services that local telephone companies provide to long-distance carriers. In electricity, the FERC's jurisdiction covers wholesale power sales, the transmission of electricity for resale to final customers, and (it asserts) transmission service to retail buyers where such transmission service is unbundled from the power itself.

A more fundamental difficulty is the widespread presence of substantial economies of scale, which create natural monopolies. A natural monopoly occurs when a good or service can be provided at lower cost by one firm than by two or more. With a few exceptions, the industries first deregulated in the 1970s (e.g., trucking and the airlines) were not natural monopolies. This choice was by design.

Box 6-3.—The Economics of Federalism in Regulation

Historically, responsibility for regulating electricity and telephone service has been divided between the States and the Federal Government. As a legal matter, the scope of Federal authority depends upon interpretations of the commerce clause of the Constitution, which says (Article I, Section 8), "The Congress shall have Power . . . [t]o regulate Commerce . . . among the several States" Economics, however, can inform these interpretations by examining a variety of factors, including:

- *Economic effects that cross State lines.* When problems are local, solutions in general should be local. The case for leaving matters of economic regulation or policy to the States is stronger if a State's policy choices do not impose costs on residents of other States. For example, if a State chooses to regulate in ways that raise prices, the strength of the Federal interest should depend on whether consumers in other States are affected by those high prices as well. A second important example involves environmental effects that cross State borders, such as airborne pollutants. A State may fail to impose sufficient pollution controls on plants within its borders if those in other States incur the damages.
- *Economies of scale in regulation.* Just as the economy gains by having firms compete in the marketplace, it may also gain by having government jurisdictions compete in the form and content of their regulations. In some cases, however, effective regulation may require the devotion of considerable resources and specialized expertise to gathering and providing information, assessing costs, evaluating the state of competition, estimating environmental effects, and overseeing compliance. It may be more efficient for one entity—the Federal Government—to undertake these responsibilities than to have them divided among the 50 States, the District of Columbia, and other jurisdictions. The case for Federal regulation is stronger if considerations determining the best way to regulate vary little from State to State.
- *Comparative performance of government institutions.* Public institutions may have incentives to act in accord with special interests rather than those of the public at large. When this problem is more prevalent at the State level, the Federal level is likely to be the better venue in which to vest regulatory authority.

In both electricity and telephones the most important natural monopoly was the local distribution network. It was believed wasteful to lay a parallel set of electric cables or telephone lines through cities and towns to enable different sellers to compete for customers. The value of having everyone on the same network further argued at the time for a local telephone monopoly.

Accordingly, electricity and telephone service used to be provided by companies that managed virtually every important aspect of the industry from top to bottom. Telephone service was largely the province of the American Telephone and Telegraph Co. (AT&T), which provided most local networks, long-distance service, and telephone equipment. The electricity industry was more complex, but the dominant form of organization was the vertically integrated investor-owned utility. These utilities generated power and transmitted it over high-voltage lines to their local distribution networks, which in turn delivered it to homes, offices, and factories.

Technological change and new forms of organization in the last two decades have eroded the natural monopoly characteristics of both these industries. Combined-cycle gas turbine generators reduced the scale necessary to produce electricity at low cost, increasing the potential for competition in power production. The telephone industry has seen the development of wireless technologies, along with reductions in the cost of fiber-optic transmission lines and of the computers and software that may someday route telephone calls over alternative pathways such as cable television systems. These innovations have encouraged some to believe that entry into local telephone service, the last telecommunications monopoly, may soon take place on a massive scale, but such entry has not yet occurred to a substantial degree outside of specialized mobile and business services.

Elimination of natural monopoly in the physical distribution and transmission of electricity may take longer. It remains generally uneconomical to build overlapping sets of power lines for the local delivery of electricity. Long-distance power transmission also has monopoly characteristics. Because directing electricity along a particular transmission path is prohibitively costly, current supplied into a grid will take all available paths between two points and therefore affect power loads and congestion on many lines. Consequently, the interconnection of independently owned transmission lines—a practice to promote reliability of the system as a whole—tends to convert the separate grids into a single entity.

Experience with structural change in these industries has complemented these technological developments in opening utility markets to competition. In electricity, public policies that have created an independent power producing industry, mostly to promote co-generation (production of electricity by factories as a by-product of

manufacturing) and renewable technology, had the side effect of demonstrating the feasibility of relying on nonutility generators for power supply. The analogues in telephones were the "equal access" rules, imposed on the local telephone companies created in 1984 by the AT&T divestiture, to give all long-distance carriers equivalent technical interconnection, telephone numbering, customer subscription, and billing arrangements. The divestiture created distinct local and long-distance companies, and compliance with the equal access rules provided valuable experience in how to interconnect separately owned and managed facilities. Interconnection is, as we discuss below, a crucial prerequisite for competition in local telephone service and in electric power generation.

THE TELECOMMUNICATIONS ACT OF 1996

The Telecommunications Act of 1996 outlines the route that competition and deregulation in the telecommunications industry will follow. It first takes on the challenge of facilitating competition in local telephone service. New competitors may fall into any of three categories: providers with facilities offering all aspects of local telephone service; partial facilities-based carriers that would purchase unbundled network elements, such as switching capacity, from the incumbent local carrier; and resellers that would purchase local service at wholesale and resell it at retail, often as part of a "one-stop shopping" package of local and long-distance telephone service. (Box 6-4 discusses some other aspects of the Telecommunications Act.)

The Telecommunications Act requires each incumbent local telephone company to allow facilities-based competitors to interconnect with its networks so that customers on both networks can call each other. Responsibility for interconnection rests initially with the carriers themselves, who can negotiate nondiscriminatory terms and conditions, subject to State Government mediation and arbitration. Incumbent local telephone companies must make network elements and wholesale local service available to competitors. To eliminate unnecessary entry barriers, they must also adopt technology to permit customers to keep their phone numbers when switching carriers, and must provide information necessary for network interoperability. The Telecommunications Act also charges the States and the FCC with devising competitively neutral policies to promote universal service, that is, to ensure that telephone service is reasonably available to all income groups and geographic areas in the United States.

The Telecommunications Act also eliminates court-imposed rules keeping the regional Bell operating companies (RBOCs, the regional telephone companies created by AT&T's breakup) out of other communications businesses, most notably long-distance tele-

Box 6-4.—Telecommunications Policy Is Not Just for Telephone Companies

The Telecommunications Act covers much more than the current set of firms in the telephone industry. It also expands the number of radio and television stations a single firm may own, simplifies license procedures, and sets policies applicable if the FCC grants existing broadcasters rights to additional spectrum for tomorrow's advanced digital television services (while giving the FCC the power to reclaim those additional rights or even those that broadcasters currently have). But because the act also loosens FCC rules on concentration of radio and television station ownership, such concentration may raise anti-trust concerns. Increasingly, radio and broadcasting mergers are now being scrutinized by the Antitrust Division of the U.S. Department of Justice.

The Telecommunications Act also reduces price regulation of some cable television systems, while maintaining for 3 years regulations on cable systems that do not face effective competition. Cable television shares the wire-based network characteristics that have made local telephone and electricity service natural monopolies, but it arguably faces greater competition from other video media such as broadcast television, videocassettes, and direct broadcast satellite service. To encourage telephone companies to compete with cable operators, the Telecommunications Act establishes a common-carrier "open video systems" framework that local telephone companies can use to provide cable television service with substantially less regulation. In addition, the act amends the Public Utility Holding Company Act of 1935 to permit public utility holding companies to acquire or maintain an interest in "exempt telecommunications companies" (ETCs), which could provide telecommunications or information services in competition with incumbent providers. Since the act was passed, the FCC has approved a number of petitions for determination of ETC status.

Other major provisions of the act seek to control the availability of obscene and indecent material to minors via the Internet and require that televisions with screen sizes exceeding 13 inches include a so-called V-chip, which when activated blocks programs with ratings designed to inform parents of sexual, violent, or indecent content that their children might see. As of this writing, several Federal courts have ruled that the content provisions regarding indecency on the Internet violate freedom of speech.

phone service (Box 6-5). The act replaced these rules with a long-distance entry approval procedure administered by the FCC. For an RBOC to receive FCC authorization to provide long-distance service to its local service customers, it must have an approved interconnection agreement with a facilities-based competitor, or, if no competitor has made a good-faith request for interconnection or network elements within a specified time, it must have an approved statement of terms and conditions under which it will provide interconnection. In either case the RBOC must offer interconnection under terms and conditions that meet a 14-point statutory checklist. The FCC then must determine whether granting the RBOC's application to provide long-distance service "is consistent with the public interest." In making its determinations, the FCC is required to consult the regulatory commissions of the relevant States to verify compliance with the checklist, and to solicit and grant substantial weight to the Department of Justice's evaluation of the application. The Antitrust Division of the Department of Justice has long experience in competition analysis, and thus has the expertise to judge the effects of an RBOC's provision of long-distance service.

Similar prohibitions against manufacturing of telecommunications equipment by the RBOCs are repealed, effective when the company obtains approval to provide long-distance service. The Telecommunications Act prohibits RBOCs from discriminating against competitors in areas such as procurement and access to technical network information. To protect against anticompetitive discrimination and the possibility that local telephone customers will end up paying for the RBOCs' ventures into long-distance service, manufacturing, and other new enterprises, these offerings must be provided by separate subsidiaries for a minimum of 3 years.

Yet creating competition is not simply a matter of legislative declaration; controversies regarding market power and dominance will persist for some time. Exemplifying both the complexity of the issues and the case for regulatory oversight is the FCC's First Report and Order implementing the local competition provisions of the Telecommunications Act. Table 6-1 summarizes some of the controversy and the FCC's decisions.

As of this writing, the 8th Circuit Court of Appeals has stayed implementation of parts of the order, holding that the FCC went beyond its jurisdiction in prescribing prices and pricing methods for network elements and wholesale telephone service. While the courts consider these issues, State regulators continue to mediate, arbitrate, and approve interconnection negotiations between incumbent local telephone companies and new entrants. The FCC will still have to make decisions regarding whether the RBOCs have met the prescribed conditions for being allowed to offer long-dis-

Box 6-5.—Why Were the Regional Bell Operating Companies Kept Out of Other Markets?

The RBOCs are the local service companies spun off by AT&T in 1984 as part of the settlement of the antitrust case brought against it by the Department of Justice. The divestiture was premised on the economic harm created when a regulated monopoly can evade controls on prices and profits by operating businesses in other unregulated (or less tightly regulated) markets. In *U.S. v. AT&T*, the regulated monopolies in question were AT&T's local service companies, and the relatively unregulated businesses were its long-distance service and its telecommunications equipment manufacturing subsidiary. The leading concerns were:

- *Anticompetitive discrimination.* A regulated local telephone monopolist that also provides long-distance service might, for example, provide delayed or inferior connections to other long-distance competitors. If long-distance companies can only complete calls through the local network, those competitors cannot turn elsewhere for adequate connections. This boosts demand for the monopolist's own long-distance service, allowing it to raise long-distance prices.
- *Cross-subsidization.* A regulated local telephone company might purchase equipment and labor to provide long-distance service and record these purchases as costs of providing local service. It could then cite these added costs to justify to its regulator an increase in its local telephone rates. Because it has a local service monopoly, customers cannot turn elsewhere and must pay the higher rates. The profits show up on the books of the unregulated long-distance service.

In the 1970s and early 1980s the local telephone monopoly appeared permanent and regulatory approaches ineffective. The Department of Justice's Antitrust Division therefore pressed AT&T to divest its local operations, creating the RBOCs. To prevent anticompetitive discrimination and cross-subsidization from recurring, the RBOCs were kept out of long-distance service and other markets. Enacted 12 years after that divestiture, the Telecommunications Act of 1996 reflects technical change that has made the prospect of local competition more realistic, and gives the RBOCs a reasonable opportunity to meet conditions under which their provision of long-distance service would promote rather than inhibit competition.

TABLE 6-1.—*The Interconnection Debate*

Entry method	Entrant side	Incumbent side	FCC policy (absent a negotiated agreement between the parties)
Facility-based total service providers	Incumbent would preserve monopoly by refusing to interconnect.	Act left interconnection to bilateral negotiation; FCC intervention will give too little weight to local market consider- ations.	Set basic rules for inter- connection between existing local telephone companies and new end-to-end providers.
Purchase of "network elements"	Incumbent would offer too few elements at too high a price.	Entrants demand ineffi- cient slicing of net- work; rates based on forward-looking costs will not provide enough revenue to pay for past investments.	Determine the "network elements" (loops, switches, other compo- nents) incumbent carriers should make available; specify cost- based methods for set- ting their prices.
Resell incumbent's service at retail; own no facilities	Wholesale discounts below retail rates are necessary for profitable retail competition.	Resellers should not get service at prices discounted from retail rates that, because of regulation, are below the cost of providing service.	Set a default wholesale discount of 17-25 percent below retail, based on estimates of incumbents' costs related to retailing that incumbents would avoid.

Source: Council of Economic Advisers, based on Federal Communications Commission interconnection order.

tance service, in accord with the checklist and the "public interest" standard in the Telecommunications Act.

While the interconnection issue is pending, the Joint Board of FCC and State Public Utility Commissioners has adopted recommendations for funding universal service subsidies for telephone service to low-income or high-cost (generally rural) areas through competitively neutral contributions from interstate telecommunications service providers. The proposal defines universal service as including basic voice telephone service and ancillary services. The current practice of subsidizing universal service through "access charges" (fees that long-distance companies pay the local incumbent to originate and terminate calls) is neither transparent nor likely to be sustainable in a competitive environment, as the entry of new telephone companies fosters bypass of the payment system. In December 1996 the FCC initiated proceedings to reform access charges. It is proposing to prescribe specific changes in access charges and/or to grant a local telephone company different degrees of pricing flexibility depending upon whether it faces potential entry, actual competition, or substantial competition.

One question in addressing universal service and access charges is whether, after deregulation, the earnings of incumbent telephone companies will suffice to cover the infrastructure costs mandated under prior regulatory regimes. As last year's *Economic Report of the President* argued in the context of "stranded costs" of electric utilities (which are discussed further below), recovery of costs le-

utilities (which are discussed further below), recovery of costs legitimately incurred pursuant to regulatory obligations would be warranted. Such recovery should be limited, however, to investment expenses not already recovered through past earnings. It is also crucial that any such recovery be accomplished in a manner that is competitively neutral—for example, creating neither artificial price nor cost advantages for the incumbent carrier.

The years of debate that preceded passage of the Telecommunications Act are likely to presage additional years of regulation and litigation to realize its goals. These complex issues will require active policy oversight to ensure a proper outcome.

EXPANDING COMPETITION IN ELECTRICITY: FEDERAL ORDERS AND STATE INITIATIVES

Telecommunications was not the only industry during the past year to be the object of procompetitive policy initiatives. Major regulatory decisions by the Federal Energy Regulatory Commission, along with ambitious State initiatives, are already opening markets in electric power generation to competition. Legislation to increase competition in electric power markets is under active consideration by the Congress and the Administration. (Box 6-6 discusses the important role of merger enforcement during the transition to competition in the electricity and telephone industries.)

The 1992 Energy Policy Act authorized the FERC to order a transmission-owning utility to provide wholesale transmission service. This enabled generators owned by the transmission utility, by other utilities, or by independent power producers to compete to sell power to local distribution companies or anyone else engaged in the resale of electricity. Opening up wholesale markets and interstate transmission networks to the panoply of generating companies should lower prices and will be necessary for effective retail competition. State regulators are now determining the extent to which competition in electricity may extend to retail markets.

The key provisions of the FERC's Order No. 888, issued April 24, 1996, require public utilities to file nondiscriminatory "open access" tariffs for the interstate transmission of electricity sold at wholesale. Order No. 888 also requires "functional unbundling" by utilities of generation from transmission, with separate rates for wholesale power, transmission service, and other ancillary services. These tariffs are intended to ensure that the utility treats nonaffiliated power companies the same way it treats its own generators in terms of prices and service options. To implement these procedures, Order No. 889 mandates the creation of Open Access Same-Time Information Systems (OASIS) to provide all generators with up-to-the-minute data regarding power flows and congestion in the transmission network. The thrust behind these two orders is the

Box 6-6.—Mergers During the Transition to Competition

At the same time that the FERC, the FCC, and State governments are engaged in designing regulations to facilitate competition in telephone and electricity markets, these industries are seeing considerable merger activity. Mergers may enable firms to exploit economies of scale, but they can also engender concerns that competition will be reduced. The Horizontal Merger Guidelines promulgated by the Department of Justice and the Federal Trade Commission point out that mergers can lessen competition by making it easier for firms to collude and, in some cases, by giving monopoly-like power to the merging parties.

A crucial consideration in evaluating mergers is what anti-trust experts call market definition: identifying who is in the market and who is not. All else being equal, the more sellers that remain in the market after a merger, the less likely it is that the merger will reduce competition. As the industries have been structured up to now, mergers between local telephone companies, or between electric utilities, might have little anti-competitive effect, because the two would by law and economics be in separate markets. Following the Telecommunications Act of 1996 and Order No. 888, however, the concern is that these mergers might reduce potential competition in the future. The effects of a merger in these industries depend on how those initiatives are implemented and how the industries respond. We do not yet know how the markets will turn out—whether two, three, or ten companies will compete to provide electricity or local telephone service to customers in any particular area. Moreover, the mergers themselves may reflect the firms' belief that they should merge now before authorities can prove that the mergers would reduce competition.

In principle, mergers can be a way for firms to reduce costs and improve their ability to compete. However, efforts to block anticompetitive mergers are crucial if legislative and regulatory efforts at all levels of government to promote competition are to realize their full potential.

creation of institutional arrangements that will support greater competition in the industry.

Among the many complex issues to be resolved in managing the transition from regulation to competition in electric power generation, two stand out. One is the degree to which more stringent forms of separation between generation and transmission will be necessary to prevent discrimination. Order No. 888 did not require

strict corporate separation between transmission companies and generators. A widely discussed alternative is to create so-called independent system operators (ISOs). An ISO would operate (but not own) a transmission grid, keep power supply equal to use, and manage responses to emergencies and blackouts. The FERC recognizes the need to prohibit conflicts of interest between ISOs and power providers and has set forth principles that ISOs must satisfy. However, the agency has left the development and implementation of ISOs to the utilities and the States.

A second major issue involves what are known in the electricity industry as stranded costs. As discussed in last year's *Economic Report of the President*, electric utilities facing competition from new, low-cost power suppliers may be unlikely to recover substantial amounts of their undepreciated investments in high-cost power plants. A second source of stranded costs is long-term contracts with high-cost renewable power suppliers. Such contracts were mandated by Federal laws intended to promote purchases of such power by utilities at their avoided costs of new plant construction. Over time, however, those contract prices have probably turned out to be higher than the projected cost of power under deregulation.

Allowing utilities to recover prudently incurred investment and contract costs is important. Investors in regulated enterprises need to be reasonably confident that the government will not renege on its commitments by arbitrarily denying the investors any opportunity to recover their upfront costs. At the same time, however, regulated firms may engage in wasteful investments if recovery is guaranteed unconditionally. To avoid creating this incentive, a presumption in favor of cost recovery should apply only for costs incurred to comply with specific regulatory mandates or before competition became a significant prospect.

In its recent Order No. 888, the FERC granted utilities the right to seek recovery of costs stranded when a former wholesale customer purchases power from new suppliers. The FERC's rule only covers contracts established prior to July 11, 1994, the day the agency published its stranded cost rulemaking in the *Federal Register*. It served notice that it would not consider a request for wholesale stranded cost recovery for contracts entered into after that date. Much of the potentially stranded costs, perhaps over 90 percent, fall under State jurisdiction, however, and are being resolved by the various States in different ways.

States across the country are also expanding competition in electricity. New Hampshire has already undertaken a pilot program in which 16,000 randomly selected customers were allowed to choose their electric company. In response, over 30 power companies have offered a variety of flat rates and usage discounts, rebates and other inducements, and promises of environmental sensitivity. In

February 1996 the Wisconsin Public Service Commission submitted a proposal to the State legislature describing a 32-step plan to bring retail competition to consumers there by 2001. In September 1996 California enacted a plan that would offer consumers a choice of power providers as early as January 1998, with deregulation of retail power prices by 2002. These initiatives illustrate how complementarity between public policy and private markets holds at the State level as well as for Federal regulation.

The existing statutory and regulatory framework may make it difficult to resolve the complex issues, such as ensuring system reliability, that are sure to arise as competition in electricity evolves. Accordingly, the Administration is considering a variety of legislative proposals to modify existing regulatory frameworks. Such legislation could promote competition and efficiency in the electricity industry by permitting more flexible industry structures and clarifying the jurisdictional boundaries between State and Federal Governments.

MARKETS COMPLEMENTING GOVERNMENTS

The Telecommunications Act, the FERC's open access orders, and State and Federal actions to implement them illustrate how government policy can facilitate the development of responsive, competitive markets. The street goes both ways, however. Recent policy developments regarding pollution control, spectrum management, and land use show how government can use market forces to help achieve important social objectives. (Box 6-7 indicates how advances in telecommunications are making the government more accessible to the public.)

EMISSIONS TRADING: APPLICATIONS TO AIR POLLUTION

Concerns about environmental degradation and resource depletion have led to an intensified search for innovative, cost-effective solutions. One fairly new approach is emissions permit trading. Proposed at least as long ago as the 1971 *Economic Report of the President*, emissions trading is now often regarded as the preferred policy approach to a range of environmental problems. By giving polluters a financial incentive to reduce emissions in the least expensive possible way, emissions trading reduces the costs of environmental protection. Firms with high abatement costs can purchase permits from firms with low abatement costs, which thus find it profitable to reduce their emissions and sell their surplus permits. As a result, greater responsibility for reducing emissions is allocated to those firms that can do so at least expense.

Box 6-7.—Bringing the Government to the People via the Internet

An important advance in the use of telecommunications technology to promote democracy is the expanding availability of government information via the World Wide Web on the Internet. Any citizen with access to a computer and a telephone line at home, work, or the public library can now search this vast hoard of information.

To get to these sources of information, one enters a website address (formally called a uniform resource locator, or URL) in a World Wide Web browser program. The URL usually takes the form:

<http://www.name.gov/>

where in place of "name" the user specifies the site. Some of the leading government websites are:

Library of Congress	loc
White House	whitehouse
Department of Agriculture	usda
Department of Commerce	doc
Department of Education	ed
Department of Energy	doe
Department of Health and Human Services	dhhs
Department of the Interior	doi
Department of Justice	usdoj
Department of Labor	dol
Department of State	state
Department of Transportation	dot
Department of the Treasury	ustreas
Department of Veterans Affairs	va
Environmental Protection Agency	epa
Federal Communications Commission	fcc
Federal Trade Commission	ftc
Government Printing Office	gpo
National Aeronautics and Space Administration	nasa
National Science Foundation	nsf

Within the Library of Congress website, a useful source of information on the Congress and on Federal legislation is the Thomas data base. From the White House website, one can use the "Interactive Citizens' Handbook" to find websites for other Executive Office agencies, including that of the Council of Economic Advisers, which includes an electronic edition of this *Report*.

Emissions Trading in Practice

Much of the enthusiasm for emissions trading is due to its success in attaining mandated reductions in sulfur dioxide (SO₂) emissions from electric utilities, at lower-than-expected costs. The Environmental Protection Agency (EPA) implemented emissions trading as part of its Acid Rain Program. That program, instituted under the 1990 Clean Air Act Amendments, called for major reductions of atmospheric SO₂ and nitrogen oxides (NO_x), the pollutants that cause acid rain. To hold SO₂ emissions to a targeted maximum total level, the EPA issued each polluter a number of permits based on fossil-fuel usage in the mid-1980s. (Box 6–8 discusses the relative merits of giving away emissions permits, auctioning them to the highest bidder, and charging emissions fees.) After the initial distribution, permit holders were allowed to buy or sell permits or use them to offset excess pollution in other parts of their own operations.

During the debate over the Clean Air Act in the 1980s, utilities warned that annual compliance costs could exceed \$4 billion by the year 2000, and SO₂ pollution allowances were predicted to trade at prices ranging from \$170 to almost \$1,000 per ton of emissions. By the end of 1995, however, the price of SO₂ permits was around \$80 per ton. Some preliminary analyses suggest that several factors—deregulation that reduced the cost of shipping Western low-sulfur coal by rail, improvements in fuel blending technology, and subsidies for the installation of equipment (called “scrubbers”) to filter out emissions from smokestacks—reduced demand for and thus the price of SO₂ permits. The flexibility provided by the emissions trading system, however, is credited with promoting competition in coal markets and encouraging innovation that led, at least in part, to these cost reductions. Whatever the linkage, as market-based methods reduce the costs of abatement, more stringent environmental standards become easier to justify.

The first phase of SO₂ emissions trading, affecting 110 plants, began January 1, 1995. Phase II of the Acid Rain Program is slated to begin in 2000, when an additional 700 fossil fuel-burning plants will be subject to emissions caps. Moreover, analysts expect that permit trading will play a greater role in other ways as the market expands. The EPA is examining ways to respond to increased competition following the FERC’s Order No. 888, which according to the EPA’s analysis will increase the market share of relatively high emission coal-fired plants. A trading system for NO_x is a strong contender.

Emissions Trading and Climate Change Policy

In July 1996 the Administration announced that the United States would support an international effort to set reasonable and attainable, binding emissions-reduction targets for greenhouse

**Box 6-8.—Taxing Pollution Versus Giving Away Emissions
Trading Permits Versus Auctioning**

The first emission permits under the EPA's Acid Rain Program were issued to utilities without charge. But handing out tradable emissions permits for free is not the only way to introduce markets into environmental protection. Other policy options include placing fees on emissions, and auctioning rather than giving away permits. By changing relative prices, and therefore incentives, all of these policies seek to improve upon traditional command-and-control methods that specify pollution limits for each plant and, in some cases, even the technologies to be used to achieve those limits. Market-based incentive policies tend to increase efficiency by imposing a marginal cost on firms for polluting, through either paying more fees, purchasing more permits, or forgoing the opportunity to sell permits to someone else. Facing these costs gives firms the incentive to reduce pollution most at plants where it costs the least to do so, and by developing and using less expensive abatement technologies.

Economically, the choice between fees and marketable permits is of secondary importance. If it is crucial to set some absolute limit on the quantity of pollution introduced into the environment, permits together with stringent enforcement can ensure that that limit is not exceeded. If the incremental social cost from adding pollutants is known to be relatively constant, the theoretically better approach would be to set fees equal to that cost. Collecting emissions fees, and auctioning rather than giving away permits, also raise revenue that can be used for deficit reduction or to cut other, more distortionary taxes.

Whether regulators give away permits, auction them off, or impose pollution fees, anything that forces firms to abate pollution or cut back output is sure to raise the cost of supplying the goods and services those firms produce. These higher costs translate into higher product prices. Higher prices, however, lead consumers to take pollution costs into account when making their own purchasing decisions.

gases—the gases whose emission is believed to cause global warming. The possible effects of global warming include risks to coastal areas from rises in sea level; changes in rainfall and agricultural productivity; and increased incidence of diseases such as malaria, yellow fever, and cholera. Combustion of fossil fuels, primarily coal and oil, is the main source of elevated levels of carbon dioxide, the most prevalent of the greenhouse gases.

The United States has called for flexible and market-based approaches for reducing these emissions, one of which may be domestic and international greenhouse gas emissions trading systems. Extending trading internationally is especially intriguing. An international trading system would be able to take advantage of greenhouse gas reductions in those participating nations where the marginal cost of reducing emissions is relatively low.

Other Implementation Issues

Determining the initial distribution of emission permits can be contentious. The alternative to allocating permits through the market by auctioning them is to rely on a formula, which may be based on past and current pollution. Such formulas can be controversial because recipients of permits are given a scarce and valuable resource. Moreover, companies anticipating an allocation based on current practices have an incentive to delay actions to limit pollution or other environmentally harmful activities, in order to qualify for more permits. This incentive can be partially neutralized by linking reductions to some prior historical baseline. However, this approach can make the choice of allocation formula more difficult, since participants will realize that a distribution of permits based on historical practices penalizes those who were the first to undertake actions to improve the environment.

In cases where the incremental harm from emissions is relatively constant over time, the efficiency of emissions trading can be enhanced, at least in the short run, by allowing polluters to bank and borrow permits. Under such a system, polluters could defer their use of a permit, or borrow against future allowances, as their costs dictate. Where workable, this can allow the emissions trading market to allocate reductions over time in a more efficient manner. Timing flexibility can reduce compliance costs through better coordination of emissions reductions when replacing old facilities with less polluting technology. In the first year of the EPA's SO₂ trading program, emissions reductions were about 40 percent greater than the target level, as utilities "banked" allowances for future years.

A problem can arise when the damages from emissions are not distributed evenly over the geographic area in which firms can trade permits. If polluters with high abatement costs—the ones most likely to buy permits—are geographically concentrated, a "hot spot" area that is persistently in serious noncompliance may result. Hot spots are a potential problem with SO₂, but they may be more serious with regard to NO_x. Better market mechanisms for dealing with hot spots should be developed.

Despite these and other complications, interest in emissions trading remains strong, primarily because of the potential cost savings and efficiency gains. The EPA estimates that meeting possible SO₂,

NO_x, and mercury targets through an emissions trading program with banking would reduce abatement costs in 2005 by almost two-thirds compared with a traditional command-and-control approach. Researchers at the Stanford Energy Modelling Forum have predicted that international emissions trading for carbon dioxide could reduce costs as much as 50 percent below the minimum achievable using purely domestic programs—and as much as 80 percent if flexibility in the timing of emissions reductions is allowed. These cost savings do not conflict with considerations of intergenerational equity, because they take place within a program designed to ensure that concentrations of carbon dioxide never exceed critical target levels in any year.

SPECTRUM AUCTIONS

Auctions of rights to use publicly owned resources can allocate those resources efficiently, as well as generate revenues to help cover the costs of government programs. The chief example in 1996 was the FCC's auctions of rights to use parts of the radio spectrum for personal communications systems (PCS). By virtually all accounts, this was an enormously successful example of using market forces to complement the public sector.

Auctions can be designed in numerous ways. Some feature one-time sealed bids, whereas others feature repeated open bids. Rights or permits to be auctioned can be offered together or one at a time. Winning bidders may pay the bid they offer or, to limit strategic incentives to underbid, they may pay the second-highest bid offered. The winner can be determined either as the last to make an offer higher than all preceding offers, or as the first to speak up as an auctioneer offers a succession of declining sales prices. Regardless of the method, the goals are the same: to get assets into the hands of those who will derive the greatest economic value from them, and to do so rapidly and efficiently. How best to design the auction depends on a variety of strategic considerations. A primary factor in the PCS auctions (Box 6–9) was to enable bidders to pursue collections of licenses and preserve their options when strategies needed revision. This added flexibility is likely to have increased firms' willingness to bid, allowing the government to capture some of the economic benefits created by making it easier for firms to place bids for one license based on their beliefs about whether they will win others.

Spectrum auctions have particular advantages over earlier methods of issuing spectrum licenses. Comparative hearings, in which the FCC attempted to distinguish among prospective licensees on noneconomic grounds, generated enormous delay and expensive litigation with little if any public benefit. Using lotteries to distribute licenses randomly to applicants eliminated the need for the

Box 6-9.—Spectrum Auctions: A \$22 Billion Economic Idea

As a mechanism for capturing the value of the electromagnetic spectrum for the public, and for getting spectrum quickly into the hands of service providers, auctioning has been spectacularly successful. The most dramatic examples have been the auctions of spectrum for broadband personal communications systems (PCS). Broadband PCS might be thought of an advanced form of wireless mobile telephone, fax, and data service, akin to cellular radio.

To understand the success of PCS auctions, it is important to understand how they work. The FCC first defines spectrum blocks, each consisting of a range of frequencies and a geographic area over which a winning bidder may use these frequencies. In the first broadband PCS auctions, concluded in early 1995, two 30-megahertz blocks (designated A and B) were assigned to each of 51 "major trading areas." These auctions were open to all firms, subject to ownership restrictions to promote competition. In the second PCS auction, which took place in 1996, an additional 30-megahertz block (designated C) was offered in each of 493 "basic trading areas" across the United States. Bidding in that auction was restricted to smaller "entrepreneur" firms, with discounts built in to promote participation by the smallest (those with less than \$40 million in annual revenue).

A key innovation was to allow bidding to continue for all areas until no one wanted to place a higher bid on any particular area. This allowed firms to bid in an effort to combine PCS licenses so as to provide services over broad territories. These innovative auctions, designed by the FCC with the help of experts in auction theory, achieved the FCC's goals in outstanding fashion. Bids on the A and B blocks fetched \$7.7 billion, and those on the C blocks over \$10 billion more. The FCC's recently completed auctions of its D, E, and F blocks for PCS service raised more than \$2.5 billion. This same method had already raised over \$1 billion in 1994, in auctions for narrowband PCS services—useful for paging and voice message services.

When the less complicated auctions for interactive video and data services and direct broadcast satellite licenses are included, auctions so far have raised over \$22 billion and, more important, rapidly promoted the use of innovative, advanced telecommunications technologies throughout the economy.

FCC to determine which firm would be a better service provider. Unfortunately, they also created a cumbersome and expensive mechanism for collecting and processing vast numbers of applications, many from those with no motive other than to sell their "winning ticket" to an actual service provider. Instead of the government collecting revenues to cover the costs of public programs, a few lucky winners got windfalls. Moreover, the cellular lotteries did nothing to eliminate delays in the efficient aggregation of licenses, whereas the PCS auctions incorporated such aggregations into the bidding mechanism.

Auctions eliminate the need for arbitrary comparisons and the cost of filing and processing speculative applications. The winner is presumably the firm that believes it can make the greatest profit in markets for telecommunications services for which the license can be used. If it fails, it can generally sell its license, just as firms throughout the economy that overestimate the profits they expected can sell their plant and equipment to other entrepreneurs.

Auctions need not be inconsistent with achieving important non-economic objectives associated with spectrum use. Providers can bid for licenses that include, for example, designated public service obligations. But auctions are no panacea:

- If spectrum uses are specified in advance, auctions may not lead to efficient outcomes. The economic value of spectrum, and thus the revenue to the government, are greater when bidders have more flexibility in how they can use the spectrum. To promote these goals and implement recent legislation, the FCC is proposing a new wireless communication service, with licenses to be auctioned during 1997. Licensees would have considerable flexibility to lease portions of either their spectrum or their geographic coverage to other providers.
- If auctions are regarded primarily as a revenue-raising device, the government may have an incentive to restrict the spectrum available for any particular service. We need to recognize, however, that a tax on any good or service has the effect of reducing its supply. In that regard, the potential output effect of using spectrum auctions specifically as a means for raising revenue for the government would not be unique.
- A dominant firm might outbid potential entrants simply to preserve its market power. Antitrust oversight and restrictions on bidders may be necessary to preserve competition in spectrum-related services.
- The incentive to develop new spectrum uses might be diminished if auctions take place only after developers of those uses disclose their innovations. If disclosure of the new idea is what leads to the auction, innovators will have to bid for spectrum made valuable only because of that idea. This could reduce the

incentive to innovate in the first place. An approach sometimes used to deal with this problem is to grant "pioneer preferences" in spectrum auctions to innovators. A better long-run policy might be to commit to auction useful portions of the spectrum up front, rather than make auctions contingent on public disclosure by innovators of their ideas.

NATURAL RESOURCE POLICY REFORM

America's natural environment is an important part of our national heritage and has contributed to the development of our economy. Federal agencies, including the Bureau of Land Management (BLM) and the National Park Service of the Department of the Interior and the U.S. Forest Service (USFS) of the Department of Agriculture, manage large tracts of land, particularly in the Western United States. Indeed, the majority of land in several Western States is regulated by these agencies. The Bureau of Reclamation of the Department of the Interior and the U.S. Army Corps of Engineers also influence the quality of many of the Nation's aquatic ecosystems through their construction and operation of numerous diversion, flood control, hydropower, and navigation projects.

Federal public lands are used for a number of purposes, including recreational use and resource extraction. Historically, three industries have dominated the extractive use of public lands: livestock grazing, mining, and timber harvesting. All these activities continue today: grazing, for example is permitted on over 240 million acres of Federal rangeland. Policies for management of the Nation's public lands and aquatic resources have evolved over time as the result of legislation and its interpretation by other branches of government. The Administration is committed to ensuring that natural resource policies reflect today's realities and balance the diverse and sometimes competing objectives of all who derive benefits from the natural environment.

Current Policies

Current policies toward natural resource use are mainly rooted in past legislation intended to stimulate the economies of the West and encourage settlement of the region. These policies facilitate the development and exploitation of natural resources.

Subsidized Use of Federal Public Lands. Most uses of Federal public land are currently subsidized in one of at least three possible ways. First, a subsidy can exist when the price to the user is less than the government's cost of overseeing the activity. Second, a subsidy may exist when users of Federal lands pay the government a price below that paid for the similar use of comparable privately owned lands. Finally, resource users may receive a subsidy if they pay the government less than the opportunity cost of the land's use, which is defined as the value of the highest alter-

native use of the resource. The type and amount of subsidy offered on Federal lands vary with the nature of the activity and with the location of the land.

Public grazing fees are almost always below private fees and may not even cover the government's cost of administering the grazing program. The amount of the subsidy varies widely by location. The Public Rangeland Improvement Act of 1978 dictates that grazing fees be determined as a function of aggregate livestock market conditions, including a forage value index, the price of beef cattle, and an index of prices paid by farmers; because the formula disregards local factors, public grazing fees are the same everywhere. Private grazing fees, by contrast, differ widely and systematically throughout the West, depending upon the quality of local forage and regional livestock market conditions. A recent study concluded that average private grazing fees between 1965 and 1992 were \$12.75 per animal unit month (AUM) in Montana, \$7.80 per AUM in Arizona, and \$11.20 per AUM across the 11 contiguous Western States. Public grazing fees, by contrast, averaged \$1.20 per AUM during this same period. Although these figures do not account for the higher quality of forage often found on private land, or for the value of private landlord services, they nevertheless represent a significant subsidy for grazing domestic stock on public land.

The subsidy offered to ranchers is small, however, compared with that given to miners taking hardrock minerals such as gold, copper, silver, and uranium: miners do not pay the government any significant revenue or fee for hardrock minerals extracted from Federal public lands. This policy, established in the 1872 General Mining Law, bestows a large subsidy on private mining companies. In 1994, for example, a mining company patented a claim in northern Nevada with a gross mineral value of \$10 billion, for which the Department of the Interior collected only \$9,765. Although this was the largest single transfer of public mineral assets in recent years, it is not the only such case (Table 6-2). Between May 1994 and September 1996 the Federal Government was forced by the General Mining Law to give away over \$15.3 billion worth of minerals, in return for which taxpayers received only \$19,190.

Timber extraction from Federal public lands is also subsidized, although the subsidy is more subtle than those for mining and grazing. Generally, the USFS subsidizes timber extraction from public lands by collecting less in timber sale revenues than it spends on timber program costs. In 1995, for example, the USFS collected \$616 million in timber receipts but spent over \$850 million on timber management, reforestation, construction of logging roads, payments to States, and other program costs. Closer analysis of this negative cash flow reveals that the losses vary by region. In seven of the nine National Forest System regions, annual cash

TABLE 6-2.—*Examples of Mining Patents Issued Since 1994*

Location of patent	Date	Mineral	Mineral value	Paid to United States
Eureka and Elko Counties, Nevada	5/1994	Gold	\$10,000,000,000	\$9,765
Clark County, Idaho	9/1995	Travertine limestone	1,000,000,000	275
Humboldt County, Nevada: Imperial County, California	3-6/1995	Gold	1,200,000,000	3,585
Pima County, Arizona	12/1995	Copper and silver	2,900,000,000	1,745
Eureka County, Nevada	9/1995	Gold	68,000,000	540
Mohave County, Arizona	4/1996	Gypsum	85,000,000	100
Seward Peninsula, Alaska	9/1996	Gold	38,600,000	2,680
Pinal County, Arizona	9/1996	Copper	56,000,000	500
Total			15,348,000,000	19,190

Source: Department of the Interior.

receipts from timber harvesting have consistently failed to cover the USFS' annual expenditures. This problem is particularly severe in the Rocky Mountain, Northern, and Intermountain regions, where expenditures have exceeded receipts from timber sales by a ratio of 3 to 1 over the past decade.

Federal water projects constructed and managed by the Bureau of Reclamation, the Army Corps of Engineers, and the Natural Resource Conservation Service of the U.S. Department of Agriculture are all highly subsidized. For example, projects constructed by the Bureau of Reclamation embody a number of different subsidies. These include interest-free repayment for capital invested in irrigation facilities, limitation on repayment associated with "ability to pay" guidelines that do not necessarily reflect changing economic or market conditions or individuals' income, and the repayment of costs above an irrigator's estimated ability to pay by using hydro-power revenues far in the future. The length of the repayment period is also important in determining the overall magnitude of the subsidy. Subsidy amounts vary by project depending on date of construction, repayment terms, and interest rates, but on many projects the subsidy is significant. Moreover, even when farmers and other users pay some portion of the true cost of delivering water, they pay nothing additional for the value of the water itself.

Recreational use of Federal public lands is also heavily subsidized: in many areas fees paid by recreational users do not cover the costs of maintaining the resource for recreation. The Park Service spends around \$250 million annually to provide visitor services at its 374 parks, monuments, and historic sites. Entrance fees raise only \$80 million annually.

The National Park Service is currently implementing new fees in accordance with the demonstration projects authorized in Public Law 104-134. Fees for the recreational use of USFS and BLM land

are charged sporadically. The revenues are far smaller than for National Park lands and are well below costs. These agencies are also implementing selective fee increases.

Environmental Damage. Grazing, mining, timber harvesting, and water project development have all placed heavy burdens on the Nation's natural resources. Streams and rivers in the Western States are particularly affected.

Ever since the first European settlement of the West, rangeland vegetation there has been affected by the introduction of livestock grazing and related changes in the occurrence of fire. Livestock grazing has reduced native grasses and palatable shrubs in upland communities, exposing bare ground and increasing soil erosion. More important, however, is the damage done by grazing to the riparian (river-related) areas upon which all fish and nearly all terrestrial species depend. Whereas the condition of uplands has improved since rangeland management began in the 1930s, riparian areas in the Western United States have continued to decline under the impact of grazing and are considered to be in their worst condition in history.

Mining operations have also caused significant environmental damage. Although problems of acid drainage have been reduced by the Clean Water Act, and dangerous mining of mercury and asbestos has been curtailed, mining operations still pose serious environmental risks. Groundwater infiltration of abandoned mine sites and cyanide contamination of streams and aquifers from gold extraction are serious concerns (Table 6-3). The mining industry and State and Federal regulators have taken steps to reduce the ongoing damage, but much remains to be done.

TABLE 6-3.— *Miles of Streams Polluted by Hardrock Mine Wastes*

State	Miles
Arizona	200
California	578
Colorado	1,298
Montana	1,118
New Mexico	69
Utah	83
Total	3,346

Source: Western Governors' Association.

Federally sponsored water projects inflict significant damage on our aquatic resources. Dams can inhibit the spawning of migratory fish such as salmon and steelhead. The vast Columbia River basin is in many respects the most affected by water project develop-

ment. The Columbia River watershed now contains, by one count, 79 hydroelectric projects; 30 of these are Federal projects that provide subsidized power. The basin holds 450 major dams, if those for irrigation are included, many of which have no fish passage facilities. Diversion of water to farms and cities for crop irrigation and drinking reduces the quantity of water in rivers and streams; return flows are often warmer than desirable and may contain agricultural chemicals and other pollutants that lower water quality. Timber harvesting, mining, and ranching have also degraded Western fisheries by inundating spawning habitat with silt and debris.

Use Restrictions. Use restrictions are one tool by which Federal agencies coordinate activities on public lands. The fact that the price of resource extraction and recreation is often subsidized places more emphasis on such nonprice policies for controlling the use of public lands.

Those extracting resources from Federal public land often have exclusive rights in a given area for the activity in which they are engaged; this is one sense in which public lands have already been partially privatized. For example, the General Mining Law of 1872 provides for exclusive possession as against other miners, even while prospecting. Similarly, the Taylor Grazing Act of 1934 grants an exclusive grazing right to a single permit holder in a given area of BLM-managed land. This provision of grazing law was created largely to avoid the "tragedy of the commons" that had afflicted these public rangelands. With open access, each rancher has an incentive to introduce additional animals to the range until the average benefit equals the marginal cost. In this way, open access can dissipate the overall economic benefits from grazing.

Use-it-or-lose-it provisions are another type of use restriction on extractive activities. Under these provisions, whoever holds the right to extract a given amount of a resource in a certain time period must extract the resource as specified or face the possibility of losing the right. For example, grazing permits issued by the USFS require that a rancher graze close to the maximum permissible number of cattle or face termination of the permit (temporary exemptions are available, however). Similar provisions apply to timber harvesting permits and to water diversion rights. These provisions were intended to promote the utilization of public lands; in practice, however, they limit the transferability of extraction rights by reducing the incentives for conservation interests to obtain them.

Changing Conditions in the West

Current Federal resource policies are thus characterized by subsidized extraction and use restrictions that limit the transferability of extraction rights. These policies have resulted in overextraction and significant environmental damage. Changing economic condi-

tions in the Western States and increasing recognition of environmental values suggest that many of the original motivations for these policies no longer apply. The Western regional economy is now prosperous and diverse, and extractive activities there provide far less income and employment in the aggregate than do recreation, tourism, manufacturing, and finance.

Less Reliance on Resource Extraction. The economy of the Western States has become highly diversified. Total employment in the West was more than 22 million in 1982. This figure had increased by nearly 50 percent to over 33 million by 1990. Industries in which employment has increased as a share of total employment include services, finance, insurance, real estate, construction, and retail trade. The Western regional economy produced more than \$1 trillion worth of goods and services in 1982, and \$1.35 trillion in 1990 (both figures are in 1993 dollars). Industries whose income has increased as a share of total regional product include services, manufacturing, and retail trade. In many respects these changes in employment and income generation mirror broader trends in the Nation's economy, with the result that the West does not look as different from the East as it did in the 19th century. Extractive industries now make up only a small and declining fraction of economic activity.

Agriculture (including timber extraction) and mining together provided only 6.3 percent of income and 5.3 percent of employment in these States in 1990, and their importance is declining. Their share of employment in the Western States fell by 21 percent between 1982 and 1990, during which time their share of regional income fell by 15 percent.

A declining number of Western families rely solely on income from ranching, mining, timber extraction, or farming. For example, ranch families in Arizona have, on average, two people employed off the ranch, who together contribute 53 percent of household income. In part this trend reflects the maturation of the regional economy. More jobs in the region translate into more opportunities for outside employment. This trend also implies that the incomes of families with a member employed in the resource extraction sector are also affected by public policies that strengthen the non-agricultural economy.

Nor should one overestimate the importance of extraction from Federal public lands to the livestock and timber industries as a whole. Permitted use on Federal lands accounts for only about 7 percent of beef cattle forage and about 2 percent of the total feed consumed by beef cattle in the 48 contiguous States. Similarly, less than 15 percent of the national timber harvest is from Federal lands.

The small contribution of extractive industries to economic activity in the Western States and the small contribution of public lands to total national cattle and timber production should not, however, obscure the fact that many rural communities and individual businesses in the West currently depend on Federal public lands for their economic well-being. Moreover, participants in the traditional Western industries represent, in the Department of the Interior's words, "a significant part of the world's image of America and America's image of itself." The unique cultural institutions of the West are valuable, and their preservation should factor into the debate about the nature of economically desirable natural resource policies.

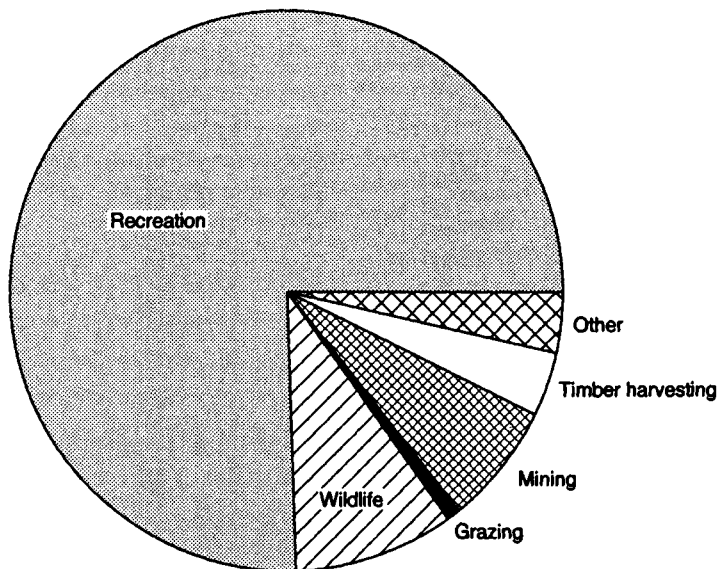
Increasing Value Placed on the Environment. The American public places more importance on a healthy environment today than at any other time in our history. This change in values is revealed in several ways. Public interest groups play an increasingly prominent role in the debate over public lands policy and have prompted various Federal agencies to enact important changes in policy. In recent years the Congress has enacted historic legislation designed to enhance the quality of the Nation's environment. To the extent that legislation reflects social preferences, these laws reveal an increasing value placed on environmental quality and a recognition of resource scarcity.

Recreational use of public lands is also increasing rapidly. On USFS lands, for example, such use increased by over 20 percent between 1991 and 1995, from 279 million to 345 million visitor-days. This rate of increase far outstrips the rate of population and income growth during this time period and may well reflect a change in preferences when compared with changes in other determinants of recreation demand.

A recent USFS study shows that recreation on National Forest System lands produces far more income and jobs than do traditional extractive industries. The agency calculated that recreation on these lands (including hunting, fishing, and wildlife viewing) contributed over \$105 billion to GDP in 1993, or nearly 85 percent of the total Forest System contribution to GDP (Chart 6-1), and resulted in over 2.7 million jobs. Grazing, timber harvesting, and mining together contributed less than one-seventh as much income and employment as did recreation. The USFS projects that, by 2045, recreation will generate an even larger share of the economic benefits from the Forest System, particularly if environmental quality improves.

Changing National Fiscal Priorities. Finally, it is important to consider Federal natural resource policy in the context of Federal deficit reduction. Deficit reduction produces numerous public bene-

Chart 6-1 Economic Activity Attributable to National Forest System Programs
 Recreation use of the National Forest System contributes by far the largest share of the \$125 billion in annual income produced by these public lands.



Note: Data shown are for 1993. Wildlife includes activities such as hunting, fishing, and bird-watching.
 Source: Department of Agriculture.

fits, detailed elsewhere in this *Report*. Reducing the Federal deficit is a prime economic policy objective of this Administration.

With this emphasis on deficit reduction, all public spending, including subsidies on public land use, is under closer scrutiny than in the past. Economic principles suggest that the marginal benefits of all government expenditures should be equal when the government is making maximal use of its fiscal resources. This means we must compare the value of an additional dollar spent subsidizing timber extraction or grazing—or on environmental restoration—with the value of a dollar spent on providing school lunches or job placement assistance or supporting basic research. If these marginal values are not equal, then an optimal allocation of public funds requires reducing some expenditures that provide lower marginal benefit while increasing others with higher marginal benefit.

New Foundations of Natural Resource Policy

These changing economic and social conditions—the maturation of Western economies, the emphasis on deficit reduction, and the increasing value placed by the public on environmental quality—motivate a new set of objectives for Federal natural resource policy.

Market Incentives. Users of Federal public lands should be more exposed to market signals, so that their decisions will help maximize economic welfare for all. Economics teaches that subsidizing

the use of public lands affects economic behavior in ways that may prove costly. By encouraging overinvestment and overproduction in the livestock, mining, and timber industries, subsidies attract resources away from other, more productive sectors of the economy and reduce overall economic well-being. Reducing subsidies can improve economic performance by giving producers better information about the true cost of using public land.

Increasing the transferability of extraction rights is another market-oriented reform that may increase aggregate economic welfare. Some rights to extract resources from public lands are currently tradable in a limited sense. For example, Federal grazing permits are often transferred with the sale of a ranch to other qualified ranchers. One possibly beneficial reform would be to allow conservation interests to compete for extraction rights on an equal basis with other interests. For example, environmental groups could acquire grazing permits and use the land to introduce native plant species and improve wildlife habitat, or acquire permits for the use of timberland and permanently retire that land from commercial harvesting. Such voluntary transactions can provide value to the seller as well as to the buyer, and thereby maximize the value received by all elements of society from the stock of public land. Environmental groups already have acquired grazing permits at the State level.

Not everyone favors the trading of extraction rights. Rural communities sometimes assert that allowing conservation interests to acquire permits reduces the number of extractive businesses, thereby threatening the livelihood of their suppliers and possibly raising input costs to those producers who remain. Although some rural communities have indeed suffered from the loss of input supply businesses, it is important to recall the backdrop against which changes in public land policy are taking place: a maturing and diversifying Western economy. It is possible that these businesses would fail in any case, as the economy shifts away from natural resource-based industries, and jobs lost as a consequence are increasingly likely to be replaced by others within the community or region.

Another objection comes from resource managers who argue that grazing and timber cutting in particular play a key role in managing biological activity on public lands. For example, grazing of livestock and thinning of timber can reduce the danger of destructive fire. However, conservation interests have many of the same incentives as the government—and perhaps even greater incentive—to preserve resources in good condition. These groups may, for example, allow grazing, but at a low level of intensity.

Contribution to Deficit Reduction. Reducing subsidies can contribute to deficit reduction. For example, requiring royalty and bonus

payments for hardrock mineral extraction, as many private landowners do and as the Federal Government itself does for oil and gas, could provide additional revenues. The Department of the Interior has calculated that an 8 percent net income royalty on hardrock minerals extracted from Federal public lands would generate at least \$275 million for the Treasury over the next 5 years. Reducing subsidies for timber extraction, grazing, water deliveries, hydropower, and recreation would have beneficial fiscal impacts as well.

Increasing reliance on market mechanisms can also support deficit reduction. For example, grazing permits could be allocated through competitive auctions (much like the successful spectrum auctions described earlier in this chapter); it is quite possible that such a reform would raise more money for the government than the grazing fee increases proposed in 1994. Similarly, the current patenting process for mineral extraction could be replaced with a system of royalties and competitive bidding on bonus payments to the government. Such a system, already used for other minerals and by numerous other landowners, is likely to raise more revenues than a simple royalty payment as envisaged in current reform attempts. However, replacing the current patenting system with a leasing-competitive bidding regime might raise difficult policy and administrative issues.

Timber contracts are currently allocated competitively. However, the bidding process could be fine-tuned to the benefit of taxpayers by incorporating a larger share of road and overhead expenses in the minimum acceptable bid. This adjustment would reduce continuing Federal losses from many timber sales and would give logging interests more accurate price signals about the true resource cost of timber extraction.

Environmental Stewardship and Efficient Land Use. Reducing or eliminating resource subsidies can improve environmental quality on Federal public lands. To the extent that environmental damage is related to the level of production, reducing subsidies reduces the incentives for production and thereby reduces environmental damage.

Of course, the environmental impact of resource extraction is not just a question of production levels; technique is also important. For example, the environmental damage from grazing may be due both to the number of livestock grazed and to the way in which grazing is managed: where animals are permitted to graze and for how long. Similarly, the impact of mining on water quality depends not only on the volume of minerals produced; control technologies and reclamation practices also have important effects. Direct use restrictions and reclamation requirements can help correct for the environmental damage done. For example, the government can ex-

clude riparian areas from grazing. It can also place more environmentally sensitive lands off-limits to mineral location and production. Without environmental taxes to provide price incentives, direct controls can be an important way to improve environmental quality and achieve an efficient resource allocation.

Subsidizing the price of environmentally friendly extraction technology may also be consistent with increasing efficiency. Reducing the price of such technology increases the likelihood that it will be adopted. Such a subsidy can be implemented in a number of ways. Public investment in agricultural research and development is one approach that has generally paid impressive returns. Land-grant universities and the cooperative extension system have helped farmers increase productivity and, more recently, cope with environmental problems. Increased funding of land-grant research, development, and outreach directed at public lands management is one way to encourage the adoption of more benign, and more productive, extraction technologies.

Transferability of extraction rights can also be consistent with environmental stewardship in at least two ways. Trading can allow conservation interests and various levels of government to acquire the resources they value the most at prices that compensate willing sellers. For example, the Department of the Interior has initiated innovative willing-seller programs to reallocate water from agriculture and enhance instream flows in the San Francisco Bay/Delta estuary and Nevada's Truckee River basin. As the government excludes more resources from extraction, trading among the remaining permitholders can also help mitigate the industry's economic losses by allocating extraction rights to those entities that can use them most profitably. At the same time, trading can lead to a more efficient economy-wide allocation of resources, effectively allowing us to produce more with fewer resources.

Reconfiguring the Public Land Base. The Federal Government owns a substantial share of the Nation's natural resources. It owns about one-third of all the land in the United States, including 29 percent of forestlands and 43 percent of rangeland. State and local governments and American Indian Nations own another 8 percent of U.S. lands. Over 10 percent of the U.S. population receives water from Federal diversion projects.

Sound economic reasons argue for the government keeping such a large share of our natural resources in its possession. Most goods in our economy are private property, traded in markets that appropriately determine prices and quantities. But many natural resources possess characteristics that make them unsuitable for private market control. The most important of these is the fact that many natural resources are public goods.

A public good is anything that can be used or enjoyed by one person without detracting from the use or enjoyment of others, and to which it is difficult to restrict access. For example, suppose that the land comprising Yosemite Valley were subject to being bought and sold in a market. A developer thinking of purchasing the land might consider only how to maximize the individual returns from owning it: he or she might weigh the potential profits earned from preserving the land for tourist use against, say, developing a housing tract or a shopping mall on the site. There is no guarantee that preservation would win out, even if Americans would value that outcome more highly in the aggregate. Even if concerned citizens established a fund to preserve the land, the money collected might well fall short of the actual value the Nation places on preserving this important site. Each potential contributor would have an incentive to wait, hoping that someone else would make the necessary donation to prevent development. In this case the public good character of the natural resource leads to a failure of the market to reflect collective values, and society is better off if the government manages the asset.

This discussion suggests another principle for resource policy reform that should receive serious attention. Federal public lands that private owners could manage efficiently, in a manner that protects the public interest, should be considered for privatization. Conversely, many lands currently in private hands have certain characteristics of public goods, and thus might be more efficiently owned and managed by the Federal Government. Achieving the most efficient mix of public and private lands may require reconfiguring the public land base, adding to it in some places and divesting in others. The Administration is currently working on several exchanges that are consistent with this general principle: for example, the Federal Government is in the process of acquiring the Headwaters forest in Northern California and the New World Mine adjacent to Yellowstone National Park in exchange for surplus properties elsewhere.

Reconfiguring could be accomplished directly through swaps of public for desired private lands, as is most common today, or public lands could be sold and the proceeds put into an account for land purchases elsewhere. Economists have long recognized that the swap option is limited by the "double coincidence of wants" problem. It is often hard to find a swap partner who both owns an asset the government wishes to acquire and places a similar value on an asset the government wishes to sell. For this reason, a land purchase fund that decouples buying and selling land assets is superior to direct swaps.

DISPOSAL OF SURPLUS DEFENSE PROPERTIES

The closing of military bases offers a good illustration of the principle that land no longer needed by the Federal Government can be turned over to local authorities or to the private sector. In four rounds of defense base reductions beginning in 1988, independent base closure commissions performed the difficult task of determining which bases would be closed. Nearly 100 major installations have been selected for closure.

Disposition of these properties has not been easy. A number of objectives have to be taken into account, including local economic redevelopment, savings for the Federal budget, and the needs of the homeless. Recognizing the complexity of this task, the law provides for a 6-year period from the initial closure decision to actual closure, to determine how best to meet these goals.

Until recently, the disposal of surplus military bases—one of the most significant divestitures of Federal real property—reflected the hierarchical approach embodied in the Federal Property Act. Other Federal agencies had first call on the land, followed in order by State and local governments, and finally the private sector. Specific national priorities, such as the provision of shelter for the homeless, enjoyed privileged status.

Recognizing that government downsizing represents both a major economic dislocation and an opportunity to stimulate new economic activity, the Administration has taken several important steps to smooth adjustment and promote economic development in these situations. The President's five-part Program to Revitalize Base Closure Communities, supported in 1993 by new statutory tools, institutionalized economic revitalization as a priority. In 1994 the Administration secured further legislation that gave communities and providers of assistance to the homeless increased flexibility to meet the needs of the homeless either with specific buildings or other surplus government property, or with the proceeds from sale of these assets, applied in ways that make the most sense in the local setting. The base closure and redevelopment process illustrates that increased flexibility in the disposal of surplus Federal land enhances both the speed of disposition and the economic value of reuse.

A remarkable set of alliances has developed to put these sites into productive reuse, to support residual defense activities along with those of other Federal and State agencies, and, most important, local communities and the private sector. Throughout the Nation, economic revitalization from all of these sources is well under way in affected communities. New uses range from airports and manufacturing to college campuses and affordable housing. As a result, numerous new jobs have been created. At the 40 major closed installations, nearly half of the civilian jobs lost have already been

replaced, and more are being created every day. Most communities affected by closure expect to regain or exceed previous civilian employment levels.

The steps described here represent vast improvements over the hierarchical manner in which surplus base closures have been handled in the past. Continued flexibility and innovation will be required to achieve the program's objectives.

Even where the Defense Department has retained installations, it is looking for ways to maximize their economic benefit. This can include introducing multiple uses for vast weapons and training ranges, such as mining, recreation, and preservation of wildlife habitat. To minimize the need for Federal land and to spread operating expenses, the Defense Department is actively attracting compatible Federal activities, other State and local government functions, and private business activity. Privatization of some government functions, such as military family housing, is another example of this trend.

As the Federal Government increasingly adopts private sector management methods and privatizes its functions, exclusively Federal use of its real estate is likely to diminish, and the value of that real estate to the local and national economy is likely to increase.

CHANGES IN FARM POLICY

The Federal Agriculture Improvement and Reform (FAIR) Act of 1996 makes important changes to American farm policy. Most significantly, the legislation increases market influence in planting decisions and reduces the distortions in resource use caused by previous commodity programs. Under Title I of the new law, eligible producers of grains, cotton, and rice can enter into 7-year production flexibility contracts, receive a series of predetermined annual payments, and have almost complete flexibility to plant any crop on any land. Contract commodities may be planted on any acreage, and any commodity except fruits and vegetables may be planted on contract acreage. It is unlikely that there will be large changes in land allocation or prices as a result of the act, at least in the short run. Under the 1990 Farm Act, growers were given planting flexibility on up to 25 percent of their base acres but actually used, on average, only about one-fourth of that flexibility to plant alternative crops.

The amounts paid to farmers during the 7 years covered by the 1996 Farm Act are large—almost as large as during the past 7 years under previous law. Furthermore, the new payments are well above the amounts that would have been expected if the previous law had been extended. Under the old law, deficiency payments increased when prices were low relative to the target price set by the law, and decreased or fell to zero as prices rose toward the target

price. Under an extension of the previous system to 2002, deficiency payments would have provided little cash support, because prices received by producers in 1995 and 1996 were high relative to the old target prices, and prices are expected to remain high for the next several years. However, once the 7-year payments run out, they are not expected to be renewed. At that time farmers will become subject to market forces.

The act's impact on conservation is also significant. The Conservation Reserve Program (CRP) is reauthorized through 2002, with up to 36.4 million acres enrolled at any time. Under the CRP the government contracts with farmers to convert highly erodible or otherwise environmentally sensitive cropland to approved conservation uses for 10 to 15 years. In exchange, farmers are paid an annual rent and a share of the cost of converting and maintaining the land. The Wetlands Reserve Program (WRP) provides payment and cost sharing to farmers who grant permanent or long-term easements (over 30 years) that restore farmlands to a wetland environment. The landowner is allowed certain economic uses of the restored wetland, which may reduce the cost of the easement. The WRP is reauthorized through 2002 for a maximum of 975,000 acres. Finally, the Environmental Quality Incentives Program (EQIP) combines and replaces several earlier programs. One of its objectives is to encourage farmers and ranchers to adopt practices that reduce environmental and resource problems through targeted 5- to 10-year contracts providing educational, technical, and financial assistance.

More is known about the budgetary and economic costs of these programs than about their benefits. Further, the benefits are multidimensional, as decisions about how to use farmland affect soil loss, water quality, wildlife habitat, and other environmental characteristics. Thus, to maximize overall benefits, the CRP and other programs must be managed to achieve multiple objectives, recognizing the tradeoffs among policy goals.

The conservation programs of the 1996 Farm Act have the potential to enhance social welfare, but they are also expensive. The CRP alone retires up to 10 percent of the Nation's stock of cultivated cropland and raises prices received by farmers overall. Impacts on particular commodities will depend on the extent to which farmers vary cropping patterns in response to price changes. Since there are few restrictions on cropping decisions under the new law, market prices will allocate land left out of the CRP to the highest-valued uses. Legislation and administration have increasingly reflected concern for more careful management of conservation programs. The 1990 act encouraged the Department of Agriculture to improve the cost-effectiveness of the CRP. In response, the department actively targeted subsequent CRP signups to land that would

best contribute to conservation reserve goals by using a national ranking of applications based on costs and an environmental benefits index. The 1996 act encouraged targeting of priority areas for the CRP, the WRP, and the EQIP and specifically called for the EQIP to maximize the environmental benefits per dollar expended.

LIMITS ON BRINGING MARKETS INTO THE PUBLIC SECTOR

The success of spectrum auctions and emissions permit trading programs again raises the question of whether we might not leave all government service provision to the market. For example, if airport landing rights can be sold, why not sell the right to operate the air traffic control system as well? Recently proposed legislation would lead to the privatization of the Patent and Trademark Office. And the National Aeronautics and Space Administration recently signed a \$7 billion contract with a joint venture between two leading aerospace companies to run the space shuttle program. In principle, more might be done. The Federal Government might contract out or privatize virtually every one of its operations, from law enforcement to Medicare administration, from the Census Bureau to the Army. Where, if at all, should we draw the line?

It is worth noting that the U.S. economy is already in private hands to a greater degree than the economies of most other industrial countries. In many countries, services provided privately in the United States—including telephone service, electric power, broadcasting, health care, and air transportation—are nationalized. In the United States, most goods and services except for the mail, the public schools, local mass transit, intercity passenger rail, and some local utilities, are already provided in the private sector. Moreover, in those sectors where the public sector is the dominant service provider, as well as in the rest of the government, many day-to-day operations such as food service, transportation, and cleaning are supplied by private firms under contract. Indeed, the increasing scope of privatization in the rest of the world is a response to its demonstrated success in the U.S. economy.

But contracting out has important limits in the public sector, just as it does in the private economy. Firms exist because internal production of goods and control of services are often less expensive than going to the market every day to procure employees, equipment, and supplies. Outside procurement, especially under long-term contract, is especially problematic when assets and services are specialized to a particular enterprise, leaving one party or both vulnerable to opportunistic threats to breach the agreement. One way the government can avoid the costs of using the market and its exposure to such opportunism is to undertake specialized, long-

term activities in-house rather than to contract out for them. This, too, is consistent with the Administration's policy to imitate effective private sector activities in providing public services. Private firms, after all, organize themselves the way they do in large measure to realize savings from producing goods and services in-house rather than purchasing them from others.

A second reason for limiting the scope of privatization of public services stems from the fact that the justification of many of these services is on other than economic grounds. Privatization works best when the goals of an activity are well defined, performance at meeting those goals can be accurately assessed, and the primary objective is to ensure that they are met at least cost. These conditions are often met, but in many cases it is hard to define goals explicitly or to monitor private providers to ensure that the public's goals are being met. Many times, service providers themselves have to judge how best to meet publicly designated objectives. In those cases it may then be more efficient to keep those service providers within the government. Agencies could then hire personnel who already understand and share their objectives. Where such a professional ethic is important to achieve the public sector's goals, delegation to private, profit-maximizing entities may be an inefficient way to promote the public good.

CONCLUSION

Markets have undeniably significant advantages over the public sector in processing and transmitting enormous quantities of information about the costs and benefits of goods and services. They also allow millions of individuals and businesses to act in such a way that they directly reap the benefits and bear the costs of their actions. When insufficient competition, incomplete markets, imperfect information, or noneconomic goals complicate the picture, however, markets may not lead to efficient or socially desirable outcomes. On the other hand, as both academic research and practical experience point out, the public sector is not always the perfect alternative when markets fail to meet theoretical ideals.

Too much of the debate about the virtues and vices of government involvement in the economy is predicated on an artificial dichotomy between government and markets, usually understating the deficiencies of one and overstating those of the other. With a careful, pragmatic balance of the costs and benefits of public intervention in the economy, however, we have seen that markets and governments need not be regarded as substitutes, but as highly effective complements. The passage and implementation of the Telecommunications Act of 1996, the promotion of electric power competition through the FERC's Orders No. 888 and No. 889, the intro-

duction of emissions trading and spectrum auctions, and the reform of land management policies all exemplify this principle. Public policy can help markets perform better, and market mechanisms can help the government better serve the public while reducing burdens on taxpayers and the economy as a whole.

CHAPTER 7

American Leadership in the Emerging Global Economy

SEVENTY-EIGHT YEARS AGO, after the end of World War I, an isolationist America made a tragic mistake by retreating from international engagement. The punitive economic conditions imposed on Germany in the 1919 Treaty of Versailles, along with protectionist pressures culminating in the Trade Act of 1930 in the United States (the origin of the infamous Smoot-Hawley tariff) and other measures elsewhere, destabilized the international economy and deepened the Great Depression. These events in turn are widely believed to have contributed to political instability in Europe, thus helping bring on World War II.

After that war the United States, determined to get it right this time, did pursue a policy of international engagement. American leadership fostered the creation of a stable and predictable international economic environment and of international institutions, such as the International Monetary Fund (IMF), to promote cooperation on economic matters. The United States also played a key role in designing the postwar multilateral trading system. Mutually agreed rules, formulated under the General Agreement on Tariffs and Trade (GATT), underpinned the development of a trading regime in which countries could prosper. All these efforts greatly enhanced America's well-being, economically as well as politically. In the Cold War years, the United States led an economic partnership with other industrial democracies in Europe, North America, and the Pacific Rim. These countries flourished as economic cooperation took root.

The Cold War era also saw the decolonization of much of Africa, Asia, the Middle East, the Pacific, and the Caribbean. The new countries that emerged, together with the already independent lower and middle-income countries of Latin America, became known collectively as the developing world. Through its own direct assistance and through institutions such as the World Bank, the United States led the international coordination of aid and lending to these countries and, more recently, to the countries in transition from central planning.

Now a new era is beginning. Fundamental changes have reshaped the world economy. One of the previous central motivations

for U.S. leadership, that of superpower competition with the Soviet Union, is gone. Yet the United States and other countries continue to benefit from U.S. leadership in international economic policy. U.S. economic leadership must move forward with a renewed vision, adapted to these changed political and economic realities.

This chapter examines how the world economy has changed, and how U.S. leadership remains necessary in international economic relationships. A policy of economic openness and engagement, supporting the kind of international economic system the United States has worked hard to establish over the past half century, will continue to yield great benefits to the Nation, through access to new markets and through enhanced international stability and co-operation. In this area some of the current policies on which the Administration places priority are:

- facilitating economic reform in the transition economies and their integration into world markets, including their accession to the World Trade Organization (WTO)
- providing adequate resources for multilateral development efforts, including full funding of U.S. commitments to the World Bank's International Development Association (IDA)
- supporting the rules-based international trading system centered on the WTO
- continuing a wide variety of efforts to open foreign markets to U.S. exports, encouraging U.S. companies to take advantage of these opportunities, and working with the Congress to negotiate further international market opening
- furthering U.S. efforts toward greater economic linkages within the Asia-Pacific Economic Cooperation (APEC) forum and the proposed Free Trade Area of the Americas (FTAA) agreement
- strengthening the international financial system and increasing the capacity of international financial institutions to respond to crises.
- fostering cooperation on common challenges in the Group of Seven at the summit of heads of state that the President will host in Denver in June 1997.

THREE SWEEPING CHANGES

At the core of the international economic system that emerged after World War II was what came to be called the liberal international trading system. It was liberal in the sense that it worked to free the flow of goods and capital from the restrictions that had often characterized the interwar regime. A few widely shared, basic premises underlay this system.

Just as competitive markets *within* economies had helped deliver remarkable increases in standards of living in the industrial world, so competition *between* economies could help sustain and enhance these increases. The economic principles underlying this belief were long established. One was that international trade allows countries to find their comparative advantage, concentrating their production on those goods in which they have the largest cost advantage over others. Another was that bigger markets spell greater scope for the gains that come from specialization.

The trading system had other, noneconomic purposes as well. The Western democracies believed that prosperity was the best insurance against the spread of Communism. Indeed, trade liberalization is a natural corollary of the paradigm of democratic market capitalism, which won an important intellectual and strategic victory in the Cold War.

Three recent changes have had a profound effect on the international economic environment: the end of the Cold War, the emergence of growing markets among the developing countries of East Asia and Latin America, and the increasing globalization of the international economy. These changes have also created important opportunities for the United States. Understanding these changes helps us see where the international economy is headed in the future, so that we can more effectively respond to these challenges, fulfill our responsibilities, and take advantage of these opportunities.

THE END OF THE COLD WAR

In 1989 the Soviet Union relaxed its control over the Eastern European countries that had suffered its domination for over 40 years. These countries immediately seized the opportunity to throw off authoritarian Communist rule. Two years later the Soviet Union itself underwent a political and ideological upheaval, which quickly led to its breakup into 15 independent states. Most of these and the other formerly centrally planned economies are now, to varying degrees, engaged in a process of transition from central planning and state ownership to market forces and private ownership.

An essential part of the West's victory in the Cold War was that it decided once and for all the contest between two radically different approaches to organizing political and economic life. The industrial democracies had allowed markets to guide most economic decisions. The Communist countries had relied on central planning, in which state-owned producers acted on instructions handed down from government ministries. By the 1980s the success of the market democracies stood in sharp contrast with the evident stagnation of the Communist economies that had stuck by central planning.

This triumph of democracy and markets was as much an intellectual victory as a political and economic one. The idea that state planners could effectively guide every aspect of production in an entire economy was thoroughly discredited. The amount of information required for planning to work far exceeded the planners' ability to gather and process it. In any case, without private property, hard budget constraints, and competition both from other domestic firms and from abroad, the managers of socialist enterprises lacked incentives to streamline production or to innovate. Consumers in these countries had to make do with increasingly shoddy products. Industrial productivity fell far short of that in the industrial democracies. Lacking a system of flexible, market-determined prices to convey information about relative scarcities, and lacking decentralized decisionmakers with the freedom and incentives to act on that information and allocate resources accordingly, the centrally planned economies fell far behind the West.

The Communist countries made another major blunder: as a matter of policy, they insulated themselves from the world economy and ignored the opportunities that international trade offers to raise living standards. This is not to say that the Communist countries did not trade. They did, but mostly with each other. In 1989, for example, Czechoslovakia, despite its location adjacent to affluent Western Europe, conducted 54 percent of its trade with its fellow Communist countries, and almost 60 percent of that trade was with the Soviet Union. Given these countries' other economic handicaps, such limited trade failed to reap many of the potential gains of comparative advantage or of expanded competition. Trade became just another misguided planning decision, and was often undertaken merely for political reasons as well.

INDUSTRIALIZATION AND GROWTH COME TO THE DEVELOPING WORLD

The second great change of recent years has been the rapid industrialization and economic growth of a number of developing countries in several parts of the world. The first of these emerging markets were the four Asian "tigers": Hong Kong, Singapore, South Korea, and Taiwan. Now Malaysia, Thailand, and some other Asian countries are following in their footsteps, and some of the Latin American countries, having overcome the debt crisis of the 1980s and undertaken economic and political reforms, have also begun to see faster, more sustained growth.

The success of these countries offers valuable insights into the necessary ingredients for successful development. It has implications for U.S. international economic policy as well. Again, because trade, and economic relations more generally, are a positive-sum enterprise, the rise of these countries also brings opportunities for

the United States and the other established economies. As a major exporter of capital goods—the tools of development—and of agricultural products, consumer goods, and commercial services, the United States is especially well poised to benefit from these economies' growing demand.

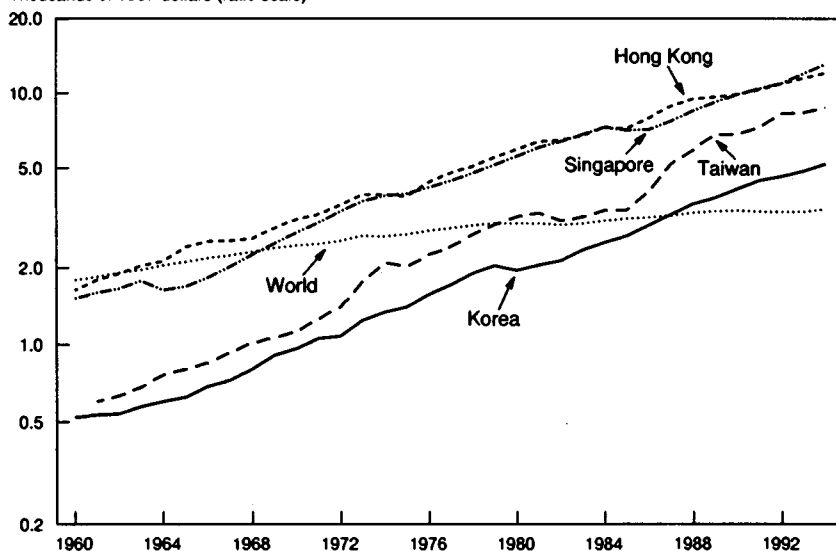
The Success of East and Southeast Asia

From 1960 to 1993, 8 of the world's 10 fastest-growing economies were all in the same region: East and Southeast Asia. Japan's gross domestic product (GDP) per capita, adjusted for differences in relative prices, grew from 30 percent of that of the United States in 1960 to 82 percent in 1994, and South Korea's from 9 percent to 40 percent. The four "tigers" experienced growth in GDP per capita averaging over 6 percent per year, during a period in which U.S. income per capita grew less than 2 percent per year (Chart 7-1). Malaysia's growth has averaged over 4 percent a year, and Indonesia's only slightly less (Chart 7-2). China, the world's most populous country with more than a billion inhabitants, has seen phenomenal growth in GDP per capita, averaging 8.1 percent per year since 1978. Although still under Communist rule, China has begun to recognize the tenets of market economics, including the importance of incentives and entrepreneurship, which have awakened the country's vast potential.

Chart 7-1 GDP Per Capita in the "Four Tigers"

Since 1960, real GDP in each of the four East Asian "tigers" has grown by more than 6 percent per year.

Thousands of 1987 dollars (ratio scale)

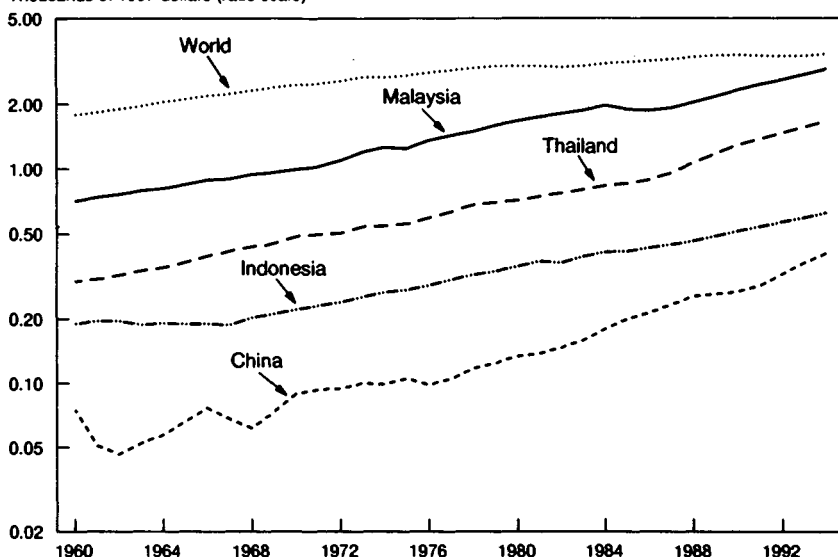


Source: World Bank.

Chart 7-2 GDP Per Capita in Four Other Asian Economies

Although still below that of the "tigers," real GDP in several other East and Southeast Asian economies has also grown quickly.

Thousands of 1987 dollars (ratio scale)



Source: World Bank.

Although their approaches to development have differed in various ways, the success of these economies teaches important lessons on the elements of a sound development strategy. These include attention to human and physical capital, a limited role for government, and export-oriented policies. Another lesson is that rapid development need not be accompanied by large income disparities.

The development of human capital has made a critical contribution to Asia's success. The region's successful economies have invested in nearly universal primary and secondary education, while at the same time developing their scientific and engineering capabilities. This has given them a labor force equipped to work with increasingly complex production processes, and has permitted them to move to increasingly sophisticated technologies over time. A particularly noteworthy aspect of their educational strategy has been its emphasis on female as well as male education.

Investment in physical capital has also contributed greatly. In the successful economies, most of this investment has been financed domestically, thanks to relatively high domestic saving rates. Some East Asian economies have achieved gross saving rates of more than 30 percent of GDP.

The role of government in many successful East Asian economies has generally been to complement markets and make them work

better, rather than to replace them. Governments made it their first responsibility to keep their fiscal affairs in order. Deficits were small, and some governments actually ran surpluses. Government expenditure focused on investment, both in people and in infrastructure. Governments also took charge of maintaining macroeconomic stability, avoiding extremes of high inflation and high unemployment.

The successful East Asian economies also adopted policies of outward orientation. Firms were expected to compete in export markets, where they would have to adopt international standards and best practices. Engagement in the international economy also facilitated the increase of technological capacity. Empirical evidence indicates that economies in East Asia and elsewhere that adopted such outward-oriented strategies enjoyed superior performance in terms of exports, overall growth, and employment. One study found that, during the 1970s and 1980s, the more open economies in a large sample of developing countries grew on average by 4.5 percent per year, compared with only 0.7 percent for more closed economies. Not a single open developing economy in the survey grew at less than 2 percent per year during this period. Of course, some of the observed correlation between openness and growth may be due to reverse causality: countries tend to liberalize trade as they develop. But even when one isolates exogenous differences in trade levels across countries (e.g., due to geography), it appears that trade leads to faster growth.

The East and Southeast Asian economies recognized the importance of exports to their economic growth, but they were not always as receptive to imports. Although they avoided the extremes of protracted import substitution policies (discussed below), which insulated the industries of many other countries behind walls of protection, they did erect a variety of barriers to trade, which were distortionary and may have impeded growth at home and abroad.

The East Asian experience upset the conventional wisdom on the relationship between growth and income equality. The established theories held that inequality was necessary to promote economic growth, because growth requires saving, and the wealthy tend to save more than the nonwealthy. Theory also held that inequality increased in the early stages of growth, as an income gap emerged between workers in the new industrial sector and those left behind in the traditional agrarian sector. The poor would *eventually* benefit from the growth in national prosperity, in this view.

Confounding these theories, several East Asian economies succeeded in growing rapidly while not only maintaining a more even income distribution than many other countries but actually reducing inequality. More-equal distribution of income contributed to rapid growth through several channels. For instance, it facilitated

the accumulation of human capital, as more households could afford to pay for their children's education. Land reform in Taiwan and some other economies after World War II both improved equality and enhanced peasants' incentives, stimulating growth.

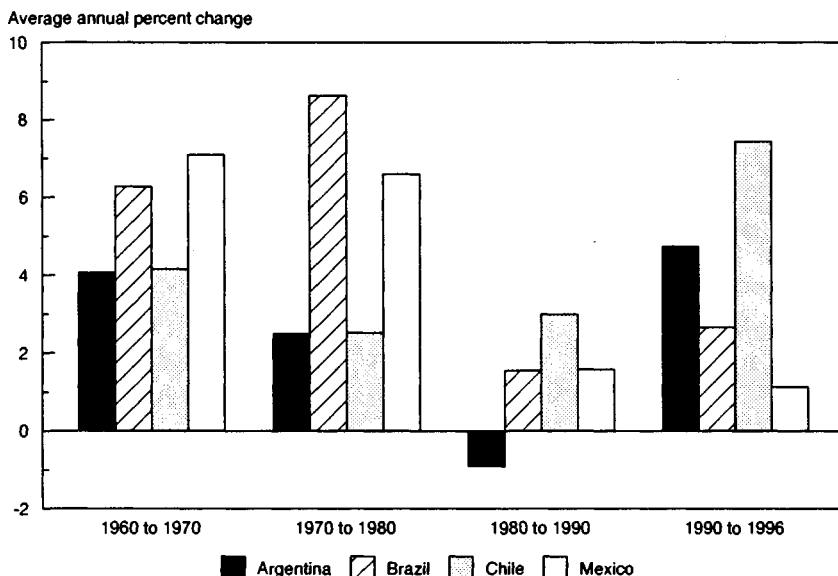
The Revival of Growth in Latin America

For many economies in Latin America the 1980s were a "lost decade." After growing robustly in the 1960s and 1970s (Chart 7-3), these countries took on large foreign debts in the late 1970s and early 1980s. They pursued inward-oriented economic policies, developing their industries to supply domestic demand behind high trade barriers that reduced competition and distorted prices. These policies left them ill equipped to service this mounting debt, much of which financed consumption rather than productive investment. In 1981-82, high dollar interest rates pushed these countries' debt-service requirements upward, a deep recession in the United States lowered demand for their exports, and prices for their export commodities declined. Debt-service payments thus rose sharply in relation to export earnings. When these problems erupted into a crisis in Mexico in August 1982, a number of countries were forced to suspend these payments. Many were compelled to make painful adjustments to continue debt payments, while investors remained reluctant to extend new financing. Through cooperative efforts led by the United States with other industrialized creditor countries and the IMF and the World Bank, many Latin American countries reformed their economies and restructured their debts, and by the early 1990s the crisis had unwound.

Most of these countries have resumed growth in the 1990s. Their governments now intervene less in their economies, and they have adopted more outward-oriented policies. The star performer has been Chile, whose relatively open, liberal economy has seen growth averaging more than 6 percent per year since 1983 while moving more than a third of the country's poor above the poverty line. Other economies have also expanded. Since 1993, real growth in Brazil, Latin America's largest economy, has averaged over 4 percent per year. Brazil has also quashed inflation after more than a decade of extreme price instability. Argentina's economy, which contracted by 1 percent per year during the 1980s, has seen an even more striking recovery.

The reentry of a dynamic Latin America into the international economy offers especially great opportunities for the United States. Our historical ties with that region as well as our geographical proximity make it likely that the United States will benefit greatly from Latin America's resurgence.

Chart 7-3 Real GDP Growth in Latin America
Growth has revived for some Latin American countries in the 1990s.



Note: 1995-96 data projected by the International Monetary Fund.
Sources: International Monetary Fund and World Bank.

INCREASED GLOBALIZATION

The third major change in the international economic environment is even more sweeping than the first two. National economies are becoming steadily more integrated. Technological barriers have fallen as transportation and communication costs have plummeted. Man-made barriers have also fallen, as tariffs have been drastically reduced in a series of multilateral trade negotiations since World War II, and as efforts to reduce nontariff barriers have gathered speed.

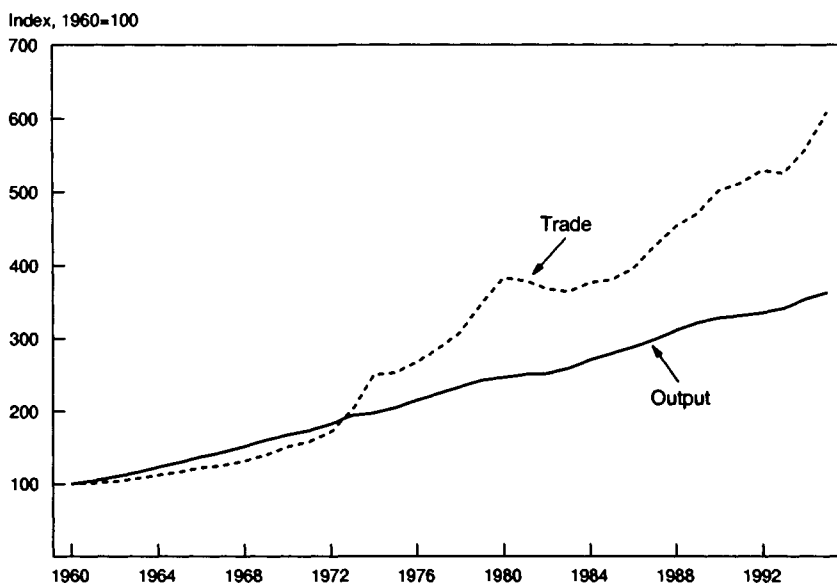
Some numbers help illustrate the shrinking economic distance between countries. Advances in shipping technology have reduced average ocean freight charges per short ton from \$95 in 1920 to \$29 in 1990 (these figures are for U.S. trade only and are in 1990 dollars). Between 1930 and 1990, average air transport revenue per passenger-mile fell from 68 cents to 11 cents, and the cost of a 3-minute phone call from New York to London dropped from \$244.65 to \$3.32 (again in 1990 dollars).

Trade has increased faster than output in the postwar era. In 1960, total world exports amounted to \$629 billion (in 1995 dollars). By 1995 they had risen to over \$5 trillion. In real terms, world exports have grown at an annual rate of 6.1 percent per year since 1960, while world output grew at 3.8 percent (Chart 7-4).

This growth of trade has led to wider competition, allowing countries to benefit from their comparative advantage and raising living standards everywhere.

Chart 7-4 **Growth in World Output and Trade**

Trade has expanded much faster than output, especially since the early 1970s.



Sources: International Monetary Fund and World Bank.

Globalization has made great strides but still has a long way to go. The physical and information costs of international trade are still substantial, although current trends and the history of economic and technological advancement suggest that these costs will continue to shrink. As they do, however, other barriers to trade will take on greater importance.

The Evolution of International Institutions

A number of international institutions have evolved under strong U.S. encouragement to handle the challenges posed by increased global integration. Two that are central are the International Monetary Fund and the World Bank, both created at the Bretton Woods conference at the end of World War II. The World Bank's first task was to finance Western Europe's postwar reconstruction. It has since become a major financier of infrastructure and other projects and programs in developing countries—and now transition economies as well—around the world. On its successful model, regional multilateral development banks have also been set up for Af-

rica, Asia, Latin America and the Caribbean, and most recently for Eastern Europe and the former Soviet Union.

The IMF was designed to provide temporary financing to countries with balance of payments shortfalls, as a means of supporting the international system of fixed exchange rates that the Bretton Woods conference also established. That system pegged members' currencies to the dollar, which in turn was made convertible into gold for foreign governments. Since the fixed exchange rate system collapsed in the early 1970s, the IMF has taken on several other important roles, including financing structural adjustment programs in developing and transition economies. These programs, in conjunction with funding for structural adjustment reforms by the World Bank and other multilateral development banks, involve a negotiated set of economic reforms designed to stabilize the domestic economy and facilitate the development of institutions and markets that will maximize future growth.

The architects of the Bretton Woods system also sought to create a new order in international trade, to reduce friction between trading partners and prevent a return to the beggar-thy-neighbor policies of the 1930s, in which countries imposed tariffs and devalued their currencies in an ultimately futile effort to increase domestic employment at foreigners' expense. The Bretton Woods proposal for an International Trade Organization was never ratified, but the General Agreement on Tariffs and Trade, an accord originally intended as a precursor to the ITO, was concluded in 1947. Subsequent negotiations under the GATT's auspices have done much to liberalize trade. The code of conduct that it embodies introduced two important principles to trade relations: first, that countries should eventually renounce import quotas and similar quantitative restrictions on trade, and second, that they should adopt a policy of nondiscrimination, opening their markets to all participating countries equally.

The GATT has provided a framework for countries to negotiate large reductions in tariffs and, more recently, in nontariff barriers. Successive GATT negotiating rounds have achieved reductions of over 90 percent in tariffs on industrial products traded between the major industrial countries. The GATT's Uruguay Round, completed in 1993, made landmark reductions in nontariff barriers in textiles and apparel, product standards, and intellectual property, among other areas. It also extended GATT principles both to agriculture, where certain nontariff barriers were converted to tariffs, later to be progressively reduced, and to services.

A key outcome of the 1993 Uruguay Round agreement was to set up an international trade body along the lines envisioned at Bretton Woods nearly 50 years earlier. The establishment of this body, the World Trade Organization, recognizes the need for a

forum for discussion, negotiation, and liberalization. The WTO also encompasses a system for the impartial and expeditious adjudication of trade disputes, to help ensure that countries operate fairly in international trade. The WTO's dispute settlement system applies in integrated fashion to the whole range of Uruguay Round agreements.

The WTO system respects national sovereignty. Each country retains ultimate authority for making and implementing national policy. But decades of GATT negotiations have resulted in a set of internationally accepted rules of the game. A country that is found to be engaging in an unfair trade practice has a choice: it can either desist from that practice or face appropriate retaliation from the injured country. Within the WTO, judgments are reached in a quasi-judicial framework on the consistency of countries' trade practices with WTO obligations. Section 301 of U.S. trade law has in fact always required the United States to use GATT (and now WTO) dispute settlement mechanisms where available. A problem under the former GATT system was that many restrictions and distortions of international trade did not violate any specific GATT obligation, and thus were not subject to treatment under GATT dispute settlement mechanisms. Given the success of the Uruguay Round and the resulting broader scope of the WTO, this problem has been significantly lessened, though not eliminated, for the United States and other countries. Section 301 also provides a mechanism for addressing unfair trade practices not covered by the WTO.

The WTO benefits its members individually by establishing clearer multilateral trading rules and a more effective means of enforcement. Its presence makes the international trading system more predictable, thereby facilitating trade and the advantages that derive from it.

Under U.S. leadership, the industrial countries have also created procedures to coordinate their bilateral assistance to developing countries. The primary mechanism for this coordination is the Development Assistance Committee (DAC), run under the auspices of the Organization for Economic Cooperation and Development (OECD), whose members include most of the world's richest and a growing number of upper-middle-income countries.

The major industrial countries have developed some other, less formal mechanisms to manage economic issues. The annual summit meetings of the Group of Seven major industrial economies (Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States) offer an opportunity for heads of government and their senior ministers to deal with issues of mutual importance, such as appropriate macroeconomic policies. The United States will host this year's meeting in Denver in June. Group of

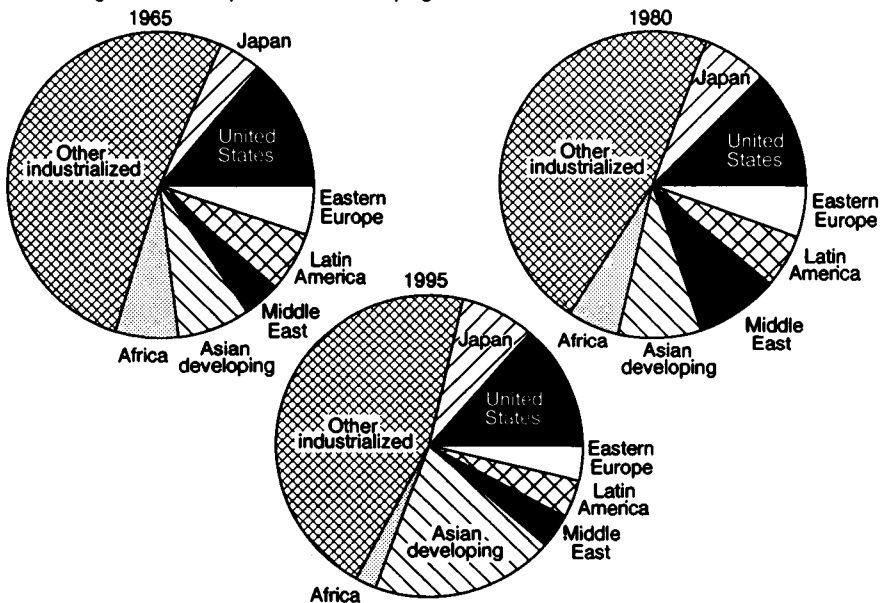
Seven finance ministers and central bank governors also meet several times a year to address these issues.

The Increasing Openness of Developing Economies

Aided by policies that have opened developing-country markets, globalization has increased the involvement of developing countries in world trade and investment flows. The share of the developing countries and today's transition economies in world trade has increased dramatically over the last 30 years. These economies accounted for 27 percent of total world exports in 1965; by 1995 their share of a many-times-larger world export market had grown to 33 percent (Chart 7-5). Within this growing share, that of the Asian developing economies more than doubled, from 8 percent to 19 percent of total world trade; meanwhile the shares of the African and Latin American countries fell considerably.

Chart 7-5 Shares of World Trade

The share of Asian developing countries in international trade has risen greatly since 1980, increasing the overall importance of developing countries in world trade.



Note: Eastern Europe includes the (former) Soviet Union.
Source: International Monetary Fund.

The developing world's strategy toward trade and development has undergone a remarkable change. In the 1950s and 1960s many developing countries adopted policies of import-substitution industrialization: countries would build their economies by making for themselves the manufactured goods that they were used to importing. Infant-industry protection was a corollary to this argument, combining protection of new domestic industries from foreign com-

petitors with state support. The import substitution approach seldom succeeded, however, in encouraging the development of internationally competitive manufactures. Once granted protection, firms tended to settle comfortably into home-grown monopolies rather than strive to duplicate world standards of technology and productivity.

In the 1980s, engulfed by the debt crisis, many of these countries responded at first by further raising trade barriers. But as the crisis deepened, they were forced to change direction. Dismantling of trade barriers was one of the cornerstones of the structural adjustment policies many countries adopted as part of their debt-restructuring packages. Trade liberalization not only helped establish powerful, direct linkages between their domestic economies and the world system, but also compelled action on other promised reforms under the pressures of international competition. Meanwhile governments scaled back the scope of their activities, privatizing state enterprises they had set up in steel, chemicals, and other heavy industries.

ACHIEVEMENTS AND OPPORTUNITIES

A cornerstone of this Administration's economic policies has been to position the United States to benefit from the global changes described above. The United States has worked hard, through the negotiation of bilateral, regional, and multilateral agreements, to open foreign markets to American products. The past 4 years have seen perhaps the most rapid progress ever in this area, including the completion of the North American Free Trade Agreement (NAFTA), the conclusion of the Uruguay Round of the GATT, and over 200 trade agreements in all (see *Economic Report of the President 1995* and *1996* for details of some of these agreements). The Nation has reaped huge benefits from these policies and has experienced strong export growth, leading to strong job and income growth as well. One of the many economic successes of the last 4 years has been a surge in exports, which have grown by 42 percent—over \$185 billion. By one reckoning, exports account for almost a third of the Nation's strong overall growth. Exports are critical to creating high-wage, high-tech jobs, because they allow the United States to expand production in those high-productivity sectors in which we have comparative advantage. Since 1992, the number of high-wage, export-related jobs in the U.S. economy has increased by 1.5 million. These jobs pay more—13 to 16 percent more on average—than the average job.

Implemented in 1994, NAFTA joins the U.S. and Canadian economies in a free-trade area with that of Mexico. In the first 3 years since NAFTA went into effect, trade between the United

States and its NAFTA partners, which are our largest and third-largest trading partners, has grown by about 33 percent. NAFTA's value was proved during Mexico's 1995 financial crisis. Despite the extreme adjustments and the sharp economic contraction that the crisis forced upon Mexico, the agreement ensured that Mexico would keep its markets open to U.S. products. The result was in sharp contrast to the restrictive policies that followed Mexico's 1982 financial crisis. In 1996 U.S. exports to Mexico rose to record highs. This forestalling of any potential reversion to insular and protectionist policies also benefited Mexico.

The United States is actively pursuing further market opening in the Western Hemisphere, building on NAFTA through ongoing talks toward a Free Trade Area of the Americas. Under the proposed FTAA, 34 Western Hemisphere countries will be linked in a free-trade area by 2005. Trade with countries in this hemisphere (including Canada and Mexico) accounted for over \$170 billion in U.S. exports—well over a third of the total—in the first three quarters of 1996. A useful first step toward this goal would be completion of a free-trade agreement with Chile.

The United States is also benefiting from market opening and expanded trade with the other Pacific Rim countries. Progress within the Asia-Pacific Economic Cooperation forum has been rapid. At the 1996 leaders' summit at Subic Bay in the Philippines, the 18 APEC members—which include both industrial and developing economies and account for over half of world income—committed themselves to take the initial steps toward free and open trade and investment and a free-trade area by 2020. In addition, the Information Technology Agreement (ITA), a U.S. initiative that would liberalize trade in semiconductors, computer and telecommunications equipment, and software exports, was broadly embraced by the APEC nations at the December summit.

With strong support within APEC, completion of the ITA was a centerpiece of U.S. efforts at the WTO's first ministerial meeting, held in Singapore a few weeks later. There 28 countries endorsed the agreement, including almost all the industrial countries, several developing economies in East and Southeast Asia, and Turkey. The agreement would cover products accounting for some \$500 billion in annual world trade and over \$90 billion in annual U.S. exports.

One of this Administration's first initiatives was the establishment of the Trade Promotion Coordinating Committee (TPCC), which coordinates government policies affecting U.S. exports across agencies. In September 1993 the TPCC unveiled the National Export Strategy, which laid out 65 concrete recommendations for leveraging export promotion resources and removing government-imposed obstacles to exporting. The Administration quickly imple-

mented the strategy, which includes opening export assistance centers around the country, providing "one-stop shopping" for new exporters, leveling the playing field for U.S. companies by countering the advocacy efforts of foreign governments, and eliminating unnecessary export controls and licenses. The National Export Strategy also includes specific initiatives for each of the "big emerging markets".

As early initiatives are successfully implemented, the National Export Strategy continues to evolve through the identification of new areas and the development of initiatives by the TPCC. For example, the TPCC concluded that the use of illegitimate practices such as bribery was far more widespread than previously known. The TPCC was able to identify \$11 billion in contracts lost to U.S. exporters over a 2-year period because of bribery by foreign firms. Last year's report on the National Export Strategy contained a blueprint for government-wide action to combat bribery. And this year the TPCC is developing a strategy against the use of product standards as barriers to U.S. exports.

At the same time, the United States has continued to take steps to ensure that globalization lifts living standards in all countries, through a serious commitment to promoting labor standards throughout the world. In its efforts within international organizations, the Administration has sought to establish a framework for multilateral discussion on how best to promote core labor standards: freedom of association, the right to organize and bargain collectively, nondiscrimination in the workplace, prohibition of forced labor, and elimination of exploitative child labor.

EXPLAINING THE BENEFITS OF INTEGRATION

Virtually all economists agree that international trade and economic integration raise the living standards of U.S. residents overall, while also increasing economic well-being in other countries. The benefits of international trade have become increasingly apparent as it has fueled growth over recent years. When unemployment is significant, as it was in 1993, an expansion of exports raises demand for U.S. goods and services and therefore increases employment. Even as the economy approaches full employment, the benefits of trade continue to manifest themselves in the form of higher incomes, and continue to influence the pattern of job creation and change.

The effects of trade opening are similar to a major technological innovation: both may require economic restructuring. It is also widely acknowledged that some companies and workers may be hurt by the opening of markets as they adjust to increased foreign competition. The U.S. Government undertakes various measures to assist workers and companies injured by trade (Box 7-1). Moreover

the core of this Administration's education policies is to ensure that all Americans have the tools they need to compete and succeed in the international economy.

Box 7-1.—Trade Adjustment Measures

Government programs such as the transitional adjustment assistance (TAA) help workers adversely affected by trade re-train and take advantage of the economic opportunities trade offers. The NAFTA-TAA program provides a short-term safety net in the form of an adjustment allowance for workers who suffer from a shift of production to or increased imports from Mexico or Canada (whether or not related to NAFTA); it also provides employment services and training to help them acquire the skills they need to enter new jobs. In fiscal year 1995, over 2,000 workers entered training under this program, and almost 1,400 began receiving adjustment allowances. Also important to adjustment is the phasing in of trade liberalization over time. Changing the rules gradually gives import-competing industries time to adjust to new competition. However, such delays must not become a device to postpone agreed liberalizations indefinitely.

Are trade deficits a source of concern? As last year's *Economic Report of the President* emphasized, trade deficits and surpluses are primarily determined by macroeconomic factors, in particular the balance between domestic saving and investment. Trade barriers have little lasting influence on the Nation's overall trade balance, although they may have marked effects on bilateral deficits, and they do affect the extent to which countries can reap the benefits of trade. It is even an oversimplification to think that deficits are necessarily bad, and surpluses necessarily good. A current account deficit merely means that a country is, on balance, borrowing from the rest of the world; a surplus means it is a net lender to the world. Whether such borrowing or lending is proper depends, as it would for any individual or company, on what the borrowing is used for or why the country is lending.

The United States has run trade and current account deficits every year since 1982. In the 1980s these deficits were a red flag that the United States was failing to save enough. The budget deficits run up during those years generated vast government dissaving: the economy was living beyond its means. In the last 4 years, however, this Administration has successfully worked with the Congress to reduce the government budget deficit and increase national saving. Nonetheless, trade deficits have persisted, although they are much smaller in proportion to GDP than in the peak years

of the 1980s. But in contrast to the surge in the trade deficit in the 1980s, this most recent increase appears to be financing a surge in U.S. investment, particularly in business equipment. The implication is that the improving economy will continue to grow and will generate the resources necessary to repay our net borrowing from the rest of the world. (The national saving rate is still low, however. The most effective way to raise it is to continue efforts to reduce the budget deficit.)

Investment, like trade, yields benefits to both sides of the transaction. Capital goes to those who are best able to make productive use of it, and the suppliers of that capital receive a higher return, for a given level of risk, than they could get elsewhere. These mutual benefits may be particularly pronounced in the case of foreign direct investment (FDI). FDI occurs when a foreign investor either sets up an enterprise in another country or obtains a large enough share in an existing enterprise to give the investor effective influence over its management. FDI benefits the country receiving it in many ways: besides the funds themselves, direct investors bring managerial, technical, and marketing know-how, which often spills over to other parts of the economy.

FDI by American companies can open the way for U.S. exports, both as inputs to foreign production and as consumer goods to supply foreign demand. It also offers U.S. companies a toehold in foreign markets from which they can further expand sales. In many cases, investment in distribution and other essential services increases a supplier's ability to export into a market. Trade between firms and their foreign affiliates (intrafirm trade) can be an efficient means of international trade, particularly when problems of imperfect information exist. Over a third of U.S. exports and two-fifths of U.S. imports are estimated to be intrafirm. Worldwide, about a third of trade is intrafirm trade.

In short, whatever the short-run effects on the economy and the trade deficit, over longer periods increased globalization increases incomes both in the United States and abroad. Globalization produces greater gains from trade, through specialization according to comparative advantage and through realization of scale economies in production. And by allowing capital to flow across borders, it lowers the cost of financing investment in the recipient country, and increases the return to saving and allows for portfolio diversification in the country providing the funds.

U.S. POLICY ON TRADE WITH DEVELOPING COUNTRIES

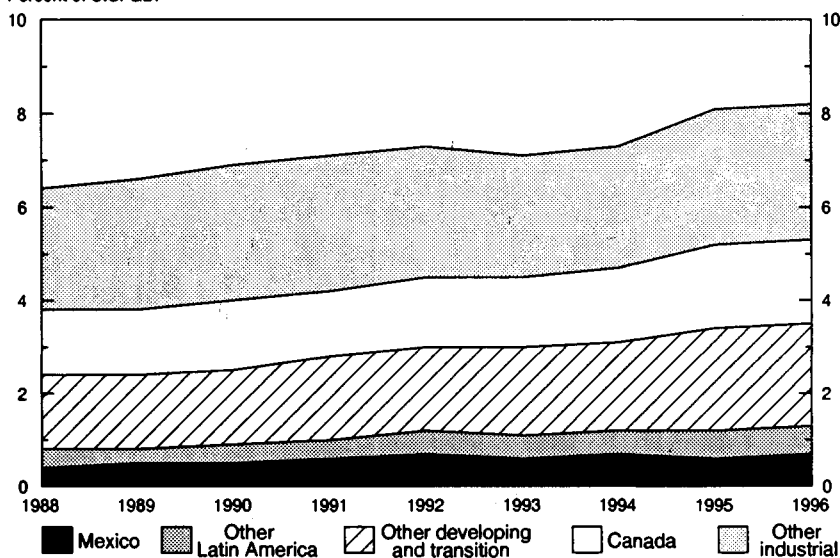
Much of our strong recent export growth is due to demand from developing countries. During the 1990s U.S. exports to other industrial countries have grown at a satisfying rate of 5 percent per year

in real terms—but U.S. exports to developing countries have grown at almost twice that rate (Chart 7-6). U.S. exports to Latin America have been particularly strong, rising from 0.9 percent of U.S. GDP in 1990 to 1.4 percent in the first three quarters of 1996. Exports to other developing and transition economies rose from 1.6 percent to 2.2 percent of GDP.

Chart 7-6 U.S. Exports of Goods by Destination

U.S. exports to developing countries have grown faster than exports to markets in industrialized countries.

Percent of U.S. GDP



Note: Data for 1996 are estimated using 12 months of data ending in November.
Source: Department of Commerce.

The United States is committed to encouraging the involvement and integration of developing countries in the global trading system. To this end, a number of policies have been put in place that not only benefit U.S. consumers, but also provide special encouragement for developing countries to expand and diversify their exports. By encouraging openness and economic growth, our policies also promote democracy and stability.

One of the main U.S. programs for promoting trade with developing countries is the Generalized System of Preferences (GSP). Under the GSP, instituted in 1976, roughly 4,600 products from 148 beneficiary countries and territories are eligible for duty-free entry into the United States. In 1995 the United States imported \$18.3 billion in duty-free goods under the program, accounting for 16 percent of total U.S. imports from GSP beneficiaries. Over two-thirds of all GSP imports in that year originated in six countries:

Brazil, India, Indonesia, Malaysia, the Philippines, and Thailand. As countries develop they are graduated from the program, to allow lower income countries to take better advantage of available preferences. (Malaysia, for example, graduated January 1, 1997.) The President intends to seek a renewal of the GSP arrangement beyond its presently scheduled expiration in May 1997.

Implemented in 1984, the Caribbean Basin Economic Recovery Act provides preferential access to the U.S. market for 24 Caribbean countries and territories. In 1991 the United States implemented a similar program under the Andean Trade Preferences Act for four South American countries. This program is a centerpiece of U.S. efforts to encourage these countries to reduce their production and exports of cocaine. These two programs help support growth and development in some of the hemisphere's less developed nations, which in turn have become better customers for U.S. products.

PATTERNS OF FOREIGN INVESTMENT IN DEVELOPING AND TRANSITION ECONOMIES

Developing countries tend to be importers of capital: their investment needs are massive and the potential returns large. But in the 1980s, as already noted, the debt crisis reduced and in some cases reversed the net flow of capital into these countries. At the same time, relatively large public sector deficits in the high-income countries absorbed private saving, increasing competition for international investment funds.

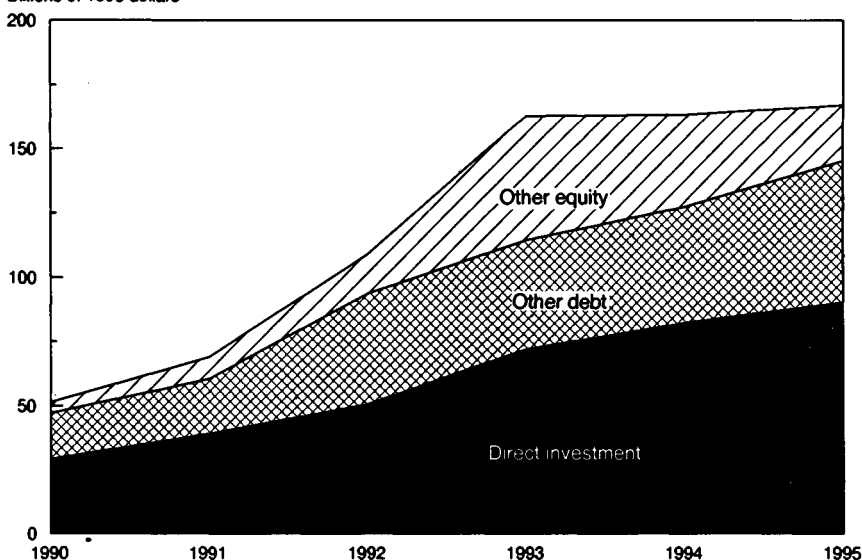
During the 1990s, private investment in developing countries has undergone a marked revival. Those that have restored economic and political stability have been rewarded with greatly increased access to international capital. The significant and continuing restructuring of developing countries' external public debt has greatly aided their mobilization of external private capital, by lowering the risk perceived by investors. Long-term net private capital flows to developing countries have nearly quadrupled in the 1990s, reaching \$167 billion in 1995 (Chart 7-7). Most of this growth occurred in East Asia and the Pacific, where net resource flows rose from \$35 billion in 1991 to over \$100 billion in 1995. Flows to Eastern Europe rose sharply, too, from \$6 billion in 1992 to \$24 billion in 1995.

International private capital flows take three forms: FDI, portfolio investment in securities, and bank lending. FDI in developing countries has grown without interruption over the last decade. Cumulative FDI flows during the 1990-95 period totaled \$345 billion. Developing countries' share of global FDI has risen rapidly, from 12 percent in 1990 to 38 percent in 1995. But the bulk of FDI into developing countries has gone to a small number of countries. In

Chart 7-7 Net Capital Flows to Developing Countries

Led by large increases in foreign direct investment and portfolio equity investment, investment in emerging markets has boomed in the 1990s.

Billions of 1995 dollars



Note: Series adjusted by CPI-U.
Source: World Bank.

1994, Indonesia, Malaysia, and Mexico accounted for almost 60 percent of total FDI flows into developing countries (excluding the transition economies). East Asia has done relatively well this decade in attracting FDI, while the share of FDI going to Latin America has declined.

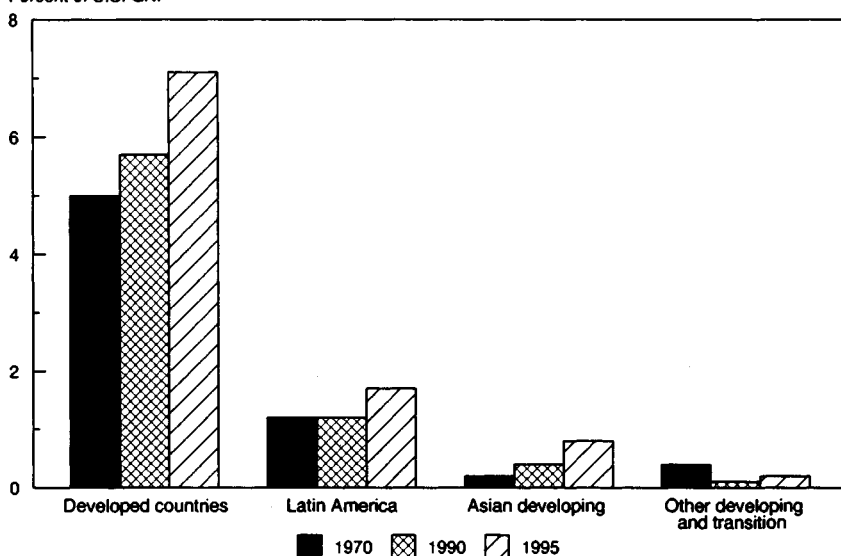
Only 6 years ago, less than one-quarter of the stock of U.S. outward FDI was in the world's poorer countries, a smaller share than in 1970 (Chart 7-8). Since 1990, however, in keeping with the general trend of global capital flows discussed above, U.S. investment in emerging markets has boomed. The stock of U.S. investment in these economies increased to 27 percent of all U.S. external investment. While total U.S. investment abroad rose 65 percent between 1990 and 1995, investment in developing countries nearly doubled.

The surge in FDI in the 1990s may have resulted in part from the improvements in the economic structure of developing countries already mentioned. Economic stabilization and reforms that have reduced external indebtedness and lowered the risk of balance of payments crises have also reduced transfer risk—the danger that host countries would block the remittance of earnings to the parent companies. In addition, reform of legal and regulatory regimes and the adoption of outward-oriented economic policies have probably reduced other risks perceived by foreign investors.

Chart 7-8 Stock of U.S. Direct Investment Abroad

Investment of U.S. companies in developing countries is still well below the stock of U.S. direct investment in other industrialized countries, but it has increased rapidly in the 1990s.

Percent of U.S. GNP



Source: Department of Commerce.

Portfolio investment—the acquisition of bonds or corporate equity in the absence of a significant ownership stake in the enterprise—has grown dramatically. Portfolio investment gives firms that are already up and running the extra finance they need to increase performance. Portfolio equity flows to developing countries have been highly volatile. After increasing 12-fold during 1990–93, they fell 23 percent in 1994 and another 37 percent in 1995, to \$22 billion. The sharp drop in 1994–95 was partly a reaction to events surrounding the Mexican crisis. It also reflected higher U.S. and European interest rates and concerns about possible overheating in some Asian economies.

Corporate bond flows have grown more steadily, from \$3 billion at the beginning of the decade to \$34 billion in 1995. In keeping with their rapid growth and history of macroeconomic stability, East Asian borrowers enjoyed maturities three times longer than those of Latin American borrowers. Average spreads (differences in interest rates) over government bonds in the United States and other major industrial countries were one-half of those for Latin American debt.

Finally, commercial bank lending has been highly volatile, jumping from less than \$2 billion in 1990 to nearly \$14 billion in 1993, then reversing course to a \$5 billion net outflow the following year.

By 1995, commercial bank debt inflows in developing countries had risen again to \$17 billion.

OTHER ASPECTS OF U.S. POLICY TOWARD EMERGING MARKET ECONOMIES

The U.S. economy no longer dominates the world economy by its sheer size, but even so the United States carries a disproportionate weight in world economic affairs. We are looked to for leadership in part because our economy remains the largest in the world, and in part because we are the sole remaining superpower. How do we intend to exercise that leadership? Among the most important objectives of U.S. economic policy are to ensure that the United States itself benefits fully from the integration of these emerging markets into a globalized economy; to guarantee that the former Communist countries make a successful transition to the market and become integrated into the international trading system; and to help developing countries in their quest for growth and development, by fostering both their economic institutions and their human resources.

INTEGRATING THE TRANSITION ECONOMIES INTO THE WORLD ECONOMIC SYSTEM

One way in which the United States has led the pursuit of these objectives has been by promoting an international economic system that reflects our values of openness, competition, and private enterprise. A key challenge in this regard, as already noted, is to ensure that economies that are newly embracing these values undertake reforms and are assisted in integrating into this system. This will ensure that these emerging economies have a stake in preserving the system that U.S. leadership has helped create. History teaches that outcasts can make trouble.

The task of transition is daunting, especially in the newly independent republics of the former Soviet Union, where Communism had its deepest roots. By far the most important element of a successful transition is market-oriented economic and political reforms. In addition, these countries will need generous support from the established market economies through the international financial institutions, as well as private investment. Foreign assistance can help encourage the development of the political and social institutions that will allow markets and democratic principles to flourish in the countries of the former Soviet bloc. The United States has led efforts here: it has provided direct assistance to these countries (as discussed below) and has worked within the IMF and the World Bank to assist the transition. In particular, the United States has strongly supported a major focus of the inter-

national financial institutions on building a foundation for market-driven growth through the sale of state-owned enterprises, sweeping legal and regulatory reform, financial sector modernization, and comprehensive redesign of social safety nets.

If these countries are to benefit fully from their conversion to market economics, they must also be able to put their comparative advantage to work. Just as it is also in the best interests of the transition economies to play by the rules of the international marketplace, so too is it in the best interests of the established industrial economies to apply the trading rules fairly to the economies in transition. The markets of the established industrial economies must remain open to trade and investment opportunities with the transition economies. Consumers—as well as producers buying inputs—will gain from lower prices, and other producers will gain from exporting back to these new market economies and from increased opportunities for investment. In addition, all peoples will benefit from a more stable world as the transition economies successfully leave their Communist past behind.

Russia and the United States have rapidly deepened relations since Russia reemerged as an independent state at the end of the Cold War. At a series of meetings in Vancouver, Tokyo, Moscow, and Washington, the President and his Russian counterpart laid the basis for a lasting U.S.-Russian partnership. In the economic sphere, a commission headed by the Vice President and the Russian Prime Minister has worked to advance bilateral cooperation through eight working committees covering health, space, energy policy, agribusiness, defense conversion, business development, the environment, and science and technology. The commission last met in Moscow in July 1996 and is scheduled to meet in Washington in February 1997. In the area of trade, a Partnership for Economic Cooperation, signed by the two presidents at their September 1994 summit in Washington, serves as a framework for reducing barriers to expanded economic cooperation. A number of U.S. agencies—in particular, the Overseas Private Investment Corporation, the Export-Import Bank, the Trade and Development Agency, and the Department of Commerce—have programs in place aimed at facilitating trade and investment in Russia. The United States is also actively supporting the transformation of Russia from a centrally planned to a market economy. Since 1992 the U.S. Agency for International Development (USAID), which coordinates U.S. bilateral foreign development assistance, has devoted approximately \$2 billion in assistance under the Freedom Support Act to helping Russia develop democratic and market institutions.

Meanwhile significant developments in the security sphere have reduced the threat of military confrontation in the post-Cold War era, while also providing economic benefits for the United States.

Most recently, Russia and the United States signed an agreement that will transfer substantial amounts of Russia's supplies of highly enriched uranium from Russian warheads to U.S. energy facilities—a real-life example of turning swords into plowshares. The Administration has been working to develop institutional arrangements to ensure that these mutually advantageous transactions, an effective part of our policy to prevent nuclear proliferation, continue.

Both China and Russia are currently negotiating accession to the WTO. Their successful integration into the multilateral trading system requires that they continue their market reforms, agree to provide mutually beneficial access to their markets, and abide by multilateral rules and obligations. Likewise, by keeping open our markets and those of our traditional allies to these new economic powers, we can increase the stake they have in maintaining the international rules-based economic system.

China and the United States together account for almost 16 percent of global trade and 30 percent of global output. Whether we meet regional and global goals for freer and more open trade—among the APEC countries and among all the members of the WTO—depends in part on the strength of the bilateral relationship between China and the United States. Recognizing this, the Administration is committed to pursuing a regular and intensive dialogue with China. Significant progress was made with the beginning of a dialogue between China's State Planning Commission and the Council of Economic Advisers in August 1996. Progress continued at the September 1996 meeting of the Joint Commission on Commerce and Trade, with the establishment of a consultative group on business operational issues and with commitments to engage in further discussions on export controls and commercial law. In the November 1996 session of the U.S.-China Joint Economic Committee, China and the United States pledged further cooperation in the areas of customs, tax collection, and financial sector reform.

With the end of the Cold War, an important rationale for foreign aid—to cement alliances with the world's poorer countries against the threat of Communism—has disappeared. But there are other important rationales. Beginning with the Marshall Plan after World War II, foreign assistance has been part of a broad effort by the United States and the other industrial democracies to foster a world order based on freedom, prosperity, and stability. In an increasingly interdependent world, these ideals retain enormous relevance.

Some foreign aid is purely an expression of our sense of humanity: Americans find it difficult to turn their backs on children starving during a famine or left homeless after an earthquake. But just

as we believe, as a matter of domestic policy, that it is better to extend a helping hand up than a handout, so we believe it is better to create the economic conditions that will enable countries abroad to stand on their own feet.

For half a century the United States has used its international influence to spread democratic and market institutions. U.S. higher education has also promoted markets and democracy overseas (Box 7-2). Aid, although much less important than trade economically, is nevertheless an essential instrument by which the United States and the other industrial democracies help less developed economies become stronger and more self-reliant. We also believe—and not without evidence—that countries with higher living standards are likely to be politically more stable, especially when improvements in living standards are spread widely within a population. By contributing to the world's political stability, these improvements in living standards contribute to America's security.

Box 7-2.—How Educating Foreign Students Promotes Markets and Democracy

The United States has clear comparative advantage in higher education. Many foreign students, especially from developing countries, come to America to study for college and graduate degrees. Their spending on tuition counts as U.S. exports of educational services and rivals U.S. exports of corn or wheat, our two largest agricultural exports. When these students return home, they take with them an appreciation of the benefits of an open society and an open economic system. The U.S. system of higher education has done much to spread our values throughout the world, including our belief in democracy and the market system.

This phenomenon is particularly evident with respect to Latin America. Many Latin Americans have come to the United States to study for graduate degrees in economics or public policy, and many have entered government service on returning home. The last two presidents of Mexico and the finance ministers of Argentina, Brazil, Chile, and Mexico, for example, all received doctorates in economics from U.S. universities. Partly because of their leadership, Latin America has embraced market-oriented economic policies.

This is one example of how the United States itself benefits from aid given to others. But we realize important economic benefits as well. When our aid helps countries grow, we benefit from increased exports. For example, 20 countries have achieved a sufficient level of development to graduate from lending programs of the Inter-

national Development Association (the World Bank affiliate that lends to the poorest countries on a concessional basis). These countries bought \$61 billion in U.S. exports in 1995, or 6.3 percent of our total exports. And by deepening our economic relationship with developing countries through aid, we also make it more likely that they will turn to U.S. firms for products in the future. More broadly, U.S. assistance in setting up legal and commercial institutions in developing countries leads to foreign business environments that are transparent, open, and predictable. This makes it easier for U.S. exporters and investors to operate in these markets. Familiarity breeds trade.

How developing countries treat their environment is increasingly relevant to Americans. The decimation of a rainforest, or the use of inefficient coal-burning power plants, may affect the climate of the entire globe. The explosion at Chernobyl brought home forcefully that badly designed nuclear reactors in one country can have far-ranging effects. We all share the same planet. But poor countries may have difficulty raising the resources to do what is necessary to help preserve the global commons. Financial aid is one way we can pursue these objectives.

To respond to these varied rationales, USAID has spelled out five goals for its work: encouraging broad-based growth, protecting the environment, building democracy, helping to stabilize world population growth, and providing relief through humanitarian assistance. The web of international institutions created under U.S. leadership also plays a key role. The World Bank, together with the several regional development banks, lend on both a concessional and a nonconcessional basis, depending on the income of the borrowing country. Other international organizations also provide lending and technical assistance. The United States contributes to the capital of these institutions and to their special concessional lending funds, but the impact of these institutions is many times the level of U.S. contributions. They therefore provide an efficient means for the United States to leverage its international leadership.

A Brief History of Aid

The targets and strategies of foreign assistance have undergone a steady evolution since the end of World War II. Immediate post-war assistance was focused on countries hard hit by the war. The Marshall Plan channeled assistance to Western Europe on a vast scale, to promote economic recovery while preserving social stability and democracy. In the Marshall Plan years of 1949–52 the United States gave \$18.6 billion in aid, equivalent to 1.5 percent of our gross national product (GNP) in those years. As a percentage of our output, the aid we send overseas today is far smaller than it was then.

The United States and the other industrial countries provided relatively little assistance to what are now the developing countries before the early 1960s, and what was offered usually came in the form of specific technical assistance. It was widely assumed that the income gap between these countries and ours would close over time, without much special effort on our part. In addition, many of what are now high-income countries were still well behind the United States, so that concern was not focused exclusively on the developing world.

In the early 1960s, under the leadership of President Kennedy, the United States greatly increased the resources devoted to assisting developing countries. U.S. foreign economic assistance rose from \$13 billion in 1958 (in 1996 dollars) to \$22 billion by 1962. The United States accounted for the great bulk of official development assistance throughout the 1960s. Apart from providing direct assistance ourselves, the United States also led efforts to coordinate bilateral assistance from other countries. In 1961 the DAC, the primary mechanism for coordinating aid among the OECD countries (see above), was established. The United States also led the way in providing development assistance and nonconcessional development finance through the multilateral development banks. The IDA was organized in 1960 to provide concessional financing to the poorest countries. The first two regional development banks, the Asian Development Bank and the Inter-American Development Bank, began operations in the 1960s, with the United States as a founding member of both.

U.S. development assistance has contributed to many successes since the 1960s. Some of the world's fastest-growing countries today have been major recipients. Targeted programs have achieved particular success. During the 1960s and 1970s, for example, USAID assistance to India for higher education and agricultural research was instrumental in the rapid growth in cereal production in that country—the so-called Green Revolution. In various countries, USAID programs have helped reduce infant mortality and population growth rates and improved basic education programs.

Over time, the intellectual focus of development assistance changed. By the early 1960s it was clear that most developing countries were not catching up with the United States as fast as Western Europe and Japan were. It was assumed that a shortage of investment resources was behind this lack of growth. Long-term growth models developed in the 1950s posited a direct relationship between a country's investment level and growth of its GDP. Countries unable to generate enough resources to fund high investment levels would fail to generate rapid growth. The role of aid was to alleviate bottlenecks to growth, by filling the gap between the de-

sired level of investment and the saving and private foreign capital available to finance it. The idea that resource transfers were an important determinant of growth was in keeping with our successful experience with the Marshall Plan.

In the 1970s the focus of assistance shifted to the direct alleviation of poverty. Although rapid economic growth held the promise of alleviating poverty over the long term, it was feared that poverty could actually worsen in the initial stages of development. Aid increasingly was allocated to projects directly designed to meet basic needs of the poorest populations in developing countries. These efforts were focused on measures targeted to population control, health, education, and rural development.

The growth rates of developing countries began to diverge widely in the 1970s, with the Asian and Latin American countries generally growing steadily and many African countries beginning to stagnate. Investment bottlenecks were not the only factor inhibiting development. How investment was used, and the environment in which it was made, were also important. The focus of development broadened to include the need to develop agriculture, exports, and human resources, as well as industry and infrastructure.

As it became clear that no simple causal relationship existed between the quantity of assistance, rates of economic growth, and changes in poverty, the policy focus in the 1980s changed once again, this time to the influence of a country's domestic economic and social policies on development and growth. The quantity of aid, which had been the focus of the earlier models, came to be seen as just one of many factors influencing development. Aid was seen as having an impact on a country's growth only if sound domestic policies were in place. Those concerned about poverty also focused on the policy environment. Growth did not necessarily cause poverty to worsen; in fact, the East Asian experience showed that growth was the most effective antidote to poverty and that egalitarian policies could facilitate growth.

This view led to an increased emphasis on conditionality: aid would only be given if a country agreed to a specific set of reforms, which generally included fiscal discipline, open capital and trade flows, deregulation and reform of public enterprises, the establishment of efficient banking systems, legal reforms, and the liberalization of prices, exchange rates, and interest rates. The IMF and the World Bank led the way in negotiating the structural adjustment programs that embodied these reforms, establishing them as a condition for providing funds to developing countries, many of which had been hard hit by the debt crisis that began in 1982. Several empirical studies during this period confirmed that reforms of this kind were a necessary, though not a sufficient, condition for economic growth.

The United States' dominance in foreign assistance diminished in the 1970s and 1980s, as other industrial countries channeled increasing resources toward this purpose, in line with their increased economic capacity. In the 1950s and most of the 1960s the United States had accounted for over half of all official development assistance provided by the market democracies. Since that time, other industrialized countries have shouldered an increased share of the burden, rising to 55 percent in 1970, 72 percent in 1980, and 88 percent in 1995.

Most of the industrial countries have reduced their bilateral assistance, and the resources of the multilateral institutions and regional development banks are coming under increased strain. The end of the Cold War has led to an increased demand for assistance to the transition economies as well, stretching development resources ever thinner. Political support for development assistance has eroded, as the need to battle Communism in the developing countries has virtually disappeared and as donor-country budgets have been squeezed. Yet the need for development assistance has continued. Countries without the social, economic, and political bases for development, in Africa and elsewhere, are likely to be left behind as other developing countries experience rapid growth.

Official development assistance from the 21 DAC members has declined by almost 6 percent in real terms since 1991 (12 percent when accounting for exchange rate fluctuations), to \$59 billion, or only 0.27 percent of their aggregate GNP in 1995. Bilateral disbursements accounted for about two-thirds of the total in 1995; multilateral sources provided the remainder.

Patterns of U.S. Aid Today

In 1996, the Congress authorized \$6.7 billion for foreign assistance spending. That amounts to 0.1 percent of GDP, or a per capita expenditure of \$27. Contrary to conventional wisdom, evidence indicates that American public attitudes are sufficiently supportive of foreign assistance to justify a modest increase (Box 7-3). The Administration has requested an increase of 10 percent in its budget request for fiscal year 1998. If approved, that would restore spending to fiscal 1988 levels in real terms.

Over 1993–95, 30 percent of U.S. non-military bilateral aid was allocated to Egypt and Israel. Other major allocations went to Ethiopia, Haiti, India, Peru, Russia, South Africa, Turkey, and Ukraine. The share of U.S. aid going to the sub-Saharan African countries has grown in recent years, while the share to Latin America and East and South Asia has diminished. A special initiative to assist the transition to democracy in South Africa allocated over \$600 million, to be disbursed over 1995–97. During the 1990s the United States and other donors have also developed assistance programs for the transition economies. U.S. aid has supported a

Box 7-3.—Foreign Aid and U.S. Public Opinion

Most Americans think the U.S. Government spends far too much on foreign aid, to the neglect of domestic needs. Yet a number of surveys and polls have found that this widespread attitude toward aid is based on false premises. In one survey the median respondent guessed that the United States provides 40 percent of all aid to developing countries; the true figure, according to the OECD, is 12 percent. Likewise, most of those surveyed believe that the United States spends a larger percentage of its GDP on aid than other industrial countries, whereas in fact we spend the smallest. Those surveyed estimated that 18 percent of the Federal budget goes to foreign aid; the true figure is well below 1 percent. The median respondent (before being told the actual level of aid) would raise the amount of aid provided to 20 percent of all international aid and 5 percent of the Federal budget. Focus groups and polls have found that Americans, in general, retain some sense of moral obligation to help those in need.

wide range of projects, including privatization programs in the Czech Republic and Russia; legal reform in Kazakstan, the Kyrgyz Republic, and Russia; public health programs in Russia and Ukraine; and humanitarian assistance in Bosnia and Herzegovina. A large portion of U.S. aid goes to social infrastructure such as health and education; less than 6 percent of U.S. bilateral development assistance is spent on economic infrastructure—in sharp contrast with Japan, which expends almost one quarter of its aid on the promotion of transport and communications alone. An increasing amount of aid from the United States and other countries is absorbed by crises and humanitarian relief.

In addition to providing bilateral aid, the Administration strongly supports the international financial institutions which provide multilateral aid. In its 1998 budget request, the Administration has asked that funding for multilateral development banks be restored to fiscal 1990 levels of more than \$1.4 billion.

As already noted, in addition to their regular nonconcessional lending the international financial institutions provide concessional financing for the poorest countries that lack access to alternative financing. Funds for these “soft” loans come from contributions by the wealthier countries and income earned from past projects. The World Bank’s IDA remains the single most important source of such funding, having approved an annual average of \$6 billion in concessional lending over the past 5 years. It is therefore vitally important that the United States deliver in full on its outstanding commitments to the IDA. The IMF’s Enhanced Structural Adjust-

ment Facility (ESAF), established in 1987 to provide concessional financing to low-income countries experiencing balance of payments problems, has been enlarged to \$15 billion—roughly double its original size. Thus far, over 40 countries have borrowed from the ESAF; in return for these funds they agree to undertake 3-year structural adjustment programs. Recently the United States, together with the World Bank and the IMF, spearheaded a new initiative to reduce debt burdens for highly indebted low-income countries (Box 7-4).

A FRAMEWORK FOR FUTURE LEADERSHIP

For half a century the Cold War defined the principal objective of U.S. international policies: contain Communism. As we have seen, with the end of the Cold War the United States has had to rethink its objectives. We can all agree that the government should seek to increase economic growth, raise living standards, protect the environment, and enhance security in all its dimensions. But in this *Report* we have tried to be more precise: What are the special roles of the Federal Government? And how have these roles changed as the environment we face has changed—with the end of the Cold War, the emergence of new economic powers, and the globalization of the world economy? Markets, individual responsibility, community—all are essential to the society that we have created and are creating still.

Some guidance here is provided by the theory of international public goods. Pure public goods have two properties. First, they are nonrival in consumption. That is, their consumption by one person does not diminish the benefit another person derives from consuming them. Another way of putting this is that the cost of providing the good to the second person, given that it has already been provided to the first, is zero. The second feature of public goods is that they are nonexcludable. That is, it is difficult or impossible to prevent someone from enjoying the good, regardless of whether he or she has paid for it. Classic examples of such goods are national defense and basic scientific research.

It has long been recognized that the market, if left to itself, will tend to underproduce public goods. As discussed in Chapter 6, this creates a rationale for government action to provide public goods for the benefit of the entire community. The efficient provision of such services is essential to long-term growth, and without the government they would be inefficiently underproduced.

Some public goods are local in nature; they affect people only in a limited geographic area. Examples include police protection and urban parks. Other public goods are national, such as the defense of a country. Still other public goods are international, benefiting

Box 7-4.—Reducing the Debt Burden of Developing Countries

Heavy debt burdens have severely constrained the economies of many developing countries for well over a decade. At the end of 1995, the total external debt of developing countries was estimated at over \$2 trillion, equivalent to 150 percent of their annual exports. The debt burden varies dramatically across regions: the sub-Saharan African countries faced an average debt-to-exports ratio of 270 percent in 1995, whereas in East Asia the ratio was only 83 percent. The successful reduction of commercial bank debt combined with economic policy reforms in the first half of the 1990s has helped launch many middle-income developing countries on a path of sustainable growth. For many low-income countries, however, debt remains a barrier to growth and development.

The U.S. Government has actively pursued several multilateral and bilateral initiatives to reduce the debt burden of the poorest developing countries. In mid-December 1994 the Paris Club of creditor countries (including the United States) agreed on more-generous debt reduction terms—called “Naples terms”—which would lower the debts of heavily indebted poor countries by up to 67 percent. During the 1996 fiscal year, the United States entered into debt-reduction agreements with seven countries under Naples terms. In February 1996 the Congress authorized a pilot debt buyback and swap initiative for lower income Latin American and Caribbean countries that are actively engaged in economic reforms, particularly investment reforms. Countries must also meet certain political criteria: they must have democratic governments and not have an egregious record in the areas of human rights, narcotics, and terrorism.

The United States has taken a leadership role in developing the newest multilateral debt initiative with the World Bank, the IMF, and the Paris Club. The Heavily Indebted Poorest Countries (HIPC) debt initiative would enable heavily indebted poor countries with a strong record of policy reform to achieve sustainable debt burdens, by offering them comprehensive debt relief from all creditors, including the international financial institutions. The HIPC focuses on those economies that adopt programs of adjustment and reform supported by the IMF and World Bank, but still face an unsustainable debt situation even after the full application of current debt-relief measures. Eligibility will be determined on a case-by-case basis.

people across the globe. Four important types of international public goods are international economic cooperation, international peace and order, some forms of environmental protection, and basic scientific knowledge. In all these areas the United States can benefit itself and other countries by promoting international cooperation.

INTERNATIONAL ECONOMIC COOPERATION

All countries can benefit from economic cooperation. But as with all public goods, countries have an incentive to free-ride on the cooperative efforts of other countries, deriving satisfaction from the existence of public goods but letting others bear the costs. They also have an incentive to take actions to serve their own interests, which may turn out to be short-sighted. Despite these inherent obstacles, the United States has led the international community to many notable successes in economic cooperation. One important success has been the coordination of macroeconomic policies among the major industrial countries through the annual Group of Seven summits. All nations gain from the increased international macroeconomic stability that this coordination provides. The President has also initiated separate labor summits among the Group of Seven, to provide a forum for collective exploration of how best to promote job creation and alleviate joblessness.

The Organization for Economic Cooperation and Development has served as a catalyst for successful economic cooperation. Within the OECD the industrial countries discuss policy in a host of areas, including macroeconomic policy. Another OECD accomplishment was a 1993 agreement that established a set of international principles for shipping policy, to promote a freely competitive environment for shippers and prohibit discriminatory fees and charges based on port of origin. A Maritime Transport Committee serves as a forum for dialogue, consultation, and harmonization of OECD member policy in this area.

The International Trading System

One of the most important dimensions of international economic cooperation has been the efforts led by the United States and its partners to strengthen the international trading system. This chapter has discussed the many benefits that accrue from this process. The work of expanding and reinforcing this system is ongoing, however, and there is still much to do.

As successive GATT rounds have reduced tariffs to a small fraction of their earlier levels, an important part of the agenda for trade policy now is the reduction of nontariff barriers to trade. Nontariff barriers are more complicated than tariffs and more difficult to eliminate. Indeed, many arise out of the legitimate pursuit of domestic policy goals, yet their effect is to restrict imported

goods and services. The fact that they may serve or appear to serve legitimate domestic goals makes them often hard to remove. For example, although health and safety standards usually serve legitimate domestic purposes, they may be applied in ways that discriminate against imports. This is particularly the case when these policies are not set in a transparent and open manner.

Nontariff barriers are also more difficult to measure. They are not easily expressed by a single number like the average tariff rate. Although limited progress has been made in calculating tariff equivalents for some nontariff barriers, much room for improvement remains.

The United States and other countries have made progress in reducing nontariff barriers of various kinds. Some success has been achieved in the area of product standards, which historically have been based on the attributes of domestically produced goods. Provisions of the WTO and NAFTA require that product standards have a scientific rationale; they also promote the use of internationally recognized standards.

Another consequence of globalization is the increase in cross-border competition within industries. Trade officials are concerned that this competition be fair. Antidumping and countervailing duty laws are intended to ensure fair competition. Countervailing duties may be imposed when imported goods benefit from subsidies by a foreign government and injure a domestic industry. The duties are designed to offset the subsidies, restoring a level playing field for the injured domestic producers. Antidumping duties are intended to offset international price discrimination that causes injury to a domestic industry. Both measures are covered by WTO agreements, which authorize and set boundaries on the application of the rules.

Separate domestic laws also govern competition (antitrust) policy. When barriers between markets were high, these two sets of laws, domestic and international, could operate more or less independently. With globalization proceeding apace, and with international market barriers falling, the two increasingly overlap, yet they embody distinct criteria. Competition promotes economic efficiency, and the goal of both sets of laws should continue to be to promote competition and efficiency.

In static trade theory, under perfect competition U.S. customers may actually gain from accepting foreign subsidies, which lower the cost of imports. This gain more than outweighs the loss to U.S. producers harmed by the subsidized competition, and the winners can in theory compensate the losers. However, dynamic considerations and imperfect competition may yield a different conclusion. Government subsidies may allow foreign firms to engage in predatory behavior, permanently altering strategic dynamics in favor of foreign firms and, in the extreme, driving U.S. firms out of business. There

are questions, however, about the prevalence of circumstances in which predation is likely.

Subsidy "wars," in which governments compete for market share by offering subsidies to some of their most promising firms, may occur. Such competition results in excessive investment in the subsidized industry, to the detriment of economic efficiency and welfare. To prevent subsidy wars in shipbuilding, to take one example, the OECD countries have signed an agreement to curb subsidies to shipbuilders. The President has asked the Congress to ratify this agreement, which was slated to go into effect in 1996.

Protecting the Rules-Based System. The international trading system applies a set of rules to countries' trading behavior. One of the most important is the requirement that countries not take arbitrary measures such as raising tariffs. Other core rules include the most-favored-nation principle, in which countries agree generally to extend the same tariff rates to all other countries, and national treatment, which requires countries to give foreign-based companies treatment equivalent to that received by domestic companies.

Economic dislocation may result from trade liberalization, and the Federal Government is committed to helping those adversely affected, for example through trade adjustment assistance. Safeguard provisions in WTO agreements permit a variety of temporary measures, including increased duties, to allow an industry injured by imports to adjust to the increased competition.

WTO rules permit the use of these measures, as well as countervailing duties and antidumping measures, under carefully circumscribed conditions. As traditional tariffs decline, countries are increasingly resorting to such remedies to shield their domestic industries from import competition. In certain instances it has become clear that the rules are being improperly interpreted or applied, or it is simply difficult to discern how proceedings are being conducted or to understand the basis for decisions. U.S. firms are frequently the targets. This is not surprising, given the role of the United States in the international trading system and the competitiveness of U.S. firms, which often operate with low profit margins. The United States has had to monitor closely the implementation of foreign trade remedy laws in order to discourage, identify, and correct such irregularities. The United States is committed to the active use of WTO dispute settlement provisions to address such irregularities and to ensure the fairest possible treatment for exporters.

Regional Trading Agreements. Free trade is an international public good from which all nations benefit. Regional trading arrangements can serve as a bridge to broader, even worldwide agreements—true global public goods. Toward the end of the 1980s the proliferation of regional trading agreements picked up speed. These

arrangements have always had both costs and benefits. The main benefit is that they create trade by reducing barriers between member countries. The cost is that they can also divert trade from more efficient producers outside the region to less efficient producers within the region. WTO rules permitting regional trade agreements are designed to make it more likely that the trade creation effects dominate. For the North American Free Trade Area, the benefits of trade creation are likely to have outweighed the costs of trade diversion, because its members have relatively low trade barriers for most products from outside the region and because members are free to lower their external tariffs individually.

Regional trading arrangements have also proved to be powerful tools for liberalizing trade more widely, and thus increasing economic efficiency. The President has led efforts within APEC and the FTAA talks to provide fora for neighboring countries with common interests to negotiate pathbreaking arrangements. These arrangements can then serve as a pattern on which multilateral efforts within the WTO can build. For example, the United States-Canada Free Trade Agreement contained a chapter on services that became a model for the Uruguay Round negotiation on services. When regional trade arrangements are structured on this model, the danger of their succumbing to the temptation of trade diversion is diminished.

Cooperation in Competition Policy

Noncompetitive conditions in global markets can interfere with the efficient allocation of resources and harm consumers and producers throughout the world. Global cartels restrict output and increase prices of both consumer goods and producer inputs. Anti-competitive exclusionary or predatory practices can insulate firms from competition and exclude more efficient or innovative firms from the market. Such practices reduce economic welfare and retard economic growth.

Noncompetitive conditions in a domestic market can also serve as a barrier to trade. An example is the \$4.5 billion Japanese market for flat glass. Three large domestic producers, with separate, exclusive distribution systems, have dominated this market. It can be extremely difficult for new producers, foreign or domestic, to enter such a market. Under a 1995 agreement with the United States, the Japanese government and the Japanese flat glass industry agreed to a set of steps to open this market to greater competition.

International cooperation in competition policy can help prevent or mitigate the harm resulting from anticompetitive practices. Such cooperation can take three basic forms. First, authorities can reduce unnecessary regulation (which can often act as a market barrier) and eliminate legal barriers to competition by both domestic

and foreign firms. Second, they can promulgate and vigorously enforce appropriate competition policies, designed to prevent such conduct as price fixing, carving up of markets, and anticompetitive mergers. Third, they can cooperate in bilateral and multilateral efforts to investigate and share information regarding potential violations, and to enforce their competition policies.

International Capital Markets and Rules for Investment

We have already discussed the benefits to developing countries from receiving foreign investment, as well as the benefits to investor countries, including the United States, from investing in developing countries, and from the trade that accompanies foreign direct investment in particular. Impediments to FDI therefore may act as a nontariff barrier, making it more difficult to export into a market. This is a complicated issue: countries often are genuinely sensitive to the perceived loss of economic sovereignty associated with inward foreign investment, yet such concerns are often difficult to distinguish from efforts to protect domestic companies from competition. In that sense, countries engage in negative-sum behavior when they restrict foreign investment without a clear rationale for doing so, such as national security. These restrictions harm both their domestic consumers and foreign producers.

The United States has engaged in several efforts to improve the international climate for direct investment. The United States has a vigorous program to negotiate bilateral investment treaties with developing and transition economies, to ensure that U.S. firms are able to invest abroad on the same liberal terms under which foreign companies may invest here. To date, the United States has signed 38 such treaties, of which 26 are in force. Several more are pending ratification, and negotiations with other countries are ongoing. NAFTA included an agreement that substantially lowered barriers to cross-border investment and established procedures for settling investment disputes. The United States has been engaged in extending this work through the negotiation of the Multilateral Agreement on Investment (MAI) under the aegis of the OECD. This Administration helped launch the MAI negotiations in May 1995, and they are scheduled to be completed in 1997. The United States' objective in these talks is an agreement that will substantially liberalize foreign investment by establishing clear legal standards on expropriation, providing access to binding international arbitration of disputes (as in NAFTA), and allowing unrestricted investment-related transfers across borders. It is envisioned that accession to the MAI will be open to both members and nonmembers of the OECD, thus making possible an extension of MAI rules to developing and transition economies.

Funds also flow across borders in the form of securities and bank loans. Although these flows may be less stable than direct invest-

ment flows, which cannot readily be withdrawn, they can provide an important source of funding. The Group of Ten participate in the General Arrangements to Borrow, which is prepared to make roughly \$24 billion available to the IMF in time of financial emergency that might pose systemic risks. Recently the Group of Ten and some other countries agreed to double the amount of emergency funding by creating an additional mechanism, the New Arrangements to Borrow. Contributors will include some of the fast-growing developing countries.

Ad hoc international coordination has also facilitated such actions as the liquidity support provided to Mexico during its early-1995 financial crisis, discussed in last year's *Report*. This U.S.-led international support helped Mexico implement the policies necessary to avert default, regain access to international capital markets, and restore the basis for sustainable growth. Confidence has now returned, and Mexico has repaid its borrowings from the United States ahead of schedule. The temporary support extended to Mexico also helped protect vital U.S. interests: American exports and jobs, the security of our common border, and the stability of other emerging market economies.

The United States worked at the June 1995 Group of Seven summit in Halifax to reduce the likelihood of similar crises in the future. Initiatives launched at Halifax included the New Arrangements to Borrow and the IMF's Special Data Dissemination Standard, which aims to increase the quality and availability of economic and financial data for emerging markets and other countries. This and other initiatives, including the IMF's capital markets surveillance, help promote a transparent and rules-based international financial system, benefiting both providers and users of capital.

In banking, the Bank for International Settlements, which promotes the cooperation of central banks and acts as agent for international financial settlements, has recently enlarged its membership to include the central banks of key emerging markets. The BIS is also the secretariat for the Basel Committee on Banking Supervision, the source of many agreements aimed at strengthening the supervision of internationally active banks. The committee is made up of representatives from 12 industrialized countries (Belgium, Canada, France, Germany, Italy, Japan, Luxembourg, the Netherlands, Sweden, Switzerland, the United Kingdom, and the United States), but in recent years it has extended its outreach to other countries. It is currently working with a group of developing and transition economies to formulate guidelines for effective bank supervision.

International Development and Humanitarian Assistance

The greatest contribution that the industrial countries can make to growth in developing and transition economies is to preserve

these countries' access to international markets for trade and investment. Despite the dramatic increase in private investment flows, however, many developing countries, especially the poorest, still require assistance from the high-income countries and international organizations. It is important that these programs continue if the poorest countries, especially in Africa, are to persevere in the political and economic reforms that many have undertaken in recent years. These countries particularly benefit from aid that encourages their development of the necessary human resources and institutions in which a growing economy can take root. The development of such an institutional base helps ensure that aid flows are used effectively.

As growth in the poorest countries begins to accelerate, the United States and other donor countries will benefit from new and expanding export markets and investment opportunities, as well as from greater international political stability, because it means that countries have an increasing stake in preserving the international rules-based system. Effective assistance depends on international cooperation, both through the coordination of bilateral aid within the DAC and elsewhere, and through multilateral agencies. One aspect of this cooperation has been negotiated limits on the tying of aid to the import of products and services from donor countries (Box 7-5).

Another important aspect of assistance is humanitarian assistance. Human suffering in poor countries due to war, natural disaster, or famine concerns us all; these are circumstances in which countries can be most effective if they coordinate their efforts. Much of this coordination takes place through the United Nations; thus the United States and other countries benefit from continuing to support this organization. The multilateral development banks also provide humanitarian assistance. Continued support for development assistance can also serve as preventive medicine, to forestall the social, political, and economic deterioration that creates these crises in the first place.

INTERNATIONAL PEACE AND ORDER

All the international activities discussed in this chapter presuppose an international environment in which nations act peacefully and respect international order. Throughout the 20th century the United States has led world efforts to create such an environment. Besides military and diplomatic efforts, the United States has also employed economic means to achieve peace and order. Although economic sanctions may be viewed as a somewhat blunt instrument, they are one available tool to use against countries that threaten international stability, particularly when the situation

Box 7-5.—Tied-Aid Agreements

Tied aid is officially supported concessional financing linked to procurement in the donor country. It distorts trade when used to win contracts for capital goods exports rather than to provide true aid. Tied aid can misallocate resources from more efficient to less efficient producers whose governments offer such financing.

When used for export promotion, tied aid can also distort aid flows by directing scarce resources away from high-priority development projects to projects of interest to industries in donor countries. Traditionally, tied aid has directed donor support toward, for example, large electric power generation and telecommunications projects and away from social sector projects. This skewing of resource allocation in developing countries increases the capital intensity of development and burdens the recipient country with high maintenance expenditures in the future.

In response to complaints from exporters that they often faced tied-aid competition for capital goods projects, the United States negotiated rules in the OECD to govern tied-aid programs. The rules, dubbed the Helsinki Package, became effective in February 1992. They apply to nonconcessional financing and stipulate that higher income developing countries (those with incomes per capita above \$3,035) are ineligible for all tied aid. The least developed countries remain eligible for all types of financing because of their desperate shortage of capital. For countries in between, such as China, Indonesia, and India, tied aid is prohibited for projects that can generate cash flows sufficient to repay debt on commercial terms.

It is hoped that the Helsinki rules will reduce distortions and maximize the total resources—aid and commercial financing—available to promote economic development. Last year the OECD issued guidelines for the use of tied aid, to draw the line between projects that should receive export credits on commercial terms and those that may receive tied aid. Since 1992, under the Helsinki Package, annual tied aid has declined from \$10 billion to about \$4 billion. The tied aid that remains has been shifted away from major capital projects capable of supporting financing on commercial terms to legitimate aid projects such as water and sewerage, and health and other social services.

calls for something stronger than diplomatic protest, but less strong than military engagement.

Sanctions come in a variety of forms. Sanctioning countries can restrict exports, impede imports, freeze assets, prohibit investments, restrict financing, withdraw government aid, or ban commercial airline flights. Throughout the 20th century, sanctions have been used primarily to restrict exports to and investment in a targeted nation. Import controls are rare. Examples include the ban on oil imported from Iran in response to the 1979–81 hostage crisis and from Libya in response to terrorist threats, a 46-year ban on all imports from North Korea, and a recent prohibition on oil imports from Iraq. Formerly employed predominantly to complement war efforts or destabilize hostile regimes, sanctions have been used since the 1960s to express condemnation of human rights abuses, force compliance with international treaties (such as nuclear nonproliferation treaties), promote democracy, and secure compensation for expropriated property.

As with any policy tool, the rational evaluation of sanctions involves a weighing of the costs and benefits. This can be difficult; whereas the costs of sanctions can often be expressed in economic terms (e.g., reduced output and growth), the aims of sanctions are frequently noneconomic. Sometimes sanctions may have mainly symbolic value, as part of the imposer's efforts to demonstrate resolve and commitment.

Certain characteristics increase the likelihood that sanctions will contribute to the desired outcome. As one would expect, sanctions that inflict higher costs on the target nation tend to be more effective. The costs, to both the sanctioner and the target, depend among other things on the type of sanction employed, the extent of trade and financial linkages, the relative size of the two nations, and the ease with which the target product or transaction can be substituted.

Like other public goods, sanctions are generally more effective when more nations participate in imposing them. Multilateral sanctions usually impose greater costs than unilateral sanctions; the ability of target nations to access alternative suppliers and providers of aid decreases as the number of sanctioning countries increases. Multilateral sanctions may also reduce the likelihood of long-term costs on those who impose sanctions. Multilateral sanctions on South Africa contributed to the decision to dismantle apartheid. United Nations-sponsored sanctions against Serbia in connection with the recent Bosnian conflict contributed to a severe contraction of Serbia's economy and pressured Belgrade to negotiate a peace agreement. The success of these sanctions was due in part to the coordinated action of the international community, Ser-

bia's high dependence on foreign trade, and the narrow production base of the Serbian economy.

ENVIRONMENTAL ISSUES

Many environmental issues can be viewed through the analytic lenses of public goods and externalities. (Externalities occur when actions taken by one person have unintended and uncompensated positive or negative effects on others.) Clean air, for example, is nonrival, in that anyone can breathe it without impairing the ability of others to breathe; it is also nonexcludable, in that it is next to impossible to charge people for the right to breathe fresh air. As we have seen, some environmental issues are local or national in scope, whereas others are international or global and can therefore benefit from international coordination. We have already touched on some of the environmental challenges facing the United States as they relate to aid to developing countries. International coordination among all nations is important in such areas as global warming and preservation of the ozone layer. U.S. leadership is needed if such coordination is to take place.

All nations benefit from efforts to reduce emissions of greenhouse gases that may lead to global warming. However, in the absence of an international agreement on emissions, every nation has an economic incentive to avoid taking action on its own. That is why the United States is working toward an effective agreement entailing global reductions of greenhouse emissions. The goal of these negotiations is the signing of an international agreement in Kyoto in December 1997 to limit these emissions.

Another example is the overharvesting of ocean fisheries. Each user ignores the marginal cost of his or her use on the stock of fish required for regeneration. All potential fishing countries benefit from the efforts of all other parties to curtail fishing, but each has an incentive to deviate and overfish now. At the November 1996 annual meeting of the International Commission for the Conservation of Atlantic Tunas, the United States took a leading role in establishing an international fishery management organization to enforce fishing quotas in order to protect a declining stock of bluefin tuna. The United States was also one of the first nations to ratify the 1995 United Nations Agreement on Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, which promotes regional commissions to coordinate the management of ocean fishing and provides for binding dispute settlement in accordance with the Law of the Sea.

BASIC RESEARCH

Knowledge may be the purest of public goods, and the most important for economic growth and development. All nations benefit

from increases in scientific knowledge that form the basis for technological advances. As with other public goods, however, there is a temptation to free-ride. Some countries have specialized in adapting basic research done in other countries into profitable business opportunities. If the quest for greater basic knowledge and improved technology is to continue, it is important that all countries contribute to the support of basic research. Free-riding on other's efforts can also be minimized if owners of intellectual property are adequately compensated.

International research cooperation is a complex issue. The lines between basic and applied research are increasingly blurred. Tension often arises between the goal of increasing the competitiveness of domestic companies, by channeling research funding to them, and the goal of increasing the world's stock of scientific and technological knowledge, from which we all gain.

CONCLUSION

Enormous changes are taking place in the international economic environment, made possible by U.S. international leadership throughout the postwar era. The United States has led the development of a stable international economic system based on a clear set of rules. These rules have made possible our Nation's preeminence in exports, and thus have served our own interest, but they allow other countries to benefit from exports, too. And that, as we have seen, serves our interest as well. Rules also encourage a more stable world economy, avoiding the calamities of the 1930s and 1940s.

With the emergence of developing and transition economies onto the stage long dominated by the United States and the other industrial democracies, the need is great to ensure that the international system welcomes these new participants and allows both them and the established powers to derive mutual benefit from the system. The new participants themselves must continue to liberalize their trade regimes and their domestic markets, so that all countries can realize the gains from trade. Efforts should also continue to spread prosperity to those countries that have yet to see sustained growth, in part through assistance in developing the necessary economic institutions and human resources.

The United States must also continue to lead the ongoing effort to improve the international economic system. The international public goods of economic cooperation, peace and order, environmental protection, and basic research promise great benefits if countries work together, but such cooperation requires strong leadership.

To exercise that leadership role, we must understand the lessons of the changes that are sweeping the globe. The collapse of central

planning tells us of the dangers of overreaching by governments, and reminds us of the key role of Western governments in ensuring a rules-based domestic and international marketplace. The rise of the East Asian economies and the revival of Latin America teach us about the fundamentals of economic growth: saving, education, technological progress, stability, openness to international trade, and equity. We must work to maintain these conditions at home and assist other countries in implementing them abroad. Finally, increased globalization reminds us of our interdependence with other nations and the benefits that we all receive from our economic interactions.

If the United States continues to exercise economic leadership in the world, maintaining the international rules-based system that we, above all others, helped develop, we will contribute to our own prosperity as well as to that of the rest of the world.