THE ANNUAL REPORT
OF THE
COUNCIL OF ECONOMIC ADVISERS

LETTER OF TRANSMITTAL

COUNCIL OF ECONOMIC ADVISERS,
Washington, D.C., February 4, 1994.

MR. PRESIDENT:

The Council of Economic Advisers herewith submits its 1993 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,

Laura D'Andrea Tyson
Chair

Alan S. Blinder
Member

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CONTENTS

LIST OF TABLES

List of Charts

List of Charts—Continued

List of Boxes

LIST OF BOXES—CONTINUED

CHAPTER 1

A Strategy for Growth and Change

ON ELECTION DAY 1992, the American economy faced a number of daunting challenges—both short term and long term. The principal short-term problem was that recovery from the 1990–91 recession had been disappointing in almost all respects. Real gross domestic product (GDP) had grown at only a 2.2-percent annual rate from the first quarter of 1991 through the third quarter of 1992, less than half the pace of a typical recovery. Payroll employment had actually fallen during the first year of recovery and had risen a scant 0.4 percent from March 1991 to October 1992. Furthermore, the seesaw pattern that had plagued the recovery raised fears that the weak economy might relapse into recession.

But America's long-run problems ran deeper and their causes were less well understood. While U.S. workers and firms remained the world's most productive, our productivity *growth* had been sluggish for almost two decades. In consequence, real hourly compensation and GDP per capita had advanced extremely slowly, and real median family income had barely increased at all. In addition, inequality had been rising for more than a decade, leaving the American economy with the most unequal distribution of income in its postwar history. The combination of stagnant average incomes and widening dispersion meant that many middle-class and low-income families had actually suffered declines in their real incomes.

Finally, the Federal budget deficit was large and rising, the national debt had been growing faster than GDP for about a decade, and huge amounts of foreign borrowing had transformed the United States from the world's biggest creditor nation into its biggest debtor.

National economic policy was the major cause of some of our economic difficulties, such as the Federal budget deficit, but only a contributing factor to others, such as growing income inequality. Although the economic policy agenda of the new Administration cannot cure all of these problems overnight, steps we have taken have already contributed to noticeable progress on several fronts. The recovery has solidified. Job growth has resumed. Fiscal policies that will reduce the Federal deficit substantially have been put in place. Although much more needs to be done, taxes have been made more progressive and starts have been made on education and labor market policies that will address the inequality problem.

And, perhaps most fundamentally of all, the Administration has embarked on a comprehensive investment agenda designed to raise productivity, which is the wellspring of higher living standards in the long run.

This chapter explains the Administration's economic strategy and examines some of the specific policy initiatives that have been undertaken to pursue that strategy. The chapters that follow provide much more detail.

THE LEGACY OF THE RECENT PAST

The policies of any new Administration are dictated in part by the challenges it faces and the problems it inherits from the past. Because America's current problems are both short run and long run in nature, the solutions must be, too.

INADEQUATE RECOVERY FROM RECESSION

Short-run cyclical problems are, almost by definition, transitory. But when the American macroeconomy performs poorly, that one fact seems to overwhelm all others and crowd out consideration of longer run problems. In fact, the U.S. economy has been operating well below its productive capacity for years now. From 1989 through 1992, real GDP grew only 1.5 percent per year, and the civilian unemployment rate (by what was the standard measure until this year—Box 1–1) has remained above 6 percent since November 1990. Under such circumstances, public concerns with economic policy tend to be summarized in a single word: jobs.

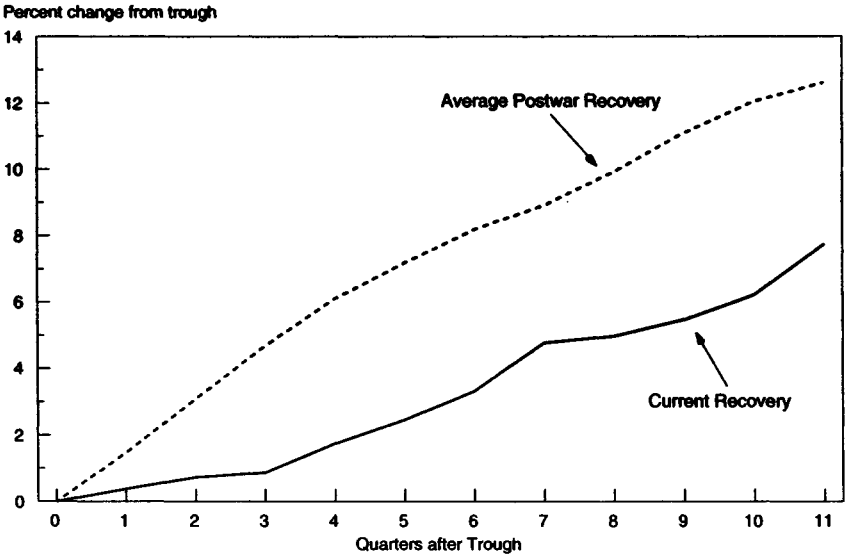
Box 1–1.—The New Measure of Unemployment

Beginning with its February 4 announcement of the January 1994 unemployment rate, the Bureau of Labor Statistics has changed its principal measure of joblessness. The changes, reflecting technical improvements in the household survey used to estimate unemployment (Chapter 3 contains more details), are expected to increase the measured unemployment rate by about 0.5 to 0.6 percentage point, although the precise amount is impossible to know. All unemployment numbers used in this *Report* are measured on the old, traditional basis.

As Chart 1–1 shows, the recovery that began in the second quarter of 1991 has been exceptionally slow by historical standards—so slow, in fact, that the unemployment rate was still rising more than a year into the "recovery." Only in mid-1993 did unemployment fall back to its rate at the recession trough. Growth has been not only slow but extremely uneven, proceeding in fits and starts

which have left consumers and business people wondering how long the recovery would last.

Chart 1-1 **Growth of Real GDP in Recoveries**
Real GDP in the current recovery has grown at only about half the rate of the typical post-World War II recovery.



Note: "Average" includes all recoveries from 1954 to 1982, except 1980. The trough quarter for the current recovery is first quarter 1991.
Sources: Department of Commerce and National Bureau of Economic Research.

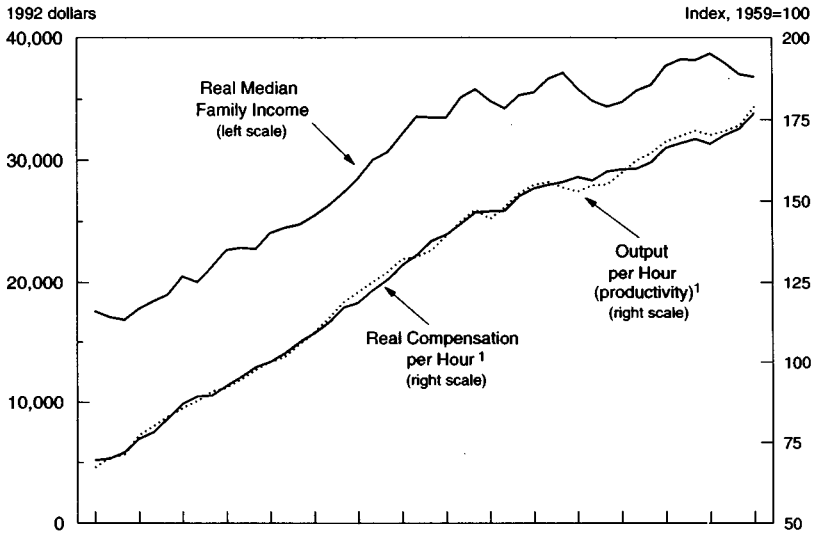
Thus the Administration's first task was to put the recovery on a sound footing—not to produce a short-run burst of activity, but to lay the groundwork for a sustained expansion that would restore confidence and encourage firms to resume hiring. In large measure this task was accomplished in 1993. (Chapter 2 provides more details.) Sluggish economic growth in the first half of the year gave way to solid growth in the second half. More important, job growth began in earnest: Employers added about 2 million jobs to nonfarm payrolls between December 1992 and December 1993. As 1994 began, the outlook for sustained expansion looked brighter than it had in a long time.

INADEQUATE PRODUCTIVITY GROWTH

The economy's longer run problems will not be dealt with so quickly. They require sustained attention over a long period of time. Primary among them is the troubling fact that growth in productivity has been anemic for about two decades.

Chart 1–2 shows the remarkable slowdown in productivity growth that occurred around 1973—from an annual average of 3.1 percent in the 1947–73 period to just 1.0 percent since 1973. In part, this slowdown is exaggerated by the fact that the first few postwar decades were aberrant: There was much catching up to do after the Great Depression and the Second World War. But America's long-run average productivity growth rate over the century leading up to 1973 was slightly above 2 percent per year; since 1973 it has averaged about 1 percent. At 2-percent growth, productivity doubles in 35 years; at 1-percent growth, doubling takes 70 years. Even seemingly modest changes in productivity can have dramatic effects on living standards in the long run. Thus the Nation has much at stake in improving its productivity growth rate.

Chart 1-2 **Real Income, Productivity, and Compensation**
Productivity, real income, and real hourly compensation all slowed markedly around 1973.



[1] Business sector. Compensation deflated by implicit price deflator.
Sources: Department of Commerce and Department of Labor.

Labor productivity—output per hour of work—may seem an abstract concept, of more interest to analysts than to working men and women. But without productivity growth, higher real wages would lead directly to lower employment as profit-oriented firms reacted to higher labor costs by trimming their work forces. It is only steady productivity gains that enable the economy to generate more jobs and rising real wages at the same time. Chart 1–2 shows

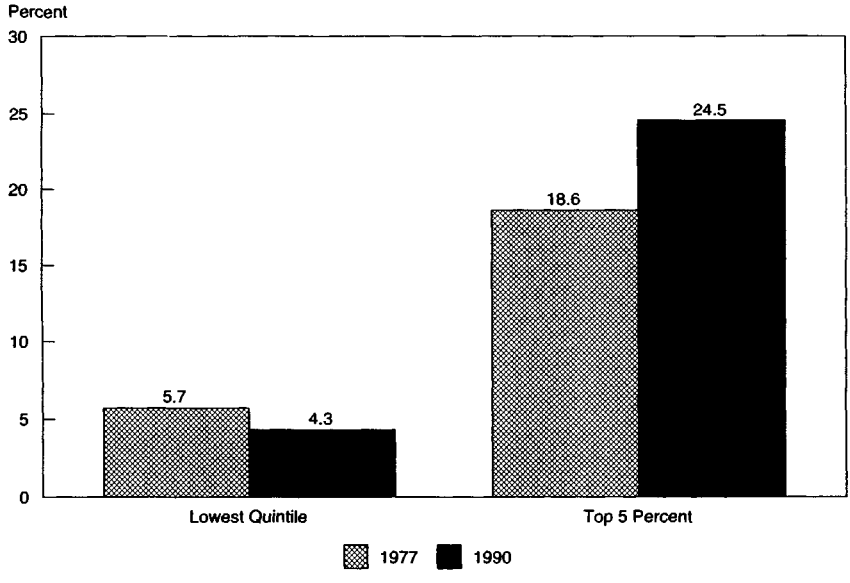
that growth in both real compensation per hour and real median family income slowed markedly at just about the time that productivity growth slowed. This coincidence in time is, of course, no coincidence at all. Productivity growth is the ultimate source of growing real wages and family incomes.

Nothing is more important to the long-run well-being of the U.S. economy than accelerating productivity growth. Most of the Administration's economic strategy is therefore devoted to that end.

WORSENING INCOME INEQUALITY

Starting some time in the late 1970s, income inequalities widened alarmingly in America. Chart 1–3 shows that the share of the Nation's income received by the richest 5 percent of American families rose from 18.6 percent in 1977 to 24.5 percent in 1990, while the share of the poorest 20 percent fell from 5.7 percent to 4.3 percent. Part of this change was due to the cuts in taxes and social spending of the early 1980s, the net benefits of which were heavily skewed toward the rich. But there was a much more powerful force at work, one not attributable to fiscal policy: The distribution of *wage rates* grew substantially more unequal. In real terms, wages at the bottom of the distribution fell while wages at the top rose.

Chart 1-3 **Shares of Total After-Tax Income by Income Category**
The richest 5 percent of Americans saw their share of total income rise sharply in the 1980s, while the poorest 20 percent saw their share decline.



Source: Congressional Budget Office.

The forces underlying this widening of the wage distribution are not well understood. (More details are contained in Chapter 3.) But the facts are stark. Between 1979 and 1990, the real median income of males with 4 years of college fell about 1 percent, but that of males with only 4 years of high school fell a stunning 21 percent, and high school dropouts fared even worse. A similar pattern emerges almost any way one slices the data: Wages near the top of the distribution rose faster than wages near the bottom. Salaries of chief executive officers rose rapidly while the minimum wage fell in real terms. Wages of skilled workers rose faster than those of the unskilled. Wages of experienced workers grew faster than entry-level wages.

The widening dispersion of wages accounts for most of the squeeze on the middle class, because the middle 60 percent of the income distribution derives about three-quarters of its income from wages and salaries. And these people do not bring home the highest wages, but those nearer the middle. When middle-class wages stagnate, middle-class family incomes do, too. That is precisely what happened in the 1980s.

In sum, for whatever reasons, in the late 1970s our market economy began to dish out more-handsome rewards to the well-off and stingier ones to the middle class. Government policies compounded the problem by weakening the social safety net, lowering the tax burdens of the wealthy, and driving up real interest rates. In concert, the market and the government produced the greatest disequalization of incomes since at least before World War II.

This Administration sees the combination of stagnating average incomes and rising inequality as a threat to the social fabric that has long bound Americans together and made ours a society with minimal class distinctions. Although the underlying forces of the market are vastly more powerful than anything the government can do, the right kinds of policies can make a difference. For example, changes in Federal tax policy have already shifted the burden of taxation away from the working poor and toward the well-to-do. And several initiatives in the human investment arena, described later in this chapter and in Chapter 3, should help mitigate rising wage inequality.

LARGE DEFICITS, MOUNTING DEBT

Of all the Nation's economic problems, the one most directly traceable to government policy is the large Federal budget deficit. Although the Federal budget has been in deficit almost every year of the postwar period, until the 1980s these deficits were small enough that the ratio of public debt to GDP was stable or falling. In fact, the structural budget (that is, the one that would result if the economy were at a high level of employment) after adjustment

for inflation was on average roughly balanced for decades (Table 1–1). This approximate balance was not achieved by any formal, legal requirement, but rather through an informal, unstated political consensus.

TABLE 1–1.—*Structural Budget Deficit as Percent of GDP*

Fiscal years	Adjusted deficit as percent of GDP[1]
1959–1982	–0.1
1983–1993	1.9
1994–1998 (forecast)	.8

[1] Adjusted deficit is unified structural budget deficit corrected for depreciation of the value of Federal debt due to inflation.

Sources: Office of Management and Budget, Congressional Budget Office, and Council of Economic Advisers.

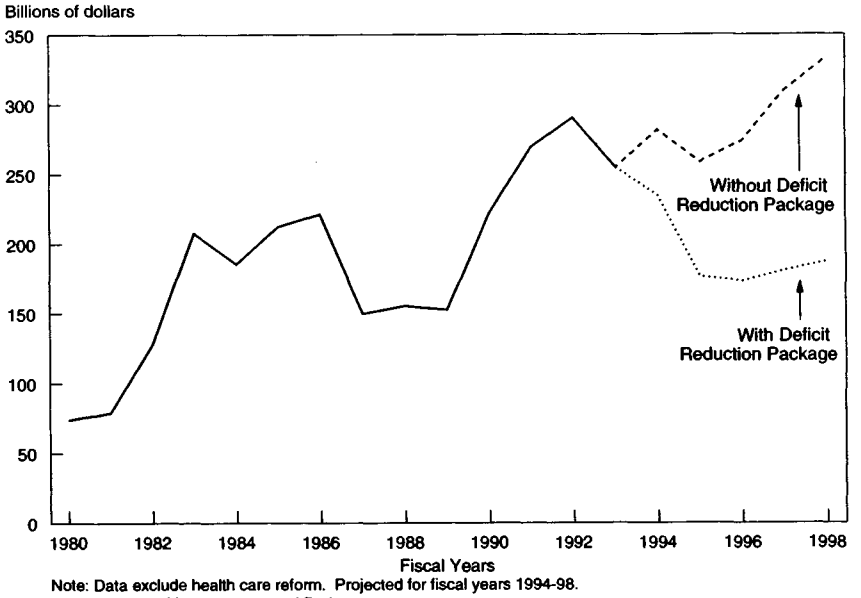
The budget picture changed dramatically with the tax cuts of the early 1980s, and the structural, inflation-adjusted budget began to display chronic, large deficits for the first time. The deficit in fiscal 1992, the last year before the election of President Clinton, was a whopping $290 billion in the unified budget and $131 billion on a structural, inflation-adjusted basis. Worse yet, both the deficit and the debt-GDP ratio were expected to rise further (Charts 1–4a and 1–4b).

Deficits of this magnitude—around 5 percent of GDP—would have been far less worrisome if American households were saving enough to cover both the government budget deficit and the needs of business to finance investment. But, in fact, American household saving rates not only are among the lowest in the world, but actually fell in the 1980s. So for both of these reasons—declining household saving and rising budget deficits—*national* saving as a share of GDP dropped sharply in the 1980s.

Casual discussions often equate national saving with domestic investment, but the two can differ in an open economy (Box 1–2). And in the United States of the 1980s, they differed dramatically. While national saving was falling as a share of GDP, the share of domestic investment, although low by international standards, was roughly constant. To plug the gap between saving and investment, the United States had to import massive amounts of foreign capital. In consequence, our current account balance went from a small surplus to a large deficit in the 1980s.

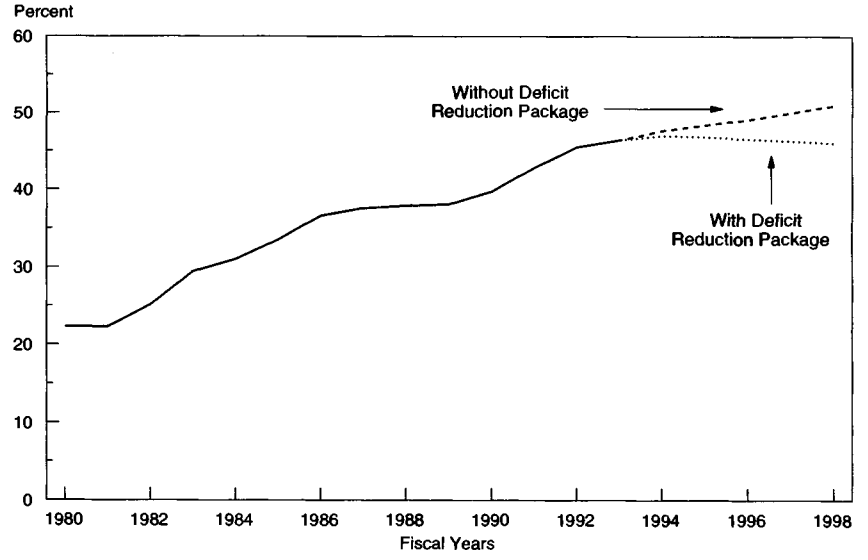
All this foreign capital had its positive side: By limiting the rise of real U.S. interest rates, it partly shielded investment from the consequences of huge Federal deficits. But it left the United States the greatest debtor nation in the world. Even more disturbing, all this borrowing from abroad went to *maintaining* the Nation's comparatively meager investment rate, not to increasing it.

Chart 1-4a **Federal Budget Deficits With and Without 1993 Deficit Reduction Package**
Budget deficits will now reverse course. Deficits would have kept rising without the reduction package.



Note: Data exclude health care reform. Projected for fiscal years 1994-98.
Source: Office of Management and Budget.

Chart 1-4b **Net Federal Debt as Percent of GDP**
Federal indebtedness as a percent of GDP is expected to plateau after fiscal 1994 under OBRA93, instead of rising as estimated without deficit reduction.



Note: Net federal debt defined as debt held by the public less debt held by the Federal Reserve. Data exclude health care reform. Projected for fiscal years 1994-98.
Sources: Council of Economic Advisers and Office of Management and Budget.

Box 1-2.—Saving, Investment, and Current Account Deficits

Private saving, whether generated by households or by businesses, can be used for one of three purposes: to finance domestic private investment, to purchase debt issued by the government, or to purchase foreign assets. If private saving is insufficient to cover the sum of the first two uses—private investment and the combined deficit of all levels of government—we must borrow the difference from abroad. Such a shortage of saving has characterized the United States for about a decade now.

When Americans borrow from foreigners, we run a surplus in our international *capital account*. But, since the capital account and the current account must balance under floating exchange rates, the mirror image of this capital account surplus is an equally large *current account deficit*. Thus, a country that saves less than it invests and runs a large budget deficit is bound to have a large current account deficit. Indeed, chronic, large current account deficits date from precisely the time that the United States started running huge fiscal deficits. Between 1981 and 1984 the overall government budget deficit rose from 1.0 percent of GDP to 2.9 percent. During those same years the current account balance went from a surplus of 0.2 percent of GDP to a deficit of 2.6 percent of GDP.

The legacy of foreign debt was not the only cost of our addiction to foreign borrowing. To attract the needed capital to American shores, the United States had to offer interest rates higher than those prevailing in the other leading industrialized countries. This gap between U.S. and foreign interest rates, in turn, led to a sharp appreciation of the dollar, as foreign investors demanded more dollar-denominated assets. The sky-high dollar made life exceedingly pleasant for American tourists in Europe in the mid-1980s. But it handicapped portions of American industry by making many U.S. manufactured goods uncompetitive on world markets. It has taken years for our manufacturing sector to recover from this shock.

INADEQUATE PUBLIC INVESTMENT

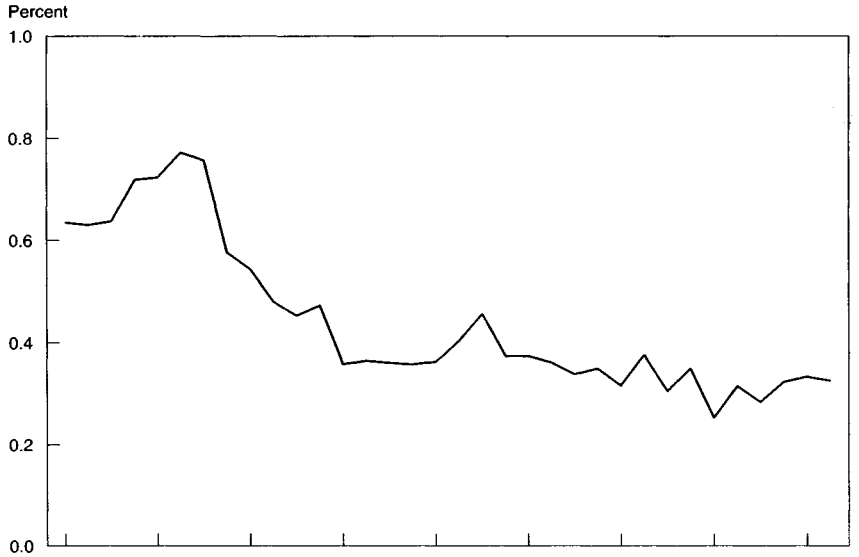
The budget deficit and the trade deficit were major national concerns in the 1980s and on into the 1990s. But there was also a third deficit: a shortage of funds for public investment in critical national needs like education and training, transportation facilities, and environmental infrastructure.

The share of Federal civilian fixed investment in GDP is only about half what it was in the 1960s (Chart 1–5). Furthermore, the share of the Federal budget devoted to *all* types of public invest-

151-444 O - 94 - 2

ment—including education and research and development, as well as civilian and military fixed investment—fell from 35 percent in 1963 to 17 percent in 1992. As the 1990s started, more and more Americans were becoming painfully aware that our public investment was not what it should be.

Chart 1-5 **Federal Civilian Fixed Investment as Percent of GDP**
Relative to GDP, the Federal government invested little more than half as much in nonmilitary infrastructure in the 1980s as it had in the 1960s.



Note: Includes Federal nonmilitary, nonresidential, fixed capital investment.
Source: Department of Commerce.

PROSPERITY AND GROWTH: THE BENEFITS OF ECONOMIC CHANGE

The economic strategy of this Administration follows logically from this legacy. We must secure the expansion and spur long-term economic growth. We must reverse the trend toward rising inequality. We must reduce Federal borrowing and shrink the trade deficit. We must invest more in both private and public capital. And we must bolster our human resources.

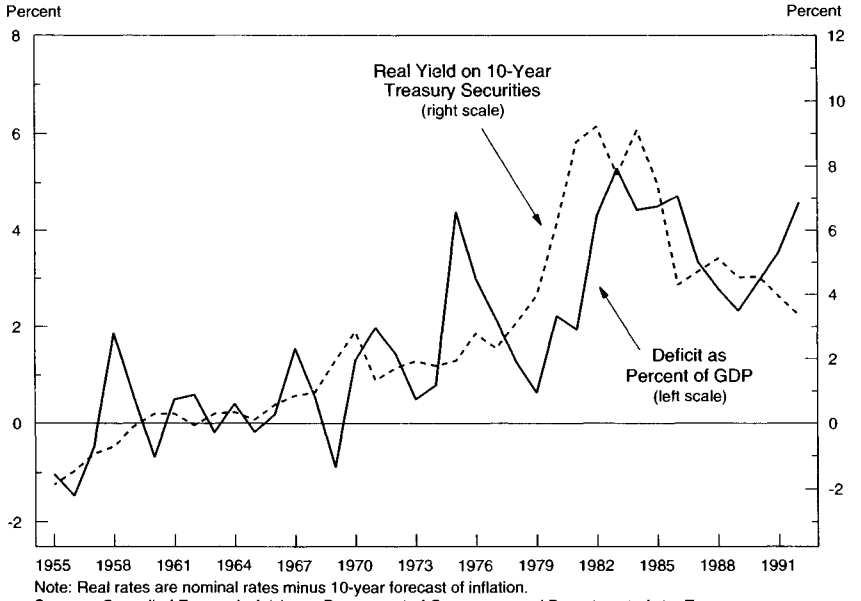
While the Administration's economic policy agenda is broad and varied, it can be summarized in a single word: *investment*—investment in private capital, investment in people, investment in public infrastructure, investment in technology, and investment in environmental preservation. Six major themes stand out and define the essence of the Administration's economic strategy: deficit reduction;

investments in human capital; investments in public infrastructure; investments in technology; expanding international trade; and health care reform.

REDUCING THE DEFICIT TO PROMOTE CAPITAL FORMATION

The legacy of large and growing Federal budget deficits required that first attention be devoted to their reduction, so as to free up resources for expansion of private physical capital—the machines, factories, and offices that make American labor more productive. For too long, Federal budget deficits have been gobbling up an inordinate share of the Nation's saving, thereby keeping real interest rates too high (Chart 1–6) and leaving the Nation with a Hobson's choice between lower domestic investment and higher foreign borrowing. Reducing the budget deficit was a necessary part of clearing away the financial underbrush that had grown up around us in the 1980s—so that economic growth could be put on a sounder and more sustained footing.

Chart 1-6 **Federal Deficits and Real Interest Rates**
Interest rates adjusted for inflation rose and fell sharply in the 1980s, in tandem with the sharp increase and subsequent decrease in the Federal budget deficit.



Note: Real rates are nominal rates minus 10-year forecast of inflation.
Sources: Council of Economic Advisers, Department of Commerce, and Department of the Treasury.

Deficit reduction is difficult and painful. But the President concluded that the Nation could not remain on the path bequeathed

us by the previous Administration—a path on which the national debt was growing faster than GDP and deficits were threatening to explode (Chart 1–4). So he gave first priority to putting the Nation's fiscal house back in order.

Policy changes in the President's deficit reduction package will gradually reduce the Federal deficit after 5 years by 1¾ percent of GDP. By fiscal 1998, the last year of the program, the deficit is expected to be $146 billion below what it otherwise would have been: falling from $333 billion to $187 billion (Table 1–2). The ratio of debt to GDP at the end of fiscal 1998 falls from a projected 51 percent without the deficit reduction program to 46 percent with it.

TABLE 1–2.—*Effect of OBRA93 on Fiscal 1998 Budget*
[Billions of dollars]

Item	Before OBRA93	After OBRA93	Change
Outlays	1,825.5	1,738.2	–87.3
Discretionary	584.3	548.1	–36.2
Mandatory	970.6	945.0	–25.6
Debt service	270.5	245.0	–25.5
Revenue	1,492.2	1,550.8	58.6
Deficit	333.2	187.4	–145.8

Note.—Data exclude health reform.
Source: Office of Management and Budget.

The Omnibus Budget Reconciliation Act of 1993

Because the President did not want to delay deficit reduction for another year, the fiscal 1994 budget had to be prepared on a compressed schedule. The President introduced a detailed budget plan to a joint session of the Congress in February 1993, just 4 weeks after taking office. The House and Senate passed the final version of the budget resolution on April 1—the earliest date in the history of the modern congressional budget process. A spirited congressional debate followed, leading to enactment of the Omnibus Budget Reconciliation Act of 1993 (OBRA93) in August.

Several principles guided the design of OBRA93. First and foremost, the deficit reduction had to be large, genuine, and credible. To this end, the Administration proposed hundreds of specific spending cuts and increases in revenue. Second, the package had to be balanced between expenditure cuts and tax increases. Specifically, the $146 billion of deficit reduction in fiscal 1998 consists of $87 billion in net spending cuts—including $25 billion in lower debt service—and $59 billion in additional net revenue. Third, the tax increases were highly progressive—heavily skewed toward the people who are most able to pay and who benefited most from the large tax cuts of the early 1980s. Income tax rates were raised for only about the top 1.2 percent of taxpayers. Some 90 percent of the new taxes in OBRA93 will be borne by the upper 6.5 percent

of the income distribution (Table 1–3). Fourth, even while cutting the deficit, room had to be found in the budget for a variety of critical public investments (more on this below).

TABLE 1–3.—*Distribution of the Change in Taxes Under OBRA93 by Income Category*

Family income (dollars)[1]	Share of families (percent)	Average change in taxes (dollars per family)	Share of total change in taxes (percent)
Less than 10,000	14.0	–68	–2.5
10,000–20,000	17.4	–86	–3.9
20,000–30,000	15.7	–41	–1.7
30,000–40,000	12.6	50	1.6
40,000–50,000	9.9	105	2.7
50,000–75,000	15.5	192	7.8
75,000–100,000	6.8	312	5.6
100,000–200,000	5.2	649	8.8
200,000 or more	1.3	23,521	81.3
All incomes[2]	100.0	382	100.0

[1] Pretax family income (CBO definition).
[2] Total includes negative incomes, not included in categories above.
Source: Congressional Budget Office (CBO).

The spending cuts touched virtually every part of the budget. On the discretionary side, the Congress imposed what amounts to a 5-year freeze on nominal spending, capping fiscal 1998 spending at $548 billion, or about $2.5 billion below the fiscal 1993 level. With inflation (as measured by the implicit deflator for GDP) projected to average about 2.8 percent per year over the period, the implied cut in *real* discretionary spending is about 13 percent. Furthermore, if inflation comes in lower than the forecast, the caps will be lowered commensurately. The budget cuts in OBRA93 include a reduction in the Federal work force by 100,000 positions (since raised to 252,000 positions), delay of the 1994 cost-of-living adjustment for Federal employees, defense cutbacks beyond those projected by the previous Administration, and a host of smaller cuts in discretionary programs.

On the mandatory side of the budget, the largest cuts were in the medicare program (about $18 billion by fiscal 1998). But there were also reductions in agricultural and veterans' programs, savings in the student loan program, new receipts from auctioning portions of the radio spectrum (discussed in Chapter 5), and savings from shortening the maturity structure of the national debt. Total cuts in mandatory spending other than debt service are expected to reach $25.6 billion by fiscal 1998.

OBRA93 also increased taxes. Higher income tax rates on the top 1.2 percent of households constitute the biggest source of new revenue by far: $27.2 billion by fiscal 1998. (The bracket structures be-

fore and after OBRA93 are compared in Table 1–4.) In addition, the 2.9-percent payroll tax for medicare, which formerly applied only to the first $135,000 of earnings, now applies to all earnings (raising $7.2 billion by fiscal 1998), the taxable portion of Social Security benefits was raised for the top 13 percent of recipients ($4.5 billion), and the motor fuels tax went up by 4.3 cents per gallon in October 1993 ($5 billion). Finally, OBRA93 increased the top corporate tax rate and closed a variety of business tax loopholes, but also enhanced or created several tax incentives for investment. The net effect of these increases and decreases in business taxes should yield about $8 billion in revenue by fiscal 1998.

TABLE 1–4.—*Changes in Statutory Marginal Tax Rates Under OBRA93 for Married Individuals Filing Jointly*

Taxable income (dollars)	Marginal rate (percent)	
	Old law	OBRA93
0–36,900	15	15
36,900–89,150	28	28
89,150–140,000	31	31
140,000–250,000	31	36
Over 250,000	31	39.6

Source: Department of the Treasury.

OBRA93, Interest Rates, and Investment

As critical elements of the President's deficit reduction package started to become known, long-term interest rates began to fall—indicating that the financial markets viewed the proposals as substantial, genuine, and credible (Box 1–3). Rates fell dramatically between January and October 1993 before backing off a bit late in the year.

As documented more completely in Chapter 2, the medicine of low interest rates now seems to be taking hold. Business investment has been leading the economy's expansion, with consumer durables and housing important sources of strength. If we divide GDP into its interest-sensitive components (business fixed investment, housing, and consumer durables) and everything else, the data tell a fascinating story. While the three interest-sensitive pieces typically account for about 30 percent of GDP growth, in 1993 they accounted for virtually all of GDP growth. The rest of GDP barely increased over the year (Table 1–5).

It is important to understand *why* this Administration made deficit reduction a top priority and worked so hard to see it through the Congress. One important reason was the concern being expressed in many quarters that deficits were growing out of control and might threaten financial stability—and thereby macroeconomic stability.

Box 1-3.—Credible Deficit Reduction and Real Interest Rates

Long-term nominal and real interest rates dropped sharply in 1993. The decline in rates was closely linked to the proposal and enactment of the Administration's budget (as argued in Chapter 2).

Lower deficits reduce real bond yields through several channels:

- Lower Federal borrowing reduces interest rates directly, by reducing demand for credit.
- A more prudent fiscal policy reduces the likelihood that the Federal Reserve will need to pursue a restrictive monetary policy, and so reduces expected future short-term rates.
- As long as international capital mobility is not perfect, increased national saving leads to an increase in investment. In the long run, the consequent increase in the capital stock reduces the marginal product of capital and therefore the interest rate.

Because the plan had credibility, financial markets anticipated these effects. Since future expected short-term interest rates govern current long-term rates, long rates fell immediately in response to the proposal and enactment of the Administration's plan. There would have been no such market response if the plan had lacked credibility. What features of the Administration's plan account for its apparently high credibility?

- The plan is based on realistic economic assumptions; it does not presume that the economy can "grow its way out" of the deficit problem.
- The President proposed and the Congress enacted many specific spending cuts in the fiscal 1994 budget, thereby demonstrating the feasibility of maintaining the discretionary spending caps.
- The tax provisions of the plan by and large result in permanent increases in revenue; they do not merely shift future revenue into the current budget window.
- The President showed himself willing to make difficult choices to correct the fiscal imbalance: freezing total discretionary spending; increasing the taxation of Social Security benefits for recipients with the highest incomes; and proposing reform of the Nation's health care system.

TABLE 1–5.—*Contributions to Growth of Interest-Sensitive and Other Components of GDP*

[Average annual percent change]

Component	Historical average (1955–92)	Fourth quarter 1992 to fourth quarter 1993 [1]
Interest-sensitive components[2]	0.8	2.6
All other	2.1	.2
GDP	2.9	2.8

[1] Preliminary.

[2] Business fixed investment, housing, and expenditures on consumer durables.

Source: Department of Commerce.

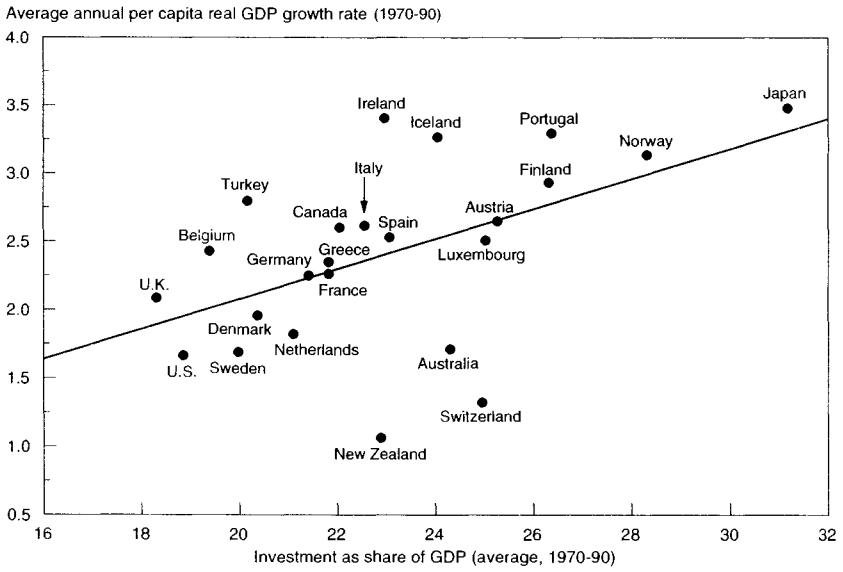
But the central objective of deficit reduction was and remains *expenditure switching*—away from consumption and government purchases toward investment. The lower interest rates brought about by deficit reduction are the way the market accomplishes this expenditure switching.

The reasons for wanting to raise the investment share of GDP are straightforward: Workers are more productive when they are equipped with more and better capital, more-productive workers earn higher real wages, and higher real wages are the mainspring of higher living standards. Few economic propositions are better supported than these—or more important. As Chart 1–7 shows, investment rates and productivity growth rates correlate well across countries. Lower budget deficits that raise private investment are therefore critical to raising the economy's long-run growth rate.

However, some people worry that deficit reduction might retard growth in the short run by siphoning off aggregate demand. Such a concern is justified. Deficit reduction *by itself* certainly does tend to contract the economy. After all, raising taxes and cutting government spending reduce the demand for goods and services. But deficit reduction *accompanied by sufficient declines in long-term interest rates* need not be contractionary. It is, of course, the latter, not the former, that we experienced in 1993.

Economists judge the impact of fiscal policy on aggregate demand by looking at changes in the *structural* deficit. Table 1–6 shows that OBRA93 will reduce the structural deficit by about $65 billion from fiscal 1993 to fiscal 1995, after which it is expected to rise slightly. The large deficit reductions after fiscal 1995 serve to limit what would otherwise have been even larger increases in the structural deficit—mainly due to rising expenditures on health care. Analysis by the Council of Economic Advisers suggests that the declines in long-term interest rates that have occurred since the 1992 election, even after the backup late in 1993, are more than enough to offset the contractionary effects of this decrease in the structural

Chart 1-7 **Correlation of Investment and Productivity**
There is a close correlation between investment rates and productivity growth rates across countries.



Source: International Monetary Fund.

deficit. Hence the economy should be able to grow right through the deficit reduction period.

TABLE 1–6.—*Structural Budget Deficits*

Fiscal year	Structural deficit	
	Billions of dollars	Percent of GDP
1992	206.0	3.5
1993	214.7	3.4
1994	190.8	2.9
1995	149.1	2.1
1996	156.1	2.1
1997	162.8	2.1
1998	171.4	2.1

Note.—Data for 1994–98 are forecasts excluding health reform.

Sources: Council of Economic Advisers, Congressional Budget Office, Office of Management and Budget, and Department of Commerce.

There are limits, however, to the amount of deficit reduction an economy can be expected to withstand within a short period without endangering economic growth. The Administration's judgment

is that cutting the annual deficit by about $140 billion to $150 billion over a period of 5 years is roughly the right amount, given the current strength of our economy. Some critics dispute this judgment and call for much deeper cuts in spending than those provided in OBRA93, or for substantial increases in taxes. The Administration views this strategy of more aggressive deficit cutting in the near term as risky.

A *small* amount of additional deficit reduction would, of course, have only small effects on the economy. But further large spending cuts or tax increases at this time would require additional *large* declines in long-term interest rates to replace the lost aggregate demand. Should interest rates decline by less than the required amount, economic growth would slow and jobs would be lost. For example, a deficit reduction package substantially larger than OBRA93 would be needed to comply with the proposed balanced budget amendment to the Constitution (Box 1–4). The Council estimates that it would take a decline in long-term interest rates of roughly 3 percentage points to offset the contractionary effect of such a large fiscal package. Since a 3-percent long-term interest rate seems quite unlikely, complying with a balanced budget amendment seems likely to harm the economy—perhaps severely.

Deficit Reduction and Public Investment

Once it is understood that deficit reduction is not an end in itself, but a means to an end—the end of greater investment—two important principles become evident.

First, it is clear that deficit reduction is only a first step. We must start to build—to invest in our future. That is why the President's economic plan contains more than just deficit reduction; it also includes new proposals to encourage private investment and needed public investments in education and training, public infrastructure, and technology. We must worry about the debt we bequeath to our children, but we must also worry about the quality and quantity of capital—broadly conceived—that they will inherit.

Second, it is clear that squeezing worthwhile public investments out of the budget is the wrong way to reduce the deficit. After all, the main purpose of deficit reduction is to pave the way for more private investment. Cutting *public* investment to make room for more *private* investment is like running on a treadmill. America needs more of both, not a swap of one for the other.

Shifting Federal spending priorities from consumption to investment is one of the hallmarks of this Administration's approach to economic policy. We seek not only to constrain total government spending, but also to reorient it toward more productive uses. Doing so will take time and requires use of the surgical scalpel, not the meat-ax, in cutting the budget. As the Administration and the Congress struggle together over tight Federal budgets in fiscal

Box 1-4.—A Balanced Budget Amendment to the Constitution?

To argue that substantial deficit reduction was imperative in 1993 is not to argue that the budget deficit must be reduced even further in the short run—and certainly not to argue that we should mandate a balanced budget every year by constitutional amendment, as some have advocated.

This Administration opposes the proposed balanced budget amendment to the Constitution for many reasons. First and foremost, the amendment would put fiscal policy in a straitjacket that might imperil macroeconomic stability, thereby abdicating one of the government's principal responsibilities and raising the specter of mass unemployment. Second, the proposed amendment would lead to budgetary gimmickry—such as mixing one-time asset sales with recurring income transactions—and would be almost impossible to enforce. It could push economic policy decisions into the courts, or even provoke a constitutional crisis.

Third, there are many candidate definitions of "the budget deficit," making it both hazardous and unwise to enshrine any particular definition in the Constitution. For example, do we want to balance the unified budget or exclude Social Security? Why not the structural deficit, or even the inflation-adjusted structural deficit? Fourth, the amendment's call for a 60-percent congressional supermajority to waive the balanced budget requirement threatens to reinstall both gridlock and the tyranny of the minority.

Fifth, and finally, the amendment by itself would not reduce the deficit by a single penny; all the hard choices that face us now would still face us. A deficit reduction package leading to a balanced budget would most likely have to include major new taxes on the middle class, substantial cuts in Social Security benefits, reductions in defense spending that go far beyond the Administration's proposals, and cuts in Federal spending on medical care large enough to imperil health reform. The Administration opposes all of these.

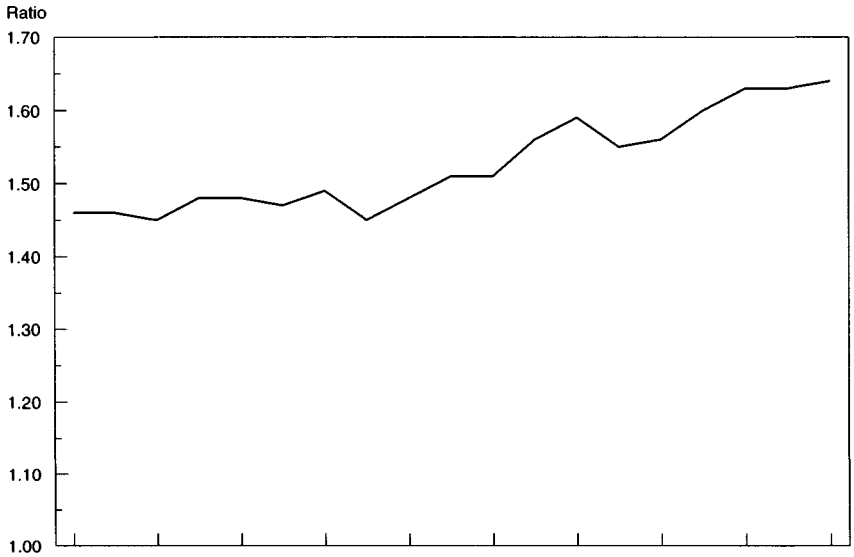
1995 and beyond, it is essential that we not allow fiscal myopia to lead to underinvestment in America's future.

INVESTING IN PEOPLE

The American work force remains the most productive in the world. Our aim should be simple: to keep it that way. But the rest of the world is not standing still; it is gaining on us, becoming ever more productive. And that is what compels change.

America has never competed on the basis of low wages, and we must not start doing so now. It is widely believed that modern industrial processes demand workers with higher levels of education and training; and evidence on the relative wages of, say, college-educated versus high school-educated labor (Chart 1–8) seems to bear this out. In 1981, workers with college degrees earned about 45 percent more than workers with only high school degrees; by 1992, this gap had reached almost 65 percent.

Chart 1-8 **Ratio of Wages of College Graduates to Wages of High School Graduates**
Workers with college degrees earn substantially more than workers without, and the gap between the two groups' wages grew during the 1980s.



Note: Data for 1991-92 are not strictly comparable with earlier data.
Source: Department of Commerce.

Some observers claim that average work force quality may actually have deteriorated in the United States in recent decades. Whether or not this is true, few dispute that the supply of work force skills has failed to keep pace with the growing demand. Although Americans are, if measured by average years of schooling, among the most educated people on earth, the rate of illiteracy in our country has long been high. Tens of millions of adult Americans are either functionally illiterate or barely literate. International test scores suggest that our primary and secondary students are learning less science and mathematics than their counterparts in other countries.

This educational record is not good enough in a world economy that grows ever more competitive and ever more skill-intensive. American workers must build the additional human capital they need as a bridgehead to higher wages and living standards. Lifelong learning must cease being a slogan and become a reality.

In a fundamental sense, each American must be responsible for his or her own education and training. This Administration is committed to creating the requisite opportunities through a comprehensive agenda of education and training that starts before formal schooling and extends into the workplace. For example:

- Head Start will be expanded so that disadvantaged children have a chance to get ahead. Head Start has been proved effective in preparing these children for primary school, and has been estimated to save about six dollars in future government spending for every dollar invested today.
- Goals 2000 is a comprehensive legislative package that will set higher performance standards for American teachers and students.
- The Departments of Labor and Education are collaborating on a new School-to-Work transition program that will help students get hands-on, work-related training while still in high school. This is an area of our educational system that has been neglected for too long.
- The new National Service program (Box 1–5) will not only provide opportunities for community service and the acquisition of job-related skills, but also help send more Americans to college.
- The reformed student loan program will also help more of America's youth attend college by reducing borrowing costs and offering, for the first time on a national scale, loans whose repayment schedules depend on future earnings.
- The new program for dislocated workers will have an important retraining component, which will make opportunities available to displaced American workers. Some income support will be provided so that displaced workers can afford to take advantage of the training.

Each of these programs will help augment the Nation's stock of human resources, thereby raising the American standard of living.

INVESTING IN PUBLIC INFRASTRUCTURE

The most obvious kind of public investment is building new public infrastructure—the Nation's highways, bridges, airports, and water and sewage systems. The Administration believes the United States has underinvested in its public infrastructure. For example, the Department of Transportation estimates that almost 20 percent of our Nation's highways have poor or mediocre pavement and about 20 percent of our bridges are structurally deficient.

Box 1–5.—The National Service Program

In August 1993 the Congress passed the National and Community Service Trust Act of 1993, establishing the new National Service program. National Service provides participants both current compensation (at below-market wages) and educational grants of up to $4,725 per year to pay for college and other post-secondary education. Participants also receive valuable on-the-job training, accumulate employment skills, and acquire real-world work experience.

The economic rationale for this program is threefold. First, employers may be reluctant to provide training in skills that can be utilized in a wide variety of employment applications because, if the employee leaves the firm soon thereafter, the firm will fail to recoup the cost of its investment. Since the accumulation of employment skills is socially desirable, it may be economically efficient for the government to finance part of this training.

Second, the decline in Federal revenue sharing has reduced the intergovernmental resources available to State and local governments. These levels of government often know best what services their residents need most. Accordingly, the National Service program provides in-kind resources (labor services) to precisely those types of public and nonprofit organizations best able to determine what services are required.

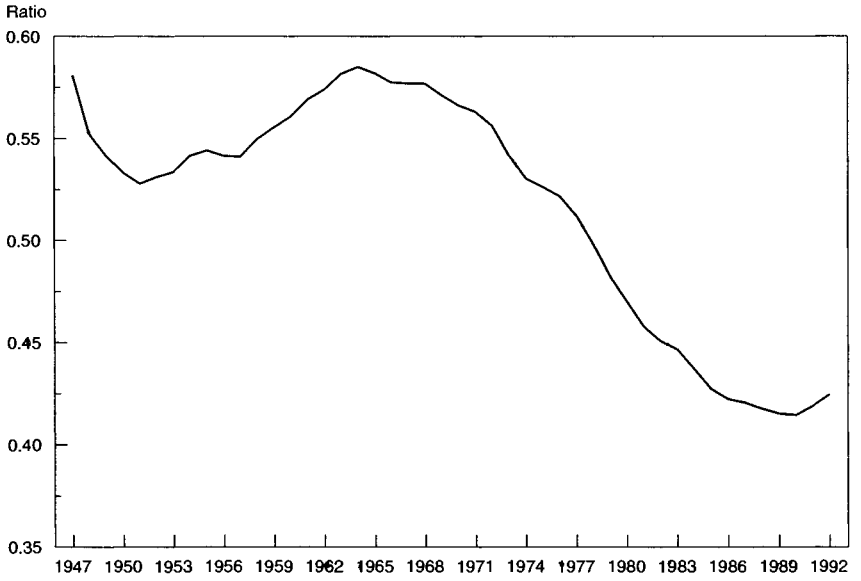
Third, the National Service program provides all Americans the opportunity to undertake community service positions by relaxing the tradeoff that workers often face between current compensation and the richness of an employment experience. The program ensures that valuable but low-paid public service positions will not be the province of the wealthy.

The National Service program is funded through an initial appropriation of $300 million over previous funding for related programs. This is scheduled to rise to $500 million in 1995 and $700 million in 1996. At these funding levels, it is expected that the program will be able to support approximately 20,000 participants in 1994 and about 100,000 participants over the 3-year period covered by the legislation.

A variety of evidence indicates that there has been underinvestment. First, while the statistical evidence is not unequivocal, the weight of it points to handsome rates of return on well-planned investments in public infrastructure. Second, estimated benefit-cost ratios on specific infrastructure projects are often quite high. Third, the ratio of public to private capital has

fallen markedly since the 1960s (Chart 1–9). Unless the data are grossly misleading, the principle of diminishing marginal returns leaves only two possible conclusions: Either America was overinvested in public capital in the early 1970s, or it is underinvested today.

Chart 1-9 **Ratio of Public to Private Net Nonresidential Capital Stock**
The ratio of public to private capital stock declined steadily and markedly in the 1970s and 1980s.



Note: Public capital stock is defined as Federal and State and local net stock, excluding military capital.
Source: Department of Commerce.

Finally, there is the evidence of the senses: America's roads and bridges are badly in need of repair, a number of our airports are overcrowded, and our sewage treatment facilities are overburdened. To many thoughtful observers, America's public infrastructure is simply not commensurate with our bounteous private wealth.

INVESTING IN TECHNOLOGY

But physical capital is not the only determinant of productivity, nor even the most important. Over long periods of time, rising productivity and hence advances in living standards depend on the upward march of technology. Indeed, studies of long-term economic growth attribute a large share of growth to improvements in know-how (Table 1–7). The history of progress in the industrial world is working smarter, not working harder.

TABLE 1–7.—*Sources of U.S. Economic Growth*

[Average annual percent change]

Source	1947 to 1973	1973 to 1992
Labor inputs	1.01	0.88
Capital inputs	1.45	1.07
Total factor productivity (technological change)	1.63	.40
Adjustment from nonfarm business output to GDP	−.14	−.04
TOTAL (GDP growth)	3.94	2.30

Note.—Labor and capital inputs are measured for the nonfarm business sector.
Detail may not add to totals because of rounding.

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

Technological change does not come for free. Technology advances because scientists and engineers working in laboratories and on shop floors make new discoveries. And research is expensive.

Since the dawn of the industrial revolution, alarmists have argued that technology and automation threaten jobs. Such claims are still heard today. But history shows that they have never been right in the past and suggests that they are wrong again. Time after time, in epoch after epoch and country after country, technological advance has produced higher wages and living standards, not mass unemployment. That is exactly what we expect to happen again in the 21st century. And the government should be helping this process along—facilitating growth and change, not impeding it.

While the bulk of research and development (R&D) must and should be done by private industry, support for basic and generic research has long been recognized as a legitimate function of government because of informational externalities. New technology is expensive to *discover* but cheap to *disseminate*. So what one company learns passes quickly to others, making it impossible for the innovator to capture all the returns from its discovery. In fact, estimates find that innovating businesses capture less than half of the social returns to their R&D. Furthermore, estimated social rates of return on R&D range as high as 50 to 100 percent, suggesting that there is systematic underinvestment.

For this reason, the Administration asked the Congress to extend the research and experimentation tax credit, which was done in OBRA93. For the same reason, the Administration is increasing funding for research partnerships with industry, such as the Advanced Technology Program, and adding dozens of new manufacturing extension centers. Each of these initiatives and others are designed to speed the pace at which precompetitive technologies are invented and disseminated. Once that stage is passed, the market mechanism should and will take over. (Chapter 5 has more details on the Administration's technology policy.)

The development and deployment of new technology have long been of interest to the government. But technology policy is especially critical in a period of large-scale defense cutbacks, because more than half of total Federal support for R&D has traditionally been related to national defense. With less need for research on weaponry, the Federal Government must now make a choice. Will we reduce total research support, or will we shift the research dollars into civilian technologies? The President believes that the latter is the wiser course, which is why the Administration is reorienting the research capabilities of the Defense Department and the national laboratories toward R&D partnerships with industry.

Technology surely creates the wave of the future. America must be on the crest of that wave—with the technology, capital, and skilled work force needed to take advantage of tomorrow's economy.

TRADE POLICY AND LIVING STANDARDS

This Administration's policies toward private physical capital, human capital, public infrastructure, and technology all share a common objective: to raise the living standards of American families. Trade policy is yet another means toward that same end. This Administration vigorously supported the North American Free Trade Agreement (NAFTA), worked hard to complete the Uruguay Round of the General Agreement on Tariffs and Trade (GATT), streamlined the Nation's export promotion programs and eased restrictions on exports, and is striving to open the Japanese market through bilateral negotiations, all for the same reason—to open markets and boost American exports. (Chapter 6 contains more details on the Administration's trade policy.) The emphasis on trade expansion is, in turn, driven by two simple facts.

First, Americans now live in an increasingly integrated world economy and must therefore become increasingly outward-looking to stay on top. There is simply no way to close America's borders and return to the insular days of the 1950s and 1960s. Trying to do so would be an exercise in futility, doomed not only to fail but to lower living standards in the process. International competition through trade has long been a powerful engine of change and progress—for America and for the world. We must not let that engine idle. Instead, we must use it to power America up the technology ladder—by moving our workers into the jobs of the future, not keeping them mired in the jobs of the past. In the President's words, we must "compete, not retreat."

Second, jobs in export industries pay wages that are about 22 percent above the economy-wide average, according to the Council's latest estimates. The implication is that, if the Administration succeeds in shifting the composition of GDP toward more exports, we

will automatically shift the composition of American employment toward better paying jobs. No government program or central direction is needed to accomplish this. The market will do the work for us.

Trade expansion is sometimes inaccurately characterized as "exporting jobs." Nothing could be further from the truth. A more accurate description is that international trade and investment lead low-skill, low-paid jobs that would inevitably migrate to poorer countries to go there in exchange for high-skill, better-paying jobs in the United States. American companies that compete successfully both at home and in foreign markets offer the best job opportunities for their workers. The history of capitalism throughout the world shows that companies and industries sheltered from the winds of competition tend to stagnate.

This Administration's focus on exports does not signal a revival of mercantilism. Rather, it reflects a belief that America's export promotion efforts have lagged behind those of other countries and that our markets are already among the most open in the world. The Administration fully expects trade liberalization—such as through NAFTA and the Uruguay Round of GATT—to raise *both* U.S. exports *and* U.S. imports. And we welcome both.

The North American Free Trade Agreement

Indeed, the recently ratified NAFTA illustrates the basic goals of Administration trade policy extremely well. NAFTA should boost trade with Mexico in both directions. In consequence, economic resources will be allocated more efficiently on both sides of the border. Inevitably, some American industries will therefore contract while others expand. Supported by the overwhelming preponderance of scholarly evidence, the Administration believes that NAFTA will lead to *net* job creation in the United States.

Equally important is the composition of those jobs, however. The new jobs that will arise in the United States will, on average, pay higher wages than the jobs that migrate south. It would be surprising indeed if anything else happened when a low-wage country and a high-wage country reduced trade barriers. In addition, the lower tariffs and reduced trade barriers from NAFTA will reduce prices for a variety of goods that American families buy. Together, the shift in the composition of employment toward higher paid jobs and the reduction in prices lead to a clear conclusion: NAFTA will raise the standard of living of the average American family—and the average Mexican family as well.

The Uruguay Round of GATT

The recently completed Uruguay Round of GATT was a landmark achievement for the entire world trading system. It literally rewrites the rules of trade for the start of the next century.

Earlier rounds of GATT talks had focused almost exclusively on tariff reductions. The market access component of the Uruguay Round continues this tradition by reducing tariffs on literally thousands of manufactured goods—by more than one-third on average. Such tariff reductions should be a tonic for world trade and growth, just as they have been in the past, and should increase specialization and economic efficiency around the globe. As usual, producers will gain from bigger markets and consumers will gain from lower prices.

But the most remarkable achievements of the Uruguay Round are to be found elsewhere. For the first time, trade in agricultural commodities has been brought under GATT—a goal that had eluded trade negotiators for decades. When fully effective, the agreement will reduce agricultural export subsidies by 21 percent in volume and 36 percent in value, saving taxpayers and consumers in many countries billions of dollars. Trade in agricultural goods will also be liberalized by reducing tariffs on certain commodities (like beef and fruits and vegetables), partially opening markets that were previously closed (like rice in Japan and the Republic of Korea), and prohibiting certain food "safety" measures that were really disguised trade barriers. America's farmers, consumers, and taxpayers all stand to gain handsomely from this agreement.

In addition, for the first time GATT disciplines have been extended to a variety of service industries. This achievement of the Uruguay Round is a vitally important precedent for the United States for two reasons. One is that production patterns both here and elsewhere have been shifting and will continue to shift toward services. The other is that the United States seems to have a strong comparative advantage in many service industries; in fact, our trade surplus in services is already three times larger than our trade surplus in agriculture.

The United States did not succeed in bringing all services into the agreement, and will continue to press for trade liberalization in sectors that were left out of the Uruguay Round. But the gains were still significant: Trade rules in such important industries as accounting, consulting, construction, and telecommunications will now require that foreign countries grant the same treatment to American firms operating abroad as they do to their own companies.

Finally, the path-breaking agreement will provide much stronger protection for a range of intellectual property rights including patents, copyrights, trademarks, and trade secrets. Since the United States is the home of so much commercial innovation, we will reap large gains from the agreement. Among the biggest industrial winners are software, pharmaceuticals, and biotechnology.

In sum, the Council estimates that the various provisions of the Uruguay Round, once fully phased in after a decade, will increase U.S. GDP by at least 1½ percent by raising real wages, lowering consumer prices, and protecting our national property rights.

HEALTH CARE REFORM

Successful health care reform will accomplish many things. Perhaps primary among them is health security for all Americans—a precious commodity that too many of our citizens have been denied for too long. In today's United States, workers who lose their jobs often lose their health insurance, too. Other people and businesses lose their coverage because a family member or employee becomes ill and incurs large medical bills. Still other people are afraid to take jobs that would lift them out of welfare because they cannot risk losing medicaid coverage. In total, nearly 39 million Americans lack health insurance, millions more are inadequately covered, and tens of millions live in fear of losing the coverage they have. Few people in other industrialized countries face such insecurity.

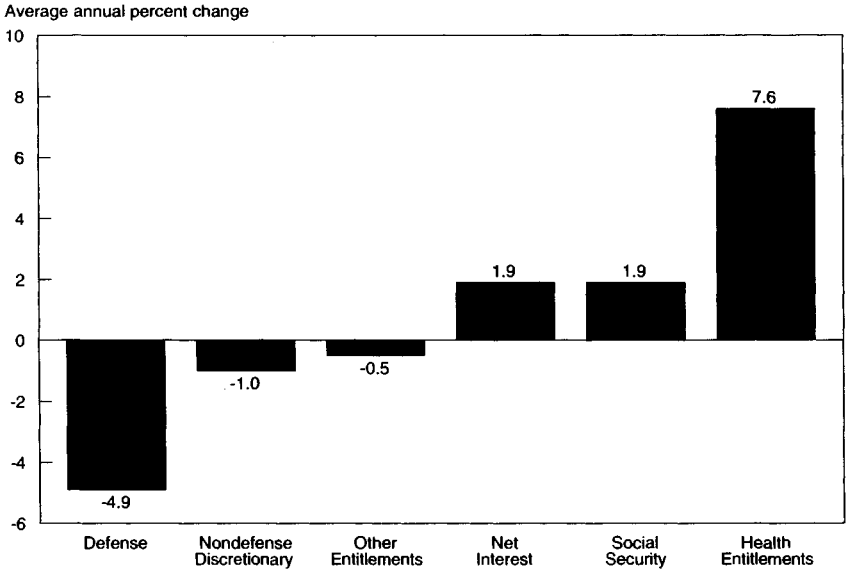
Under the President's health care reform proposal, which is described in detail in Chapter 4, none of this would ever happen again. Americans would know that their health insurance would never lapse, whether they changed jobs, moved, quit to start a new business, or had the misfortune of serious illness in the family. When effective health care reform is enacted, one of the major sources of economic insecurity facing Americans today will have been removed.

Health care reform is also fundamental to long-run budget control. It is often said that the fastest growing part of the budget is "entitlements." But the fastest growing part of the entitlement budget by far is health care spending (Chart 1–10). As the President has repeatedly emphasized, controlling the costs of medical care is the key to controlling entitlements, and therefore to long-run deficit reduction.

But health care reform will accomplish more than just budget control and security. The Administration also sees it as a route to higher standards of living.

For years, the rising cost of health care has forced a shift in the composition of the typical pay packet away from wages and salaries toward fringe benefits, especially health insurance. Chart 1–11 shows that the share of health benefits in total labor compensation rose from 1.8 percent in 1960 to 8.5 percent in 1992. Correspondingly, the share of cash wages fell. In absolute terms, in fact, real wages and salaries have barely increased in 20 years. Almost all the gains in compensation have been taken as fringe benefits. This means that working men and women have, for the most part, paid

Chart 1-10 **Projected Real Growth Rates of Principal Federal Budget Components**
From fiscal 1994 to fiscal 1998, health care spending is projected to grow four times as rapidly as any other major component.



Source: Office of Management and Budget.

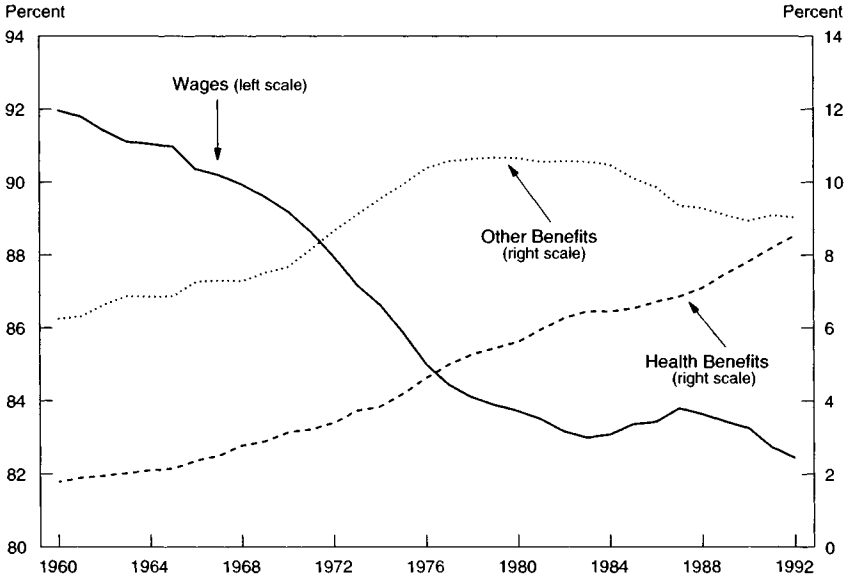
for their escalating health costs by taking home lower wages than they would have otherwise.

We can arrest this process only by containing medical costs. The President's health care reform is designed to do precisely that by making the market more competitive and making both consumers and providers more cost conscious. On the assumption that the future will look like the past, the Administration expects most of the benefits from effective health care cost containment to redound to working Americans in the form of higher take-home pay.

SUMMARY: PROSPERITY AND CHANGE

All of the policy initiatives described here—from deficit reduction, to public investments (both human and physical), to trade expansion, to health care—share a common goal: raising the standard of living of average American families. But all of them also require change, sometimes wrenching change. Deficit reduction required a host of painful changes in government programs and some increased taxes. Lifelong learning requires changes in the way we view education. Freer trade and export expansion mean that some jobs will disappear so that more and better jobs can be created.

Chart 1-11 **Shares of Wages and Benefits in Compensation**
Most of the decline in the wage share of total compensation has gone to increased health benefits.



Source: Department of Commerce.

And health care reform requires nothing less than a major overhaul of one-seventh of our economy.

None of this will be quick or easy. Real change rarely is. But, in truth, we have no choice, for standing still is not an option that history allows. The secret to economic success is making change our friend, not our enemy—coming to view change as the opportunity for advancement that it is, not as the threat that it sometimes appears to be.

CREATING OPPORTUNITY

Our focus on raising the standard of living of middle-class Americans must not blind us to the fact that some of our fellow citizens have not managed to attain a middle-class living standard. And change is especially threatening to those at the bottom of the economic ladder.

When money incomes are corrected for purchasing power, America is the richest of the world's major nations in terms of per capita income. But a nagging poverty problem remains in this land of plenty. Millions of Americans have little or no earning power and

are therefore on the public dole. Millions more work but do not earn enough to support their families. Two key policy initiatives enacted in 1993, the expansion of the earned income tax credit and the introduction of empowerment zones, were designed to help low-income workers by making work pay.

The earned income tax credit (EITC) provides needy families with both income support and greater rewards for working (Box 1–6). In part, the credit offsets income taxes that low-income working families would otherwise have to pay. But the credit is also *refundable,* meaning that if a family's credit exceeds its tax liability, the Internal Revenue Service sends a check for the difference. As part of OBRA93, the EITC was increased substantially, both by making payments more generous and by extending the credit to more families.

Box 1–6.—How Does the Earned Income Tax Credit Work?

The earned income tax credit is often thought of as a type of negative income tax, but in fact it is more complicated than that. The EITC has three ranges: a "credit range" in which it functions like a wage subsidy, a "plateau" in which it has no marginal effect, and a "phaseout" range in which the credit is paid back as earnings rise (Chart 1–12).

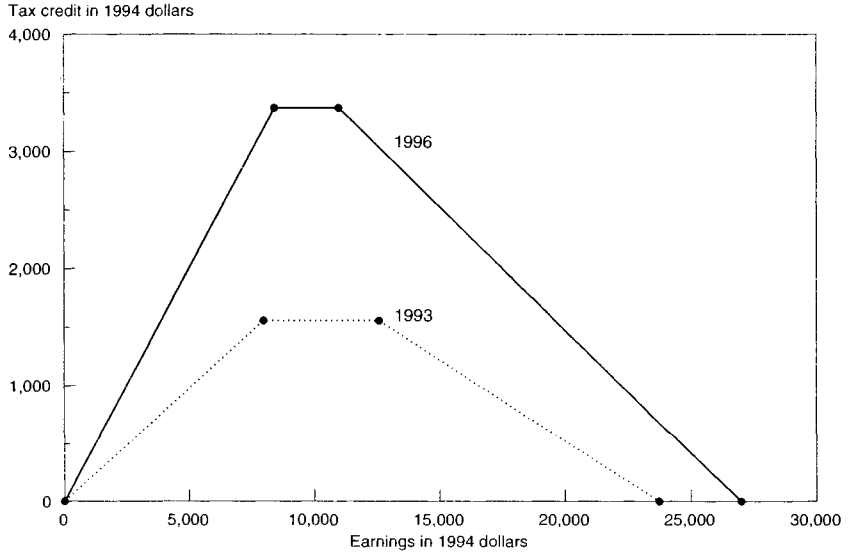
To illustrate, when the increases enacted in 1993 are fully effective (in 1996), the credit will work as follows for a family with two or more children. (Less generous schedules apply to one-child and childless families.) As earnings rise from zero to $8,425 (all dollar figures are in 1994 dollars), the EITC will provide a 40-percent wage subsidy, so that each $100 of additional earnings will net the family $140. The maximum credit is $3,370, which is therefore reached when earnings hit $8,425. The credit will then be constant as earnings rise from $8,425 to $11,000. Beyond $11,000, however, the family's tax credit is reduced 21 cents for each extra dollar earned. Benefits are thus exhausted when earnings reach $27,000.

Clearly, the EITC provides a marginal work incentive in the credit range (unlike a negative income tax), a marginal disincentive in the phaseout range, and neither in the plateau. However, to the extent that labor supply decisions involve whether or not to work, rather than how many hours to work, the credit provides a positive work incentive to *all* recipients.

As a first step toward welfare reform, the EITC has many virtues. It will lift many families with children out of poverty. It provides positive work incentives for many of the lowest-paid employees in our society. It is better targeted on the low-income popu-

lation than is, say, an increase in the minimum wage, because minimum-wage workers are found in all family-income brackets. It is simple to administer, requiring no special bureaucracy. And, finally, it apparently reaches a larger fraction of the eligible recipients than is typical of other income-support programs, perhaps because it is easy to claim and carries no stigma.

Chart 1-12 **Earned Income Tax Credit for Families with Two or More Children**
The expanded earned income tax credit will substantially increase the credit for eligible families.



Source: Department of the Treasury.

The goal of the innovative empowerment zone program is to strengthen business activity in certain geographic areas that are extremely depressed, so that synergies from concentrated economic activity can help revive these areas. The program's main tax incentive is a 20-percent tax credit for wages up to $15,000 per year paid by a zone business to a zone resident. This should be a powerful incentive to create jobs in the zones. In addition, a variety of regulatory waivers may be granted to give communities greater flexibility, and several Federal agencies will direct spending toward the zones.

Beginning this year, nine empowerment zones, six urban and three rural, will be selected by a competitive process that should encourage both imaginative thinking and private-public partnerships. In addition, 95 other neighborhoods will be designated enter-

prise communities and be granted smaller benefits than the zones while sharing the relaxed regulatory environment. The program will be carefully monitored and evaluated over a 10-year period, during which time we should learn a great deal about what works and what does not.

No American should think that programs like empowerment zones, the EITC, and welfare reform serve *only* the poor. Every citizen benefits when the welfare rolls are reduced, when low-income families earn more, when blighted neighborhoods come to life, and when city streets once again become safe. We are, after all, one Nation.

SUMMARY

An economic strategy based on long-run investments, as ours is, will not bear fruit overnight. It takes time to see tangible results and patience to wait for them. The important thing is to get started down the right path—and soon. The Administration believes that 1993 marked a turning point in that regard. Recovery firmly took hold in 1993, and prospects for sustained economic expansion look far brighter now than they did a year ago. The long-run deficit problem, while not completely solved, looks far less threatening than it did then. The Congress has begun to fund the President's ambitious investment agenda—including infrastructure, human capital, technology, and environmental preservation. Two historic trade agreements whose negotiations began years ago—NAFTA and the Uruguay Round of GATT—were brought to a successful conclusion. And the stage has been set for a much-needed national debate on health care reform in 1994. All of these accomplishments set in place the foundation for a more prosperous America.

CHAPTER 2

The U.S. Economy in 1993 and Beyond

THE ECONOMIC EXPANSION consolidated in 1993, setting the stage for sustained growth in 1994. A sharp decline in long-term interest rates to 25-year lows, in large part the result of the Administration's deficit reduction package, was the major economic story of 1993. Momentum picked up in the second half, with interest-sensitive sectors like housing and consumers' and producers' durable goods leading the way. Continued advances in these sectors helped to create sustained employment and income gains that put real gross domestic product (GDP) on roughly a 3-percent-per-year growth path.

During 1992 the economy was widely described as being in a jobless recovery, advancing with a disconcerting seesaw quality. The combination of self-sustaining forces that typically appear in a recovery—strongly rising employment, accelerating incomes, sharply rebounding automobile sales and housing activity, markedly higher levels of consumer confidence, and a renewed willingness on the part of consumers to take on debt—was missing. Many of these forces did appear over the course of 1993. The economy experienced a sustained moderate expansion with healthier job creation. Payroll employment increased by 162,000 jobs per month in 1993, double the 81,000-job-per-month pace of 1992. The unemployment rate, higher at the end of 1992 than it had been at the beginning, fell by almost a full percentage point in 1993.

Many interest-sensitive sectors of the economy finally exhibited clear-cut improvements during 1993. Business spending for durable equipment increased at the fastest rate since 1972. Consumer spending for furniture and household furnishings, another leading sector in business cycle upswings, also posted one of the biggest gains in a decade. Motor vehicle sales rebounded smartly as consumers exhibited a newfound willingness to incur debt to finance a major purchase. Together these forces have put the economy on track for sustainable growth.

With a greatly improved outlook for the Federal budget deficit, the Council of Economic Advisers expects long-term interest rates to remain relatively low for the foreseeable future—which will help to keep economic growth on track. Low interest rates are the key

ingredient that should allow the economy to grow in the face of future large deficit reductions, which would otherwise tend to contract the economy. Expected growth in the 2½- to 3-percent range for 4 years should create about 8 million new jobs and steadily reduce the unemployment rate from its currently unacceptable level toward a rate that is close to noninflationary full employment.

STRUGGLING TO GROW

GDP growth over the current expansion has been much slower than usual. In the first year after a recession trough, output typically grows by 6 percent in real terms; in this recovery, output growth over the first year after the trough was less than 2 percent. Even though potential GDP growth is lower today than it was in the 1960s and 1970s—mainly because of slower productivity growth—this factor can only explain a small part of the slower rebound.

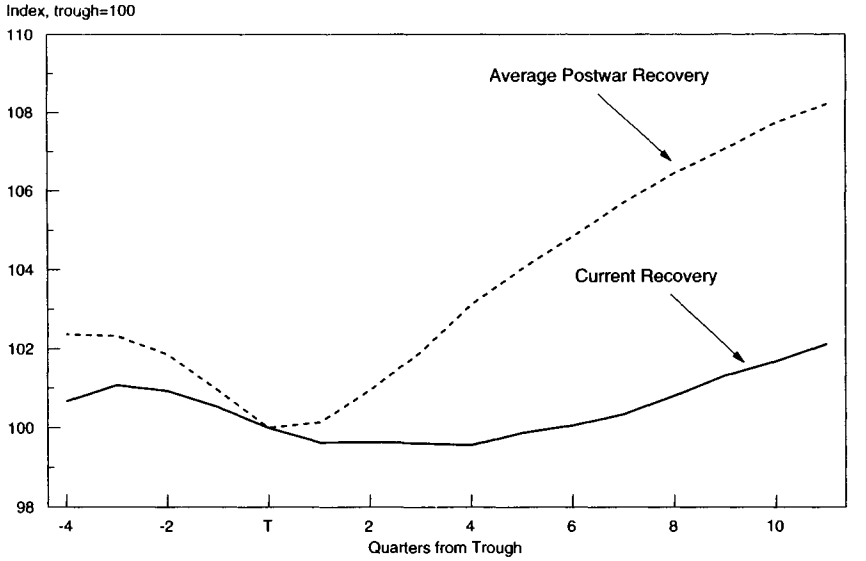
Not surprisingly, given the well-established linkage between output growth and employment growth, job growth in this expansion has also been atypically slow. The decline in employment during the recent contraction did not bottom out with the rest of the economy, and no rebound in job growth was evident until a year after the recession's trough. By late 1993 the growth path of employment was still well below the typical postwar recovery path (Chart 2–1). After 11 quarters, we have had the employment gains normally expected after just three quarters. Adjusted for the sluggish pace of output growth, however, employment growth has been closer to normal. (For further discussion, see Chapter 3.)

A number of special factors have combined to induce this sluggish economic performance. These "headwinds" include defense cutbacks, weak foreign economies, an oversupply of commercial buildings in the wake of the 1980s, the credit crunch, debt overhang, and a wave of corporate downsizings. None of these factors by itself explains why the recovery has run so far behind historical levels, but there is evidence that together they have retarded economic growth significantly.

THE END OF THE COLD WAR

The end of the cold war was a major geopolitical event for the United States, and the ensuing defense builddown has had profound economic effects. In 1986 defense spending accounted for 6.5 percent of U.S. GDP. By 1993 its share had fallen to about 4.8 percent, and by 1997 it is predicted to drop to about 3.2 percent (Chart 2–2). This massive shift of national resources away from defense has meant numerous base closings, cancellations of major weapons programs, scaled-back procurement plans, and attendant layoffs in

Chart 2-1 **Recovery Pattern of Nonfarm Payroll Employment**
Employment growth in this recovery has been much weaker than in the average postwar recovery.



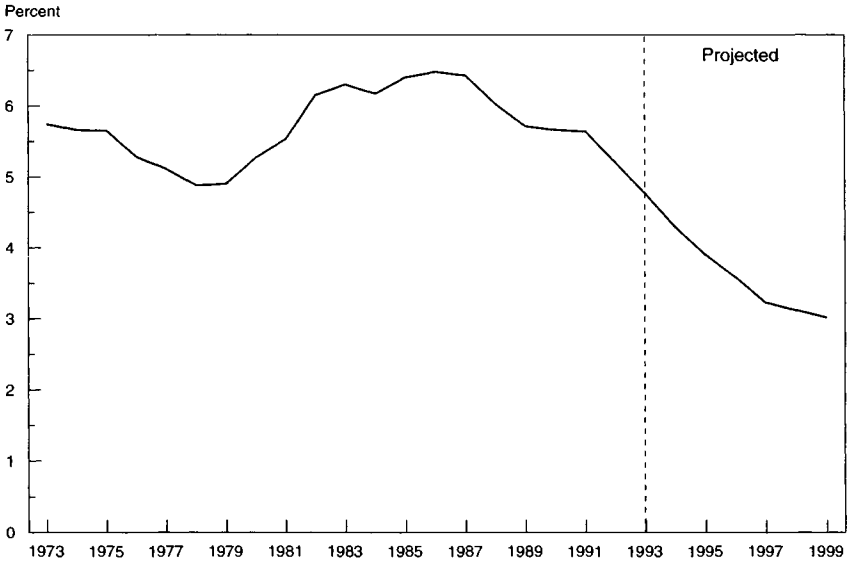
Note: "Average" includes all recoveries from 1954 to 1982, except 1980. The trough quarter for the current recovery is first quarter 1991.
Sources: Department of Labor and National Bureau of Economic Research.

the whole defense sector. For example, total defense-related jobs are projected to number 4.5 million by 1997, down from 7.2 million jobs in 1987. In a purely arithmetical sense, reduced defense spending subtracted roughly 0.5 percentage point off the real GDP growth rate in 1993. Moreover, the defense cutbacks have had a further adverse impact on aggregate demand through the expenditure multiplier. Moving resources out of the defense sector frees them up for use in the production of consumption and investment goods and services, improving living standards. But this is a longer term effect. The conversion process takes time, and although the defense scaledown is not as large relative to the size of the economy as it was at the end of several wars, reconversion will cause painful dislocations in the short run.

WEAK FOREIGN ECONOMIES

Weak economic performance in the rest of the industrialized world over the past few years has also taken a toll on the U.S. economy by slowing export growth. The period 1991–93 will go down in history as the *worst* for economic performance in foreign industrial countries since at least 1960. During this 3-year period,

Chart 2-2 **National Defense Purchases as Share of GDP**
Defense spending as a share of nominal GDP is projected to continue to fall steadily over the 1990s.



Note: Defense spending projections taken from Mid-Session Review of the 1994 Budget.
Sources: Council of Economic Advisers, Department of Commerce, Department of the Treasury, and Office of Management and Budget.

output growth averaged just 0.6 percent per year in the European Community, 1.7 percent per year in Japan, and only 0.2 percent per year in the world's other industrial countries (Table 2–1). Even though U.S. growth has been sluggish over the past couple of years, it has been the fastest among all the Group of Seven major industrial market economies. The world's second- and third-largest industrial economies, Japan and Germany, both entered deep recessions in the latter part of 1992 and are now operating well below their capacities. During 1993, all of the Group of Seven countries had substantial output gaps (that is, actual GDP was well below potential), and growth was slowing in such developing-country markets for U.S. exports as Mexico and the Middle East.

In large part because of this global weakness, U.S. merchandise exports, which had increased by about 7 percent in nominal terms in 1991 and 5 percent in 1992, rose by only 2 percent in 1993. Merchandise exports to Japan and Western Europe, which together account for 35 percent of total U.S. merchandise exports, were especially hard hit, dropping by about 3 percent (Chart 2–3). Even exports to Mexico flattened in 1993 after half a decade of rapid increases. With excellent cost competitiveness in world markets, U.S.

TABLE 2–1.— *Foreign Country Real GDP Growth*

[Average annual percent change]

	1989	1990	1991	1992	1993
European Community	3.5	3.0	0.8	1.1	–0.2
Japan	4.7	4.8	4.0	1.3	–0.1
Other industrial countries	3.2	1.1	–1.1	0.6	1.2
Developing countries	4.1	3.7	4.5	5.8	6.1

Note.— 1993 figures are forecasts.

Source: International Monetary Fund.

exporters have been able to do better than a trade-weighted average of major industrial economies' GDP growth rates would suggest (Chart 2–4). Still, what had been a strong engine of growth from the mid-1980s until 1991 clearly shifted into neutral in 1993.

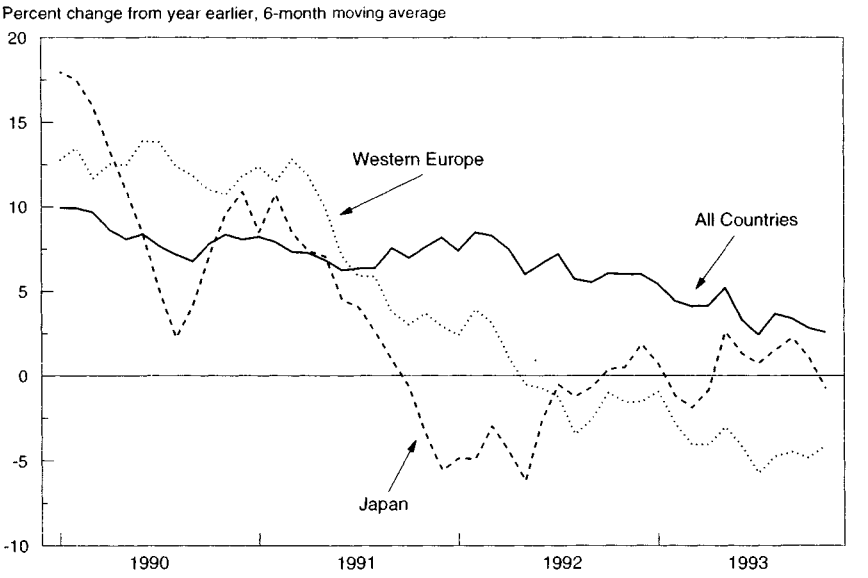
Meanwhile, growing U.S. reliance on foreign computers has led to a surge of imported capital goods. Office automation equipment, which now accounts for nearly 45 percent of real private investment in producers' durable equipment, has become the fastest growing major demand component in the U.S. economy, and imports have been filling a growing portion of this demand. Imports also account for about one-third of the nonautomotive, noncomputer portion of producers' durable equipment spending—up sharply over the past decade.

Together, the slowing of U.S. exports and the surge in imports have meant that net exports (the difference between them) are now working against U.S. growth, after making strong positive contributions from the mid-1980s to 1991. For example, according to a simple calculation holding other components of demand fixed, if net exports had simply not deteriorated in 1993 from their 1992 level, U.S. GDP growth would have been over 1 percentage point higher than it actually was in 1993.

THE DEBT WORKOUT

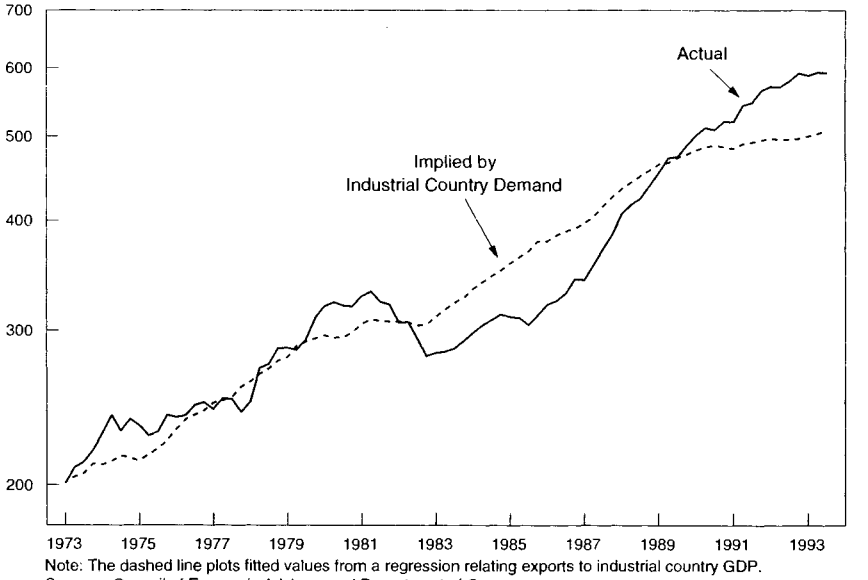
Working off the heavy indebtedness built up over the 1980s may also have retarded growth. During the 1960s and 1970s, households and firms only gradually increased their levels of indebtedness relative to their incomes. Over the 1984–90 period, this changed abruptly as individuals and businesses increased their indebtedness sharply (Charts 2–5 and 2–6). For the corporate sector, the proximate cause of increased indebtedness was a rise in debt-based financial restructurings, such as leveraged buyouts. A portion of new debt issues in the 1980s was used to purchase equity in existing companies, not to finance increases in plant and equipment investment. It is unclear exactly what motivated households to move further into debt during this period, although rapid appre-

Chart 2-3 **Growth of U.S. Merchandise Exports**
Continued weak economic growth in industrialized countries has depressed demand for U.S. exports.



Note: Data are not seasonally adjusted, f.a.s. basis.
Source: Department of Commerce.

Chart 2-4 **U.S. Exports Implied by Industrial Country GDP**
U.S. export demand has been healthier than would be expected given the lackluster performance of the major foreign industrial economies.



Note: The dashed line plots fitted values from a regression relating exports to industrial country GDP.
Sources: Council of Economic Advisers and Department of Commerce.

ciation in the stock market and booms in numerous housing markets probably played a role. Higher asset values may have given consumers a greater sense of financial security to borrow and spend even in the face of modest personal income growth.

The debt-income ratios for both households and firms flattened as the 1980s came to a close. Beginning in 1991, firms initiated a dramatic reduction in their leverage. This balance sheet repair was presumably triggered by a reversal of the factors that led them to accumulate debt. Moreover, there were declines in firms' net worth, which might have caused them to reduce leverage out of fear of insolvency.

For a domestic debtor to repay a domestic creditor, there need not be any increase in national saving. Rather, such repayments represent—in the first instance—adjustments in the portfolios of domestic households, businesses, and financial institutions. Yet the recent balance sheet adjustments probably did stem in part from an increase in saving and therefore acted to slow growth in aggregate demand.

By what mechanism would such balance sheet adjustments affect national saving? If the households and firms who repaid debts had higher marginal propensities to spend than those who got the repayments, the balance sheet restructuring would have increased saving. By virtue of their indebtedness, we can infer that firms and households who retired debt had in the past shown much more eagerness to spend or to undertake investment projects. Extrapolation would suggest that they still had a high propensity to spend relative to the creditor firms and households. Therefore, balance sheet restructuring was probably a drag on aggregate demand in recent years.

Of course, the causality could be reversed. Indebted households and firms might have decided for reasons other than those based on the state of their balance sheets (e.g., reduced expectations of income or profitability of investment projects) to reduce expenditures, using their free cash flow to repay debt rather than to spend.

OVERSUPPLY OF COMMERCIAL BUILDINGS

Yet another headwind has been the glut of nonresidential structures that was built up over the 1980s. Investment in nonresidential structures soared in the early 1980s, fueled in part by high inflation and changes to the Tax Code in 1981 that made commercial real estate investment more attractive. As this overbuilding continued, vacancy rates rose sharply across the country.

The reversal of the 1981 tax provisions by the 1986 tax reforms, together with higher interest rates in the late 1980s, derailed the boom in commercial real estate. The decline in this sector was further exacerbated by the movement of the rest of the economy into

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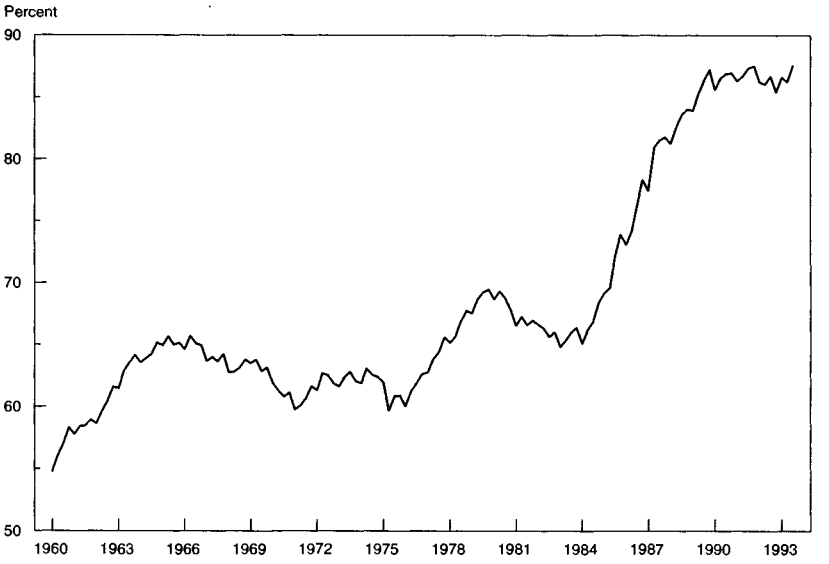
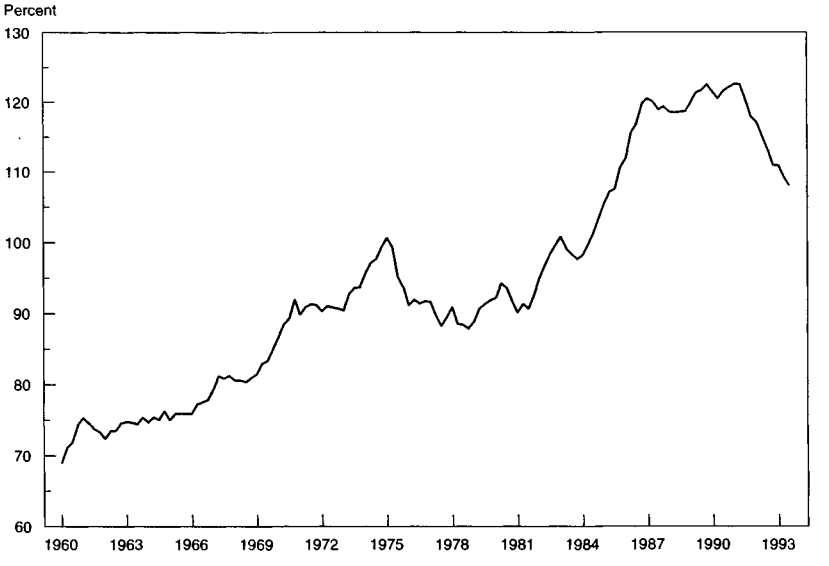
Chart 2-5 **Households: Credit Market Debt as Percent of Disposable Income**
After trending upward slowly over most of the 1960s and 1970s, the ratio of household credit-market debt to disposable personal income increased sharply in the 1980s.



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

Chart 2-6 **Nonfinancial Corporate Business: Credit Market Debt as Percent of Output**
The ratio of nonfinancial corporate business debt to nonfinancial corporate GDP rose sharply in the 1980s. It has since begun to decline.



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

recession in 1990. Even by late 1993—more than 2 years into the recovery—the value of investment in nonresidential structures was more than 25 percent below its 1990 peak in real terms. Clearly this small but volatile sector of the economy has failed to provide its normal cyclical lift.

CREDIT CRUNCH

The credit crunch and its vestiges have also slowed economic activity over this recovery period. Many banks developed balance sheet problems in the 1980s as the developing-country debt crisis and widespread lending for speculative construction projects led to massive loan writeoffs and weak profitability. This weak profitability reduced the banks' ability to lend and probably aggravated the credit crunch. More-aggressive bank regulation, some of it a reaction to the 1980s savings and loan debacle, accentuated the problem. In 1991 and 1992 there were widespread reports that would-be borrowers were having difficulty obtaining funds, although these reports tended to be concentrated in certain industries (notably real estate) and regions (particularly the Northeast). A National Association of Home Builders survey of its members, for example, consistently ranked "obtaining financing for construction projects" as a top business problem over this period.

CORPORATE DOWNSIZINGS

Finally, corporations across the industrial spectrum have been restructuring their businesses and paring costs. The prolonged economic sluggishness apparently induced many firms to hunker down and reduce their breakeven points as much as possible, often by shedding workers. Foreign competition and cutbacks associated with debt workouts might also have been factors. Technological changes have played a role as well; some of the most notable layoffs have been at mainframe computer companies, for example. In addition, lower capital costs may have led some firms to substitute capital for labor.

Even though downsizing may well have made corporations more efficient and better poised to earn profits in the future, the widespread layoffs have helped to depress wage and salary growth and probably consumer confidence as well. In addition, although higher profits can imply higher incomes for corporate stockholders, this group's marginal propensity to consume is probably lower than it is among individuals whose primary source of income is wages. This would also have reduced consumption spending and overall economic growth.

THE HEADWINDS ARE MOSTLY CALMING

As the economy enters 1994, many of these headwinds are dissipating. The credit crunch is fading as banks show new signs of wanting to make business loans. The decline in yields on government bonds, where banks had parked large amounts of assets, and the improvement in overall business conditions are making such loans relatively more profitable. Aided by lower interest rates and greatly improved margins, banks have also been posting record profits for the past 2 years. Bank lending surveys by the Federal Reserve also suggest that credit conditions have eased. For these reasons, bank lending today is becoming less of a retardant to growth.

Meanwhile, the other industrial countries will not remain mired in recession forever. Indeed, the ones that entered recession first in this global slowdown—the United Kingdom, Canada, Australia, and New Zealand, for example—are all showing signs of economic rebound. Even Germany, a late arrival on the global recession scene, recorded positive GDP growth in the second and third quarters of 1993. By late 1993 there were increasing signs that the European recession was nearing bottom, and that at least modest growth would return in 1994. Even a small rebound in Europe would be welcome news to U.S. exporters. The odds of economic recovery in Japan, at least by 1995, seem good as well.

Commercial construction has also started to improve, although it will not be as bullish as it was in the mid-1980s. By late 1993 there were signs that vacancy rates for commercial real estate were posting significant declines, implying that the worst might be over for this sector.

The key exception to the forecast of diminishing headwinds is defense cutbacks. These seem almost certain to continue over the rest of the decade unless there is some major change in the world's geopolitical circumstances—which might have other, far less beneficial repercussions. Still, with most of these headwinds blowing less fiercely over the mid-1990s than they did earlier in the decade, the economy should be able to turn in a better performance.

OVERVIEW OF THE ECONOMY IN 1993

Although economic growth was sluggish in early 1993, substantial progress was made despite these headwinds. Employment increased steadily, the unemployment rate dropped, inflation remained subdued, and real GDP increased by 2.8 percent from the fourth quarter of 1992 to the fourth quarter of 1993. Claims early in the year that only a half-speed economic expansion was under way gradually gave way to the view that more-normal growth was

returning. Fourth-quarter growth of 5.9 percent (annual rate)—the highest in 6 years—reinforced this view.

The 1993 economy actually exhibited more underlying strength than was reflected in press reports or in indexes of consumer and business confidence. Domestic demand and real final sales both posted healthy increases. Real final sales to domestic purchasers (that is, excluding inventories and exports but including imports) actually increased at an annual rate of 4 percent on average from mid-1992 until the end of 1993, and only dipped below 3 percent growth once over that period—in the first quarter of 1993. At least a portion of that dip was arguably caused by a policy of the previous Administration: increased tax liabilities in early 1993 owing to a reduction in withholding that began in March 1992. In addition, an early 1993 defense spending collapse caused a growth letdown in early 1993.

A look at economic performance sector by sector provides a clearer picture of the laggards and leaders in the present expansion.

CONSUMPTION EXPENDITURES

Because consumer spending represents about two-thirds of GDP, it is not surprising that the modest output growth in the expansion to date has been associated with sluggish consumption growth. Indeed, consumption as a whole has failed to show the kind of sharp rebound typical of postwar recoveries: 11 quarters after the recession's trough, consumption had advanced only two-thirds as far as would be expected from postwar experience. Consumer sentiment manifested a typical recovery pattern for only a short time; the sharp advance usually seen when a recession ends sputtered to a halt two quarters after the 1991 trough. Sentiment trended upward only slowly over 1992 and 1993, although there was a sharp acceleration late in 1993.

Weakness in consumer spending can also be seen in the behavior of the saving rate. Typically, the saving rate falls as a recovery begins, as consumers begin to spend ahead of income. Increases in spending on consumer durables, such as automobiles and household furnishings, typically follow. Such a drop in the saving rate did not occur after the 1991 trough, however; the saving rate actually trended *upward* slightly for almost 2 years into the recovery. Over 1992, real consumer spending lagged behind real income growth, suggesting that households were still getting their balance sheets in order.

Nineteen hundred and ninety-three saw belated reductions in the saving rate. Between the fourth quarter of 1992 and the third quarter of 1993, for example, the saving rate fell by more than 2 percentage points, and this provided much of the overall lift that the economy experienced. In fact, over the last three quarters of

1993, real consumer spending increased at a 3.9-percent average annual rate—not high by historical standards, but at least tending toward the normal range for a postwar expansion.

BUSINESS FIXED INVESTMENT

After a late start, several important components of investment spending have rebounded in line with typical recovery patterns. While investment in structures has remained weak for the reasons discussed earlier, producers' durable equipment has turned in a stellar performance. For about a year after the recession trough, equipment investment remained stagnant; then it spurted to a growth path *above* the postwar recovery average. Today, investment in producers' durable equipment remains one of the strongest components of the expansion. In fact, over the year ending in the fourth quarter of 1993, investment in these goods increased by about 18 percent—a growth rate more typical of a Japanese rather than an American business cycle expansion. Certainly as far as equipment investment spending is concerned, the weak portion of the recovery was limited to the first year after the trough. More recent activity has actually exceeded the postwar norm.

INVENTORIES

Businesses kept inventories at extremely low levels relative to sales throughout 1993, and a major swing in farm inventories resulting from the Midwest floods and Southeast drought influenced the quarterly GDP growth pattern over the year (Box 2–1). The inventory-to-sales ratio was under 1.5 throughout the year, and the ratio for manufacturing hit an all-time low during the fourth quarter as sales perked up faster than some businesses expected. Several factors were at work. First, the inventory-to-sales ratio in manufacturing industries is in secular decline. Second, businesses seemed to lack confidence in the strength of the recovery. Disappointing growth in the first and second quarters of 1993 and pessimism about the economy's future prospects probably made businesses extremely cautious about producing at a faster rate than was absolutely necessary. Third, production problems in some key sectors that did experience a sharp pickup in demand, especially automobiles, probably prevented some firms from achieving the level of inventories that they deemed optimal.

The extremely lean inventories of late 1993 are good news for 1994. As 1994 opens, manufacturers are in a position where they risk losing business because of inadequate inventories, and they are therefore under pressure to increase output. There seems to be relatively little risk that overaccumulation of inventories will lead to production cutbacks in 1994.

Box 2–1.—The Economic Effects of the Midwest Floods of 1993

Last summer's floods in the Midwest were a human tragedy whose immense scope was obvious to all. Measuring their economic effects is more difficult, however. The floods disrupted the day-to-day operations of businesses, destroyed inventories and crops, and wrecked a significant portion of the region's infrastructure and housing stock. But because the level of economic activity that would have occurred without the floods is unknowable, the effects of the flooding on third- and fourth-quarter economic performance cannot be definitively assessed.

The clearest effect of the floods on national economic performance was a decline in farm output. The Bureau of Economic Analysis (BEA) of the Department of Commerce judged that $2.5 billion worth of farm output was destroyed by the floods and the simultaneous drought in the Southeast. The BEA accounted for this crop loss by lowering its estimates of farm output by $7.5 billion (annualized) in the third quarter of 1993 and by a further $2.5 billion in the fourth quarter. The adjustments were reflected in the change in farm inventories. The result of these adjustments was that measured real GDP growth was lowered by about 0.6 percentage point in the third quarter of 1993 and increased by about 0.4 percentage point in the fourth quarter. The BEA also:

- reduced estimated farm proprietors' income to account for crop damage and uninsured losses to farm property
- lowered estimates of the rental income of persons and nonfarm proprietors' income to account for uninsured property losses.

Other flood effects are too embedded in the source data to be explicitly measured. These include:

- effects of reduced farm output on inflation
- the negative effect of the floods on nonfarm business output in affected areas
- potential stimulative effects from the rebuilding of flood-damaged roads, bridges, railways, and houses—especially if the rebuilding was funded from savings and not insurance company payouts (whose effects are more like a transfer from owners of insurance companies to policyholders)
- the effect of Federal disaster assistance, insurance payments, and emergency grants.

RESIDENTIAL INVESTMENT

Residential investment was an enigma over the first part of 1993. Mortgage rates fell to 20-year lows, affordability was at 20-year highs, yet housing starts were flat for the first half of the year. Finally, starting in August, housing activity began to respond to these favorable economic conditions and posted sharp additional gains. Housing starts rose a stunning 25 percent between July and December.

A healthy fraction of new homes being sold today are sold before construction has started. This suggests that the gains in residential construction are solid and that the upward trend in housing should continue without any likely inventory cycle. As 1993 ended, the inventory-to-sales ratio of new homes, as measured by the stock of homes for sale divided by the number actually sold in a month, was at its lowest level since 1986. Given the unfavorable underlying demographic factors for housing, especially the relatively low rate of household formation, housing turned in a very good performance late in the year and was a solid contributor to the economy's advance.

NET EXPORTS

As mentioned earlier, net exports shifted from being a major contributor to economic growth over the 1987–90 period to being a retardant in 1992 and 1993. Weak foreign economies severely crimped export growth, while imports surged with the capital equipment spending boom. Even the growth rate of service-sector exports, the brightest component of U.S. trade, was hit by slow foreign growth. In current dollar terms U.S. trade in services still posted a $68 billion surplus in 1993, however, illustrating the strong comparative advantage of U.S. firms in this sector. And exports of services represented about 25 percent of total U.S. real exports in 1993. By comparison, agricultural exports in 1993 represented only about 6 percent of the total.

EMPLOYMENT AND PRODUCTIVITY

The increases in consumer spending and investment and the general pickup in the economy over the past year and a half have finally led to a more acceptable pace of job creation—something that was completely missing over the first year of recovery. On average, the economy generated 162,000 jobs per month over 1993, compared with only 81,000 jobs per month over 1992, and the *loss* of 73,000 jobs per month over 1991.

One important development in 1993 was the lengthening of the factory workweek and the increase in manufacturing overtime. In November the workweek reached a postwar record high, and overtime reached its highest level since the data series was begun in

the 1950s. Employers have apparently been concerned about the fixed costs of adding new workers and about the unsteady nature of the expansion. Many have apparently been concerned that another decline in orders might force new rounds of layoffs, and so they have been trying to squeeze the most output possible out of their existing work forces. The good news is that, with the workweek and overtime so high, there should be building pressure on businesses to add new workers as demand continues to increase.

Productivity growth was weak over the first half of 1993 but rebounded in the third quarter as the economy picked up speed. Employers kept a tight rein on labor costs as output increased. Given the moderate rates of wage increase, nonfarm unit labor costs (the cost of labor needed to produce one unit of output) increased by about 2 percent, about the same as the 1992 increase. These modest gains in unit labor costs helped to give a healthy boost to corporate profits and maintained the prospects for low inflation.

INCOMES

Real disposable income increased by a modest 1 percent in 1993. Pretax profits posted strong increases, and proprietors' income was up by over 7 percent. But wages and salaries increased by a more modest percentage, and interest income was stagnant as interest rates fell. Average weekly earnings of production workers barely kept up with inflation.

INFLATION

Nineteen hundred and ninety-three saw the best inflation performance in a generation. The implicit price deflator increased by the smallest percentage since 1964. During 1993 the consumer price index (CPI) registered its smallest increase since 1986, and the core CPI (excluding food and energy) increased by the smallest percentage since 1972. Meanwhile the producer price index (PPI) for finished goods showed virtually no increase over the course of the year. The producer price index for finished goods excluding food and energy, the so-called core PPI, showed its smallest annual increase since the government began compiling this series in 1973.

Measured inflation increased as 1993 began, as prices of apparel, public transportation, tobacco products, and motor fuels posted large increases. The GDP price deflator, the CPI, and the PPI for finished goods all accelerated from their previous quarter's rate of change. The increase in inflation was temporary, however; many analysts believe it was due to problems with seasonal adjustment. Lower measured inflation returned after the spring.

Wage gains remained modest, as mentioned, and showed no tendency to accelerate over the course of the year. Medical costs showed some signs of moderating over 1993 and recorded their

smallest annual increase in 20 years. They still increased at roughly twice the pace of the nonmedical CPI, however. External price factors, such as commodity prices, remained generally tame throughout the year, and oil prices fell sharply, suggesting a flat commodity price trajectory as 1994 began. (Box 2–2 discusses the possible economic effects of lower oil prices.) Given that the economy remains below its potential output level, there appear to be few inflationary seeds from 1993 blowing into 1994.

MONETARY POLICY

Short-term interest rates were essentially constant over the course of 1993, and the Federal Reserve continued its vigilance on inflation. After indications of an acceleration of prices in the first several months of the year, the Fed adopted an asymmetrical policy tilt, poised to tighten monetary policy if inflation gained momentum. Over the summer, however, low inflation returned, and the Fed reverted to its neutral policy stance.

The tendency in recent years for the broad monetary aggregates to behave in atypical ways, given changes in interest rates and economic activity, led the Federal Reserve to place less emphasis on these money supply measures in 1993. Some of the change in the behavior of the monetary aggregates stems from massive portfolio shifts by American households. For example, the sharp decline in interest rates on bank certificates of deposit led many households to shift money into stock and bond mutual funds. The downward shift of M2 (the broad monetary aggregate) relative to income that resulted from this and other developments clearly reduced that aggregate's usefulness as a short-term policy indicator. The sluggish growth of M2 did not signal that the Fed was running a tight monetary policy: In 1993, growth rates of M1 (the narrow monetary aggregate) and the monetary base were up to 10 percentage points higher than M2 growth.

Another policy indicator in which the Federal Reserve has expressed some interest is the concept of a real short-term interest rate—the nominal rate less expected inflation. It is generally assumed that real short-term rates will gradually rise as the economy strengthens and the output gap shrinks. The Federal Reserve's shift toward reliance on a broader set of guidelines for setting monetary policy, including short-term interest rates, appears to be an appropriate adaptation to changing events. It should allow the overall condition of the economy to be carefully monitored, and an appropriate policy response to be crafted.

FISCAL POLICIES AND THE TIMING OF OUTPUT

The uneven pattern of strong growth in late 1992 and slowdown in early 1993 was attributable in part to tax and spending changes

Box 2-2.—The Economic Effects of Lower Oil Prices

Oil prices tumbled during 1993. Over the first half of the year, West Texas Intermediate crude oil averaged about $20 per barrel. By the middle of October the price was down to about $18.25 per barrel, and by late December the price had fallen to about $14.25—more than 25 percent lower than earlier in the year. Weak global economic conditions, including the recessions in Europe and Japan, the seeming inability of the Organization of Petroleum Exporting Countries (OPEC) to restrict its members' production levels, and the possibility that Iraq would soon be exporting substantial quantities of oil again were likely contributors to the price declines.

A drop in the price of oil, like any relative price change, has microeconomic consequences: Some sectors benefit and others are hurt. Lower oil prices will likely bring painful dislocations in the U.S. oil industry and the regions where it is concentrated. If oil prices remain low, domestic oil output is likely to decline faster than it already has been. U.S. dependence on foreign oil would also be likely to increase. Lower oil prices would also cause more energy to be used and might lead to higher levels of pollution.

Because oil is such an important input into the U.S. economy, however, lower oil prices will also have favorable effects on the U.S. macroeconomy in 1994—if prices stay in the $15-per-barrel range. There are several transmission channels. The main beneficial effect is that lower oil prices translate into lower inflation, which boosts real disposable income for consumers, giving them the wherewithal to make more nonoil purchases. Lower oil prices also mean that businesses have lower costs, which translate into higher cash flow and profit margins, leading in turn to more investment spending. Foreign industrial economies also get an upward boost from lower oil prices and in turn demand more U.S. exports.

Some economic models suggest that if the 25-percent drop in oil prices in 1993 were sustained over 1994, real GDP growth would be between 0.3 and 0.4 percentage point higher in 1994. The same models predict that CPI inflation would be noticeably lower.

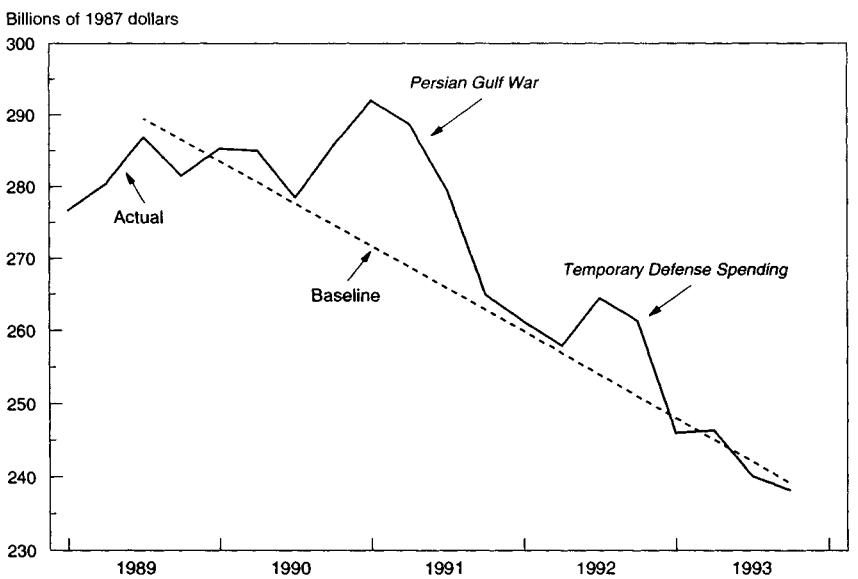
in 1992 that served to raise aggregate demand in 1992 and depress it in the first half of 1993. First, there was a temporary burst in defense spending in the second half of 1992. Second, a decrease in individual income tax withholding raised consumer spending in 1992 but reduced it in 1993 as households made their final settle-

ments with the Internal Revenue Service (IRS). The Council estimates that these two factors added 0.2 percent to the level of GDP in the second quarter of 1992 and 0.4 percent in the third and fourth quarters. These gains were temporary, however. GDP growth was 0.3 percent lower in the first quarter of 1993 and 0.4 percent lower in the second quarter than it would have been without these fiscal factors. There were also effects on the timing of consumer spending arising from the expectation and misperception of 1993 tax changes.

Defense Spending

During the second half of 1992, defense spending temporarily increased well above its trend. Part of the change was in purchases of durables. The other portion was in "other services," whose increase was in part due to expenditures to close military bases. Chart 2–7 shows the temporary burst of spending relative to a baseline which is estimated as the trend in defense spending from the third quarter of 1989 to the third quarter of 1993, excluding the quarters of the Persian Gulf crisis and the last two quarters of 1992.

Chart 2-7 **Defense Spending: Actual Versus Baseline**
Although defense spending is falling in the post-Cold War era, two recent periods of relatively high defense spending stand out.

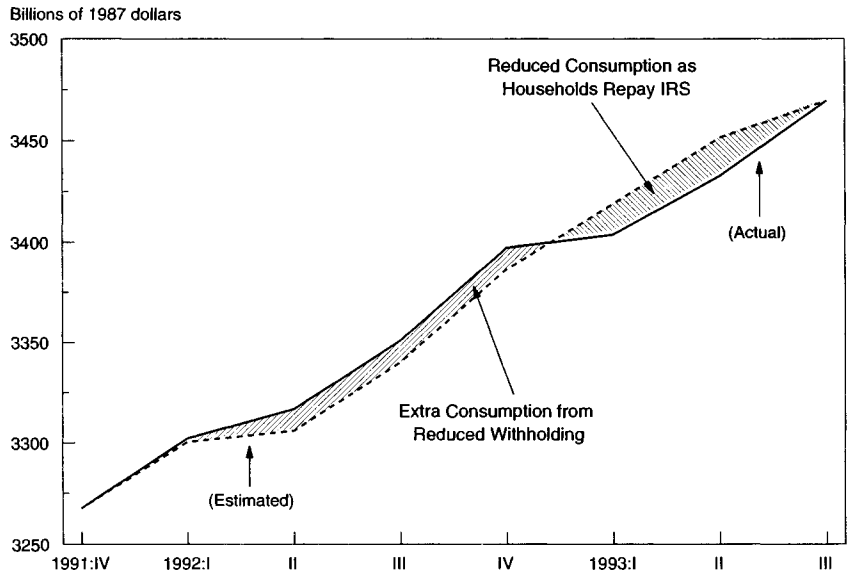


Note: Baseline is trend in spending from 1989:III to 1993:IV, excluding 1990:IV-1991:III and 1992:III-IV.
Sources: Council of Economic Advisers and Department of Commerce.

Change in Tax Withholding

The change in the withholding tables reduced income tax withholding for most taxpayers by an average of $25 a month beginning in March 1992. Taxpayers therefore owed the IRS an additional $250 (or received a smaller refund) in 1993. Households basically faced two choices: They could let the cash accumulate in their bank accounts and use it to make the extra $250 payment in April, or they could spend it. From both time-series and cross-sectional estimates of consumer behavior, the Council estimates that roughly 40 percent of households spent the extra cash because of either liquidity constraints, myopia, or inertia. Given their incomes, those households then had to reduce spending when they settled with the IRS in 1993. This shift in take-home pay led to the estimated shifting of consumption from 1993 to 1992 shown in Chart 2–8. The presumption is that households readjusted withholding and spending after their 1993 final settlements, so that this pattern will not repeat itself.

Chart 2-8 **Effects of 1992 Tax Withholding Change on Personal Consumption**
The reduction in personal income tax withholding in 1992 induced some households to shift consumption from 1993 to 1992.



Note: See text for calculation details.
Sources: Council of Economic Advisers and Department of Commerce.

There have been other changes in tax rules that worked in an offsetting direction regarding tax payments, but not in an offsetting direction regarding consumption. Specifically, the change in the

safe-harbor rules for underpayment of estimated tax probably caused some high-income taxpayers to move payments that they would have normally made in their April 1993 final settlements with the IRS to 1992 estimated tax payments. A household paying estimated tax is probably less likely to let changes in the timing of tax payments affect its consumption than is the typical household.

Expectations of 1993 Tax Changes

Anticipation and misperception of proposed 1993 changes in the tax law could have had further effects on the timing of demand. During his campaign for the Presidency, then-Governor Clinton proposed an investment tax credit. In December 1992, then-Senate Finance Committee Chairman Bentsen and House Ways and Means Committee Chairman Rostenkowski announced that any credit would be retroactive to December 3, 1992. Earlier in the quarter some firms may have delayed making investments in anticipation of receiving such a credit. Except for information-processing equipment, however, there was no discernable shift in investment spending during the fourth quarter of 1992. Given the lags in making investment decisions, it is not surprising that the anticipation of a possible credit appears to have had little effect on most components of investment. There was, however, a substantial deceleration in investment in computer and other information-processing equipment during the final quarter of 1992. It is probably relatively easy to change the scheduling of purchases of such equipment. Hence, this deceleration could well be explained in part by firms delaying purchases in anticipation of the credit.

Apparently there were also widespread misperceptions about the scope of the income tax increases in the Administration's economic plan. As late as the end of July 1993, over 70 percent of respondents to a Wall Street Journal/NBC News poll thought that middle-class taxpayers would bear most of the tax increases. In fact, the income tax increases apply only to families with taxable incomes over $140,000—the top 1.2 percent of households. Hence, it appeared for much of 1993 that many consumers incorrectly expected an income tax increase. This misperception may have accounted for some of the weakness of consumption in early 1993.

Do the 1993 Fiscal Measures Threaten 1994 Growth?

High-income households will have to make increased tax payments in April 1994 because of the increase in income tax rates enacted in 1993. There is reason to expect, however, that these extra payments by high-income individuals in 1994 will have a smaller effect on GDP than the extra payments made in 1993 by taxpayers affected by the 1992 change in withholding. One reason is that high-income taxpayers are presumably more likely to make the

payments out of savings. Another is that many high-income taxpayers reduced their 1993 tax liability by shifting income from 1993 to December 1992. Moreover, under provisions of the Omnibus Budget Reconciliation Act of 1993 (OBRA93), these taxpayers can spread their increased 1993 payments over 3 years.

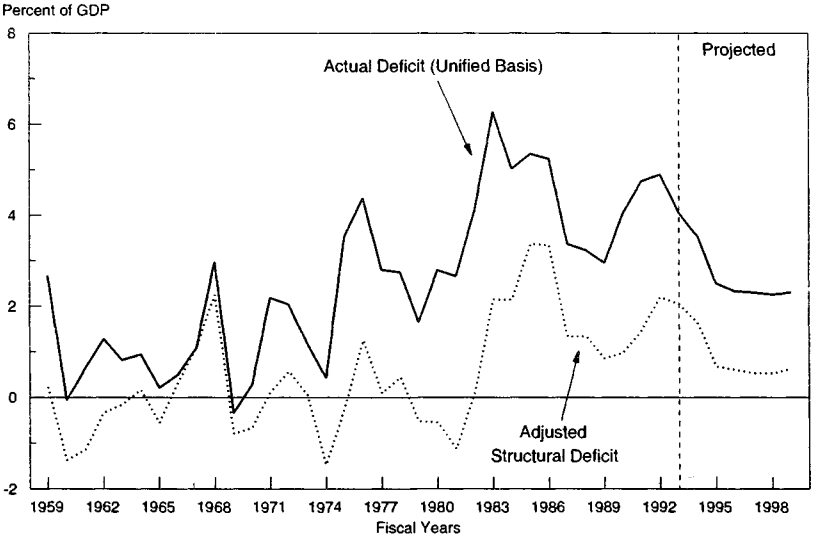
Nineteen hundred and ninety-four will also see an increase in the earned income tax credit (EITC). Payment of the EITC will tend to stimulate demand. Although households are entitled to collect the EITC during the tax year, most only claim it when they fill out their returns the following year, and they are likely to spend most of it.

THE FEDERAL GOVERNMENT'S FISCAL STANCE

The size of the budget deficit is an incomplete measure of the stance of fiscal policy. One important function of the budget is to act as an automatic stabilizer against economic fluctuations. When the economy enters a recession, tax collections fall as incomes decline, and there is an increase in government spending on such items as unemployment insurance and income maintenance programs. As a result, the budget deficit tends to increase in recessions and fall in recoveries, without any change to the tax system or in legislated expenditures. Chart 2–9 plots historical and predicted levels of the actual Federal budget deficit, which is expected to fall from 4 percent of GDP in fiscal 1993 to about 2.3 percent of GDP by the late 1990s.

The effects of the business cycle and inflation mask the true fiscal stance of the government. Declines in output from its full-employment level reduce revenue and increase expenditures. Inflation reduces the real interest cost to the government for a given level of nominal interest payments, which are included in the deficit. Chart 2–9 shows the actual deficit and the inflation-adjusted structural deficit. (The structural deficit is the one that would prevail at a high level of employment.) The estimates use the Congressional Budget Office's estimate of the cyclical adjustment. For the inflation adjustment, the outstanding Federal debt (bonds held by the private sector plus the monetary base) is multiplied by the inflation rate. As a result of the Administration's budget plan, the inflation-adjusted structural deficit falls to less than 1 percent of GDP after fiscal 1994—its lowest level since 1982. This share, moreover, remains constant for the remainder of the forecast period. The conclusion is that current fiscal policy—primarily as a result of the Administration's recently adopted deficit reduction plan—is following a more balanced and stable course than did the policies of the previous decade.

Chart 2-9 **Alternative Measures of the Stance of Fiscal Policy**
Fiscal policy as measured by the adjusted structural budget deficit is forecast to move to a more stable trajectory with the current deficit reduction plan.



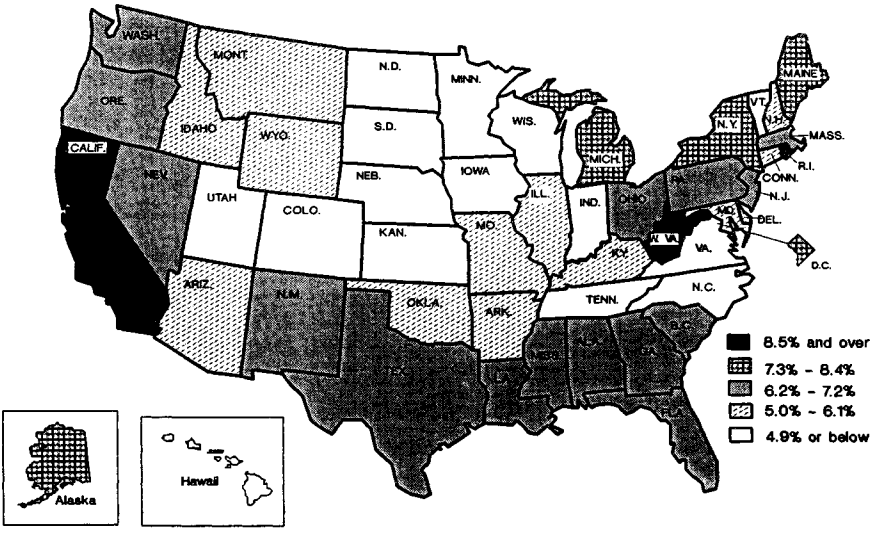
Note: See text for details.
Sources: Council of Economic Advisers, Congressional Budget Office, Office of Management and Budget, and Board of Governors of the Federal Reserve System.

INDUSTRIAL AND REGIONAL DISPARITIES

Disparities in growth across industries became more pronounced over 1993. Information-processing equipment benefited from heavy investment demand and experienced double-digit output gains. Certain interest-sensitive sectors of the economy, especially furniture, motor vehicles, and major appliances, were clearly helped by the sharply lower long-term interest rates and also posted large output gains. At the opposite end of the spectrum, the defense-related industries—aerospace, instruments, and ordnance—saw continued sharp production cutbacks.

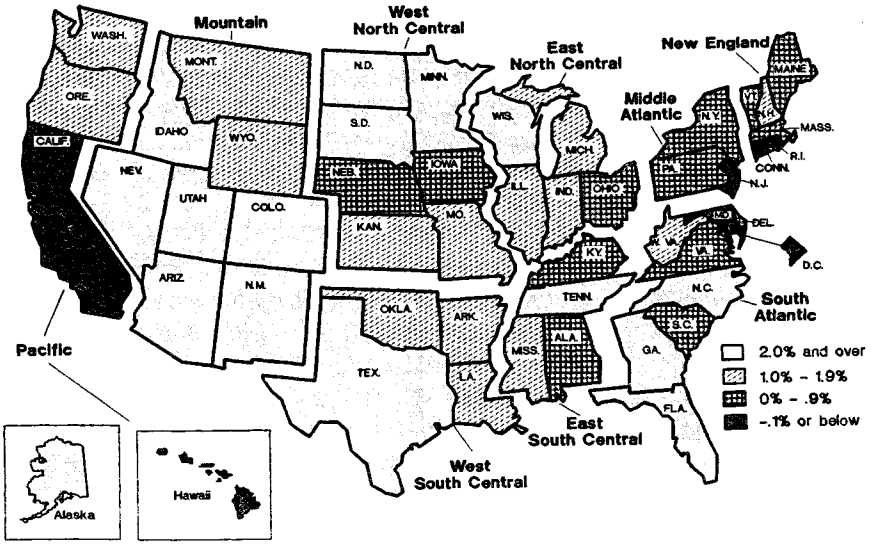
These industrial disparities contributed to regional differences in economic activities. The State of California has been particularly hard hit by the defense builddown and has yet to start posting gains in nonagricultural employment, even though the rebound in the Nation as a whole began in March 1992. Aerospace jobs are a particularly acute problem: Of the 125,000 defense-related jobs that are projected to be lost in California from 1993 to 1997, 90,000 will be in the aerospace sector. California's 8.7-percent unemployment rate at year-end contrasted with a rate of just 6.4 percent for the Nation as a whole (Chart 2–10).

Chart 2-10 **Unemployment Rates by State, December 1993**
The national unemployment rate masks substantial regional differences. California is the only large state with an unemployment rate above 8 1/2 percent.



Source: Department of Labor.

Chart 2-11 **Nonfarm Employment Growth by State, November 1992 to November 1993**
Employment gains are now widespread across the country. California remains a key exception.



Note: Chart shows percent change in nonfarm payroll employment.
Source: Department of Labor.

Meanwhile, the Mountain States were 1993's growth leaders. Strong income and employment gains were seen in Utah, Colorado, New Mexico, and Arizona (Chart 2–11).

DEFICIT REDUCTION AND THE REAL INTEREST RATE

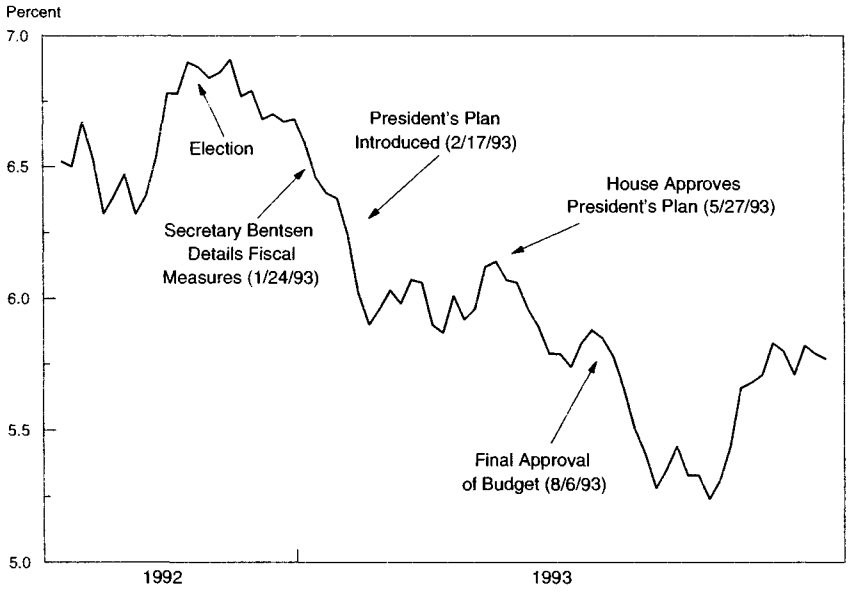
As the new Administration took office, it appeared that the ratio of Federal Government debt to GDP was on an unsustainable upward path. The explosion of debt in the 1980s had kept real interest rates high throughout the decade. Hence, nominal rates did not fall by as much as the 1980s' victory against inflation warranted. Much of the recent reduction in long-term interest rates, it will be argued below, should be attributed to the change in budget policy in early 1993. The close linkage of the decline in long-term interest rates to the political and legislative events of the last 15 months gives strong support to the view that high Federal debt in the 1980s was responsible for the high real returns on long-term bonds, and that the change in Federal fiscal policy is responsible in large part for the declines in real interest rates.

The President's economic plan reoriented fiscal policy from consumption toward investment, both by reducing the size of projected budget deficits and by changing the composition of Federal spending from current expenditures to investment. The reduction in future Federal borrowing was well received by the financial markets. In the words of the Federal Reserve Board Chairman in his July 1993 Humphrey-Hawkins testimony, the financial markets "brought forward" the effects of future deficit reduction. The event analysis shown in Chart 2–12, linking the announcement and enactment of credible budget reduction to changes in the long-term interest rate, provides support for the view that the interest rate declines were largely due to budget policy.

Long-term interest rates are near the lowest they have been since the 1960s. On election day 1992, the 10-year Treasury yield was 6.87 percent. It has ratcheted down several times since then, with the declines closely tied to political and legislative events. The yield fell to 6.02 percent at the end of February, following Treasury Secretary Bentsen's announcement of the proposed energy tax and the President's speech announcing his economic plan. The decline stalled in April when the stimulus component of the President's plan was filibustered in the Senate. It resumed its downward movement when the House passed the President's budget in late May. It then fell to 5.51 percent at the end of August after the plan was finally enacted by the Congress.

Long-term rates did increase in late 1993, reversing some of the decline that followed the passage of OBRA93. Reports in the finan-

Chart 2-12 **Yields on 10-Year Treasury Securities**
Administration policy actions have had a noticeable effect in reducing interest rates.



Source: Department of the Treasury.

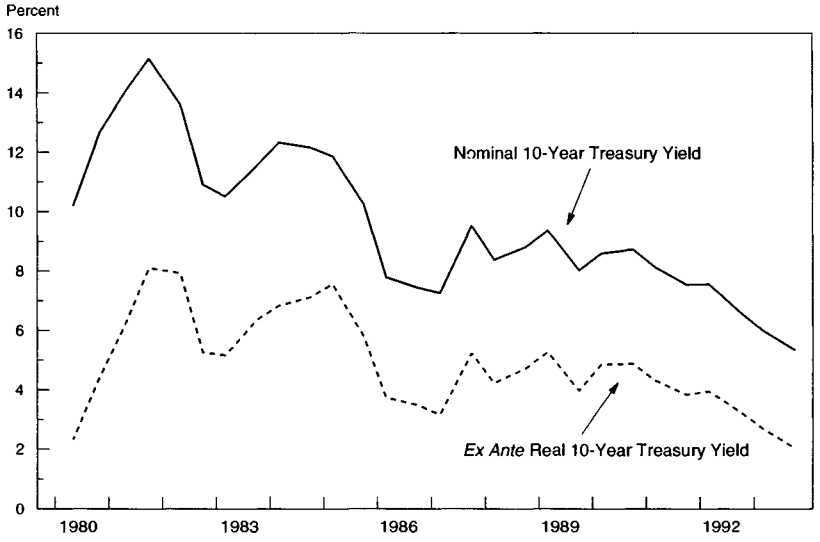
cial press attributed the increase in yields to the release of favorable economic data and to speculation by some financial observers that the Federal Reserve would tighten monetary policy. But these data and statements did not actually signal much that was new about the state of the economy nor any change of monetary policy. Unobserved factors, psychological or otherwise, are important determinants of market prices. Still, despite large, unexplained fluctuations, the three major moves in yields shown in the chart have resulted in a cumulative reduction in yields on 10-year Treasuries of 104 basis points from the election to December 31, 1993.

The sharp decline in long-term interest rates in 1993 continued the downward trend that began in the early 1980s. Interest rates, both short- and long-term, had reached historic highs in the late 1970s and early 1980s, during the period of very high inflation and the subsequent period of very tight money. The latter period was characterized by a negative or slightly positive slope to the yield curve (which relates interest rates to lengthening maturities).

Long-term real rates remained high throughout the 1980s. Chart 2–13 decomposes the nominal yield on 10-year Treasuries into expected inflation and the implied *ex ante* real interest rate. Expected

inflation is measured by the Blue Chip consensus forecast (a private sector survey of forecasts) for 10-year inflation, which has been compiled semiannually since 1980.

Chart 2-13 **Real Interest Rates**
Recent declines in the nominal long-term interest rate reflect declines in the *ex ante* real rate from its unusually high level over most of the 1980s.



Note: Real rate is nominal rate minus a consensus forecast of 10-year inflation.
Sources: Council of Economic Advisers, Department of the Treasury, and Eggert's Blue Chip Economic Indicators.

Over the period shown in the chart, the *ex ante* real rate averaged almost 5 percent. Unfortunately, comparable data on long-term expected inflation are not available prior to 1980. *Ex post* real rates provide only an imperfect guide to *ex ante* rates, especially for long-term rates, because there are so few time periods over which to average the expectational errors. Over the second half of the 1950s, the average *ex post* real 10-year rate was about 1 percentage point, over the 1960s it was –0.4 percentage point, and over the 1970s it was about +0.7 percentage point. The low *ex post* real rates of the 1960s and 1970s were surely partly explained by the unexpected rise in inflation of the 1970s. For the 1960s and 1970s, the *ex post* 10–year real interest rate understates the *ex ante* real rate because of the unexpected inflation in the late 1960s and throughout the 1970s. Based on forecasts of 10-year inflation, the Council estimates that *ex ante* real 10-year interest rates averaged slightly above 0.5 percent in the 1960s and about 2.4 percent in the

1970s. Although higher than the *ex post* rates for the same periods, these rates are well below the *ex ante* rates of the 1980s.

Therefore, it appears that real rates were unusually high throughout the 1980s. Only with the declines in nominal rates over the last few years has the real rate begun to decline. With the most recent set of observations, those of October 1993, the 10-year Treasury yield was 5.33 percent and the Blue Chip consensus forecast for long-term inflation was 3.3 percent, so the real rate was close to 2 percent. This level of real rates is somewhat above historical norms (Box 2–3).

Box 2–3.—Are Current Long-Term Interest Rates Sustainable?

Long-term Treasury bonds now yield about 6 percent. These nominal interest rates are very low by the standards of the last decade. But given the expected rate of inflation and historical standards for real interest rates, they appear to be sustainable. Long-term expected inflation is probably between 3 and 3½ percent, implying a 2½- to 3-percent real yield on long-term Treasuries. A real interest rate in this range, although low relative to recent experience, is not low relative to historical experience.

From 1953 to 1982 the *ex post* real yield on 10-year Treasuries averaged about 1 percent. Over the period 1900–50, the *ex post* real yield on government bonds was under 1 percent, but these bonds are not wholly comparable to current Treasury notes because they were callable and had tax benefits.

Clearly, if inflation remains under control, bond yields have some way to fall to come into line with their historical real averages.

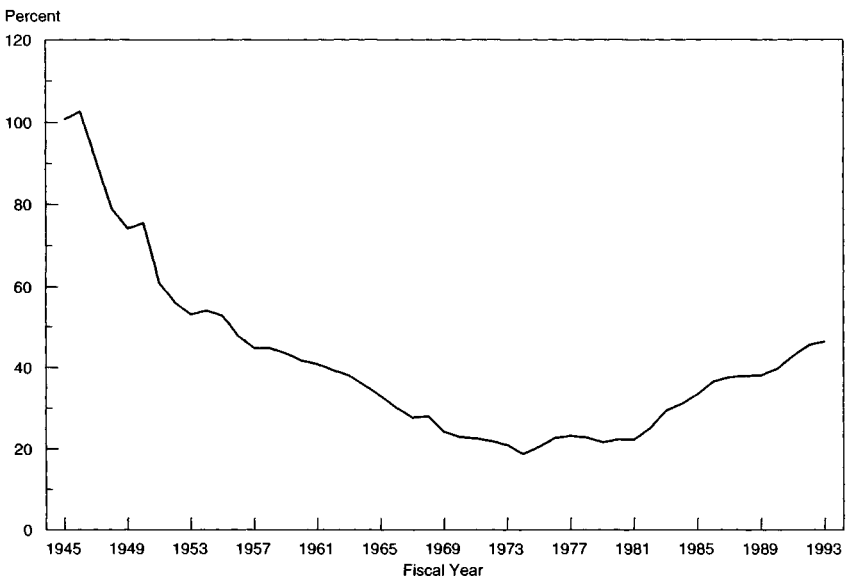
HOW DEFICIT REDUCTION REDUCES LONG-TERM INTEREST RATES

The previous section discussed the circumstantial evidence linking Federal deficit reduction to the decline in real long-term interest rates. Over the 1980s, which saw a growing and potentially explosive Federal debt, real long-term rates were unprecedentedly high. Over the last 15 months there have been sharp declines in real rates associated with policy changes that provide for credible deficit reduction. This section explores the four economic mechanisms that link Federal deficit reduction policy with the real rate: national saving, investment, and capital accumulation; the policy mix; short-run real activity; and inflation risk.

Saving, Investment, and Capital Accumulation

The Federal debt-GDP ratio doubled in the 1980s, jumping from 22 percent of GDP in 1980 to 46 percent currently (Chart 2–14). To the extent that Federal debt substitutes for productive capital in an individual's portfolio, the increase in debt reduces income and productivity and raises the marginal product of capital and therefore the real interest rate. The Administration's economic plan is meant to increase national saving and national investment. The cumulated additional investment will have a significant effect on the capital stock and therefore on future real interest rates. (See the section on "Long-Term Effects of Deficit Reduction" below for estimates of the impact of the plan on wages and the capital stock.)

Chart 2-14 **Net Federal Debt as Percent of Nominal GDP**
From the end of World War II until 1980, the debt-GDP ratio fell to about 20 percent. Since 1980 it has increased to over 45 percent.



Note: Net Federal debt is defined as debt held by the public less debt held by the Federal Reserve.
Sources: Department of Commerce and Office of Management and Budget.

The policy changes in OBRA93 reduce the projected deficit for fiscal 1998 by 1¾ percent of GDP. Not all of this projected reduction in the deficit will go to national investment, however. Changes in either the current account or private saving could offset the decrease in Federal dissaving.

During the 1980s much of the Federal deficit was offset by increases in the current account deficit. As the budget deficit is reduced, there should be similar decreases in the current account

deficit. The mechanism is simple. Deficit reduction is generally associated with an improvement in the price competitiveness of U.S. goods and services abroad, and therefore an increase in net exports. This expansion in net exports provides a stimulus that partially offsets the contractionary impact of spending cuts and tax increases on domestic demand. While it is difficult to determine the magnitude of this offset precisely, studies suggest that net exports will rise by approximately 40 percent of the initial deficit reduction.

Declines in private saving could also offset decreased Federal dissaving. However, the experience of the 1980s provides strong evidence on the reaction of private savers to government deficits. Personal saving did *not* act to offset ballooning Federal deficits in the 1980s, contrary to the predictions of neo-Ricardian theory. Therefore, we expect no decrease in private saving as deficits are reduced under the President's economic plan. After taking into account the reduction in the current account deficit, we estimate that the deficit reduction plan enacted in OBRA93 should increase the share of national investment in GDP by about 1 percentage point.

The deficit reduction package should increase the capital stock, as productive capital substitutes for government debt in private portfolios. An increase in the share of investment in GDP of 1 percentage point would have a substantial effect on the capital-labor ratio—raising it in steady state by about 10 percent (see below for details of the assumptions underlying this calculation). With conservative assumptions about the curvature of the production function (which governs how much output per worker will increase for a given increase in capital per worker), such a change in the capital-labor ratio would be expected to reduce the return on capital by about 2 percentage points—which is slightly higher than the decline in real long-term rates that we have seen to date.

It takes many years, however, to adjust to a new steady state. Along the transition path, the return on capital would fall only gradually. So, even if we accept the implied reduction in the steady-state return on capital, capital deepening alone cannot account for the sharp reduction of interest rates on long-term bonds that has already occurred.

Policy Mix

Credible deficit reduction also might affect long-term interest rates through the expectation of a changed mix of fiscal and monetary policy. In the 1980s, the Federal Reserve pursued a relatively restrictive policy to counter the stimulus engendered by loose fiscal policy. This mix resulted in high real interest rates. With credible deficit reduction, the Federal Reserve will be able to achieve a given level of nominal demand with a less restrictive monetary policy. This shift in the policy mix should reduce future real short-term interest rates. Expectations that short rates will be lower in

the future should be reflected in lower real long-term rates. As a consequence, the composition of output will shift toward investment at the expense of consumption.

The Short-Run Level of Real Activity

Long-term rates might also fall because of bad news about expected future real economic activity. Real growth in the first half of 1993 was indeed disappointing. But both Administration and private forecasters believed, correctly as it turned out, that growth would be better in the second half of the year. Moreover, if there are fears of a future slump, why is the stock market at record highs? Presumably, market participants expect good earnings and dividends. The low bond yields and high stock values are consistent with the path of stable growth, low inflation, and decreasing unemployment that the Administration forecasts. Finally, the news of increasing growth that began to emerge in the fall was greeted by only modest increases in long-term rates.

Inflation Risk

A decline in expected inflation could also account for the decline in long-term bond rates associated with the deficit reduction plan. Chart 2–13 shows, however, that there is no break in inflation expectations associated with this decline in long-term bond rates. The difference between the nominal and real interest rates in Chart 2–13 gives a time-series of expected long-term inflation. In October 1992 the Blue Chip consensus expected an average annual GDP inflation of 3.3 percent for 1994–98 and 3.4 percent for 1999–2003. In October 1993, the consensus was again for 3.3-percent inflation for 1995–99, and 3.3 percent for 2000–2004. Hence, the consensus forecast implies that virtually all the recent reductions in nominal long-term rates were also reductions in real rates.

SHORT-RUN EFFECTS OF INTEREST RATES

The reduction in real long-term interest rates has been an important element powering the economic recovery. As discussed elsewhere in this chapter, reductions in Federal purchases—especially for defense—have been an important factor holding back the recovery. As the reductions in expenditures and increases in taxes built into the Administration's plan take effect, they—taken in isolation—would place a continued drag on the economy. But they should not be taken in isolation. Because long-term interest rates anticipate credible future fiscal consolidation, the effects of deficit reduction in long-term rates show up in advance of the actual deficit reduction. The resulting increases in interest-sensitive expenditures provide a boost to economic growth that works in the opposite direction of the direct fiscal effect. This increase in interest-sensitive spending is closely linked with the sustained reduction in

long rates. In 1993, real GDP in the interest-sensitive sectors (business fixed investment, housing, and consumer durables) rose 11 percent, while the non-interest-sensitive sectors showed virtually no growth.

The interest-sensitive components of spending did not, however, increase uniformly throughout 1993. Producers' durable equipment was strong throughout the year, growing 18 percent from fourth quarter to fourth quarter. Expenditure on consumer durables was also strong throughout the year (with an 8-percent growth rate), but production of automobiles was irregular. Investment in nonresidential structures was weak for most of the year, most likely as a result of high vacancy rates in existing buildings, due in turn partly to overbuilding in the 1980s. The lags in the response of residential construction to the low interest rates were unusually long. Residential investment fell at a 4-percent annual rate in the first two quarters of 1993, but rose at a 21-percent rate in the last two quarters.

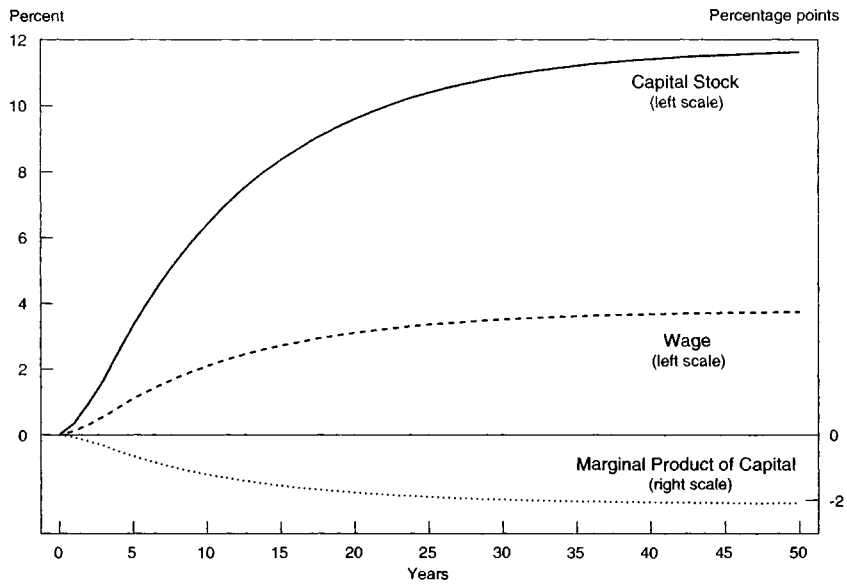
Net exports would appear on many economists' lists of interest-sensitive expenditures. Normally, low interest rates should lead to depreciation of the dollar and therefore to increased exports. This channel for interest rates was offset by other factors, however. Short-term rates fell around the world, not just in the United States, and the dollar has actually appreciated slightly on a multilateral basis. (A further discussion of the exchange rate is presented in Chapter 6.)

LONG-TERM EFFECTS OF DEFICIT REDUCTION

The key macroeconomic rationale for reducing the Federal deficit is to increase investment and therefore productivity and real incomes in the future. Changes in fiscal policy should exert sustained effects on national investment and saving. As discussed above, the President's economic plan should increase the share of domestic investment in GDP by about 1 percent once it is fully phased in. Chart 2–15 shows the projected impact of such an increase in the national investment rate on the marginal product of capital, the real wage rate, and the capital stock. (Box 2–4 contains details of the computation.) The data are expressed relative to the initial steady-state position.

All of the variables require several decades to adjust to their steady-state values. The ultimate reduction in the return to capital is about 2 percentage points. The reduction in long-term rates we have already seen is closer to 1½ percentage points. The reduction in the marginal product of capital takes place, however, over a very long period of time. Indeed, as presented in the chart, the marginal product of capital is down only 1 percentage point after 8 years. Moreover, since capital and bonds are not perfect substitutes, their

Chart 2-15 **Dynamic Effects of Deficit Reduction**
The real effects of raising the saving rate through deficit reduction include higher wages and investment and lower real interest rates.



Source: Council of Economic Advisers.

rates will move by less than one for one. Other factors, such as expectations about the policy mix, therefore must explain the bulk of the rate reduction.

A small increase in the investment rate buys a substantial increase in the capital stock, again over a long period. This increase in the capital stock should ultimately raise real wages and productivity by about 3¾ percent.

Initially, consumption falls because of the direct effect of the Federal budget package. As output and productivity increase, however, so does consumption. It takes about 5 years for the change in fiscal policy to have a net positive effect on consumption. Thereafter, the effect of the economic plan is to raise consumption permanently, eventually by more than 2½ percent per year.

These calculations are quite conservative. They do not assume any externality from capital accumulation or any extra boost to productivity from embodied technological progress. If these factors are present, the gains from the increase in investment could be substantially higher.

Box 2–4.—Estimating the Long-Run Effects of Deficit Reduction

Chart 2–15 shows the results of applying a model of economic growth developed by Robert M. Solow to the change in the investment rate engendered by OBRA93. To carry out these calculations, we make several assumptions:

- The production function is Cobb-Douglas with a capital share of one-third. (The Cobb-Douglas function presumes a fairly large degree of substitutability between capital and labor and will thus show a substantial output effect of increasing capital).
- The rate of growth of the economy's potential output (a little below 2.5 percent) plus the rate of depreciation (a little above 9 percent) is 11.5 percent.
- The initial investment rate is 13 percent, about the ratio of fixed investment to GDP in 1993. It is assumed to rise to 13.4 percent the first year, 13.7 percent in the second, 13.8 percent in the third, and is 14.0 percent thereafter.

The magnitude and timing of the increases in investment reflect the increase in Federal saving from the deficit reduction package and the assumption (see text) that 40 percent of the increased Federal saving will be offset by a reduced current account deficit.

These calculations are subject to a considerable degree of uncertainty. They are sensitive to the form of the production function and the assumed rates of depreciation and growth in potential.

THE ECONOMY'S RESPONSE TO HIGHER INCOME TAXES

Critics of the increase in income tax rates enacted in August 1993 make two related claims: first, that higher tax rates will have an adverse effect on the level of saving, investment, and employment in the economy, and second, that the higher tax rates on high-income taxpayers will not result in much (or any) increase in tax revenues. The arguments offered to bolster these claims have a common foundation, namely, that the disincentive effects of higher marginal tax rates have a profound influence on individuals' behavior.

We note first that economies can thrive under a wide range of top marginal tax rates—which already weakens the arguments of these critics. In fact, the U.S. economy has performed extremely well during periods of relatively high top marginal rates: We en-

joyed healthy average real GDP growth of 4 percent per year over the decade of the 1960s, when the top marginal income tax rate on wage and salary income averaged 80.3 percent, but less impressive 2½-percent average annual growth in the decade of the 1980s, when the top rate on wages and salaries averaged 48.4 percent. Also, many people in the United States admired the investment-led economic boom that Japan enjoyed in the 1980s, when that country had much higher marginal income tax rates than did the United States. Obviously, many other important factors besides marginal tax rates determine saving and investment patterns and economic growth.

DO TAXES CHANGE BEHAVIOR?

A central tenet of economics is that relative prices matter. Taxes on capital and wage income change the relationships among the various prices that people face when deciding how much to save, invest, and work, and thus have an effect on the way people choose to allocate their time (between supplying labor and taking leisure) and their income (between current consumption and saving). This observation serves as the basis of the supply-side dictum that a reduction in taxes, by inducing people to work harder and save more, can induce higher rates of investment and economic growth.

The extent to which changes in the marginal tax rate on income affect labor supply and saving has been a subject of extensive research for many years. The preponderance of evidence seems to indicate that the changes are small. Saving rates seem to be little affected by movements in after-tax interest rates, and hours worked and labor force participation rates for most demographic groups show only limited sensitivity to changes in after-tax wages.

It is undeniable that the sharp reduction in taxes in the early 1980s was a strong impetus to economic growth. But it is unlikely that the principal source of this growth was people reacting to reductions in marginal tax rates by working and saving more. The expansion that took place over the 1980s was tax-induced mainly insofar as lower taxes raised disposable income, which led to increased consumption. For example, between 1981 and 1986, the consumption share of GDP increased from 64.5 percent to 67.4 percent. In other words, the 1980s' saw a classical Keynesian, demand-driven expansion—not the kind of expansion that supply-side theory predicted. Those who would point to the effects of the 1980's tax cuts as evidence of strong supply-side effects of taxation are grossly overstating the case.

The increases in the top marginal income tax rates enacted by the Congress in 1993 will affect directly only the top 1.2 percent of American families. Moreover, top marginal tax rates remain low by historical standards. While some individuals may alter their be-

havior because of the higher tax rates and, for example, cut back their hours worked, others may actually increase their work effort in order to meet saving or consumption objectives. Overall, it is unlikely that the Administration's plan will induce large responses in labor force participation, hours worked, or savings in the overall economy.

DO HIGHER TAX RATES INCREASE TAX REVENUES?

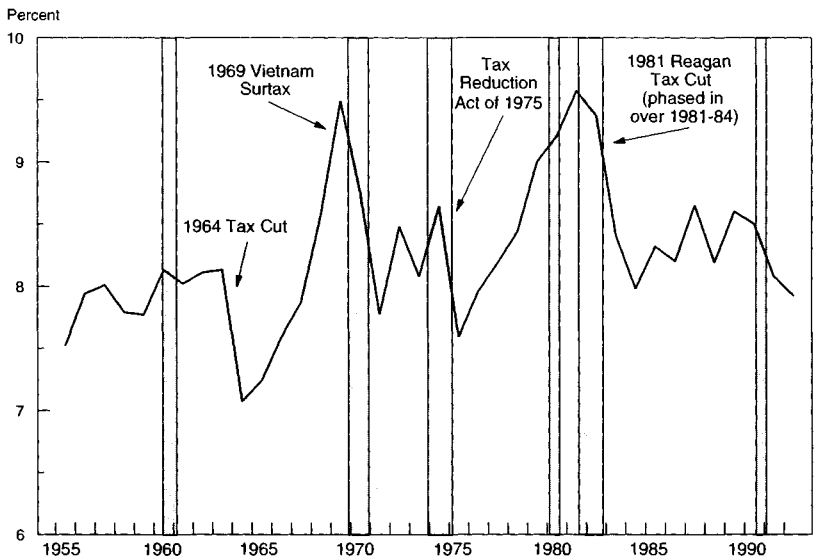
Some also argue that income tax collections do not vary much when top marginal tax rates increase or decrease. In this view, an increase in income tax rates provides such a strong incentive for people to reduce their taxable income that the tax base shrinks and no additional revenue is generated. For example, a worker facing higher taxes on wages might choose to take some compensation in the form of nonwage benefits, such as more vacation time or larger future pensions. Similarly, individuals facing higher tax rates on unearned income might change the composition of their savings (while keeping the level constant) by investing in tax-exempt bonds rather than stocks or corporate debt.

History can serve as a guide to determining whether these offsetting effects of a change in tax rates are strong enough to have a significant impact on revenues. For the United States, contrary to the supply-siders' claims, income tax cuts have generally *reduced* income tax revenues and tax increases have generally raised them. Chart 2–16 illustrates the effect that a number of changes in tax policy have had on personal income tax receipts. Several episodes stand out:

- The 1964 tax cut reduced the top marginal rate from 91 percent in 1963 to 77 percent in 1964 and then to 70 percent in 1965. Income tax revenue as a share of GDP dropped sharply.
- The special Vietnam war surtax imposed additional charges equal to 7.5 percent of tax in 1968, 10 percent in 1969, and 2.5 percent in 1970. The result was a sharp increase in revenues in 1968 and 1969, followed by a decline as the surtax was phased out.
- The 1981 tax cut reduced the top marginal rate from 70 percent to 50 percent in 1982 and cut tax rates for lower income individuals over the 1982–84 period. *Since then, personal income tax revenues as a share of GDP have never regained their 1981–82 levels.* Similarly, the 1986 tax reform reduced marginal rates in stages over 1987 and 1988, and revenues as a share of GDP in 1988 fell slightly below their 1986 level.

In short, evidence from postwar experience strongly suggests that personal income tax revenues rise when marginal rates are increased, and fall when marginal rates are reduced.

Chart 2-16 **Personal Income Taxes as Percent of GDP**
A number of historical changes in tax rates demonstrate the effect that rate changes have on revenues.



Note: Shaded bars denote recessions.
Sources: Department of Commerce and National Bureau of Economic Research.

THE ECONOMIC OUTLOOK

A credible deficit reduction plan and low long-term interest rates have set the stage for moderate but sustainable economic growth over the mid-1990s. As the ratio of the Federal budget deficit to GDP declines, financial markets should be reassured that inflation and interest rates can be sustained at the levels of the 1950s and 1960s. Interest-sensitive sectors of the economy, particularly business fixed investment, should thrive and provide a steady demand base. Housing and demand for household durable goods and automobiles should also do well and underpin a steady economic expansion.

The lean inventories that the economy was carrying as it entered 1994 suggest that manufacturers should face gradually increasing order levels. With the factory workweek and manufacturing overtime at postwar highs, there will be growing pressure on firms to add new workers to meet production demands. Higher employment should contribute to a steady increase in income and provide lift for all sectors of the economy. Income growth, which was outstripped by increases in consumer spending over the course of 1993, should

gradually overtake spending growth over the next couple of years, leading to a slowly increasing saving rate.

Finally, foreign economies should recover over the next couple of years and provide an export lift for U.S. firms. By early 1995, net exports should once again be contributing to U.S. growth rather than subtracting from it. Strength in these sectors is expected to more than offset the continued declines in real Federal spending that are expected over the next 5 years.

The projected decline in the Federal budget deficit, from 4.0 percent of GDP in fiscal 1993 to about 2.3 percent of GDP by fiscal 1996, should have benefits for the economy that go beyond interest rates. First, with less government "crowding out," more funds will be available for private business investment. This higher investment level will increase the Nation's capital stock and hence increase its long-run potential output. Second, there is a linkage between the Federal budget deficit and the current account deficit. Because foreign savings have been steadily flowing into the United States to cover the imbalance between domestic saving and domestic investment, we have been running large capital account surpluses. These in turn have required large current account deficits, because the two accounts are mirror images. A steady reduction of the Federal budget deficit, therefore, should also translate into smaller current account deficits.

With these developments, GDP growth of 2½ percent to 3 percent per year—in line with 1993 growth—seems likely to continue over the rest of the 1990s (Table 2–2). This growth should be sufficient to reduce the unemployment rate steadily from the roughly 6½–percent level of late 1993 to about 5½ percent (under the old unemployment definition) by the end of 1998. (Box 3–1 in Chapter 3 contains a discussion of the relationship between the old unemployment rate, based on the historical Current Population Survey, and the new unemployment rate, based on the revised version of the survey.) These gains will be paired with healthy increases in real disposable income, which are as important as job growth to the American worker. After two decades of relative stagnation, real wages should post solid gains and allow American families once again to enjoy steadily improving living standards.

Within this macroeconomic environment, short-term interest rates are likely to drift slowly upward over the coming years as the economy strengthens. Long-term interest rates are not expected to increase appreciably, however, because inflation should remain subdued and budget deficits will continue to shrink. Healthy gains in productivity, the mainspring of rising living standards, will be the key to keeping inflation tame. The higher rate of business investment in the 1990s than in the 1970s and 1980s should keep productivity on a relatively fast track and prevent unit labor costs

TABLE 2–2.— *Administration Forecasts*

Item	1993	1994	1995	1996	1997	1998	1999
	Percent change, fourth quarter to fourth quarter						
Real GDP	2.8	3.0	2.7	2.7	2.6	2.6	2.5
GDP implicit deflator	2.2	2.7	2.8	2.9	3.0	3.0	3.0
Consumer price index (CPI-U)	2.7	3.0	3.2	3.3	3.4	3.4	3.4
	Calendar year average						
Unemployment rate (percent)							
Old basis	6.8	6.3	5.9	5.7	5.6	5.5	5.5
New basis	.....	(6.6–7.2)	(6.2–6.8)	(6.0–6.6)	(5.9–6.5)	(5.8–6.4)	(5.8–6.4)
Interest rate, 91–day Treasury bills (percent)	3.0	3.4	3.8	4.1	4.4	4.4	4.4
Interest rate, 10–year Treasury note (percent)	5.9	5.7	5.7	5.7	5.7	5.7	5.7
Nonfarm payroll employment (millions)	110.2	112.3	114.3	116.2	118.2	120.0	121.9

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

from accelerating. Health care reform should help rein in the spiraling costs that have plagued that huge sector of the economy and thus help control overall inflation.

The Administration's forecast is in line with private sector forecasts for 1994 and the mid-1990s. It assumes no dramatic shift in aggregate economic performance beyond the trends clearly established over 1993—low inflation, low long-term interest rates, and healthy investment spending. It also assumes that the historical (Okun's law) relationship between output and unemployment continues to hold.

RISKS TO THE FORECAST

As always, there are risks to this forecast. First, foreign economic activity may not pick up as expected, especially if other governments remain reluctant to stimulate their economies by easing interest rates or pursuing countercyclical fiscal policies. It is also possible that the kind of industrial restructuring that the United States has endured over the past decade may prove to be a bigger hurdle than realized for key European trading partners and Japan. Also, the timetable for the correction of the Japanese speculative bubble of the late 1980s is unclear and could take longer than expected. The better the Group of Seven countries coordinate their macroeconomic policies over the next couple of years, the lower the risk of a prolonged pause in industrial-country growth.

A second risk is that long-term interest rates could take back more of their declines of 1993. Such a move could crimp the interest-sensitive sectors that provided the economy with most of its growth in 1993. Housing and business fixed investment would likely be the most vulnerable sectors.

A stalling out of consumer demand cannot be ruled out either. Consumers have been increasing their spending by a larger percentage than their incomes have been rising over the past year, and they could turn pessimistic about the future again. Indeed, they have already done so several times in this business cycle expansion. An unexpected cutback in consumer spending would lead to higher than desired inventory levels, which would in turn reverberate back through the economy in the form of lower orders and perhaps lower employment in manufacturing.

But economic growth could also exceed this forecast in the short run. The U.S. output gap widened sharply over the 1990–91 recession, and the economy could grow faster than its noninflationary potential for a couple of years as part of a catchup process. Certainly growth of 4 percent would not be unprecedented during such a phase. Among the factors that might contribute to faster than expected growth are a faster than expected rebound of economic growth in Europe, Japan, and the rest of the industrial world, which would sharply boost U.S. exports; oil prices remaining relatively low and giving a healthy boost to real disposable incomes; and the possibility that Americans have more pent-up demand than realized for houses, automobiles, and other durable goods.

SOURCES OF LONG-RUN GROWTH

The long-run rate of real GDP growth can be expressed as the sum of the individual growth rates of four components: (1) the number of available workers in the economy (the labor force); (2) the rate at which these workers are employed (the employment rate); (3) the number of hours worked per year (which is proportional to the average workweek); and (4) the quantity of goods and services produced by an hour of labor (labor productivity). Table 2–3 details the contribution of each of these components to real GDP growth over several historical time periods and as projected for the rest of the decade. Because many of these components vary with the business cycle, their growth rates are measured from cyclical peak to cyclical peak. Estimates in the fourth column are based on actual data through the fourth quarter of 1993 and forecasts by the Administration through 1999.

The projected growth of nonfarm business product from the business cycle peak in the third quarter of 1990 to the end of 1999 is 2.7 percent per year. Underlying this projection is a growth in output per hour of 1.5 percent per year and growth in hours of 1.2 per-

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TABLE 2–3.— *Accounting for Growth in Real GDP, 1960–99*

[Average annual percent change]

	1960 II to 1981 III	1973 IV to 1981 III	1981 III to 1990 III	1990 III to 1999 IV
1) Civilian noninstitutional population aged 16 and over	1.8	1.8	1.1	1.0
2) PLUS: Civilian labor force participation rate	0.3	0.5	0.4	0.2
3) EQUALS: Civilian labor force	2.1	2.4	1.6	1.2
4) PLUS: Civilian employment rate	–0.1	–0.4	0.2	0.0
5) EQUALS: Civilian employment	2.0	2.0	1.8	1.2
6) PLUS: Nonfarm business employment as a share of civilian employment	0.1	0.1	0.2	0.0
7) EQUALS: Nonfarm business employment	2.1	2.1	2.0	1.2
8) PLUS: Average weekly hours (nonfarm business sector)	–0.6	–0.7	0.0	0.0
9) EQUALS: Hours of all persons (nonfarm business)	1.5	1.3	2.0	1.2
10) PLUS: Output per hour (productivity, nonfarm business)	1.7	0.6	0.9	1.5
11) EQUALS: Nonfarm business output	3.3	1.9	2.9	2.7
12) LESS: Nonfarm business output as a share of real GDP[2]	0.1	–0.2	0.2	0.4
13) EQUALS: Real GDP	3.2	2.1	2.7	2.4

[1] Line six translates the civilian employment growth rate into the nonfarm business employment growth rate.

[2] Line 12 translates nonfarm business output back into output for all sectors (GDP), which includes the output of farms and general government.

Note.—Data may not sum to totals due to rounding.

Time periods are from business cycle peak to business cycle peak to avoid cyclical variation.

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

cent per year. The share of nonfarm business in GDP is projected to grow at 0.4 percent per year, so the growth rate of GDP over this period is projected to be roughly 2.4 percent per year.

The forecast for nonfarm hours assumes a civilian labor force growth rate of 1.2 percent per year, which is about a percentage point lower than labor force growth during the 1960s and 1970s. Virtually all of this difference reflects the slower growth of the labor force. It also assumes no change in the average workweek. The return of the economy to full employment by 1998 implies zero peak-to-peak growth in the civilian employment rate over the forecast period.

More than half of the predicted growth in real GDP results from an assumed rate of nonfarm labor productivity growth of 1.5 percent per year. This rate is somewhat higher than the actual rate over the past two decades. While the sources of productivity growth are complex, and the causes of the well-documented "productivity slowdown" of the 1970s remain under debate, we believe there is justification for assuming an increase in labor productivity growth over the near term.

First, the baby-boom generation, which entered the labor market *en masse* during the 1970s, has now been fully assimilated. The workforce of today is thus older, more educated, and more experienced than in previous years. Second, capital deepening (see above) is likely to occur. As business continues to respond to low real interest rates, the level of investment in the economy should rise,

leading to an increase in capital intensity. Third, the Administration's programs of promoting public investment—including better transportation and communications infrastructure—and human capital formation should enhance private sector productivity. The implication of all these factors is that some improvement in the rate of productivity growth over the next several years is likely.

CONCLUSION

The performance of the U.S. economy was unsatisfactory from early 1990 until the second half of 1992. Job creation was lackluster, unemployment was higher than it should have been, and real output failed to manifest the gains that are usual for an economic recovery. Even today the economy is operating below its potential level of output. Some of the sluggishness over this period was payback for a decade of debt-financed growth. Over the 1980s and early 1990s, the Federal Government ran massive budget deficits even in years of strong economic growth, and the level of net Federal debt jumped from about $800 billion in 1982 to about $2.7 trillion in 1992. A key result was historically high real interest rates.

Corporations followed suit, heavily leveraging their operations. Even individuals got into the act and allowed debt levels to rise markedly. Meanwhile, large budget deficits contributed to the remarkable transformation of the United States, from a country that lent more to foreigners than it borrowed, into the world's largest debtor.

Many necessary corrections have now taken place, including new, more responsible fiscal policy. The Federal budget deficit should fall roughly in half as a share of GDP over the next 4 years. This anticipated deficit reduction has already caused long-term real interest rates to tumble. With inflation likely to remain subdued, these lower interest rates poise the economy for a period of sustained growth in the mid-1990s. This growth should be sufficient to generate 8 million new jobs within 4 years.

Lower interest rates should also boost the share of the economy going to investment. More investment should lead to capital deepening, higher labor productivity, and higher real American wages. As the government share of the economy falls, the net export share should increase. A higher level of exports should give a boost to real wages, too, partly because export jobs on average pay better wages than average U.S. jobs, and partly because of increasing specialization by American industry. Real income gains, in the final analysis, are the ultimate payoff from economic growth.

CHAPTER 3

Trends and Recent Developments in the U.S. Labor Market

THE CLINTON ADMINISTRATION has made increasing both the quantity and the quality of jobs its highest priority. Providing a stable macroeconomic foundation for private sector activity is essential to achieving this goal, but it is not enough. Sound macroeconomic policies are necessary but not sufficient for the task at hand. They must be complemented by labor market policies to remedy a number of deep and longstanding impediments to the maintenance of high employment and to improvements in the quality of jobs. This chapter discusses these impediments and the Administration's proposals for addressing them.

The 1990–91 recession and the first year of the recovery witnessed rising unemployment. Even though output and employment have since been increasing, the news has been filled with stories of corporate downsizings and the increasing use of "contingent workers." These reports have sharpened fundamental fears about the security of employment. Popular accounts of recent events also allege that technical change is reducing employment throughout the economy.

After rising steadily for several decades, U.S. real wages have hardly grown since the early 1970s, while the growth of total real compensation (wages plus benefits) has slowed considerably. At the same time, the income gap between rich and poor has been growing, so that the poor are worse off in real terms now than they were two decades ago. Incomes of those in the middle have stagnated. The unemployment rate, both at peaks and troughs of the business cycle, has tended to be higher in the last two decades than in the first half of the postwar period. Employment-to-population ratios have risen for women, but fallen for men—especially for black men, whose employment prospects are particularly bleak. Further, although there is little evidence of any large increase in job instability, turnover rates in the U.S. labor market have long been very high, and job displacement is often very costly for those unlucky enough to lose a job they have held for many years. High turnover rates combined with rising inequality imply increasing uncertainty about future income for many Americans.

In response to these problems in the Nation's labor market, many of which have been with us for several years, this Administration has set out a long-term work force strategy to help the economy create more jobs—at least 8 million over 4 years. To reduce job insecurity, the Administration aims to ease labor market transitions in a number of ways. By making sure that people have health insurance whether or not they are employed, the Administration seeks to reduce the trauma of job loss. The strategy also includes plans to help young workers enter the labor market more smoothly by providing a bridge between school and work. The Work Force Security Act will help experienced workers who have lost jobs find new employment more quickly, and will provide support for training for those who cannot.

Finally, and importantly, the Administration's strategy seeks to improve worker productivity and increase earnings. To this end, the Administration is pursuing policies to increase investment in research and development, to spur private investment in plant and equipment, and to facilitate the spread of modern cooperative employment practices (such as total quality management and quality circles). These initiatives address the general problem of slow wage growth, but growing inequality and real wage declines for the least advantaged are problems that require specific attention. Since growing inequality is due in large part to the growing mismatch between the demand for trained labor and its supply, the Administration aims to provide more and higher quality training so that wages may rise—particularly for the middle-class and the least advantaged. Income inequality has also been directly addressed by an increase in the earned income tax credit.

EMPLOYMENT GROWTH

U.S. employment grew rapidly from 1950 to 1990, with the number of nonfarm jobs increasing on average by over 2.2 percent a year. In contrast, from the end of 1990 to the end of 1992, job growth was virtually nonexistent. During 1993, employment growth improved considerably to an annual rate of 1.8 percent, but job creation remains low compared with past recoveries. As of the fourth quarter of 1993, the U.S. economy had been in recovery for 11 quarters. The unemployment rate fell from its postrecession high of 7.7 percent in June 1992 to 6.4 percent in December 1993. Yet despite these signs of recovery there has been widespread concern about the pace of job growth.

A SLOW RECOVERY

Without question, job growth has been relatively weak since the trough of the recent recession. During the 11 quarters after the

first quarter of 1991, nonfarm payroll employment grew by 2.3 million, an increase of only 2.1 percent. In fact, employment did not begin to rebound until the first quarter of 1992. In previous recoveries employment growth was much stronger. For example, during the first 11 quarters after the recession of 1981–82, nonfarm employment grew by 10.1 percent. In seven previous postwar recoveries, employment increased, on average, by 8.8 percent over the first 11 quarters of recovery and expansion.

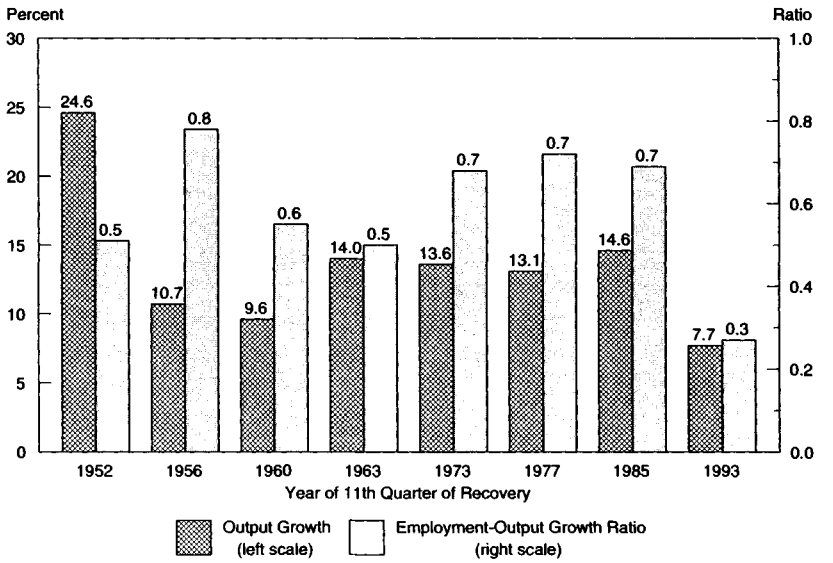
A key difference between the current and past recoveries, however, is the extraordinarily slow pace of output growth. Real gross domestic product (GDP) grew only 7.7 percent during the first 11 quarters of this recovery, compared with an average increase of 14.3 percent during the previous postwar recoveries. Possible reasons for the slow growth of output are discussed in Chapter 2. They include balance sheet adjustments by firms and consumers, cutbacks in defense purchases, slow growth of construction spending, the credit crunch, and slower export growth due to weak economies abroad. Given the slow rate of output growth, it should not be surprising that employment growth has also been slow.

Nevertheless, the current recovery still stands out relative to other recoveries when one compares the ratio of total employment growth to output growth. By the 11th quarter of previous recoveries, that ratio was about 0.62, compared with 0.27 in the current recovery (Chart 3–1). It is comparisons such as this that have led observers to claim that corporate restructuring and rapidly rising productivity have allowed output to grow without commensurate increases in employment. Some critics see deeper forces at work. For example, it has been argued that productivity growth—strongest in the manufacturing sector—is now proceeding at a rapid pace in the service sector as well. Historically, job losses in manufacturing were offset by rapid growth in the service sector, but with strong productivity growth in the service sector this is alleged to be no longer possible.

However, simple comparisons of total labor force growth to total output growth miss an essential point. As output rises during the early stages of a recovery, the ratio of employment growth to output growth is usually low. This is because employers keep more workers on their payrolls than are needed during downturns, and therefore do not hire more workers until their existing work force is fully employed and they are confident of continued growth. Consequently, employment grows slowly, and may even continue to decline, for the first few quarters after GDP begins to recover.

Chart 3–2 compares the *cumulative* growth of employment and output during the most recent recovery with that in previous recoveries. The boxes show how output and employment have grown together historically. The circles show how output and employment

Chart 3-1 **Changes in Output and Payroll Employment in First Eleven Quarters of Recovery**
The ratio of employment to output growth is much lower in the current recovery than in the past. Output growth is much slower, too.



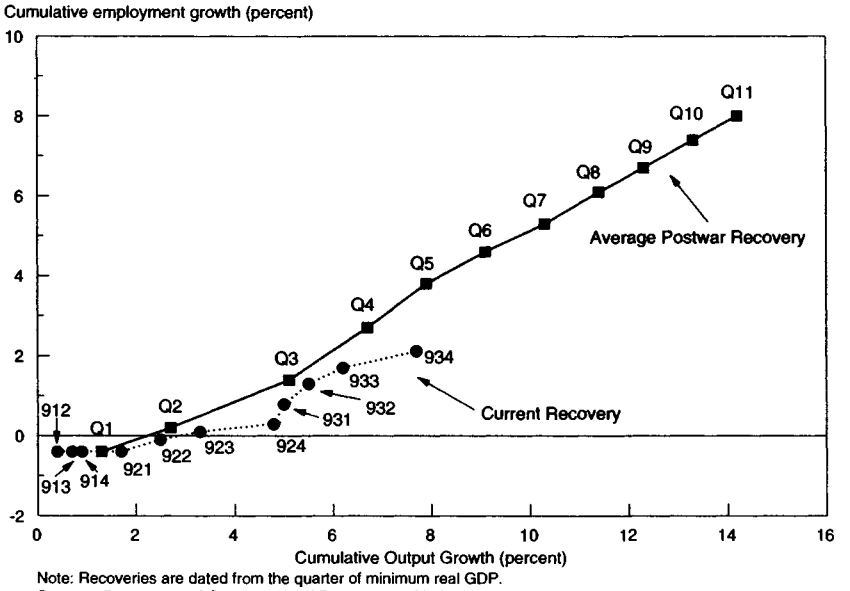
Sources: Department of Commerce and Department of Labor.

have grown together in the most recent recovery. Although the cumulative growth of output and that of employment have both been extraordinarily slow in this recovery, *the relationship between them is consistent with historical experience.* Using the historical relationship between output and employment growth, one can estimate what employment growth *should have been* during the most recent recovery given output growth. This exercise yields estimates of cumulative employment growth that are larger than actual employment growth during this recovery by as much as 1 percent of total employment. This is a large difference, but not a statistically significant one. In other words, employment growth in the most recent recovery appears to have been at the low end of the range of historical experience, but is nonetheless consistent with it.

A similar conclusion applies to the behavior of manufacturing employment. Analysis of past experience shows that the actual growth of manufacturing employment during the most recent recovery is not statistically different from what would have been predicted based on GDP growth and long-term trends. (Manufacturing employment has been declining as a fraction of the labor force since 1953 and reached its postwar peak in 1979.) This is surprising be-

cause defense cutbacks have caused large job losses in manufacturing in the most recent recovery. Evidently, growth in demand for manufactured goods in other parts of the economy was strong enough to offset the depressing effects of these cutbacks on manufacturing employment.

Chart 3-2 **Employment and Output in Recoveries**
Employment growth in the recent recovery is in line with past experience given the slow growth of output.



Note: Recoveries are dated from the quarter of minimum real GDP.
Sources: Department of Commerce and Department of Labor.

SOURCES OF JOB GROWTH

Although much has been written about the sources of job growth, it is hard to get an accurate picture from the pastiche of popular accounts. Are new jobs good jobs or bad jobs? What does the future hold?

Industry and Occupation

The service sector—defined to include personal and business services but exclude trade and finance—was the economy's job engine in 1993. Although these industries account for less than 30 percent of total employment, they were responsible for more than 60 percent of total job growth in that year. Many of these jobs—about 350,000—were created in the personnel supply industry (mainly temporary agencies), which represented almost 20 percent of total payroll job growth. Other sectors registering strong job cre-

ation over 1993 included retail trade (more than 400,000 jobs) and construction (about 200,000 jobs). In contast, manufacturing employment declined by about 180,000 during the year.

These sectoral patterns are not new, however. Since January 1983, service sector employment has grown by 11.5 million and has accounted for 52 percent of total nonfarm job growth. And, jobs in retail trade have accounted for an additional 21 percent of all jobs created over this period. Since January 1983, construction employment has risen by 785,000, but manufacturing payrolls have shrunk by 325,000.

A common misconception identifies manufacturing jobs as "good jobs" and service jobs as "bad jobs." However, growth in high-end services such as various kinds of business services have led to increased demand for high-level white-collar workers. During 1993, 48 percent of the increase in employment occurred in the managerial and professional occupations. The large increases in these relatively well-paying occupations belie the criticism that most employment growth has been in "bad jobs."

The recent occupational pattern of employment growth is largely in line with the experience of the last 10 years, during which managerial and professional jobs accounted for 49 percent of new employment. Both over the last year and over the last decade, new employment has shifted toward better paying jobs requiring more skills and education, not toward low-paid, low-skilled jobs.

Outlook for the Future

One of the major goals of this Administration is to increase employment by at least 8 million jobs in 4 years. Progress toward this goal has been moderate but steady. Between January and December 1993, nonfarm payroll employment grew by 1.8 million jobs, and the number of unemployed fell by 809,000, lowering the unemployment rate from 7.1 percent to 6.4 percent. With a higher growth rate of output expected next year, the pace of job creation should accelerate.

The Bureau of Labor Statistics (BLS) projects employment to grow between 1.1 and 1.9 percent per year through 2005. Most of this growth is expected in service-producing industries, which the BLS expects will add between 1.4 million and 2.1 million jobs per year. Employment in manufacturing is expected to fall or to rise only modestly, with losses or gains of fewer than 160,000 workers per year. Many new jobs (about 500,000 a year) will be in service occupations such as food service workers and home health aides, but even more will be in the comparatively higher-paying managerial, professional, and technical occupations (about 825,000 a year).

UNEMPLOYMENT AND NONEMPLOYMENT

The United States has a history of strong job growth, and the outlook for job creation over the next decade is good. But how many new jobs are enough? The best indicator of how well we are doing is how many of the people who want jobs are able to get them. The unemployment rate is one measure of this. The unemployed are defined as people who are not working but are either waiting to return to a job or looking for a new one. If jobs are sufficiently difficult to find, however, some people may give up looking. Then they are counted not as unemployed but as "discouraged workers." Thus, both unemployment rates and the employment-to-population ratio need to be examined to determine if the economy is providing enough jobs.

TRENDS

The National Bureau of Economic Research, the private organization that dates the beginning and endpoints of U.S. business cycles, fixed the trough of the 1990–91 recession at March 1991. Yet unemployment did not reach its peak of 7.7 percent until June 1992. Since then the unemployment rate has fallen steadily to 6.4 percent in December 1993. (In January 1994 the BLS began measuring unemployment in a new way: Box 3–1 describes the changes). This represents a considerable improvement, but the economy has a way to go before unemployment reaches normal levels. Unemployment was below 6.4 percent from April 1987 to January 1991, and from February 1978 to March 1980. After World War II and prior to 1974, unemployment topped 6.4 percent for only three brief periods, each of less than a year.

Chart 3–3 shows the time path for unemployment since 1948. Besides the ups and downs that correspond to business cycles, the outstanding feature is the apparent ratcheting up in the level of unemployment in the 1970s. Since the early 1970s, unemployment has never returned to the levels typical of recoveries in the 1950s and 1960s, and has peaked at much higher rates. It is widely believed that this long-term increase in unemployment is at least in part due to an increase in the minimum level to which unemployment can be reduced without causing increasing inflation—the so-called natural rate of unemployment. The natural rate in turn is thought to depend on labor market frictions, and skill and geographic mismatches, between labor supply and labor demand.

There have also been changes in the incidence of long-term unemployment. As of December 1993, 1.7 million workers, comprising 21.0 percent of the unemployed, had been unemployed for 27 weeks or longer. This is a reduction from September 1992, when the number of long-term unemployed reached 2.1 million and comprised

Box 3–1.—The New Current Population Survey

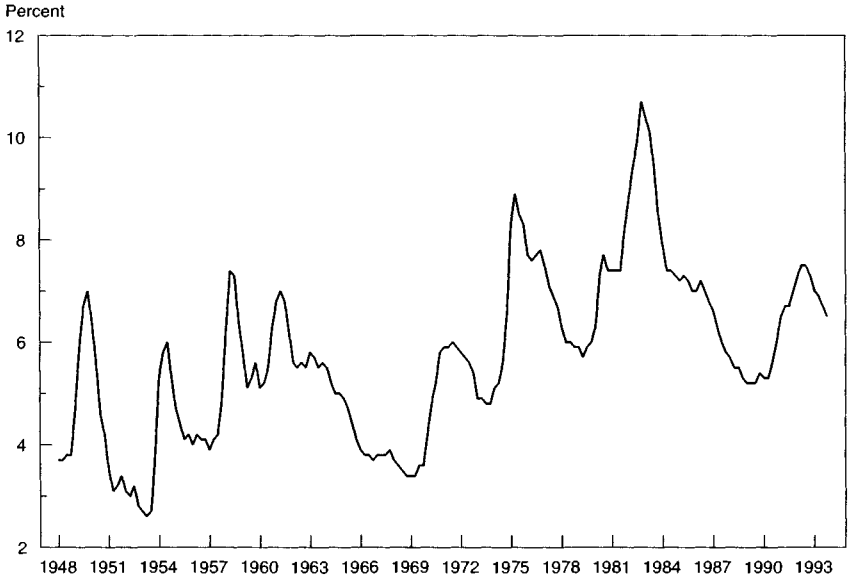
The Current Population Survey (CPS), a national survey of 60,000 U.S. households, provides a monthly picture of the Nation's labor force, employment, and the unemployment rate. Beginning in January 1994, that picture is being taken through a new lens. For the first time since 1967, the CPS has undergone a major redesign. Changes in the patterns of employment by industry, the increased labor force participation of women, and several other factors have made the pre–1994 survey less accurate as a guide to the Nation's work force. The new survey includes new and revised questions that reflect these changes and incorporates new procedures (including the use of portable computers to conduct the survey rather than pencil and paper) designed to lead to more-accurate and consistent responses.

Between July 1992 and December 1993, a pilot version of the new survey was conducted in parallel with the old CPS to determine the effects of the new questions and data collection procedures. Results of the parallel survey indicate significantly different estimates for key statistics, including the unemployment rate. Specifically, the unemployment rate as measured by the parallel survey averaged a half a percentage point higher than the estimates from the old CPS. In addition, the use of new population weights increased the measured unemployment rate another 0.1 percentage point. The unemployment rate is expected to rise for all demographic groups, but particularly for women, since the old CPS questionnaire may have tended to classify women who were unemployed as out of the labor force.

The new survey is expected to produce several other changes as well. For example, measured labor force participation rates and employment-to-population ratios are expected to rise for women and fall for men. Changes in the questions defining discouraged workers and people working part-time for economic reasons are expected to lead to a decline in numbers of discouraged workers of 60 percent and part-time workers for economic reasons of 20 to 25 percent.

21.7 percent of all unemployed workers. There is still a sense, however, that long-term unemployment is unusually high today. The peak share of long-term unemployed workers during the current recovery was higher than during most previous postwar recoveries (Chart 3–4). In addition, the share of long-term unemployment is high given the overall unemployment rate (Chart 3–5).

Chart 3-3 **Civilian Unemployment Rate**
Unemployment rate peaks and troughs have been higher since 1973.



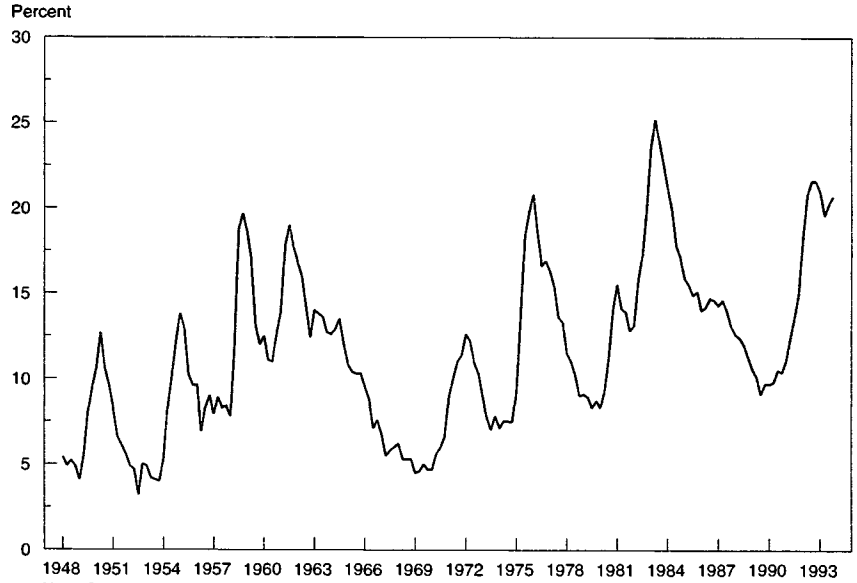
Note: Quarterly data.
Source: Department of Labor.

While average unemployment rates have risen, they have risen more for some groups than for others. The unemployment rate for women, which used to be consistently above the unemployment rate for men, is somewhat lower (6.2 percent for women, 6.5 percent for men in December 1993). In contrast, the black unemployment rate has risen more than the white unemployment rate (1.5 percentage points for whites between 1970 and 1993, and 3.5 percentage points for blacks and others).

Employment-to-population ratios show some of the same patterns of relative distress for different groups. While black women had a higher employment ratio than white women in the 1970s, the reverse is now true (Chart 3–6). Both black and white men have had falling employment-to-population ratios since the early 1970s; but the decline for black men has been larger than for white men (10 percentage points for black men from 1972 to 1993; 6 percentage points for white men).

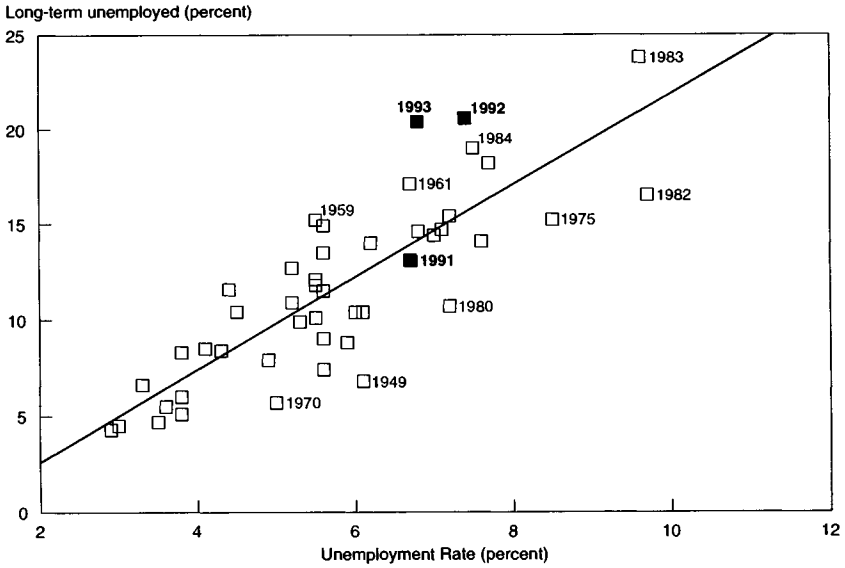
The unemployment rate for teenage workers (aged 16 to 19 years) has always been higher than the rate for all workers, and the current situation is no exception. While the unemployment rate for all workers during 1993 averaged 6.8 percent, the rate for teen-

Chart 3-4 **Long-Term Unemployment as Share of Total Unemployment**
The share of the unemployed who have been out of work 27 weeks or more approached historical highs in the last downturn.



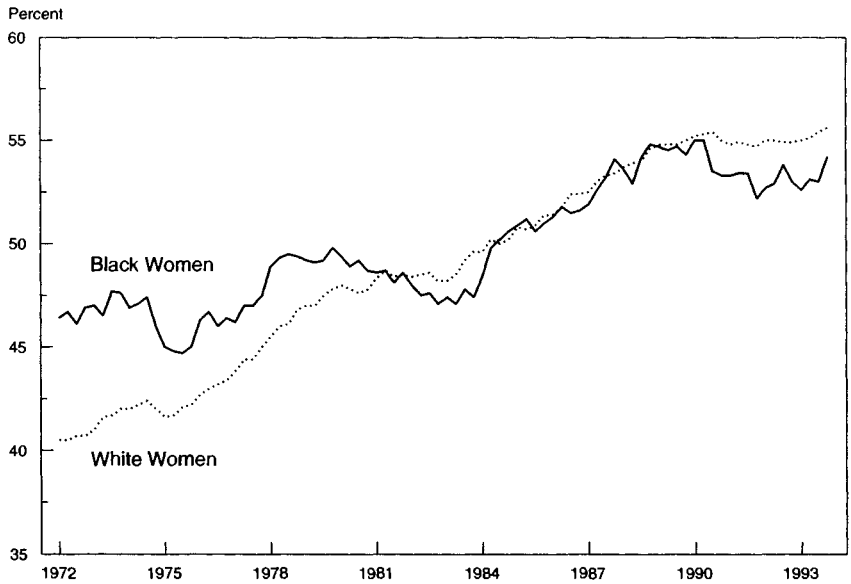
Note: Quarterly data.
Source: Department of Labor.

Chart 3-5 **Long-Term Unemployment and the Unemployment Rate**
The share of long-term unemployment in total unemployment has been high recently, given the unemployment rate.



Source: Department of Labor.

Chart 3-6 **Employment-to-Population Ratios of Women**
The employment rate of black women fell below that of white women in the last recession.



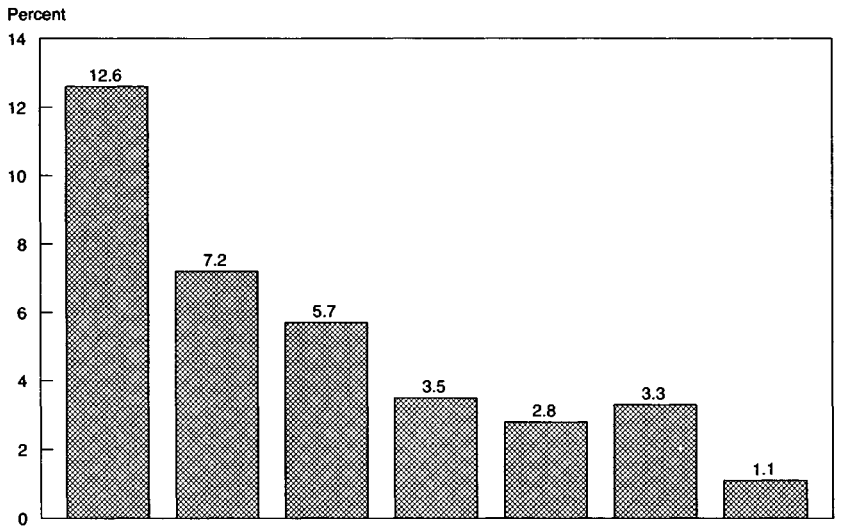
Note: Quarterly data.
Source: Department of Labor.

agers was nearly three times as high at 19 percent. Teenage unemployment rates were 17.6 percent and 14.6 percent for white males and females, respectively. The unemployment rates for black teenage workers were more than twice as high at 40.1 percent for males and 37.5 percent for females. Over the last 20 years, the teenage unemployment rate rose along with the overall unemployment rate. Unemployment rates also differ by education. Chart 3–7 compares the unemployment rates of those without a high school diploma, high school graduates, those with some college, college graduates, and those with advanced degrees.

According to popular accounts, another distinguishing feature of recent labor market developments is the "white-collar recession." That expression implies that the recent unemployment experience of white-collar workers relative to that of blue-collar workers has been significantly worse than in past recessions.

In fact, as in the past, the unemployment rate among white-collar workers has been significantly below that of blue-collar workers in the most recent recession and recovery (3.2 percent versus 9.9 percent in 1992). However, the white-collar unemployment rate *relative* to the blue-collar rate has been rising (Chart 3–8). The ratio

Chart 3-7 **Unemployment Rates by Educational Attainment, March 1993**
Unemployment is generally lower for more-educated workers.



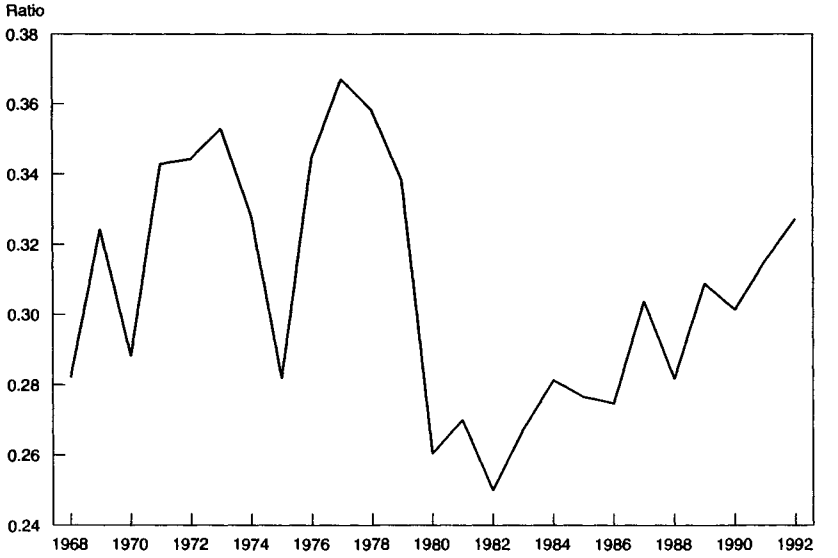
Note: Data relate to workers age 25-64.
Source: Department of Labor.

of the two rates in 1992 was 0.33, the highest since 1979. The ratio of the *number* of unemployed white-collar workers to the number of unemployed blue-collar workers has been rising since 1982, the first year for which we have consistent occupational estimates. By 1992, the ratio of the number of white-collar unemployed to that of blue-collar unemployed was about one-third, compared with only one-fifth in 1983. This happened both because the *ratio* of the white-collar to the blue-collar unemployment rate has increased, as already noted, and because white-collar workers now make up a larger fraction of the work force than they did before.

Just as the rate of overall employment growth is not out of line with past experience given output growth, the level of unemployment in the most recent recession is within the bounds of what we would expect given GDP growth. Further, as already noted, unemployment has fallen by 1.3 percentage points from its June 1992 peak, with nearly a percentage point of the drop coming in 1993. However, three concerns are raised by trends and recent experience.

The first problem is increasing disparities between black and white rates of both employment and unemployment. These changes

Chart 3-8 **Ratio of White-Collar to Blue-Collar Unemployment Rates**
The ratio of white-collar to blue-collar unemployment rates has been rising but is still below historical highs.



Note: Data after 1981 are not strictly comparable with earlier years because of changes in occupational definitions.
Source: Department of Labor.

are linked to equally disturbing changes in the distribution of income and job security, discussed later in this chapter. The second concern is the long-term increase in the average level of unemployment. The third concern is that recent high levels of long-term unemployment suggest that we may be seeing an increase in the share of unemployment caused by mismatches between workers' skills and job demands. If this is the case, it is argued, it may be difficult to lower the unemployment rate much further without causing labor market bottlenecks. As we will see below, little evidence can be found that skill mismatches have contributed much to recent increases in unemployment, but they do seem to have been a major cause of growing income inequality.

IS THE NATURAL RATE OF UNEMPLOYMENT INCREASING?

How would we know if there had been an increase in what economists call the natural rate of unemployment? A sustained increase in long-term unemployment might be one indication, an increase in the number of people who have given up looking for work might be another, and an increase in the fraction of job losers among the

unemployed yet another. These are all indirect indicators of an increase in the natural rate of unemployment. The problem is that these indicators also respond to cyclical conditions—they increase when the economy is in recession, and they can be slow to decline, or may even increase, in periods of slow recovery.

Not surprisingly, therefore, concerns that mismatch unemployment is increasing are likely to develop in recessionary times. Less skilled workers are more likely to find themselves unemployed than better skilled workers. During recessions, labor market slack makes it easier for employers to find better qualified employees, allowing them to raise job qualifications without raising compensation. Thus recessions may create the appearance of increasing mismatch unemployment. Once a recovery is under way, however, more jobs of all types are created, and the unemployment rate for the less skilled usually declines. Thus indirect indicators of increasing skill mismatch are not enough to determine whether the natural rate is increasing. We must consider additional evidence.

If most new jobs require skills that many workers do not have, they might experience lengthening periods of unemployment as they wait for jobs appropriate to their skills to become available. On the other hand, the available statistical evidence does not rule out the possibility that relatively slow output growth since the recession trough in 1991 is the major reason why recent levels of long-term unemployment have been so high. Since high levels of overall unemployment have persisted for so long, the number of people looking for work for a long period of time has also increased. A statistical analysis relating the percentage change in the number of workers unemployed for 27 weeks or more to the percentage change in output indicates that the behavior of long-term unemployment in the most recent period of recession and recovery is not statistically different from that during previous recession-recovery cycles. Although the recent behavior of long-term unemployment may not be different, it is worth noting that the average number of long-term unemployed increased substantially during the 1970s and has remained high since then.

Another possible indicator of worsening mismatch unemployment is the number of discouraged workers. Because they have given up looking for work, they are not counted as unemployed. Yet large increases in the number of discouraged workers might be taken as indirect evidence that many people are having a very difficult time finding jobs. Again, however, the slow speed of the recovery could also explain such an increase. Although the number of discouraged workers is up, reaching 1.1 million in the fourth quarter of 1993 compared with fewer than 800,000 in the first quarter of 1990, the percentage increase in the number of discouraged workers is less

than would be expected given its historical relationship with output growth.

In summary, after taking into account the effects of slow output growth, neither recent high levels of long-term unemployment nor recent increases in the number of discouraged workers suggest that there has been an abrupt worsening of mismatch unemployment or an abrupt increase in the natural rate of unemployment in the most recent period of recession and recovery.

A third indirect indicator of a changing natural rate of unemployment is the share of permanent job losers in total unemployment. If unemployment is truly cyclical, firms lay off workers for a while, but recall them when conditions improve. However, if mismatch is increasing, one might expect to see more permanent job losers among the unemployed rather than individuals on temporary layoff. Indeed, the share of permanent job losers among the unemployed hit an all-time high of 43.9 percent in the second quarter of 1992, and has fallen only slightly since then. However, this number must be interpreted with caution. Despite the image of cyclical unemployment as due to temporary layoffs, the fact is that the share of permanent job losers among the unemployed rises in every recession. Recessions bring not only temporary interruptions in employment due to slack demand, but also business failures and forced restructurings that cause permanent job loss at a higher rate than during normal times.

A statistical analysis relating the number of permanent job losers to output growth indicates that the relatively large number of permanent job losers in the most recent period of recession and recovery can be explained by relatively slow output growth. Thus there is little evidence of any recent increase in the natural rate of unemployment in this relationship, either. The predictions of this analysis for earlier periods do suggest that there was an abrupt increase in the number of unemployed permanent job losers in the early to mid-1970s, compared with what would have been expected given business conditions. This is consistent with other data which suggest an increase in the natural rate around that time.

DIRECT MEASURES OF THE NATURAL RATE

Traditionally, economists have used two methods to identify the natural rate, and two additional methods for evaluating how it might be changing. The simplest way to identify the natural rate is to look back and see at what unemployment rate the last acceleration of inflation began. Alternatively, a statistical model of inflation that embodies the assumption of a natural rate (an accelerationist "Phillips curve") can be used to estimate the natural rate.

Changes in the natural rate have been identified in two ways. Since different demographic groups have different unemployment rates, it has become a common procedure to assume that the natural rate changes whenever the composition of the work force changes. More recently, several authors have looked at the relation between unemployment and proxies for job vacancies. If increases in the natural rate are caused by an increasing mismatch of workers and jobs, then the job vacancy rate should be rising along with the unemployment rate.

All these approaches have serious shortcomings. Many factors other than the tightness of the labor market influence the rate of wage and price inflation. Taxes, raw material prices, exchange rates, expectations, and a host of other factors all come into play. Thus, determining the natural rate by looking back to see what the unemployment rate was the last time inflation picked up works only if inflation was caused by labor market tightness.

Some economists argue, however, that the principal causes of inflation since the early 1970s have been factors other than tightness in the labor market—for example, oil and other commodity price increases in the 1970s and the falling value of the dollar in the late 1980s. If this is true, estimating the natural rate by estimating models of inflation is a misleading exercise unless all causes of inflation besides tightness in the labor market are adequately controlled for. Moreover, even estimates of the natural rate obtained in this manner may be very sensitive to assumptions about the form of the Phillips curve relation. Without direct evidence of a rapidly increasing rate of inflation below a particular unemployment rate, estimates of a changing natural rate from statistical models of inflation are suspect at best.

Determining how the natural rate has changed by looking at demographic changes also poses problems. In the 1970s, the apparent increase in the natural rate was attributed in large part to increasing labor force participation of women and teenagers—both of whom had higher than average unemployment rates at the time. However, as women have changed their attachment to the labor force, their unemployment experience has also changed. In the recent past, women have had a lower unemployment rate than men. Should we therefore believe that the increased labor force participation of women has tended to decrease the natural rate below what it was prior to the surge in their participation? The share of teenagers in the labor force has also fallen in the last decade, and this too should have reduced the natural rate.

Further, why focus on these particular demographic changes to the exclusion of others? Black male labor force participation rates have been falling over the last two decades. Since black men have higher unemployment rates than white men, should we conclude

that the natural rate is falling? More important, people with college educations have a much lower rate of unemployment than those with less education, and their share of the labor force has increased considerably over the last two decades. Again, this would suggest that the natural rate should be lower today than in 1970, before the ratcheting up of the unemployment rate.

Finally, although the U.S. Government does not collect the data on job vacancies that would allow us to examine directly whether there is an increasing mismatch of jobs and workers, the Conference Board does publish an index of help-wanted advertising. The relationship between this index and the unemployment rate has changed over time, but there is no evidence of any increase in the level of help-wanted advertising, given the unemployment rate, in the last decade. There is, however, a higher level of help-wanted advertising at all levels of unemployment since the early 1970s.

The increase in help-wanted advertising could be interpreted as evidence of an increase in mismatch unemployment, but many other things affect the level of help-wanted advertising. Different types of employers advertise in different ways for different types of jobs. Changes in the industrial and occupational mix of employment make an advertising index a questionable measure of long-term changes in job vacancies. Changes in advertising prices, the structure of media markets, and legal requirements for advertising certain jobs also change the relationship between vacancies and advertising in ways that call into question the meaning of any long-term changes.

Altogether, the various pieces of statistical evidence examined in the preceding discussion suggest that the increase in the unemployment rate since 1989 has been largely cyclical in nature. There is some evidence of an increase in the natural rate—possibly due to an increase in mismatch unemployment—in the early 1970s, but little evidence of any increase since then. The evidence also suggests that today's unemployment rate exceeds the natural rate by a significant amount. Therefore, wage-push price inflation is unlikely to be a factor constraining economic growth in the near future.

THE MAGNITUDE AND COSTS OF JOB LOSS

The U.S. economy is constantly in flux, and while there is no evidence that the rate of churning in the labor market has increased in recent years (see the discussion of job stability below), normal rates of structural adjustment are quite high and impose significant costs.

Estimates of the number of jobs created and destroyed each year in the United States are staggering. Data from various sources suggest that on average more than 10 percent of all jobs disappear

every year, while even more new jobs are created. Luckily, not every job that is lost forces someone to become unemployed. Companies reducing the size of their operations can often do so using normal attrition—quits and retirements. When they cannot, workers given advance notice of an imminent layoff can sometimes find work before they lose their old job, allowing a seamless transition with no unemployment. But for the many workers who do not make such easy transitions, the costs of dislocation can be high.

Between 1981 and 1990, about 2 million full-time workers per year lost their jobs. These workers spent an average of nearly 30 weeks unemployed, and of those who found new employment, about a third suffered earnings losses of more than 20 percent.

Wage losses were most severe for those who had been with their employers the longest. For example, those with 10 or more years of tenure on their previous job were nearly four times as likely to see their earnings fall by 20 percent as to see them rise by 20 percent in their new jobs. They were also less likely than other displaced workers to find new employment at all. One set of surveys asking about job loss found that 73 percent of all job losers had obtained new jobs, but only 65 percent of those with 10 or more years of job tenure had found new work.

The special problems of workers with long job tenure are understandable. Those who work for the same employer for a long time build up skills that are most valuable to that employer. Further, many employers reward long job tenure with higher wages as a way of motivating employees and ensuring their loyalty. The loss of a job when one has obtained the privileges of long tenure can be particularly devastating.

SLOWING WAGE GROWTH AND WIDENING INEQUALITY

In the last two decades, family income growth has stagnated and incomes have become more unequally distributed. In fact, the real incomes of the bottom 60 percent of American families were lower in the early 1990s than for the analogous families at the end of the 1970s. Underlying the rising disparity in the fortunes of American families has been a rise in labor market inequality that has shifted wage and employment opportunities in favor of the more educated and the more experienced. Less educated workers suffered substantial losses in real earnings during the 1980s. Here we consider the dimensions, and some likely causes, of slow income growth and widening inequality.

SLOW INCOME GROWTH

Income trends have been discouraging for about two decades —the median family today has virtually the same real income as the median family 20 years ago. This stagnation is a marked departure from the substantial income growth that occurred over previous generations.

From 1947 to 1973 the real income of the median American family increased by a robust 2.8 percent a year, more than doubling. In contrast, from 1973 to 1992 the income of the typical American family was essentially stagnant, rising by only 0.1 percent a year after adjusting for inflation. (The trend from 1979 to 1989—roughly equivalent years in the economic cycle—is similar.) At the pace of income growth from 1973 to 1992, it would take centuries for real median family income to double.

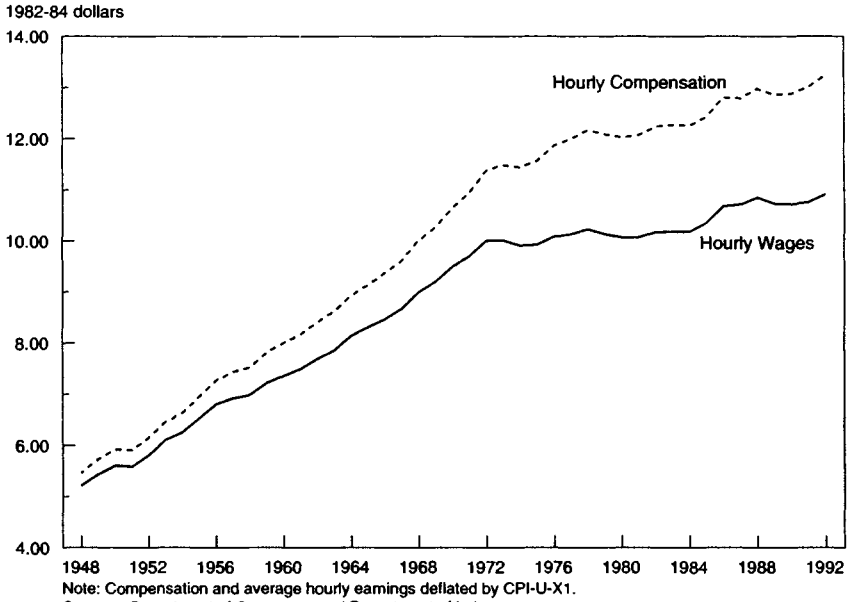
Although the labor force participation decisions of women and changes in the composition of families have affected family income, the major trends in family income are dominated by trends in real wages. Chart 3–9 shows the changes in wages and total hourly compensation, adjusted for inflation, since 1948. Both wages and compensation suffered abrupt slowdowns in growth rates around 1973.

GROWING INEQUALITY

Families have been affected unevenly by recent income trends. Real incomes at the top have increased smartly, real incomes at the middle have essentially stagnated, and real incomes at the bottom have fallen. Box 3–2 discusses the implications of these developments for employment and unemployment.

From 1973 to 1992, the average real income of the upper 20 percent of families rose 19 percent, or about 1 percent per year. This is well below the rate for the 1950s and 1960s, but far better than for the rest of the population. Between 1973 and 1992, the average income of the middle 20 percent of families rose a paltry 4 percent in real terms. Lower income families fared even worse. Among the bottom 20 percent of families, mean real income fell by 12 percent from 1973 to 1992. Chart 3–10 shows the growth of mean family incomes for different income groups over the periods before and after 1973. It makes clear just how abrupt the changes in the distribution of income growth have been. A trend toward greater equality in the 1960s and toward greater inequality in the 1970s and 1980s is apparent in both income and consumption measures of economic well-being. Rising inequality of family incomes during the 1980s is apparent in both pretax and posttax income measures.

Chart 3-9 **Real Hourly Compensation and Wages**
The growth of real compensation per hour and of real hourly wages has declined since 1973.



Note: Compensation and average hourly earnings deflated by CPI-U-X1.
Sources: Department of Commerce and Department of Labor.

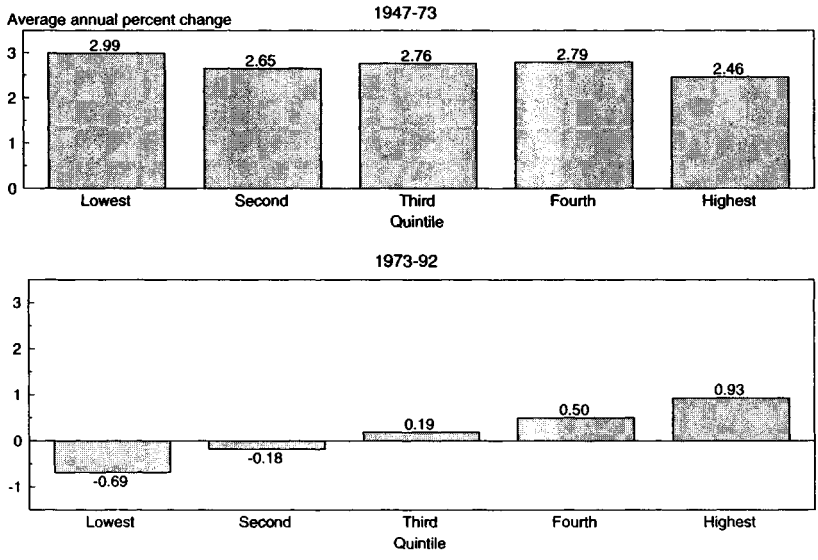
Box 3-2.—Growing Inequality of Employment and Unemployment

The falling relative wages of those with less experience and schooling may explain, at least in part, some of the observed changes in employment-to-population ratios for certain demographic groups. The black and teenage populations tend to have less schooling than the average for all Americans. Consequently, the wages they command have fallen, making work less attractive. To the extent that the shift in demand away from less-educated workers is manifest in fewer available jobs instead of lower wages, these groups face higher unemployment rates as well.

EXPLAINING SLOW WAGE GROWTH

Stagnant wages and slow total compensation growth since the early 1970s largely reflect a substantial slowdown in productivity growth. From 1947 to 1973 productivity rose at a compound annual rate of 3.1 percent, and inflation-adjusted compensation per hour

Chart 3-10 **Average Annual Growth of Mean Family Income by Income Quintile**
Family incomes in all income groups grew more or less evenly, but slightly faster for lower income groups, before 1973.



Source: Department of Commerce.

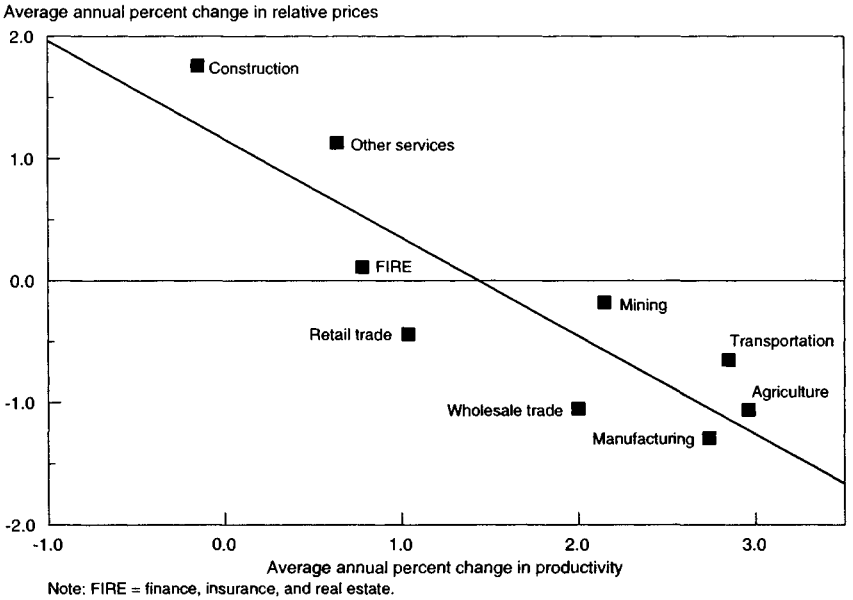
grew at a similar rate. From 1973 to 1979 the rate of productivity growth fell to an average of 0.8 percent a year, and compensation growth fell with it. Since 1979 the productivity growth rate has picked up only slightly, averaging 1.2 percent on an annual basis. Chart 3–11 shows the close relation between productivity and real compensation. Boxes 3–3 and 3–4 discuss some of the other effects of productivity growth.

The productivity slowdown has been intensely studied. Many partial explanations have been given, but no complete accounting has been made.

EXPLAINING THE GROWTH OF INEQUALITY

Several factors have contributed to widening inequality. One major factor is increasing returns to education and experience. The college–high school wage premium increased by over 100 percent for workers aged 25 to 34 between 1974 and 1992, while increasing 20 percent for all workers 18 years old and over (Chart 1–8). In addition, among workers without college degrees, the average wages of older workers increased relative to those of younger workers. Since the relative supply of educated workers has increased at the

Chart 3-11 **Productivity Growth and Price Reductions, 1950-90**
Productivity growth in an industry leads to lower relative prices.



Note: FIRE = finance, insurance, and real estate.
Source: Department of Commerce.

same time that wage disparities have grown, the demand for educated workers must have increased faster than their supply. Some have suggested that increasing trade has undermined demand for less educated workers in the United States, since they are plentiful elsewhere in the world. So far, however, several studies have been unable to discern any substantial impact of trade on wage inequality, however. If increased trade were the cause of growing wage inequality, the relative prices of goods that use highly educated labor would be rising relative to those of goods that use less highly educated labor. But studies have found no evidence of such a change in relative prices. Similarly, if increased trade were responsible for increased wage inequality, the growth of wage differentials would lead firms in all sectors to substitute less educated labor for more educated labor. Instead, studies find that virtually all manufacturing industries have increased their relative use of educated labor despite growing wage differentials. Rising wage differentials with greater use of educated labor suggest that demand for skilled labor has been rising broadly in the economy. Thus it appears that most of the demand shift toward highly educated workers must have originated domestically.

Box 3–3.—Consequences of Productivity Growth

Rising productivity has been shown to have a variety of beneficial effects:

- *The prices of goods produced by industries that have had rapid productivity growth have fallen relative to those of goods from industries with slower productivity growth.* Chart 3–11 shows average productivity growth and price changes by industry for the 1950–90 period.
- *Periods of rapid productivity growth have been accompanied by increases in real wages.* The prices of products in industries experiencing productivity growth also decline relative to wages. This decline in product prices means that real wages tend to rise during periods of rapid productivity growth.
- *Periods of rapid productivity growth have also been periods of low inflation.* Productivity growth allows nominal wages to increase without putting pressure on prices.
- *Periods of rapid productivity growth have not been associated with large increases in unemployment.* In periods when productivity growth was more rapid, such as the 1960s, unemployment rates have tended to be low. In contrast, periods with slow rates of productivity growth, such as the 1970s, have been periods of relatively high unemployment.

Since the use of more-educated labor has increased in all industries, a logical explanation of this trend is technical change. For example, one study shows that people who work with personal computers earn a substantial wage premium over those who do not, and that this can account for half of the increasing gap between the wages of college and high school graduates.

Although changes in labor demand induced by changes in the composition of trade do not appear to explain much of the increase in income inequality, the internationalization of the U.S. economy may affect wages in other ways. For example, the threat of increased import competition or of the relocation of a factory to another country may undermine worker bargaining power or cause a decline in the number of workers employed in unionized firms. At this time, no reliable studies have properly quantified how important such effects have been. In addition, there is no guarantee that the future will resemble the past. Trade could become a more important factor in bringing down the wages of less educated workers in the future. On the other hand, technical change could move in

Box 3–4.—Why Productivity Growth Does Not Cause Unemployment

Productivity growth need not cause an increase in unemployment because, as productivity rises, more goods can be produced with the same number of workers. This means a cost saving, which must result in either increased profits, increased wages, or lower prices. If profits or wages increase, those benefiting from the increase will increase their spending. If prices fall, consumers' incomes will go further and they will buy more. In any case, the increased spending will lead to the purchase of more goods and services, which will create new jobs offsetting losses from the productivity increase. If the new jobs created are not equal in number to the jobs lost, there will be a tendency for wages to change to equate supply and demand for labor. Nonetheless, in the short run some workers are likely to have to change jobs. As the discussion of the costs of job loss makes clear, this can be a traumatic experience for the established worker.

the direction of economizing on educated labor and making better use of less educated labor.

In addition to rapidly increasing demand for educated labor, two institutional factors seem to have contributed to rising wage inequality: the decline of unions and the erosion of the minimum wage by inflation. In the early 1970s, 27 percent of the work force were union members. By 1990 that fraction had declined to 16 percent, and it has probably fallen further since. Several studies conclude that this decline can account for about 20 percent of the increase in wage inequality.

In 1970 the minimum wage was 50 percent of the average hourly wage of private production and nonsupervisory workers. By 1992 it had fallen to 40 percent of the average. This erosion of the minimum wage has allowed a substantial fattening of the lower tail of the wage distribution and contributed to increasing wage inequality. The effect of the minimum wage on the distribution of income is less obvious, since it is possible that the decline in the inflation-adjusted minimum wage may have caused an increase in employment of low-wage workers.

Immigration has increased the relative supply of less educated labor and appears to have contributed to the increasing inequality of income, but the effect has been small. A study of the effects of immigration between 1980 and 1988 found that it explains less than 1 percent of the change in the college–high school wage differential. Although immigration flows were considerably larger in the late 1980s than the early 1980s, this study makes it seem un-

likely that immigration could explain more than a few percent of the total change in this differential.

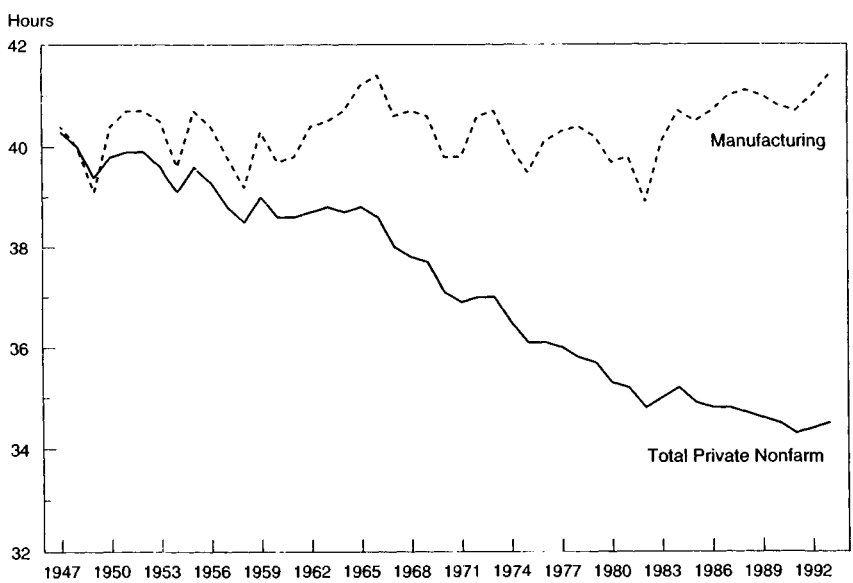
JOB QUALITY

The Administration is concerned about increasing the quality as well as the quantity of jobs in the American economy. Job quality encompasses a number of factors beyond wage levels—including job security, employer-provided benefits such as pensions and health insurance, and hours of employment.

HOURS OF WORK

Average weekly hours in manufacturing were consistently higher through December 1993 than during most previous recoveries since 1958 (excluding the short recovery in 1980–81), and they reached a post-World War II high of 41.7 hours per week in November 1993. This was slightly above the previous peak of 41.6 hours per week reached in February 1966 (Chart 3–12). Factory overtime hours also reached a record in November at 4.4 hours per week, the highest level since the data series began in 1956.

Chart 3-12 **Average Weekly Hours of Production and Nonsupervisory Workers**
Average weekly hours in manufacturing are at a postwar high, while average hours for all industries show a long-term decline.



Source: Department of Labor.

In contrast, over the past half-century, average weekly hours worked by production and nonsupervisory employees on nonfarm private payrolls have declined significantly from 40.3 hours per week in 1947 to 34.5 hours per week in 1993. The patterns of average weekly hours of all private sector workers and those in manufacturing have diverged over the last 50 years.

In keeping with their long-term trend, average weekly hours of all private nonfarm workers have been lower since the trough of the last recession than during comparable periods following the three previous recessions after 1970. Average hours typically rise during recoveries, as employers respond to rising demand by using their existing work forces more intensively before they begin significant hiring of new employees. The increase in average hours since the 1991 recession trough has generally been in line with previous recoveries since 1970—although in recent months the increase in hours has been higher than in recent recoveries.

Popular accounts have suggested that Americans are working more. How can this be if hours worked on the average job are declining? The answer is that women's labor force participation is up, so that average hours of paid work *per person* are up. How do workers feel about their hours of work? Most studies find that, on average, people would like to work more hours if they were paid their hourly rate for the additional hours.

JOB STABILITY

The slow pace of job creation and the relatively high unemployment rate in the current recovery, along with continuing corporate downsizing and increased use of part-time and temporary workers, have led to the perception that employment is becoming less stable than in the past. The fear is that a decline in permanent employment will lead to a largely "contingent" work force, meaning that there will no longer be an understanding between worker and employer that a job will last for a long time. Is the current sense of less stable employment the result of the recent recession, or are long-term forces at work?

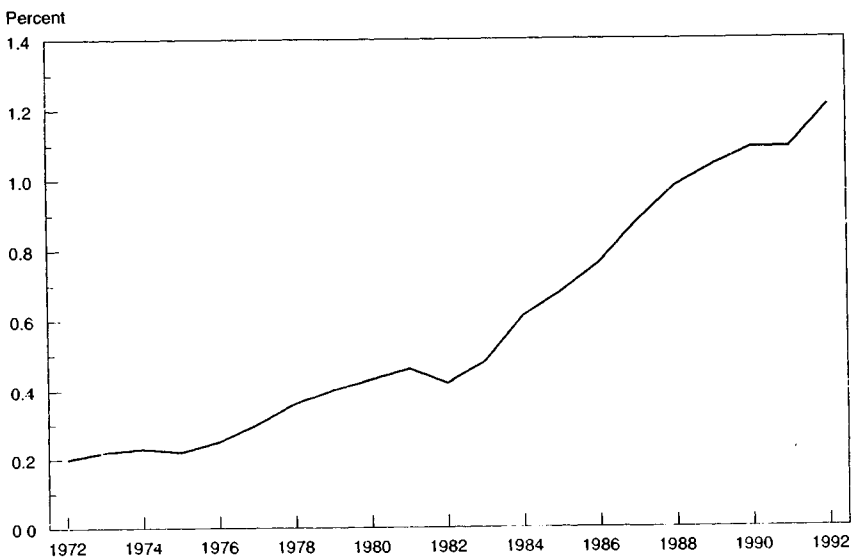
There are several different approaches to measuring the stability of employment. To some extent, growth of the contingent work force can be measured directly. We can also look at how likely individuals are to stay with an employer, at the dynamics of firm size, and at changes in the industrial composition of employment.

No official statistics are kept on the number of workers employed on a contingent basis. One study that examined employment practices at a number of large firms in 1985 found that slightly less than 1.5 percent of the labor they used was explicitly hired on a temporary basis.

We do, however, know how many workers are employed in the personnel supply industry (largely temporary workers). This number has increased dramatically since the early 1970s, and particularly rapidly in the current recovery. From the trough of the recession in March 1991 to December 1993, employment in the personnel supply industry grew by 687,000 workers. This was 26 percent of all employment growth over this period.

Taking a longer perspective, employment in the temporary help industry has grown from less than one-third of 1 percent of total employment in the early 1970s to nearly 1.3 percent today (Chart 3–13). While growth has been explosive, the fraction of the work force employed on a contingent basis is probably still less than 3 percent.

Chart 3-13 **Help Supply Industry Employment as Share of Total Employment**
Temporary workers are a small but increasing share of total employment.



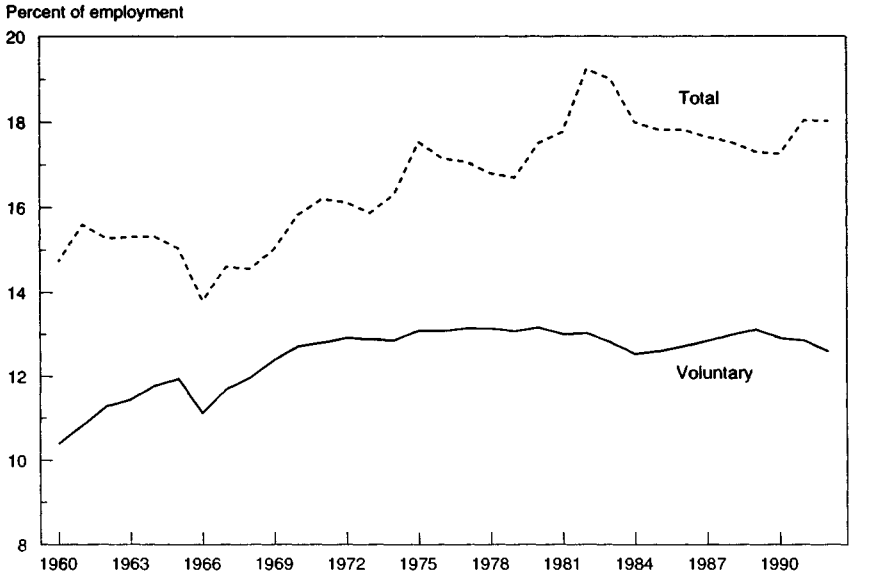
Note: Values before 1982 are estimated from the relationship between help supply industry employment and personnel supply industry employment after 1982.
Source: Department of Labor.

Another potential indicator of declining job stability is the growing use of part-time workers. Like temporary workers, part-time workers usually do not receive pension and health benefits and tend to have a weak attachment to their firms. Several authors have included them when enumerating the contingent work force.

Between August 1990 and December 1993, part-time employment increased by 6.4 percent, compared with only a 1.7-percent

increase for full-time employment. But part-time employment always expands during recessions, and the increased use of part-time workers during this recession is not significantly different from the pattern of past recessions, given sluggish output growth. Over the last several decades, however, there has been a small secular increase in the fraction of the labor force working part-time, but it has not been a steady increase. The fraction grew considerably from the late 1960s through the early 1980s, reaching a peak in 1983. It then declined through the rest of the 1980s and increased moderately in the 1990 recession. The fraction of workers working part-time by choice has remained nearly constant since the early 1970s (Chart 3–14).

Chart 3-14 **Part-Time Employment: Total and Voluntary**
Since the late 1960s the use of part-time workers has grown, but the number working part-time by choice has not.



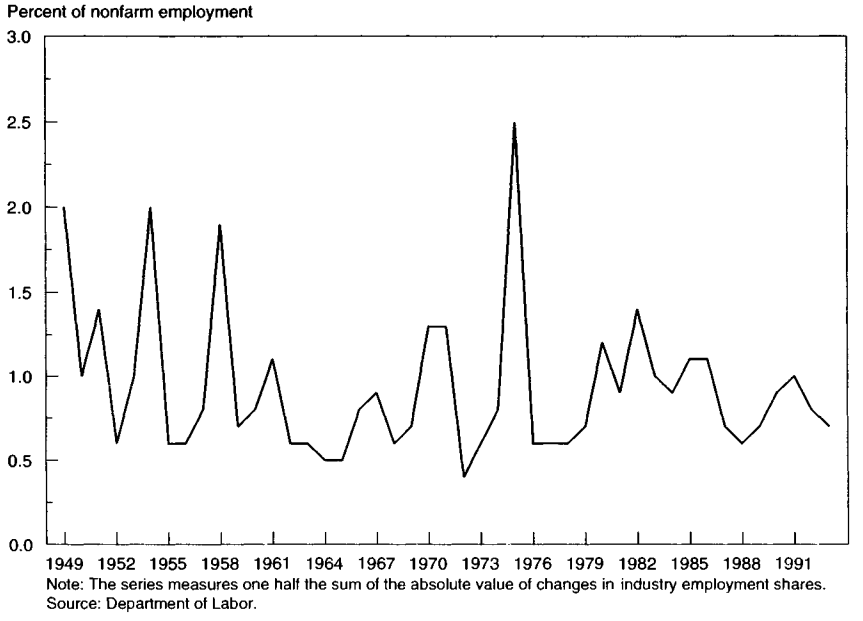
Source: Department of Labor.

What accounts for the secular shifts toward temporary and part-time employment? One possibility is that the underlying demand for goods and services has become more volatile, leading firms to desire less permanent work forces so that they can more easily respond to shifting needs. If this were so, we should observe greater volatility in the industrial composition of employment or in firm size. Such evidence is lacking, however. Data from the Census of Manufactures show no long-term increase in variability of firm

size. No data are available on volatility of firm size in the rest of the economy.

A simple measure of the amount of reallocation of labor between industries is the sum of changes in the share of each industry's employment in total employment for those industries that are increasing their employment share. (This is equal to the absolute value of the sum of the decreases in the share of employment in each industry with a shrinking share.) When total employment is constant, this measure is simply interpreted as the fraction of the work force being reallocated between industries. According to this measure, the rate of change in the industrial structure across all industries increased in 1990 and 1991, which is typical for a recession. The rate of change in industry composition typically declines during recoveries, and the current recovery fits this pattern, with churning declining in 1992 and 1993 (Chart 3–15).

Chart 3-15 **Reallocation of Employment Between Industries**
The rate of reallocation of employment between industries follows business conditions but shows no upward trend.



Note: The series measures one half the sum of the absolute value of changes in industry employment shares.
Source: Department of Labor.

Has the rate of change of the industrial composition of employment trended upward over time? Chart 3–16 shows that the answer is no. There is a big spike in 1975 after the first oil shock, but no trend. Over the entire 1949–93 period, the average rate of reallocation was 0.9 percent per year. Recent experience appears

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consistent with the past. Since 1980, the average rate of reallocation has also been 0.9 percent per year.

How are we to reconcile what we know to be major changes in the industrial composition of employment (such as those due to defense cutbacks) with the fact that there has been no apparent increase in the rate of industrial change? Evidently the economy is typically experiencing significant changes in its structure. Just as horseshoes gave way to tires and mechanical adding machines gave way to electronic calculators, industries today continue to grow and die.

If job instability is increasing, it does not appear to be because of changes in the volatility of firm size or industry demand. If there are significant changes in job stability, apparently they are happening at the individual level. If individuals' attachments to their jobs are becoming more tenuous, we should observe a drop in the length of time workers spend with each employer, and an increase in the probability that a worker will leave his or her firm in any given year. But analysis of the Current Population Survey shows the fraction of workers holding jobs for 8 years or more to have been 30 percent in 1979, and 31 percent in 1983, 1987, and 1991.

A constant fraction of workers holding long-term jobs might hide changes in the experience of individuals. For example, older workers are more likely than young workers to stay with the same employer. The aging of the work force might therefore have brought about an increase in average job tenure, even if individuals at any particular age were experiencing greater job instability. Two studies that have attempted to examine this question provide mixed evidence. Both find that employment for nonwhites and college graduates has become less stable, but both also find that employment stability for some groups has increased. No strong trend toward increasing overall instability can be found in either study. It is impossible to rule out increasing overall instability on the basis of these studies, but if there has been an increase it is either too recent or too subtle to be reflected in the aggregate tenure statistics discussed in the previous paragraph.

Whether or not job security is decreasing, two things are clear. First, there has always been a great deal of instability in the U.S. labor market. Second, there is no question that there is a *perception* that job security is decreasing. This may be due entirely to the normal increase in job losses during the recent recession, to media accounts of mass layoffs at companies that used to offer unusually stable jobs, or to increases in job instability that simply are not reflected in aggregate statistics. Alternatively, a constant rate of job loss combined with greater income inequality has meant an increase in *income* (as opposed to employment) insecurity.

BENEFITS

One of the concerns raised by the growing use of contingent workers is that fewer workers will be covered by employer-provided health insurance and retirement income programs. In fact, there is some evidence that this has occurred, at least for some recent periods. The timing of these changes, however, does not appear to correspond to the timing of increases in temporary or part-time work, but the changes are troubling nonetheless.

After rising for several decades, the fraction of workers covered by employer-provided health insurance has fallen since the mid-1980s. However, it is likely that this fall represents less than 10 percent of all workers. Nonetheless, since 1985 the fraction of the population covered by job-related health insurance has remained roughly constant (around 60 percent). Evidently the decline in coverage per worker is being offset by the increase in the number of households with more than one person working.

Retirement income is another area where different surveys suggest different conclusions. Business tax records show no decline in the fraction of workers covered by retirement income programs; however, studies examining defined-benefit pension coverage find a decline in the late 1980s. The difference is at least in part due to the growth of tax-exempt retirement savings plans provided by employers. These tend to be less generous than defined-benefit retirement plans, so that there has at least been a decline in the *quality* of retirement security plans, if not in the quantity. Even here the story is mixed. At least one recent study finds that pension coverage has begun to increase again in the 1990s.

TOWARD A COMPREHENSIVE WORK FORCE POLICY

The labor market has changed. Although there is little evidence of any recent abrupt changes in the fundamental behavior of the labor market, three aspects of the longer term picture are worthy of concern: (1) the slow growth of incomes and increasing income inequality; (2) increasing unemployment and nonemployment, particularly for certain groups; and (3) the high rates of job loss and dislocation that are normal for our economy.

Real income has grown very slowly since the early 1970s, and the real incomes of the least well-off have actually fallen. The Administration's policies address these problems at four levels.

First, the primary source of income growth is productivity growth. To increase productivity growth, we must invest more in research and development of new technologies. To take advantage of technical progress, we must invest more in new plant and equipment. Second, U.S. employers have learned new ways to organize

work that make better use of the vast pool of talent in our work force. These participatory techniques are particularly effective in organizations adapting to rapid technical change but have wider applicability as well. Third, to deal with the problems of income growth and inequality, we must invest more and invest more equitably in education and training for our work force. Finally, in order to promote investment and to ensure that incomes grow with increasing productivity, the Administration's macroeconomic policies aim to encourage full employment built on a sound fiscal foundation.

The Administration's main vehicle for encouraging investments of all sorts has been to reduce Federal borrowing so as to make room in credit markets for private borrowers. As noted in Chapter 2, deficit reduction has resulted in much lower interest rates, making it easier for firms and individuals to undertake productivity-enhancing investments. As the recovery continues, we expect to see more individuals and firms taking advantage of these opportunities. Funding for research is also a high priority for this Administration.

In addition to promoting capital formation and technical change, the Administration aims to increase the productivity of the work force by helping employers make better use of their workers through increased worker participation. Numerous studies have now demonstrated that cooperative techniques increase productivity substantially in a wide range of enterprises. By helping to disseminate information on what successful firms have been able to accomplish, the Administration hopes to speed the adoption of these practices throughout the economy.

Improvements in education and training to boost the skills and enhance the flexibility of the U.S. work force are top priorities. To this end, the Administration is increasing spending and reorganizing programs to increase effectiveness. From increasing funding for Head Start to proposals for developing "lifelong learning," the Administration hopes to address education and training needs everywhere in our society. The Administration's Goals 2000: Educate America Act and the Improving America's Schools Act aim to ensure a quality education for all students, first by guaranteeing all students a safe environment for learning, and then by setting national standards for students and teachers. To ensure that all post-secondary students have access to the means to finance their higher education, the Congress has passed legislation proposed by this Administration establishing a direct lending program where the rate at which the loan will be paid back will depend on the recipient's income.

Recognizing the need to coordinate education and job training, the Departments of Education and Labor have joined in an unprec-

edented partnership to develop a number of new programs. Government programs have traditionally provided extensive support for those going to college. The School-to-Work initiative of the Departments of Education and Labor will help those who begin their careers with a high school diploma to obtain meaningful work-based training. This training will go hand in hand with a new system of skill standards and certification, which will make the skills workers learn more portable and consequently more valuable. The Administration's Workforce Security Act will provide training and job search assistance to dislocated workers who are having difficulty finding new work. The aim is to transform our unemployment system into a reemployment system. The Administration's proposed welfare reform plan will provide funds for training to some of the most disadvantaged in our society: mothers and fathers with children in poverty.

Another part of the Administration's answer to the problem of growing inequality is the substantial increase in the earned income tax credit that has been put in place. This tax credit, primarily for low-wage workers with children, along with the full range of other government transfer programs, will lift many families with a full-time worker out of poverty. It is described in detail in Chapter 1.

Increased productivity growth is the answer to stagnant real wages, and improved training and education—particularly for the least advantaged—is a major part of the solution to growing inequality. But we cannot expect firms to purchase new equipment unless there is demand for more products, and we cannot expect workers to train for jobs that do not exist. Therefore, an integral goal of the Administration's economic policies is the return to full employment.

Maintaining a high rate of economic growth is also essential for dealing with the second major labor market trend of the last two decades: increased unemployment. The analysis presented above suggests that most of the increase in average unemployment over the 1970s and 1980s was due to slack aggregate demand. There is also some indication of a permanent increase in the natural rate of unemployment in the 1970s. Whatever the cause of the increase in the natural rate, the Administration's Workforce Security Act should help reduce the natural rate by facilitating a more efficient matching of workers and employers.

An initial step toward the establishment of a reemployment system was taken last fall with the passage of legislation extending Federal emergency unemployment benefits. That legislation put in place for the first time a system of worker profiling to help identify workers who are likely to experience long-term unemployment, and to provide them with a package of job search assistance services. Several controlled experiments have now shown such services to be

effective in reducing the duration of unemployment. Once fully in place, the Workforce Security Act will provide both job search assistance and long-term training to those who lack the skills necessary to secure good employment. This will help reduce mismatch unemployment and the natural rate of unemployment.

Existing training programs for dislocated workers have been criticized as ineffective. The new programs proposed by the Administration address this problem by emphasizing long-term training and continuing postsecondary education. The large human capital literature shows substantial potential benefits from this approach to increasing worker skills.

Dislocated workers have always faced problems with income security and health care. With growing income inequality, the normally high rates of dislocation in our economy mean greater income insecurity. The Administration is moving to make job transitions easier for displaced workers in a number of ways. The Workforce Security Act will help ease transitions and help those who need it with retraining for a new career. The Administration's health care plan will provide universal coverage, relieving one of the major worries of a dislocated worker—what to do if a family member becomes ill after health coverage from the lost job has lapsed.

Overall, the labor, education, health, and welfare programs proposed by the Clinton Administration hold out the hope of lower unemployment rates, reduced inequality, and stronger income growth for American workers and their families.

CHAPTER 4

Health Care Reform

THE UNITED STATES SPENDS far more per capita on and devotes a much larger share of its income to health care than does any other country. In 1993, one out of every seven dollars that Americans spent—14.3 percent of gross domestic product (GDP)—went to health services. In 1991, the most recent year for which comparable international data are available, the United States spent 13.2 percent of GDP on health care, while no other industrialized country spent more than 10 percent. Indeed the average for all the industrialized countries of the Organization for Economic Cooperation and Development (OECD) was only about 8 percent. Yet despite this massive commitment of resources, the United States insures a much smaller fraction of its population than do most other industrial countries, and ranks comparatively poorly on such important overall indicators of health outcomes as life expectancy and infant mortality. Tens of millions of Americans remain uninsured and live in constant fear of bankruptcy should they become ill. Tens of millions more have inadequate insurance or risk becoming uninsured if they lose their jobs.

For the lucky Americans who have comprehensive benefits and little worry about becoming uninsured, the current system buys care of high quality and provides genuine health security. For others less fortunate, the system works less well or not at all. And even the lucky suffer from the shortcomings of the current system, as the costs of covering services for the uninsured and some of the costs for those served by government programs are shifted onto hospitals and other providers and ultimately onto private sector insurance premiums.

Health care spending is not only high but growing rapidly. In almost every year of the last three decades, health care costs have increased at more than twice the rate of total income. In the 1980s, real per capita health care spending increased at an annual rate of 4.4 percent in the United States, compared with an average of only 3.2 percent in Canada, France, Germany, Japan, and the United Kingdom. Current projections indicate that, without reform, the United States will devote nearly 18 percent of its GDP to health care by the turn of the century.

At the level of the individual, the family, and the firm, the inexorable growth in health care spending means ever-increasing insur-

ance premiums and ever-higher medical bills. And at the level of Federal and State and local governments, rising health care costs mean that health expenditures claim larger and larger budget shares, with less left over for essential competing demands like public safety, infrastructure maintenance and expansion, and improvements in education and training. Despite a sustained reduction in real discretionary spending, the Congressional Budget Office projects that escalating health care costs will be the dominant force pushing Federal budget deficits back up as the 20th century nears its end.

The facts speak for themselves: The United States faces a health care crisis that demands a solution, both for the health of its citizens and for the health of its economy over the long run.

For analytical purposes, this crisis can be divided into four separate but interrelated parts. First, the current system fails to provide health security for millions of Americans, both insured and uninsured. Insured Americans do not have health security when they face the prospect of losing their coverage if they lose or change their jobs. Some estimates suggest that such worries may reduce job mobility by as much as 25 percent. The health security of the uninsured is still more precarious: Even when they do manage to obtain care, the evidence indicates that they receive less treatment, are sicker, and suffer higher mortality rates than the insured. It is simply not true, as some claim, that all Americans get decent care when they need it.

Shortcomings in private insurance markets are a second and related problem. Under the current system people who are less healthy pay more, sometimes much more, for insurance than people who are healthy. Insurance for those with preexisting conditions is often either unavailable or available only at prices that put it out of reach for many Americans. And many insurance policies simply do not cover a variety of large financial risks—exactly the kinds of risks that insurance is designed to address in the first place.

The third problem in our current health care system is the lack of effective competition, which in turn weakens the incentives for both providers and consumers to make cost-conscious decisions. Inadequate competition is a major reason why the costs of the American health care system are so high. Studies suggest that a variety of common procedures are often performed in circumstances where they are inappropriate or of equivocal value on purely medical grounds. Fee-for-service providers clearly have an incentive to provide more care, including care that is inappropriate, because they are generally reimbursed for each additional test or procedure they perform. Consumers often do not have the information they need to evaluate whether a particular service is indicated, and some do not have the choice among providers that might allow them to

make cost-conscious decisions. In addition, many consumers have weak incentives to choose among health care services on the basis of cost, and among health care plans on the basis of price. Finally, because many insurance policies do not cover preventive care, consumers may underutilize cost-effective services at earlier stages of medical need.

The fourth problem with our current system is the burden it places on public sector budgets. Large and growing public health care expenditures force governments to make painful choices among cutting other spending programs, increasing revenues, or increasing budget deficits—each of which can have adverse consequences for long-term economic growth.

None of these four problems can be solved in isolation. For example, in the absence of systemwide reform, arbitrary caps on Federal health care programs, which some have proposed, would simply shift still more of government program costs onto the private sector. According to one recent estimate, uncompensated care and government programs that reimbursed hospitals below market prices shifted $26.1 billion onto the private sector in 1991. Caps on government programs would simply aggravate this problem. Similarly, any attempt to provide universal coverage without complementary measures to improve competition and sharpen the incentives for more cost-conscious decisions would mean even more dramatic increases in systemwide costs. And reforms designed only to address the most glaring shortcomings of private insurance markets would not solve either the problem of providing health security for all Americans or the problem of escalating public health care bills.

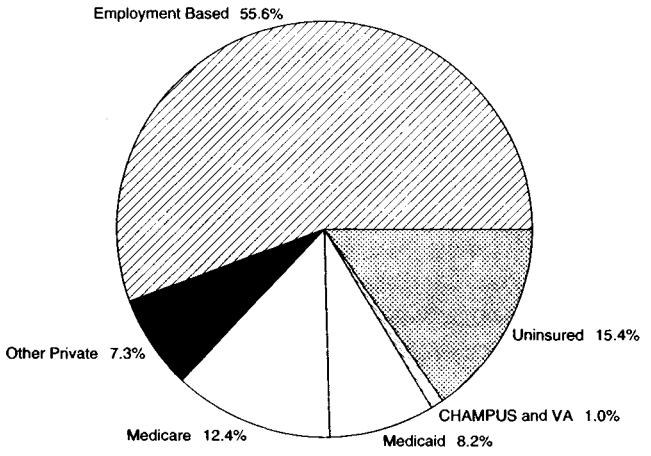
In short, a piecemeal approach will not work. Health care reform requires a comprehensive solution. At the same time, it requires a solution that preserves what is good about the current system and that maintains choice at all levels. This is indeed a daunting challenge, but one that the Nation can ill afford to ignore.

UNIVERSAL COVERAGE AND HEALTH SECURITY

Providing universal health coverage and security for all Americans is an essential objective of health care reform. Chart 4–1 shows the sources of health insurance for the American population. According to the Current Population Survey, over 15 percent of Americans—nearly 39 million people—were uninsured throughout 1992. That is one of the highest shares in the industrialized world. While some people remain uninsured for long periods of time, many more experience brief episodes during which they lack coverage, for instance when they lose a job. The Survey of Income and Program Participation (SIPP) found that over three times as many people

are uninsured at some time during a given year as are uninsured throughout the year. The SIPP estimates that more than one in four Americans were uninsured at some point in a 28-month period from 1987 to 1989.

Chart 4-1 **Distribution of Population by Source of Health Insurance Coverage: 1991**
Most Americans receive health insurance through their employers. Fifteen percent of Americans are uninsured.



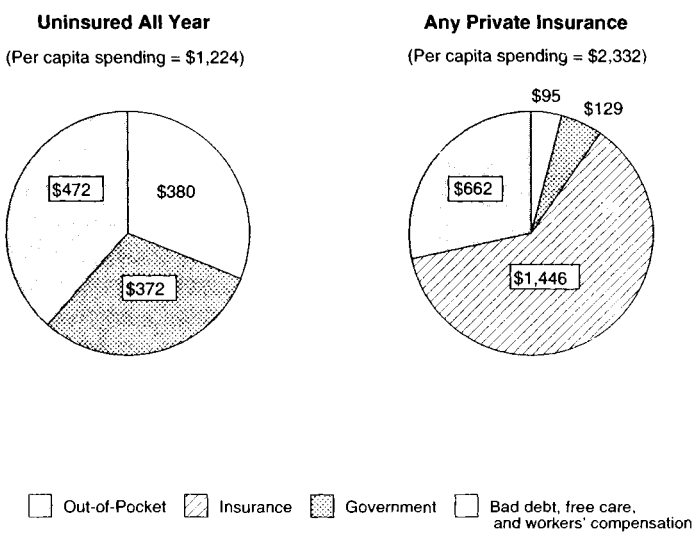
Note: Detail does not sum to 100 percent due to rounding.
Source: Employee Benefit Research Institute.

The fact that so many people are uninsured at least some of the time means that the prospect of being uninsured may influence the behavior of a large number of Americans. As long as people can lose their health coverage simply by changing employment, health insecurity will remain a barrier to changing jobs or starting new businesses. An important rationale for universal coverage is therefore to increase mobility and employment opportunities for those who already have insurance but do not have health security.

Similarly, many people remain on welfare because they will lose their medicaid coverage if they take a job. Some estimates indicate that up to one-quarter of recipients of aid to families with dependent children (AFDC) would take a job if private health insurance equivalent to that provided by medicaid were available to them. A second rationale for universal coverage is thus to reduce the number of people on welfare and to further the Administration's goal of welfare reform.

A third rationale for universal coverage is to improve the health of the uninsured. The uninsured do use health care—they do not simply do without. It is estimated that those without insurance for all of 1994 will consume about $1,200 of medical care per capita—60 percent of which will be paid for by governments and private payers, not by the uninsured themselves (Chart 4–2). This expenditure is roughly half the over $2,300 per capita consumed by those who are currently insured.

Chart 4-2 **Sources of Payment for Health Care by Insurance Status: 1994 Estimates**
About 60 percent of care for the uninsured is financed by governments, other private payers, bad debt, free care, or workers' compensation.



Source: Department of Health and Human Services.

While the uninsured do receive care, it is often neither timely nor appropriate. The uninsured are more likely than the insured to receive care in the emergency room, are less healthy when they are admitted to a hospital, and receive less treatment than people with similar diagnoses once admitted. Some studies indicate—and common sense suggests—that the health of the uninsured suffers as a result.

Indeed, without reform, the problem of adverse health outcomes for the uninsured is likely to worsen over time. Historically, governments and private payers have shouldered the burden of financing care for the uninsured. As health care costs continue to esca-

late, however, these payers may become less willing to bear this burden.

Perhaps surprisingly, providing universal health insurance to cover those currently uninsured will not require a large increase in total health expenditures. While the uninsured are poorer than the population as a whole, they are also younger and healthier. Almost all of the elderly already have insurance—through medicare. Among the nonelderly population, 24 percent of those with employer-sponsored insurance are between the ages of 45 and 64, compared with only 17 percent of the uninsured. Only 9 percent of the privately insured are between the ages of 18 and 24, compared with 18 percent of the uninsured. And while uninsured adults often perceive themselves to be in poorer general health than the population as a whole, they are less likely than the insured to have chronic conditions (Table 4–1). Estimates that account for these demographic and health factors generally find that insuring the uninsured would increase national health spending by less than 10 percent.

TABLE 4–1.—*Health Perception and Health Status by Type of Insurance Coverage, 1987*

[Percent]

Characteristic	Insurance coverage	
	Private, employment related	Uninsured
Self-reported general health perception:		
Fair	10.6	18.1
Poor	1.3	2.4
Any chronic condition	33.1	26.1

Note.—The sample is composed of adults aged 18 to 64.
Source: Department of Health and Human Services.

A fourth rationale for universal coverage is to solve the "free rider" problem. At least some of the uninsured could afford to purchase insurance but choose to go without because they feel they do not need it, and because they know that if they do become sick they will be cared for on an emergency basis at little cost to themselves. For some, relying on such "free" catastrophic insurance can be more attractive than purchasing insurance in the private market. By requiring that all individuals pay something for coverage, health reform can help eliminate this problem.

Finally, as discussed below, universal coverage is essential if everyone in the population is to share equally in the costs of insurance (Box 4–1).

Box 4–1.—Moral Hazard and Adverse Selection

All insurance markets face two potential problems. The first, called moral hazard, involves incentives. Insurance may encourage those who are covered to use insured services more than they otherwise would, or it may discourage the insured from taking steps to lower their need for such services. Insurance against any kind of risk—including health risks—always involves some element of moral hazard. When people use health services more than they would without insurance, the total amount insurers must pay increases, and they in turn must increase their prices. Furthermore, because individuals pay less than the full social cost of the services they receive, too much of society's resources will be devoted to such services.

The second problem is adverse selection. People who know that they are more at risk than others of falling ill are more likely to purchase health insurance. Therefore, insurers who set their prices at the average cost for the population as a whole are likely to discover that their prices do not cover their costs, because their customers are on average sicker than the population at large. To address this problem, insurers have incentives both to charge prices that exceed the cost of covering the average person and to select risks as best they can. The higher prices of insurance that result from adverse selection have the perverse effect of discouraging some healthy people from purchasing insurance. Because of the adverse selection problem, all people must be required to purchase insurance if each of them is to be charged the average cost of providing insurance.

INSURANCE MARKET REFORM

Private insurance markets have a number of shortcomings that impede the realization of universal coverage.

INSURING MAJOR RISKS AND PREEXISTING CONDITIONS

Economic theory suggests that *at a minimum* well-functioning insurance markets should insure against the expenses that accompany large medical risks because those are precisely the ones that cause the most financial hardship to individuals and families, are the least susceptible to moral hazard, and have the lowest administrative costs as a share of benefits. In our current system, however, private insurance markets often fail even when judged against this minimal standard.

About 80 percent of conventional health insurance policies have limits—generally ranging from $250,000 to over $1 million—on the amount that the insurer will pay over the policyholder's lifetime. Many insurers also initially exclude coverage of "preexisting conditions"—health problems that exist before the policy takes effect. A typical rule, for example, is to exclude for 6 months a condition that was present in the 6 months prior to joining a plan. Some estimates suggest that up to 80 million Americans have preexisting conditions that could be excluded from any new coverage or would require payment of a higher premium.

Both the exclusion of coverage for preexisting conditions and the limitations on maximum lifetime payments are ways that insurers respond to the adverse selection problem discussed in Box 4–1. Such practices also reflect the fact that insurers who know in advance about the likely health status of their potential policyholders can choose which risks they are willing to insure and which they are not, and can choose to charge different prices to different individuals based on this assessment.

Such common insurance practices may be privately optimal for individual insurers, but they are not socially efficient. People with preexisting conditions and people who have exhausted their lifetime insurance limits may still require care, and someone must bear the costs. If they cannot obtain private insurance and they have exhausted their own funds, either they will get insurance through public sector programs, such as medicaid, or the costs of their care will be shifted onto the premiums of those who are able to obtain insurance. By compelling all insurers to cover preexisting conditions and by eliminating limitations on lifetime payments, the government could reduce the adverse selection problem in private insurance markets and thereby improve how they function.

COMMUNITY RATING

A second essential component of insurance reform is "community rating"—charging everyone in a large group the same price regardless of individual differences in demographic or health status. Currently, health insurance is often experience rated—the price for members of a particular group is based in whole or in part on that group's expected utilization of insured services. However, there are strong reasons for requiring community rating.

The rationale for any kind of insurance is to spread costs throughout the insured population. Complete health insurance would spread the cost of care across everyone in the population, regardless of their health status. Similarly, complete insurance would guarantee that the price paid by each individual for coverage would be the average cost of such coverage for the population. In contrast, experience rating means that the price one pays for insurance var-

ies depending on one's health status. But at least for those health problems and their associated costs that individuals cannot influence by their behavior, experience rating is at odds with the basic function of insurance—to insure against risk.

In principle, of course, one can distinguish between those health risks that individuals can influence and those that they cannot, and apply experience rating to the former. In practice, however, this is often difficult to do, because it would require detailed monitoring of personal behavior. In addition, many major health risks, with the obvious exception of those associated with smoking, are linked quite imperfectly to individual behavior, or the medical profession's understanding of the linkage remains rudimentary. Based on these considerations, community rating of health insurance, and continued public programs to deter smoking, are appropriate elements of health insurance reform.

However, community rating is difficult to enact without complementary reforms. The adverse selection issue described in Box 4–1 is one potential problem, which universal coverage could address by requiring people to have coverage. A related problem stems from the fact that insurers who are compelled to charge a community rate will have incentives to seek out the healthiest consumers, because they can be covered for the lowest cost and thus are likely to yield insurers the highest profits. This risk selection may involve high administrative costs, for example in determining the medical history of each member of a group. Resources devoted to this activity increase the overall costs of health care without providing any additional health benefits.

Several steps could be taken to minimize the possibility of such selection. First, a system of "risk adjustment payments" could be designed—monetary transfers from plans that have a healthier mix of enrollees to plans with a sicker mix of enrollees. If risk adjustment perfectly compensated for true differences in health risk, it would eliminate the incentives for selection on the part of insurers.

Second, all insurers could be required to offer the same package of benefits, thereby eliminating the opportunity to use the variations in the benefits package to attract better risks. Finally, "guaranteed issue" and "guaranteed renewability" of insurance could be required—that is, people could not be denied the right to enroll initially or renew enrollment in a health plan because of demographic or health status.

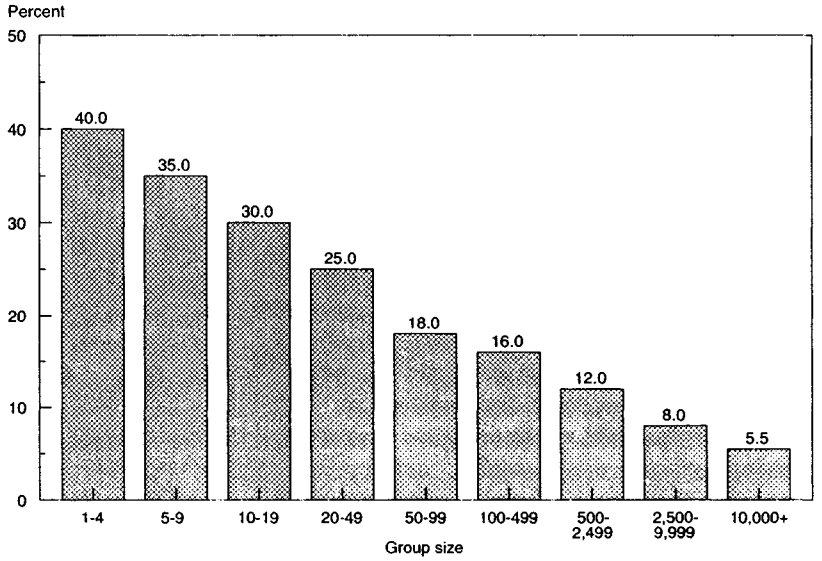
REDUCING ADMINISTRATIVE COSTS

In part because of the experience rating practices of insurance companies, there is insufficient standardization across insurers. Providers must deal with different insurers using different claim forms and covering different sets of services. Lack of standardiza-

tion results in high administrative expenses. In 1991 over 6 percent of all health care expenditures went for administrative expenses. This exceeds total spending on all public health service programs.

Standardizing benefits and billing procedures and increasing the automation of bill payment could produce substantial administrative savings. Grouping small firms and individuals into larger purchasing pools would have the same effect. As Chart 4–3 shows, the administrative load charged by commercial insurers for small groups (1 to 4 employees) averages about 40 percent of claims paid—in contrast to only about 5½ percent for large groups (over 10,000 employees).

Chart 4-3 **Administrative Expenses of Commercial Insurers as Percent of Claims Paid**
Administrative expenses are much higher in proportion to claims paid for small groups than for large groups.



Source. Hay/Huggins Company, Inc.

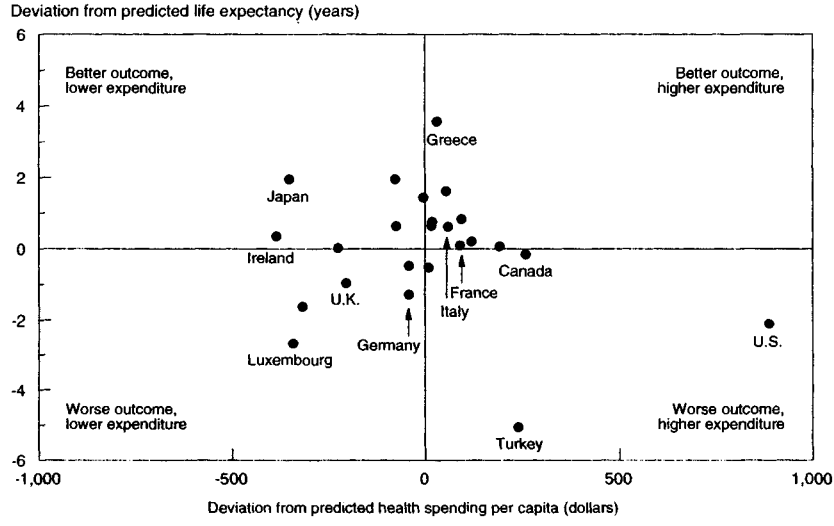
CREATING A MORE EFFICIENT MARKET AND CONTAINING COSTS

The third problem with the current health care system is that it appears to be far from efficient. As already noted, the United States spends a larger share of its GDP on health care than any other industrialized nation. If Americans valued medical care more

than people in other countries do, this might not be cause for concern. But the facts suggest otherwise.

Although the fraction of national resources devoted to health care in the United States is partially explainable by our higher income, Chart 4–4 reveals that the United States is an outlier—we spend considerably more per capita on health care yet achieve a somewhat lower life expectancy than our higher income would predict. Nor can these differences be explained away by the age of the American population. In fact, the percentage of the population over 65 is lower in the United States than in most of the other OECD countries. Since older people tend to use more medical care than younger people, the age distribution of the American population suggests that the United States should spend a smaller rather than a larger fraction of GDP on health care than do other industrialized countries.

Chart 4-4 **Health Expenditure and Life Expectancy in Industrial Countries**
The United States spends more on health care yet has lower life expectancy than would be expected given its level of income.



Note: Health spending and life expectancy are deviations from what would be expected given per capita income. The sample consists of the member countries of the OECD.
Sources: Organization for Economic Cooperation and Development and the World Bank.

It has been suggested that sociodemographic factors such as the greater prevalence of violence in American life may explain why health care spending in the United States is comparatively high. Existing research based on partial estimates suggests, however, that violent crime may add only about 2 percent to national health

expenditures. No comparative studies have assessed whether violence is a more important determinant of health care spending in the United States than elsewhere.

At least part of the higher health care costs in America stem from inefficiencies of various sorts. First, there are the administrative inefficiencies in the insurance market discussed earlier. Inadequate competition among providers and inadequate incentives for cost-conscious behavior by both providers and consumers are a second major source of inefficiency in the current health care system. Traditional fee-for-service plans, which pay providers for each test and procedure they perform, are used by 58 percent of private sector employees who receive health insurance through their employers. Such plans have built-in incentives encouraging providers to perform more care than may be appropriate. These incentives are sometimes reinforced by self-referral arrangements whereby providers prescribe tests or other services from laboratories or clinics in which they have a direct financial interest. For example, one study found that doctors who performed and charged for their own radiological tests prescribed them at least four times as often and charged higher fees than did doctors who referred their patients to unaffiliated radiologists.

Providers sometimes have an incentive to overprescribe tests and procedures because they fear malpractice suits. Available estimates suggest that such "defensive medicine" accounts for about 3 percent of total health spending.

Even when there are many providers in a particular health care market, competition among them is often weak. Only 53 percent of people insured through an employer, for example, can choose among alternative health care plans, and often the choice of a capitated plan, such as a health maintenance organization (HMO), is not available. Many small firms do not offer multiple policies. One study found that only 5 percent of workers in firms with less than 25 employees were offered any choice among health care plans. As a result, many consumers have only limited choices among both plans and providers. Consumers also may not have a choice of hospitals, since hospital selection is usually left to doctors, who choose on the basis of where they practice and may not choose on the basis of price.

Moreover, effective consumer choice depends on adequate consumer information. But many consumers rely primarily on their providers for advice about what services are indicated in a particular situation. Consumers often do not even know the prices of medical goods and services, and they seldom have the information they would need to evaluate the quality of the services they receive. This means that providers are often in a position to influence both the supply and the demand sides of their markets. In short, con-

sumers are ill equipped to bring strong competitive pressures to bear on providers to make cost-conscious decisions.

Nor do consumers themselves have strong incentives to exert such pressure. Even when they have a choice, consumers usually face weak incentives to opt for a low-cost health care plan. Many employers pay a fixed percentage—generally 80 percent—of whatever plan an employee chooses. Thus, when an employee selects a less expensive plan, 80 cents of each dollar saved goes to the employer and only 20 cents to the employee.

As the earlier discussion of moral hazard suggested, the current system of insurance may also encourage some consumers to use more care or more-expensive care options than they would if they were forced to pay higher out-of-pocket costs for services. On the other hand, if consumer copayments or deductibles were increased to reduce utilization, some of the value of insurance would be lost. Higher copayments might also discourage utilization of preventive services, with potentially adverse effects on health outcomes. Furthermore, even drastic increases in deductibles would provide only limited incentives. Table 4–2 shows that even if all families had a $5,000 deductible, only 29 percent of health dollars would be spent by individuals or families paying the full marginal cost of care.

TABLE 4–2.—*Distribution of Population and Health Spending by Spending Category, Estimates for 1994*

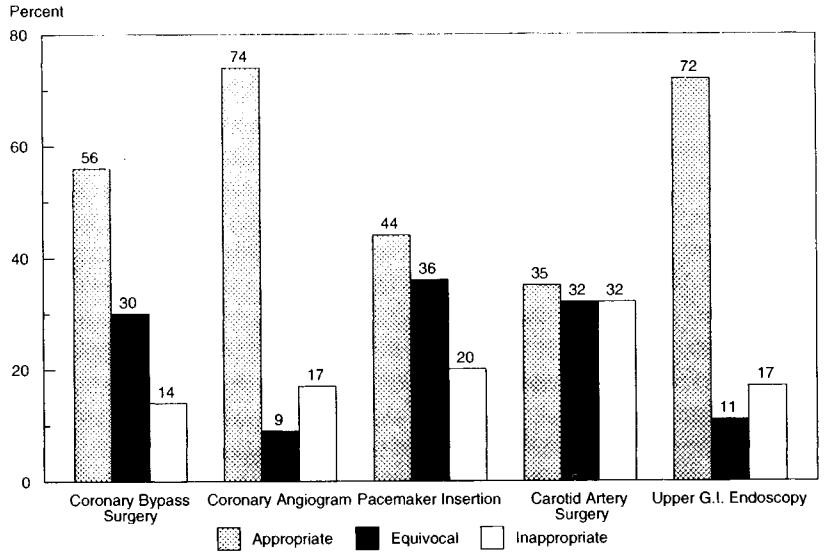
Annual health spending (dollars)	Percent of population	Percent of spending
0	7.8	0.0
1–500	26.0	1.4
501–1,000	13.1	2.5
1,001–3,000	25.2	13.4
3,001–5,000	10.4	12.0
5,001–10,000	9.3	19.4
10,001–30,000	6.5	31.0
Over 30,000	1.6	20.3

Note.—Health spending is in 1994 dollars. The estimates pertain to the noninstitutionalized population under the age of 65, excluding people who receive aid to families with dependent children or supplemental security income. The distribution presented is for health insurance units.

Source: Department of Health and Human Services.

Available evidence indicates that the weakness of effective competition in the health care marketplace results in substantial fraud and abuse as well as inappropriate care or care of equivocal value. Some estimates suggest that fraud and abuse may account for about 10 percent of total health care spending. And, as noted above and summarized in Chart 4–5, as much as one-third of some common procedures may be performed in cases where they are inappropriate or of equivocal value on medical grounds.

Chart 4-5 **Estimates of Inappropriate Care for Five Common Procedures**
Studies have shown that as many as one-third of some procedures may be inappropriate or of equivocal value.



Source: The RAND Corporation.

There are often large differences in the amounts of medical care that people receive in different regions of the country, and even in different areas within the same region. These geographic differences may be evidence of resource misallocation. In 1989, for example, medicare physician payments per capita were 57 percent higher in Detroit than in New York City. Other research has found that the level of use of hospital beds in a community is determined primarily by the number of beds in that community. People in areas with more hospital beds are not any healthier than people who live in areas with fewer beds, but they are more likely to die in a hospital.

EXPLAINING COST INCREASES

Not only are the costs of the American health care system high, but they are rising rapidly as well (Box 4–2). Several factors have been identified as possible sources of cost growth, including the aging of the population; the growth in incomes and the reductions in cost sharing by consumers; slow productivity growth in most health care services; and technological change.

By itself, the aging of the population can explain about 5 to 10 percent of the growth in health care spending. Some estimates of individual behavior based on controlled experiments suggest that roughly another quarter can be explained by more-rapid income growth and the reduction in the cost-sharing component of health insurance over the last 40 years.

Health care costs may also have risen rapidly because so much medical care consists of personally provided services rather than goods. On average, over long periods of time, the prices of personal services rise faster than the prices of goods because productivity advances more rapidly in goods production than it does in services. Unfortunately, there is no reliable estimate of the magnitude of this factor. If there were no productivity growth at all in the health sector, the relative price of health care would be expected to rise, on average, at the economy-wide productivity growth rate—about 1 to 1½ percent per year in recent years, which is about one-quarter to one-third of the observed increase in relative prices. There is, however, almost certainly *some* productivity growth in health care, so the so-called cost disease factor cannot account for even this much extra health inflation.

Finally, many health economists believe that technological change itself drives health care costs upward. Once again, however, no reliable measures of its quantitative importance are available. In theory, the introduction of a new technology may increase or decrease health care costs, depending on whether it substitutes for or complements existing methods of treatment and, if the former, on whether it costs more or less than the technology currently available. In addition, some technological change may consist of applying previously existing technologies to different diagnoses.

Technology's influence on future trends in health care costs is difficult to predict. Medical science is on the brink of new technologies made possible by the revolution in genetic research, and these may prove to be less costly substitutes for existing technologies. In addition, as historians of technological progress have demonstrated, technological change is not entirely exogenous—its form depends on the incentive environment in which it occurs. A health care reform that encourages more cost-conscious decisions by providers and consumers may in fact encourage new technologies that are more cost effective. Finally, an increase in competitive pressure in health care markets will exercise greater price discipline on both existing and new technologies and thereby moderate their effects on the growth of health care spending.

WHO PAYS FOR HEALTH CARE?

Table 4–3 shows who paid for health care in 1991, and where the money was spent. The largest amount of health care spending (38

Box 4–2.—Recent Reductions in Health Care Inflation

The rate of inflation in the health sector slowed in 1993, largely as a result of slower growth in prices for health services, including physicians and hospital care:

Inflation rate of:	Year ending December (percentages)		
	Average 1983–91	1992	1993
Total CPI	3.9	2.9	2.7
Health care	7.3	6.6	5.4
Excess of health care inflation over total	3.4	3.7	2.7

Source: Department of Labor.

Historically, health care inflation tends to move in parallel with inflation in the rest of the economy, but at a higher average level. In 1993 the gap between health care inflation and overall inflation narrowed somewhat, but the change does not appear to be statistically significant.

Some have argued that the recent slowdown in health inflation is a sign that reform of the health care system is not required. But despite the slowdown, the relative price of health care continues to increase: The medical care component of the consumer price index grew at twice the rate of total consumer price inflation in 1993. Moreover, this argument overlooks several other important motives for health reform: the lack of health security and universal coverage, the failures of the insurance market, and the burden of health care expenditures on government budgets. The cost problem will not be solved without reforms that increase competition in the health care marketplace.

percent) is for hospital care. Payments to physicians and other health care professionals are the second-largest category, at 29 percent of total spending. The remainder of personal health care is for home and nursing home care (9 percent), and drugs and other personal care outside of hospitals and nursing homes (12 percent). The costs of insurance administration are estimated at 6 percent of health spending. Finally, public health activities and research and construction total 6 percent of spending.

Health spending is financed in four principal ways. Businesses pay for health care directly through health insurance premiums ($153 billion in 1991) and workers' compensation and disability insurance ($18 billion). Total business spending ($171 billion) was about 23 percent of total health spending and 6.3 percent of total

TABLE 4–3.—*Sources and Uses of Health Care Funds, 1991*

[Billions of dollars]

Uses of funds	Total	Private spending					Government			
		Business		Household		Nonpatient revenue	Medicare	Medicaid	Employer	Other
		Premiums [1]	Workers' compensation	Premiums	Out-of-pocket					
Total	752	153	18	52	144	33	123	101	40	91
Hospital care	289	64	8	22	10	15	73	43	17	38
Physician care	142	42	7	14	26	0	33	7	11	3
Other professionals, dental visits	73	18	1	6	30	4	4	4	5	1
Home health and nursing home care	70	1	0	0	27	2	7	31	0	1
Drugs, vision, other personal care	87	6	1	2	52	2	3	12	2	7
Administration	44	22	1	7	0	1	3	4	6	0
Public health	25	0	0	0	0	0	0	0	0	25
Research and construction	23	0	0	0	0	9	0	0	0	14

[1] Includes household and employer premiums.

Source: Health Care Financing Administration.

compensation. Households pay for health care through insurance premiums ($52 billion in 1991) and out-of-pocket expenses ($144 billion). Total household spending of $196 billion was 26 percent of national health spending. The average household spent about $2,100 on health care in 1991. The health care industry receives additional nonpatient revenues of $33 billion (4 percent of total spending) from such activities as parking lot receipts.

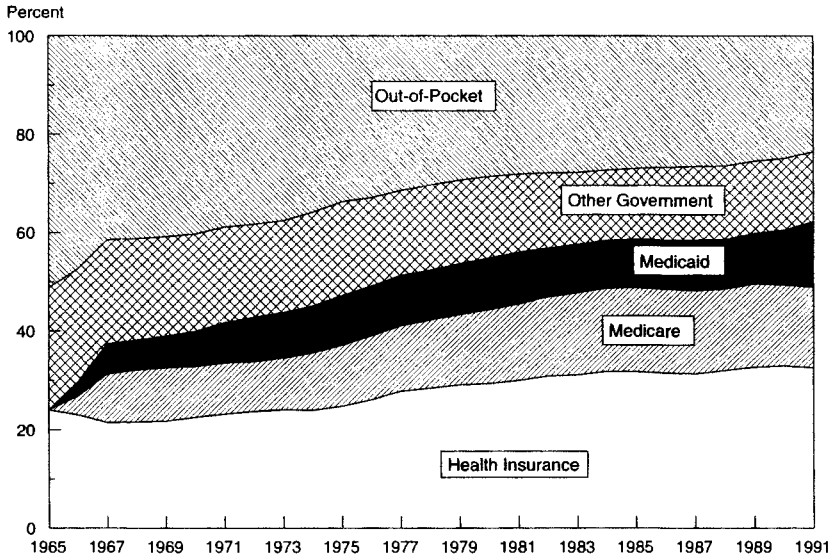
Finally, governments pay for 47 percent of all health spending ($355 billion), most of it for medicare and medicaid. There is additional spending on health insurance for government employees and on activities of the Department of Veterans Affairs, the Department of Defense, and the Public Health Service. About 21 percent of Federal Government revenues and over 21 percent of State and local government revenues are devoted to health care.

Governments also subsidize health care indirectly, by excluding employer-provided health insurance from taxable income. In 1991 this tax expenditure cost the Federal Government an estimated $36 billion in individual income taxes. The government lost Social Security revenues as well, although Social Security payments in the future will also be somewhat lower.

Chart 4–6 shows the evolution of these payment sources over time. Between 1965 and 1991, payments by health insurers, medicare, and medicaid increased from 24 percent to 62 percent of total health care spending. Other government spending fell from 25 to

14 percent, and out-of-pocket spending declined from 46 percent to 20 percent of the total. The dramatic extension of insurance coverage—in both the public and the private sectors—may be both a response to and a cause of increased costs.

Chart 4-6 **Sources of Health Care Financing as Percent of Total Expenditures**
Health insurance and government-financed expenditures have been rising as a share of total spending, while out-of-pocket expenditures have been falling.



Source: Health Care Financing Administration.

While Table 4–3 shows who is responsible for paying for health care, it does not show the economic incidence—whose income is ultimately reduced because of high health care costs. In response to higher costs, businesses have several options: They can reduce health benefits; lower workers' wages or other benefits so that total compensation does not rise; reduce employment; lower returns to shareholders; reduce payments to other factors of production; reduce investment in plant and equipment or research and development; or raise prices to their customers.

Economic theory suggests that most of the increase in health care costs will be reflected in lower wages. The reason is simple. Firms are indifferent between spending a dollar on wages or on health premiums. But since wages are taxed while health insurance premiums are not, employees should be willing to "buy" increased health insurance by sacrificing wages until the marginal dollar of health insurance is worth one dollar of *after-tax* wages, or

about 65 to 70 cents for a typical family. At this point, the worker should also be indifferent between contributing more to health insurance or to wages.

Empirical research suggests that the dominant long-run response of businesses to rising health care costs has indeed been to lower the rate of increase of workers' wages. Between 80 and 100 percent of increases in health care spending appears to be reflected in lower wages. As noted in Chapter 1, the share of wages in total compensation has been falling since 1960, while the share of business health insurance spending has increased markedly.

When firms slow wage increases to offset rising health insurance costs, they limit the increase in their total labor costs, and thus limit the job losses that might otherwise result. The slower wage growth due to rising business health expenditures has led to slower increases in incomes than would otherwise have occurred. If business spending on health care were the same share of compensation today as it was in 1975, wages per employee could be over $1,000 higher.

If increases in business spending on health insurance are not entirely balanced by reductions in other forms of labor payments, total compensation will rise. In this case, some other business decisions are likely to be affected, such as employment, pricing, or investment decisions. Empirical research, however, has not explored such alternative responses in any depth.

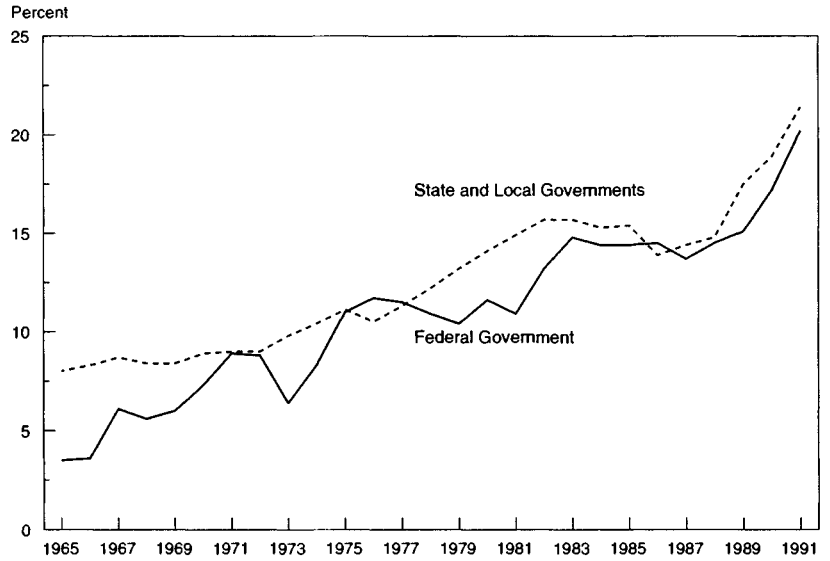
In summary, the economic literature on the incidence of health care costs suggests that employees eventually pay for most of their employer-provided health coverage by taking home lower cash wages. Reforms that enhance the efficiency of the health care market will allow employees to have both more health care coverage and higher take-home pay at the same time. Greater efficiency will therefore translate into an improvement in living standards for society as a whole.

HEALTH CARE AND GOVERNMENT BUDGETS

The final problem in the current health care system is the growing burden it places on government finances. Because governments pay for such a large share of health spending, increases in health costs contribute directly to pressures on Federal, State, and local budgets. Public sector spending on health care grew over 2 percentage points faster than private sector spending in the 1970s, and at about the same rate as private sector spending in the 1980s. The result has been an increasing share of health spending by governments. In addition, as was pointed out in Chapter 1, health spending is growing four times as rapidly as any other component of the Federal budget. Over the two decades ending in 1991, Federal

health spending increased from 9 percent to 21 percent of total Federal revenues (Chart 4–7). Similar changes have occurred in State and local government spending.

Chart 4-7 **Government Spending on Health Care as Percent of Total Government Revenues**
Federal and State and local spending on health care account for increasing shares of total government revenues.



Sources: Department of Commerce and Department of Health and Human Services.

The Federal Government has responded to increasing health care costs in part by attempting to limit the reimbursement rates paid by public programs to health care providers. This approach in turn has resulted in the substantial shifting of costs to the private sector described earlier. In the absence of systemwide reform, the imposition of caps on Federal health care programs would either further aggravate the cost-shifting problem or gradually limit access to care.

Without health care reform, escalating health care costs will continue to confront the Federal Government—as well as State and local governments—with painful choices among additional taxes, cuts in spending on education and other programs that promote economic prosperity, or increases in budget deficits. As already noted, projected increases in Federal spending on medicare and medicaid are the main force behind a projected increase in the Federal deficit toward the end of this century.

THE ARCHITECTURE OF THE HEALTH SECURITY ACT

The Administration's approach to health care reform, while bold and comprehensive, builds on the strengths of the current market-based system. The Administration considered but rejected radical approaches such as a single-payer system or government-set health care prices in favor of restructuring the current system and relying on the forces of market competition. The Administration's framework preserves and expands consumer choice among providers and preserves the current employer-based system of health insurance. The Administration's plan also allows large firms to continue operating self-insured plans. Such firms generally provide comprehensive benefits, and many have managed to control health care spending. Indeed, the Administration's plan reflects many of the lessons learned from the experience of such firms.

ELEMENTS OF REFORM

To address the Nation's health care problems, meaningful reforms must address the four interrelated issues identified in the preceding discussion: universal coverage and health security; reform of the private insurance system; efficiency improvements and cost control; and sustained deficit reduction. The Health Security Act, which the Administration proposed in 1993, contains reforms that simultaneously meet these objectives. The principal features of the Administration's reforms are outlined in this section and discussed in greater detail in the remainder of this chapter.

Universal Coverage

The Health Security Act guarantees all Americans a health insurance package with a comprehensive set of benefits. The medicare program will be left largely unchanged, and medicare will remain the insurer for most Americans over the age of 65. Most medicaid recipients under 65 will be absorbed into the new system. With very few exceptions, all other Americans will receive their health insurance from the "health alliances" described below.

Universal coverage is essential for the reasons noted earlier. Comprehensive benefits are equally important if health security for all Americans is to be achieved. Some reform proposals promise universal coverage but guarantee coverage only for catastrophic expenses. In practice, people with high incomes may be able to afford additional coverage beyond catastrophic, but many other Americans cannot. Plans that guarantee only catastrophic coverage leave many people without genuine health security—subject to the risk that their insurance coverage will deteriorate if they lose their jobs, just when their incomes are falling.

Since the Administration's comprehensive benefits package includes a prescription drug benefit for the under-65 population, the Administration's proposal also calls for a comparable drug benefit to be added to the medicare program. In addition, the proposal includes funding for long-term care services, primarily to expand the amount of home- and community-based care.

Reforming Insurance Markets

Under the Health Security Act, individuals and families will receive coverage through regional or corporate "health alliances"—pools of individuals who purchase from a set of health plans. No insurer will be able to impose restrictions on preexisting conditions or lifetime limitations on insurance benefits, or to deny people the right to initiate or renew enrollment because of demographic or health status. Insurers will have to charge a community rate to everyone in an alliance.

Because there will be only one regional alliance in each geographic area, and coverage will be universal, healthy people in each area will naturally be pooled with sicker people. Pooling health risks makes insurance affordable for everyone. It also provides the healthy with the knowledge that their insurance premiums will not rise if they or a family member become ill.

Eliminating exclusions for preexisting conditions and lifetime limitations on benefits guarantees that large financial risks will be covered. Providing for guaranteed issue and guaranteed renewability allows individuals to exercise their choices among health plans.

Efficiency Improvements and Cost Savings

To encourage cost-conscious decisions, the Health Security Act allows consumers a choice among several plans with identical benefits, gives them information about the quality of competing plans and their customers' satisfaction, and allows them to receive more of the savings if they choose a less expensive health plan. In addition, the act sets a limit on the growth of premiums in the alliances.

Promoting choice among health plans is essential to controlling costs. By encouraging plan choice, the act attempts to create a more efficient health care delivery system and thus lower overall spending.

The act's proposed limits on the allowable growth of premiums are intended to guarantee control over the growth of costs, in case enhanced private incentives fail to have the anticipated effect. These limits are an important safeguard because they reduce the risk to the government of runaway health spending.

Deficit Reduction

Over time, cost savings from the provisions just described and from reimbursement changes in public programs will provide budg-

etary savings for the Federal Government. As noted above, long-run success in keeping the Federal deficit under control is directly tied to success in reducing the growth rate of Federal health care spending. In the short term, the Health Security Act entails some new Federal costs—discounts for the poor and for small and low-average-wage businesses, a new drug benefit for medicare, and coverage of long-term care. The savings from slowing the rate of growth of health care spending start right away, but they are small at first. Over time, these savings grow larger, and deficit reduction increases accordingly.

Maintaining Choice

The Health Security Act allows families, doctors, firms, and States to make significant choices about the nature of their involvement in the new health care system.

Households will get to choose their own doctors, and many families that currently have no choice over their health plan will be given several options. Doctors will get to choose the plan or plans in which they work, and may remain in the fee-for-service sector if they wish. Large firms may choose to form corporate alliances or to join regional alliances. And each State will be allowed to adjust its health care system to its particular circumstances—including the establishment of a single-payer system if it so chooses.

PROVIDING COMPREHENSIVE BENEFITS

All health plans organized under the Health Security Act must offer the same set of comprehensive benefits. These benefits include hospital services; services of health professionals; clinical preventive services; mental illness and substance abuse services; family planning services; hospice care; home health care; extended care services; ambulance services; outpatient laboratory, radiology, and diagnostic services; outpatient prescription drugs and biological agents; outpatient rehabilitative services; durable medical equipment and prosthetic and orthotic devices; vision care; and pediatric dental care. The guaranteed benefit package to be in effect through the year 2000 provides the level of benefits currently offered by a typical medium-sized to large firm. In the year 2001 the benefit package expands to include services not fully covered previously—principally, adult dental benefits and broader coverage for mental illness and substance abuse.

Health plans will offer one of three forms of cost sharing. The first is a "higher cost-sharing" option similar to those in traditional fee-for-service plans. There is a general deductible of $200 per year for a single individual and $400 per year for a family, with separate deductibles for mental illness and substance abuse treatment, prescription drugs, and dental services. After the deductible is met, the insured individual pays 20 percent of the cost of most services.

The second option is a "lower cost-sharing" option similar to those in HMOs. This option has only a $10 copayment for most services, a $5 copayment for prescription drugs, and higher copayments for services such as hospital emergency room services, inpatient mental illnesses services, outpatient psychotherapy, and orthodontic care. Preventive services are covered without cost sharing under either schedule. The final option is "combination cost sharing" similar to that in preferred provider organizations (PPOs). This option follows the lower cost sharing for services provided inside a network and the higher cost sharing for services outside of the network. Under all cost-sharing schedules, out-of-pocket payments will not exceed $1,500 per year for a single individual or $3,000 for a family. All of the cost-sharing limits are in 1994 dollars and are indexed in subsequent years to the rate of premium growth.

ORGANIZING THE INSURANCE MARKET

The organizing mechanism for health insurance under the Health Security Act is the health alliance. The alliance is the "broker" between consumers and plans—negotiating with health plans and offering choices to consumers, and accepting premium payments from consumers and distributing them to plans.

The act creates two types of health alliances: regional alliances and corporate alliances. Regional health alliances are designed for workers in firms with fewer than 5,000 employees, nonworkers, and most medicaid recipients. Each State will have one or more regional alliances, but alliances may not overlap geographically. Boundaries of the regional alliances may not be drawn to segregate people with high expected health care costs in one area. Firms with over 5,000 employees will have the option to form a corporate alliance, but they must provide the guaranteed package and will not receive any discounts on their premium contributions.

The alliance structure is designed to enhance competition and thus produce efficiency savings. Within an alliance, consumers have a choice of health plans. Plans will be either fee-for-service, PPOs, or HMOs. HMOs must offer consumers the opportunity to purchase a point-of-service option, allowing them to use care outside the HMO as in a fee-for-service plan if they choose. All plans will offer the same set of benefits, so individuals will not fear changes in covered services if they switch plans.

There will be an annual open enrollment period during which consumers can switch from one health plan to another without loss of coverage. To increase consumers' ability to evaluate competing plans, the alliance will also publish price and quality data about the different plans. Consumers are required to pay the cost of the plan they select, less the amount their employers are required to contribute. Employers are allowed to supplement their required

contribution, within limits. Outside of collective bargaining agreements, employers must offer the same supplementation to every worker in a given rating pool (rating pools are described in the next section). The supplementation cannot cause the total employer contribution to exceed the premium of the highest cost plan for that rating pool in the alliance. Employers who choose to contribute more must give full rebates to employees who choose a plan that costs less. Thus, the consumer will realize the full savings (subject to taxes) from choosing a less expensive health plan.

Individuals may also use after-tax dollars to purchase health coverage for benefits beyond the guaranteed package or for supplemental policies to reduce out-of-pocket payments. The Health Security Act specifies a floor for coverage below which individuals should not fall, rather than a ceiling on the generosity of health benefits an individual can receive.

On the provider side, the health alliance solves many of the problems inherent in the current market. As a requirement for selling insurance in an alliance, plans must agree to community rating, guaranteed issue, and guaranteed renewability, and must cover individuals with preexisting conditions. The health alliance must accept all qualified health plans into the alliance, with the exception that the alliance can exclude plans that charge over 120 percent of the average premium.

Some economists have argued that the Federal Government should tax employer contributions for health insurance as if these benefits were paid as wages. Such a tax change would raise the price to consumers of more-expensive health plans, thereby providing an incentive to limit health care spending. There are several ways to reform the tax treatment of health benefits. First, employees could be prohibited from contributing pretax dollars to health insurance under certain employee benefit arrangements called "cafeteria plans." This limitation is a part of the Health Security Act. Second, employer payments for covered services beyond the guaranteed benefit package—whether in reduced cost sharing or in additional services—could be considered taxable income. This limitation is scheduled to occur in the year 2004 under the Health Security Act. Finally, all or part of the cost of a guaranteed benefit package above some level could be considered taxable income. This change is not part of the Health Security Act.

PAYING FOR INSURANCE

The Health Security Act classifies people into four rating pools: singles, couples with no children, families with children and one adult, and families with children and two adults. Table 4–4 shows the estimated premiums in 1994 for policies for these four pools. For a two-adult family with children, for example, the national av-

erage premium in 1994 is estimated to be $4,360. The actual premiums will vary by region of the country, as health spending does currently.

TABLE 4–4.—*Estimated Premiums in the Regional Alliance, 1994*

Rating pool	Average premium	Payments by:			
		Family (20 percent)	Employer		
			Per-family requirement (80 percent)	Average number of workers per family	Per-worker requirement
Singles	$1,932	$386	$1,546	1.00	$1,546
Couples (no children)	3,865	773	3,092	1.45	2,125
One-adult family	3,893	779	3,409	1.38	2,479
Two-adult family	4,360	872			

Note.—Premiums are national averages. Actual premiums will differ from alliance to alliance. Employer payments for one-adult and two-adult families are pooled.

Source: Administration estimates.

Employers are required to pay 80 percent of the average premium for each family. Single individuals are considered to have one worker per family. An employer of a full-time single worker therefore pays 80 percent of the $1,932 premium cost, or $1,546. In the case of childless couples, there are on average in the United States about 1.45 workers per family. Since 80 percent of the premium for childless couples is $3,092, the amount per worker is only $3,092 divided by the number of workers per family, or $2,125. Employers must pay this amount for each worker. Workers in families with children—whether the family has one adult or two—are pooled. The alliance computes total requirements ($3,409 per family) and divides this by the number of workers per family (about 1.38 as a national average). The employer payment for a full-time worker in a family with children is therefore $2,479. Because these amounts are independent of the number of workers in a family, employers do not have to coordinate payments with employers of other family members. This system is thus relatively simple to administer.

Employer payments for part-time workers are prorated, based on the percentage of a 120-hour month (about 30 hours per week) that the person works. If the employee works 60 hours per month, the employer would owe one-half of an employer premium. No employer payment is required if the individual works fewer than 40 hours per month. Thus, an employee who worked at two 60-hour-per-month jobs would be credited with two half-payments, or one full-time payment. An employee who did not work at any job for at least 40 hours per month is treated as a nonworker.

Self-employed people will make their own employer payments, as they do now. However, if a self-employed worker also has wage and

salary income, payments from the employer will be credited against the amount owed on the worker's self-employment income. Thus, a worker who earns wages or a salary for half the year and is self-employed for the other half would owe only half of an employer payment on his or her self-employment earnings, with discounts available for those with low self-employment earnings. In addition, self-employed people will be able to deduct all their payments for health insurance in computing taxable income, compared with the 25-percent deductibility under current law.

The equivalent of at least one employer premium must be collected for each family. In cases where no family member receives employer coverage, or the family members worked less than 12 full-time months in a year, the balance of the premium is the responsibility of the family. If the family members worked 6 full-time months, for example, the family would owe one-half of an employer share, the employer having paid the other half.

Finally, each family owes any difference between the employer contribution and the price of the plan they select (but low-income families will be eligible for discounts on their share). For the average family, this difference will be 20 percent of the total premium, or $872 in the case of a family with children. If the family chooses a more expensive plan, it will pay the additional cost. If the family chooses a less expensive plan, it will keep the savings.

PROVIDING DISCOUNTS

The government provides discounts on the cost of insurance to small and low-wage businesses and low-income families. There are five types of discounts in the Health Security Act, which are detailed in Table 4–5: discounts to families on their 20-percent share of the premium; discounts to families that (for reasons just explained) owe some of the employer payment; discounts to early retirees; discounts to firms; and discounts to low-income families facing high out-of-pocket payments. The cost of providing these discounts is made up by government payments.

Low-income families in the regional alliances receive a discount on their 20-percent share of the premium. No payment at all is required on the first $1,000 of income. The discount phases out at 150 percent of the poverty line—about $23,000 for a family of four in 1994. Income for these purposes is defined as adjusted gross income plus tax-exempt interest income. The $1,000 disregard and the poverty line are indexed to the consumer price index.

Additional discounts are provided for families that owe part of an employer payment. No payment is required if nonwage income is below $1,000, and full payment is expected if nonwage income is greater than 250 percent of the poverty level, or about $39,000 for a family of four in 1994. Nonwage income is defined as adjusted

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TABLE 4–5.—*Discounts Under the Health Security Act in 2000*

[Billions of dollars]

Discount	Purpose	Amount
Employer	Limit firm payments to 7.9 percent of payroll or less	29
Household		
Nonretiree	Limit payment for 20 percent share of premiums and for time spent not working	47
Nonworker discounts to retirees.	Limit employer payments for time spent not working	7
Early retirees	Eliminate remaining employer payment	5
Out-of-pocket	Lower cost sharing for poor families	3
Cushion	Allowance for behavioral effects and unfavorable economic circumstances	13
Total		103

Source: Administration estimates.

gross income less unemployment compensation and wage and salary and self-employed income (up to $60,000 per year), and including tax-exempt interest. Labor income is excluded from this calculation because it is assumed that families have already "paid" for their employer's contribution through lower wages and salaries.

Beginning in 1998, if a retired individual is between the ages of 55 and 64, has less than $90,000 in income, and meets the Social Security earnings test, the government pays the entire employer share of the retiree's premium. This discount supplants any payment for the employer share that the individual or his or her employer would have made. The largest benefit to corporations with early retirees, however, will come not from this special provision for retirees (which will save firms about $2 billion), but from community rating of premiums, which will save about $7 billion. From 1998 through 2000, firms that are currently providing health insurance to their retirees must pay the government 50 percent of the savings they realize from this provision.

Total household discounts are expected to be $59 billion in the year 2000. This total includes $47 billion in nonretiree discounts, $7 billion in low-income discounts given to retirees, and almost $5 billion in additional discounts to early retirees.

Some firms will also receive discounts on their required payments. Contributions from each firm in the regional alliances are capped at 7.9 percent of payroll. If a firm's required payments would be greater than 7.9 percent of payroll, the government pays the overage. Small, low-wage firms are capped at even lower percentages of payroll, as detailed in Table 4–6. Employer discounts total $29 billion in 2000 (Table 4–5), about three-quarters of which are for firms with fewer than 25 employees.

Finally, low-income individuals can receive discounts for their out-of-pocket payments if they live in areas where there are no

TABLE 4–6.—*Caps on Premiums by Firm Size*

[Percent of total payroll]

Average wage (dollars)	Firm size (number of workers)			
	Less than 25	25–49	50–74	75 and over
Less than 12,000	3.5	4.4	5.3	7.9
12,000–15,000	4.4	5.3	6.2	7.9
15,000–18,000	5.3	6.2	7.1	7.9
18,000–21,000	6.2	7.1	7.9	7.9
21,000–24,000	7.1	7.9	7.9	7.9
Over 24,000	7.9	7.9	7.9	7.9

Source: Administration estimates.

health plans that offer lower cost sharing or that charge premiums at or below the average-cost plan. These discounts end at 150 percent of the poverty level. The total cost of these discounts is estimated to be $3 billion in the year 2000.

Numerous behavioral effects could influence the discounts the government is obligated to pay. For example, firms that have high average wages, and therefore pay the full premiums for their workers, may find it in their interest to contract out for low-wage services from firms that receive discounts. To allow for this and other behavioral reactions, the projected discounts were increased by 15 percent above the static estimate, or $13 billion in the year 2000.

USING SAVINGS TO GUARANTEE HEALTH SECURITY AND REDUCE THE DEFICIT

At the broadest level, the Health Security Act is designed to finance new spending and deficit reduction out of savings from reduced expenditures relative to the no-reform baseline. Savings are expected to result from reduced administrative costs, consumers switching to less expensive plans, and lower costs from improved incentives.

Insurance reform will save money through lower underwriting costs. On net, the cost of insurance administration should decline by about 3.5 percent of claims paid. Since current premiums for the population that will be included in the health alliances are about $200 billion, the savings from the insurance reforms in the health alliances should be about $7 billion annually.

There are also likely to be savings from consumers switching to lower cost plans. Several studies have found that managed care arrangements have lower health spending than open-ended plans. The most comprehensive forms of managed care—group and staff model HMOs—save an estimated 15 percent on health spending by, for example, finding alternatives to hospitalization.

A number of governments and corporations have experimented with paying a fixed amount for health insurance, regardless of the

plan the employee chooses, and have found that these payment rules have a large effect on individual choices. The State of Minnesota, for example, implemented a fixed-dollar contribution for public sector employees in 1989. Between 1988 and 1993, the share of employees in the highest cost plan fell from 42 to 17 percent, while the share in the lowest cost plan increased from 28 to 54 percent. The State of Wisconsin implemented a similar system for its public employees in 1984. In one year, enrollment in HMOs increased by over 60 percent. Similar responses have been observed in several private companies.

Finally, there is the case of California, which passed laws in the early 1980s increasing the ability of plans to contract selectively with providers. Since then, growth in health care costs has been much lower in California than in other States. Between 1982 and 1991, real per capita costs for hospitals, physicians, and prescription drugs increased 2.8 percent annually in California, compared with 4.8 percent annually in the rest of the United States. As a result, California's per capita costs fell from 18 percent above the average State in 1982 to 2 percent above the average in 1991.

As a backup to the market incentives it provides, the Health Security Act places a limit on the growth of premiums in regional and corporate alliances. Up to the year 2000, growth in total premiums is constrained to the growth of inflation and population, plus an adjustment factor ranging from 1.5 percent in 1996 to zero in 1999 and 2000 (Table 4–7). This reduction in growth rates is in anticipation of one-time savings in health expenditures. After 2000 the growth rate of spending is expected to increase, but not to the level in the current system.

TABLE 4–7.—*Allowed Growth Rates of Alliance Premiums*

[Percent]

Growth rate	1995	1996	1997	1998	1999	2000
Baseline	9.0	9.5	9.2	9.0	8.9	9.0
Reform [1]	9.0	5.8	5.3	4.8	4.3	4.2
Adjustment factor [2]	.....	1.5	1.0	.5	.0	.0

[1] Projected average annual growth rates. Some alliances may experience higher annual growth rates prior to 1998.

[2] Adjustment factor added to inflation plus population growth to find reform growth limits.

Source: Baseline projections are from Congressional Budget Office, updated for higher estimates of inflation by the Administration. Reform projections are Administration estimates.

Each year, plans will submit bids on the premiums they propose for serving the alliance population. If an alliance's expected weighted-average premium is above the premium limit, and plans do not voluntarily reduce their bids, the premiums of the plans that exceed the limit will be reduced so that the cap is met.

An example will illustrate the process. If the average premium in one year is $4,000 and the target growth rate is 5 percent, the allowed increase in the average premium in the next year is $200. Suppose there are two plans with equal enrollments, one of which wants to increase the premium by $100 and the other by $400. Under the cap, the second plan would be allowed to increase its premium by only $300, so that the average increase would be $200.

Finally, if more people than expected join high-cost plans, so that actual premiums exceed the target, the premium target is reduced in the next 2 years to recoup the overage.

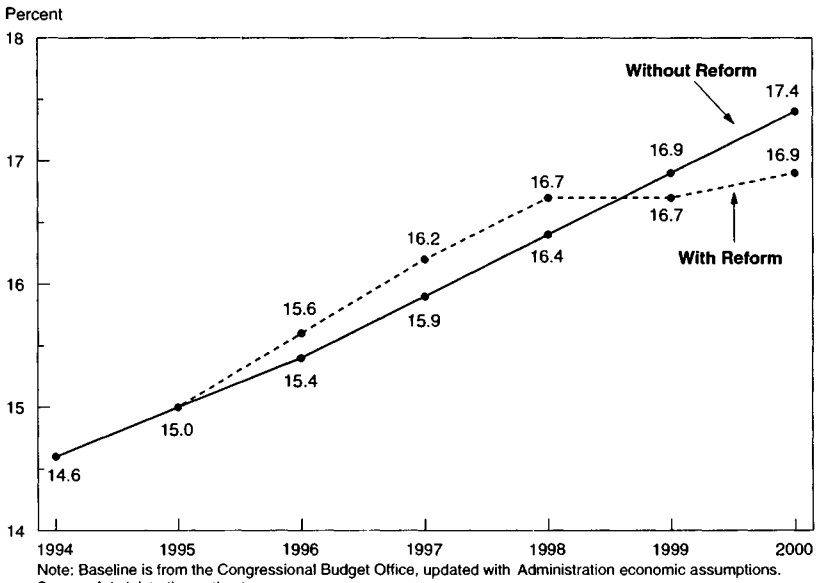
Chart 4–8 shows the projected change in national health expenditures under the act. Spending initially increases, because of the extension of coverage to the uninsured. By 1998, when universal coverage is complete, spending is above baseline by 0.3 percent of GDP. Over time, however, the savings from the market reforms—or, as a backstop, from the caps on premium growth—rise and spending falls relative to the baseline. In 1999 and 2000, spending is projected to grow at almost the rate of nominal GDP, so that health care as a share of GDP rises by only 0.2 percentage point. By the end of the decade, health expenditures with reform are projected to be below the level estimated to occur without reform.

Both the new Federal health spending and deficit reduction are financed out of savings in the existing system (Table 4–8). Spending rises with the implementation of universal coverage, but the slower growth of costs generates savings to the government. Health reform is essentially deficit-neutral in the first 4 years and deficit-reducing thereafter. By 2000, new Federal spending is projected to be $94 billion, and savings are projected to be $132 billion, yielding deficit reduction of $38 billion.

The new spending comes in five principal areas, detailed for the year 2000 in Table 4–9. First, net premium and other discounts total $42 billion. These discounts are the difference between $103 billion in gross spending and $61 billion in medicare and medicaid "offsets," as people leave these programs and receive coverage in the alliances instead. There is additional spending for the Department of Veterans Affairs, public health (including WIC [women, infants, and children] expansions and funding for academic medical centers), administration ($10 billion), the prescription drug benefit to the medicare program ($17 billion), and long-term care. Finally, allowing 100-percent tax deductibility of health insurance premiums for the self-employed will cost $3 billion in forgone revenues.

These new costs are financed by seven sources of funds. First, a tobacco tax will raise $11 billion, and a 1-percent payroll assessment on corporations that choose to form their own corporate alliances will raise $5 billion. There are also savings in public sector

Chart 4-8 **Health Expenditures as Percent of GDP**
Health expenditures will increase in the short term but will fall below baseline by the end of the decade.



Note: Baseline is from the Congressional Budget Office, updated with Administration economic assumptions.
Source: Administration estimates.

TABLE 4–8.—*New Federal Spending and Savings Due to Reform*
[Billions of dollars]

Item	1995	1996	1997	1998	1999	2000
New spending	3.5	23.5	50.9	79.4	88.8	92.1
Savings	14.5	26.7	44.0	74.7	107.0	129.8
Change in deficit	–11.0	–3.2	6.9	4.8	–18.2	–37.7

Note.—A negative number for change in deficit denotes a reduction in the deficit.
Source: Administration estimates.

programs. Medicare savings are projected at $39 billion in the year 2000. These savings result from 28 specific changes, ranging from lower hospital payment updates to increased premiums for the high-income elderly. Medicaid savings are projected to be $27 billion in 2000, due to lower payments for hospitals that treat the uninsured (since everyone will be covered) and slower growth of costs for medicaid beneficiaries in the health alliances, resulting from the improved incentives. Other programs such as those of the Department of Veterans Affairs, the Department of Defense, and the Federal Employees Benefit Program are projected to realize sav-

TABLE 4–9.—*Sources and Uses of Federal Funds Under Reform, 2000*

[Billions of dollars]

Source	Amount	Use	Amount
Tobacco tax	11	Discounts:	
Corporate assessment	5	Gross spending	103
Medicare	39	Offsets	–61
Medicaid	27	Net	42
Other Federal programs	11	Veterans Administration, Public Health, New Administration	10
Other revenue effects	35	Medicare drug benefit	17
Debt service	2	Long-term care	20
		100 percent tax deduction for self-employed	3
Total	130	Total spending	92
		Deficit reduction	38

Source: Administration estimates.

ings of $11 billion from slower cost growth, the provisions related to early retirees, and the increase in payments from private payers. Additional revenue amounting to $35 billion comes from a combination of factors, including additional tax revenue from the reduction in employer health care costs over time, removing health insurance premiums from "cafeteria plans" offered by employers, payments from corporations with early retirees, dedicated premium revenue for academic health centers, and other tax changes. Finally, the plan generates $2 billion in lower debt service as a result of deficit reduction in years prior to 2000.

To protect the Federal budget against open-ended commitments, the Health Security Act sets a ceiling on discounts that can be paid (Box 4–3). Authorized discount payments that are not utilized in any one year can be carried forward into future years to increase the maximum payment. This reduces the probability that the limits will be exceeded.

ECONOMIC EFFECTS OF THE HEALTH SECURITY ACT

The Health Security Act is certain to have impacts both on the overall American economy and on the health care sector in particular.

MACROECONOMIC EFFECTS

One important concern about health care reform is its effect on employment. Because employer mandates to provide insurance may initially increase labor costs to firms that are not now providing or

Box 4–3.—Capped Entitlements

Both the premium discounts and the new long-term care program are "capped entitlements." The long-term care program is an entitlement to States, not to individuals. The amount of money that States may receive is specified explicitly. Federal liability is limited to that amount, even if demand is greater than predicted. Similarly, there is no authority to pay for premium discounts beyond what is provided in the Health Security Act. In the event that spending is projected to exceed the amount in the legislation, the President must submit to the Congress a plan for addressing the issue. The Congress will then act on this plan through an expedited process.

The notion of a capped entitlement is not new. A number of Federal entitlement programs operate under a budget limit, including the social services block grant and payments to States for AFDC work programs. The legislated appropriation sets a limit on how much can be spent in total. Then, if spending is expected to be above projections, the government must change the eligibility requirements, change the benefits, or pass a supplementary appropriation.

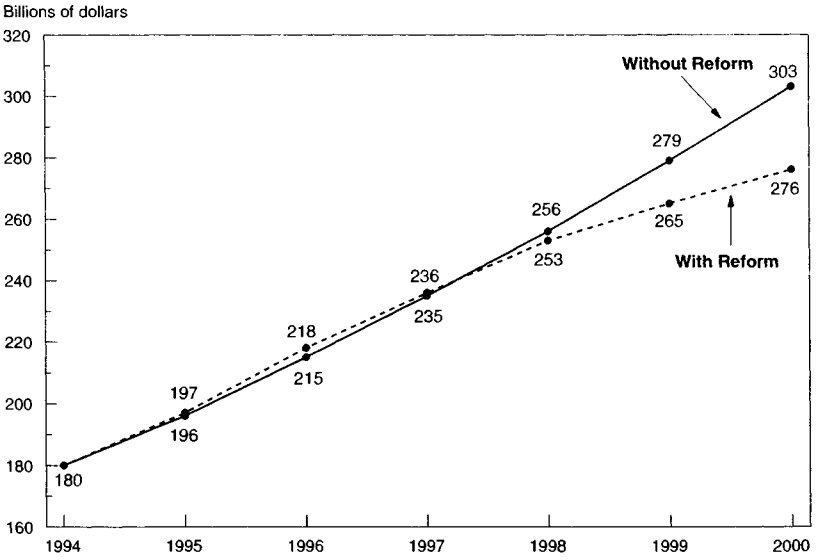
are underproviding insurance, fears have arisen that labor demand might decline as a consequence of reform.

In fact, however, changes in employer-paid health insurance costs can have several effects on workers other than changes in employment. As noted earlier, the dominant effect of increases in health care costs in the past has been a reduction in the real wages received by employees.

Chart 4–9 shows projections of total employer health insurance payments with and without health reform. While reform will have different effects on different firms, total employer spending is essentially unchanged through 1998 and then declines relative to the baseline. This pattern reflects the balance of spending increases from the employer mandate and spending reductions from cost savings. Through 1998 these effects are roughly equal, resulting in little additional business spending. Between 1998 and 2000, the savings increase but there is no increase in spending. The result is a net savings in employer payments.

There are many things employers can do with the savings from reform: They can hire more workers, pay higher returns to shareholders, or increase employee compensation. Empirical evidence suggests, however, that as total employer payments fall over time, the likely result will be a corresponding increase in workers' wages. By the year 2000, wage and salary compensation could therefore

Chart 4-9 **Business Spending on Health Insurance**
Business spending will increase slightly after reform but will fall below baseline by the end of the decade.



Note: Business spending is for services and populations that will be in regional or corporate health alliances.
Source: Administration estimates.

increase by $20 billion to $30 billion, or about 0.6 percent of payroll.

Although reform is unlikely to lead to a large reduction in the demand for labor, it could affect the supply. Some individuals who work mainly to obtain health insurance may voluntarily leave the labor force after health reform is passed. Evidence from continuation of coverage (COBRA) laws passed by the Federal Government and many State governments suggests that the number of people deciding to retire is about 1 percent higher when they have the option to purchase coverage through their former employer after retirement. These estimates must be raised to account for the lower price of insurance under reform; with this adjustment, it is estimated that about 350,000 to 600,000 additional people will be retired as a result of the provisions in the Health Security Act.

On the other hand, some welfare recipients are likely to decide to enter the labor force when health benefits become universal. A welfare recipient currently receiving medicaid benefits who then takes a job incurs a "tax" of two-thirds or more on earnings because of the resulting reduction in AFDC benefits, food stamps, and medicaid benefits. Once health care is guaranteed universally, the loss

of income associated with leaving welfare should fall by up to 10 percentage points. A number of studies suggest that many more welfare recipients will decide to work in response to these lower implicit tax rates.

Weighing all this evidence, several private sector economists have concluded, as has this Council, that the net effect of health reform on employment is likely to be small: at most plus or minus one-half of 1 percent of total employment. The reason is that a number of offsetting factors are in the plan, some of which will increase employment and some of which will reduce it. On net, these factors are likely to cancel out.

SECTORAL EFFECTS

Health reform will affect different firms differently (Table 4–10). Firms that are not now providing insurance will face increased costs after reform. Firms that are currently offering coverage, however, will on average enjoy cost reductions. These gains come from spreading the cost of universal coverage over everyone in the population, from premium discounts, and from slower growth of costs over time. Putting these two groups together, the average firm will experience cost reductions of about $230 per worker in 2000. There will also be changes in the distribution of spending across industries. Industries that have traditionally provided generous benefits to much of their work force, such as manufacturing, will see expenditure reductions compared with industries in which most firms do not currently provide insurance.

TABLE 4–10.—*Employer Payments for Health Care: Baseline and Reform, 2000*

Insurance status of firm	Number of workers (millions)	Average spending per worker (dollars)		
		Baseline	Reform	Change
All	122.7	2,478	2,245	–233
Currently offers insurance	96.3	3,092	2,482	–610
Does not offer insurance	24.4	0	1,292	1,292

Source: Urban Institute.

Employment is expected to increase in the health sector in the short run, because of increased spending on the uninsured and underinsured. Universal coverage by itself will increase health-related employment by more than 400,000 jobs, although employment will not increase uniformly throughout the sector. Resources are likely to shift from administration to providing care. As the growth rate of health spending falls, employment in health care will grow less rapidly than without reform. The number of employees will still increase over time, however.

Health care reform should set the stage for increased productivity growth. As administrative expense and inappropriate care decrease and the health care industry becomes more productive, the economy should be able to produce more output than it would have without reform. As a result, Americans will be able to consume health services of the same or better quality as before, as well as more of other goods and services. This productivity increase will raise living standards, which is the principal objective of this Administration's economic policies.

CONCLUSION

Reforming the Nation's health care system is integral to the health of both our citizens and our economy. One-seventh of the Nation's economy is currently characterized by weak competition, inadequate information, and inappropriate incentives. The Administration's health care reform proposal builds on the strengths of the current system while correcting its shortcomings. It preserves consumer choice and our employer-based private insurance system. It relies on enhanced market competition and improved incentives to provide health security for all Americans, slow rising health care costs, and address our long-run budget deficit problem.

CHAPTER 5

Microeconomic Initiatives to Promote Efficiency and Productivity

AS WORKERS AND CONSUMERS, we conduct our economic affairs through markets. These markets provide us with a vast array of products and services to purchase, and a host of different ways to earn our livelihoods.

Yet markets are not flawless. They may, for example, become controlled by monopolies, generate excessive pollution, or lead to insufficient investment in research and development. Through collective action, we can sometimes correct such "market failures," and thereby improve the ability of private markets to serve social goals. When targeted microeconomic policies are successful, they reduce the costs of production and distribution, place goods and services in the hands of those who value them most, and maximize the increase in social well-being that derives from trade in the private marketplace. For these reasons, well-chosen government initiatives are as important for microeconomic policy as they are for macroeconomic policy.

The United States has a long history of employing targeted microeconomic policies to improve the performance of private enterprise in significant industries. Roughly three-fourths of the Nation's investment in canal construction before the Civil War was publicly financed. Land grants and other subsidies encouraged the development of intercontinental railroads during the second half of the 19th century. Since 1914, the Extension Service of the Department of Agriculture, a cooperative venture of Federal, State, and local governments, has vastly improved the Nation's agricultural productivity by spreading information about modern farming techniques. Our massive national commitment to create high-technology industries critical to our defense, such as computers and jet aircraft, dates from the Second World War. Targeted microeconomic policies such as these have been employed throughout the history of the Republic, regardless of the political party in power.

The Administration's initiatives described in this chapter are aimed at both correcting failures of private markets and improving the functioning of the Federal Government. The initiatives are organized around three themes: promoting efficiency in the public

and private sectors, addressing environmental externalities, and promoting technology.

PROMOTING EFFICIENCY IN THE PUBLIC AND PRIVATE SECTORS

In all modern industrialized nations, some goods and services are provided directly by the government, others almost entirely through unregulated private markets, and still others by the private sector through regulated markets. Because none of these methods of conducting our economic affairs is flawless, it is important to develop ways of improving the performance of each. For this reason, the Administration has developed initiatives to promote a more effective government, more competitive markets, and more efficient regulation.

CREATING A MORE EFFECTIVE GOVERNMENT

Governmental activities, however well-intended, are not always performed as efficiently as possible. There are two important sources of what might be termed "government failure."

First, as recognized by both the framers of the Constitution and modern scholars of public choice, all political systems provide interest groups with an incentive for "rent seeking," that is, manipulation of collective action for private benefit. Rent-seeking behavior can bias public actions away from maximizing aggregate social welfare. It can, for example, lead government agencies to make decisions that benefit a particular interest group even though they are costly to society as a whole.

Second, the government—in providing services to citizens, in hiring and managing personnel, in procuring supplies, and in making investments—generally does not face the same competitive pressures as private industry to serve customers well and minimize costs. Competition among the political parties; oversight by the Office of Management and Budget (OMB), by the Congress, and by heads of agencies; and public scrutiny through the media provide a partial but incomplete substitute for market competition. Frequently, internal governmental regulations, such as personnel and procurement rules or reporting requirements, are introduced to address these problems. But these are blunt instruments that may create significant managerial inefficiencies of their own.

The Administration has placed a high priority on governmental reform—or "reinventing government." A major objective is to improve the performance of government by introducing market-like mechanisms and benefit-cost tests wherever possible. Such mechanisms are designed to reduce rent seeking and the governmental inefficiencies resulting from the lack of competitive pressures.

The National Performance Review

The National Performance Review (NPR), directed by the Vice President, took a fresh look at the way the Federal Government performs its tasks, with less emphasis on the related issue, routinely considered in the budgetary process, of whether those functions should be performed at all.

The NPR identified 384 ways that the Federal Government could save money without reducing the level of service and, indeed, often while improving governmental performance. Its report concluded that, by shifting to a market-like focus on customer service, by introducing competition where possible, and by streamlining internal government processes to facilitate better management, we could have a government that "works better and costs less."

The Administration has moved rapidly to introduce the NPR reforms. One important element is a set of recommendations to improve the procurement process. These include changing laws and regulations to make it easier for the government to buy commercially produced goods and services, to raise the threshold for the use of simplified acquisition procedures, and to amend contract protest rules to streamline contracting and discourage frivolous protests. These reforms can be accomplished while preserving oversight by the Congress and OMB, which is necessary to protect against fraud and abuse. Other NPR recommendations identify ways to streamline management control; improve customer services; shift to mission-driven, results-oriented budgeting; improve financial and human resource management; integrate information technology into the business of government; and improve the functioning of every executive branch department (Box 5–1). In a similar effort, the Defense Department has conducted a "bottom-up" review of its activities.

A New Framework for Regulatory Review

The President's Executive Order 12866 on Regulatory Planning and Review provides a framework for developing regulations that serve the best interests of the American people without imposing unreasonable burdens on business. The order directs agencies to promulgate only those regulations made necessary by law or compelling public need, such as correcting market failures. The regulatory philosophy that underlies the order calls on agencies to assess all the costs and benefits of the available alternatives when deciding whether and how to regulate, including the alternative of not regulating. Further, the order requires that, to the extent permitted by statute, agencies select a regulatory approach that maximizes the net benefits to the public (benefits less costs). Applying this test to public regulation will lead affected firms in the private

Box 5–1.—Selected National Performance Review Recommendations

- Allow agencies to create innovation capital funds from retained savings to invest in innovations that can improve service and provide a return on investment.
- Provide line managers with greater budget flexibility to achieve results by expediting the reprogramming of funds within agencies.
- Use electronic funds transfer to pay and reimburse expenses for all Federal employees, to make payments to other agencies, and to pay for purchases from the private sector.
- Create competitive enterprises within the government to manage real property on a fee basis, and give Federal managers the authority to choose their source of property management services.
- Establish a corporation to provide air traffic control services.

sector to roughly mimic what a properly functioning market would do absent the market failure that necessitates regulation.

In conducting benefit-cost analyses of regulatory alternatives, the order directs agencies to consider *all* the benefits and costs—those that are easily measured as well as those that are not. This approach addresses one major criticism of centralized regulatory review in previous Administrations: that the use of a benefit-cost test was subject to bias against appropriate regulations whenever the costs of regulation were more readily quantified than the benefits—which happens frequently.

In addition, the order encourages agencies to act to limit any economic distortions their regulations cause. Agencies must, for example, design regulations to achieve their objectives in the most cost-effective manner. To the extent feasible, agencies must specify performance standards rather than specify a behavior or manner of compliance. Agencies must also consider alternatives to direct regulation that provide economic incentives to encourage the desired behavior.

This framework does not apply solely to new regulatory initiatives. The Executive order also sets forth a procedure for review of existing regulations to ensure that they too maximize the net benefits to society. This wide-ranging review of old and new regulations alike promises to improve the performance of the public sector by making regulation more effective.

PROMOTING COMPETITION

Competition among the providers of goods and services is the most effective method ever devised for organizing most economic activity. Competition simultaneously leads to low production costs, innovation in product design and production techniques, low prices for consumers, and the allocation of goods and services to those who value them most. For these reasons, our economy must rely upon competition to the maximum extent possible, and the government should act to promote and strengthen competition throughout the private sector. When market failures necessitate public regulation or public provision of services, the resulting public policies should rely on market-like mechanisms to the extent feasible, in order to realize the benefits of competition.

Antitrust Enforcement

For more than a century, the antitrust laws have been, in the words of the Supreme Court, "a comprehensive charter of economic liberty aimed at preserving free and unfettered competition as the rule of trade." The antitrust laws address market failures arising from the exercise of market power (Box 5–2). These laws are enforced directly by the Department of Justice, the Federal Trade Commission, the States, and private plaintiffs.

Over the past dozen years, Federal antitrust enforcement has emphasized challenges to mergers among competitors in concentrated industries and the prosecution of bid-rigging schemes by government contractors. Frequently, the defendants were small firms. Federal antitrust enforcement efforts are now being refocused to encompass harmful conduct by large firms, affecting broad sectors of the economy, through means in addition to merger or bid rigging.

For example, the Justice Department is vigorously pursuing a court case charging the major domestic airlines with widespread price fixing from 1988 to 1992. The conspiracies were allegedly accomplished in a novel way: through the computerized exchange of prospective fare information. In terms of the magnitude of the violation and the size of the firms involved, this alleged price-fixing scheme recalls the electrical equipment conspiracy of the 1950s.

The government's actions to promote and protect competition go beyond filing lawsuits. When appropriate, government agencies issue guidelines that will encourage procompetitive behavior and minimize the private costs of understanding and complying with the law. Merger guidelines are the best examples, but the two Federal antitrust agencies have also recently promulgated enforcement guidelines to promote competitive behavior among health care providers.

Box 5–2.—Market Power

Firms are said to exercise market power when they reduce output below what a competitive industry would sell, in order to raise prices above competitive levels. Firms may achieve market power collectively—for example, through an agreement among competitors to raise prices—or unilaterally, as by engaging in practices that inhibit the ability of current or potential rivals to compete. Firms may also obtain market power through government action, as when imports are blocked by tariffs or quotas.

The exercise of market power is harmful for several reasons. First, an industry in which market power is exercised produces less and employs fewer workers than would a competitive industry. Second, sellers who exercise market power in effect tax buyers unfairly, forcing them to pay more for their products than they would have paid under competition. Finally, firms exercising market power may tend to innovate less than competitors, because they recognize that a successful new product could cannibalize their existing market share and decrease the value of their capital. (In some industries, however, large firms exercising market power may be more likely than small or competitive firms to take the risk of investing in large-scale innovations.)

Although market power is costly to society, these problems are of limited concern in markets in which new competition can quickly and easily appear. Then the exercise of market power is likely to be nonexistent or temporary, and new entrants attracted by the opportunity to share monopoly profits will tend to shift resources into their most socially valuable uses. In some circumstances, moreover, society accepts some exercise of market power in order to achieve another economic benefit otherwise unavailable. For example, since the founding of the United States, the award of a patent monopoly as a prize for a successful invention has been the cornerstone of government policy to encourage research and promote innovation.

The antitrust guidelines for health care respond to the concern that health providers may have delayed cooperative cost-cutting arrangements because of uncertainty about antitrust restrictions. To give providers some security, the guidelines establish a number of "antitrust safety zones," which describe circumstances under which the government will not normally challenge cooperative ventures. One example is a safety zone for hospital mergers if either of the

merging hospitals averages fewer than 100 beds and less than 40 patients per day over a 3-year period. Another is a safety zone for physician networks (such as preferred provider organizations, or PPOs) that comprise no more than 20 percent of the doctors in each specialty in the relevant geographic market, so long as the network members share substantial financial risk. Mergers or joint ventures by physicians that fall outside the safety zones are not necessarily antitrust violations but will be evaluated individually to determine their legality. The two Federal antitrust agencies have also committed to reduce uncertainty by providing advice to health care providers on an expedited basis.

Other government agencies have also taken steps to limit the exercise of market power. For example, a widely reported investigation by the Department of Transportation helped ensure that an established air carrier would not use anticompetitive practices to exclude a new entrant.

Government can go beyond simply preventing anticompetitive practices; it can act to stimulate competition directly. Thus, the Department of Transportation has provided new airlines with assistance in complying with its regulations. Partly as a result of the department's actions to promote competition, 18 new cargo, charter, and scheduled passenger carriers began service during 1993, and 20 more new carriers are awaiting certification to begin passenger jet service.

Spectrum Auctions

As the Transportation Department's efforts to foster new air carriers suggest, competition can be promoted by encouraging entry. The Federal Communications Commission (FCC) will soon seek to promote competition in this way by allocating portions of the electromagnetic spectrum for telecommunications services. Legislation enacted in August 1993 authorizes the FCC to auction most of the new licenses to use spectrum, and requires the FCC to begin issuing licenses for personal communications services (PCS) by May 1994. The allocation of spectrum to PCS will encourage competition between new firms offering PCS and existing cellular providers. The auction mechanism will ensure that the spectrum goes to those private parties who place the highest value on it. The auction will also raise billions of dollars for the government, by selling the right to the use of a scarce public resource instead of giving it away.

MORE EFFICIENT REGULATION OF NATURAL MONOPOLIES

Economists have long recognized that competition will perform poorly in certain industries that are "natural monopolies" (Box 5–3). In Europe, natural monopolies have often been turned into government enterprises. The traditional U.S. response is to impose

rate regulation. For example, State public utility commissions typically regulate the local distribution of electricity, water, natural gas, and telephone service, and Federal agencies regulate interstate pipelines and long-distance telephone service.

Box 5–3.—Natural Monopoly

An industry is a natural monopoly if a single firm can serve the market at lower total cost than two or more firms. A natural monopoly may result when an industry's production technology is characterized by economies of scale, that is, when average production costs decline as output rises. A natural monopoly may also have economies of scope, in which two or more related products can be produced more cheaply by a single firm than by separate firms. The size of the market interacts with the production technology in determining whether an industry is a natural monopoly. For example, if most of the cost reductions from producing at scale are achieved at low levels of output relative to market demand, the market is not likely to be a natural monopoly.

In an unregulated market, some natural monopoly industries would be served by a single firm that exercises market power. Entry would be deterred even though the incumbent firm charges a price in excess of its long-run average cost. Potential entrants, tempted by the opportunity to undercut the incumbent's price, would refrain from doing so because they would recognize that the incumbent would lower its price in response and could sustain that lower price profitably while the entrant could not. One way to avoid the exercise of market power in such a case is to regulate the natural monopolist's prices.

Oil Pipeline Rate Regulation

For nearly 90 years the Federal Energy Regulatory Commission (FERC) and its predecessors have regulated rates charged by interstate oil pipelines. Over this period, many if not most pipelines have likely been natural monopolies. Pipeline rates were set through a cost-of-service methodology, similar to the approach that State public utility commissions typically employ to determine rates for electricity, gas, water, and telephone service.

Under the cost-of-service approach, the regulated firm is allowed to earn enough revenues to cover its expected costs of operations plus a fair return on capital to its investors. The regulator sets prices on the regulated firm's individual services in such a way that the firm's expected revenues (based on forecasts of buyer demand) will reach the permitted level. Although this method is generally successful at preventing regulated firms from charging mo-

nopoly prices, it has been criticized on several grounds. Cost-of-service rate setting can be expensive to administer, as the regulatory commission typically engages in a trial-type hearing before determining rates. In addition, if the regulator adjusts rates rapidly when operating costs change, the regulated firm may lack a strong incentive to keep costs low, reduce costs further, or innovate.

Incentive methodologies for setting rates promise to reduce inefficiencies created by the cost-of-service methodology. One form of incentive regulation is a "price cap." The regulator sets a maximum price (or a price path, often set to decline over time) for a collection of regulated services, and permits the firm to set whatever rates it chooses for individual services so long as the price cap is not exceeded. If the regulator and the firm are willing to live by a price cap for a long time, the administrative costs of regulation are greatly reduced. In addition, the regulated firm is given a strong incentive to reduce costs and to innovate: As long as the price cap is not revised downward, the firm gets to keep any additional profits that result from cost savings. Finally, if the price cap applies to the average rate for a broad collection of services, this form of incentive regulation permits the regulated firm to exercise significant discretion in rate design. The resulting rates may distort consumer choice less than those set by regulators. For such reasons, in 1989 the FCC adopted price cap regulation for the long-distance telephone rates charged by American Telephone and Telegraph Co. (AT&T).

In 1993, FERC replaced cost-of-service rate setting for oil pipelines with an incentive methodology. The new approach generally starts with cost-of-service-based rates and caps rate increases for pipeline services at 1 percent below the increase in the producer price index for finished goods. Moreover, wherever the scope of the natural monopoly has narrowed, permitting the pipeline to demonstrate that it lacks significant market power, the regulatory constraint may be removed in favor of relying on competition to determine prices and output.

Telecommunications Regulation

The rapid pace of innovation in telecommunications is creating new industries, transforming old ones, and promising to change the way we live and work. In the coming years, American households and businesses will have access to a National Information Infrastructure (NII)—an interconnected web of networks linking computers, databases, consumer electronics, and communications devices that will put vast amounts of information at every user's fingertips. The technologies to create, manage, manipulate, and use information will fuel economic growth, promote the international

competitiveness of U.S. industry, and create challenging, high-paying jobs.

Many of the innovations that are creating the new information infrastructure are also shrinking the scope of natural monopoly in the provision of telecommunications services. Microwave technology made competition in long-distance telephone service possible. The development of low-cost private branch exchange (PBX) technology has carved out a competitive market for carrying telephone calls within office buildings. For many business customers the local telephone monopoly now ends at the street rather than continuing into the building. Competitive access providers now sell alternative high-capacity services that allow some business customers to complete calls while bypassing some or all of the local telephone company's network. It is now feasible and increasingly practical for telephone lines to carry video programming, for cable lines to carry telephone calls, and for wireless providers to carry both. If and when these developments end the natural monopoly in local telephone and video service altogether, competition can replace regulation as the best economic mechanism for setting prices and providing telecommunications services to buyers.

The information highways that will be central to the emerging information infrastructure will be built in part with fiber optic lines, coaxial cable, and copper wire, and in part through wireless technologies such as cellular telephone, PCS, and direct broadcast satellites. The private sector will make the necessary investments, and the government will promote those investments by encouraging competition. In consequence, the market will determine, to the extent possible, which technologies provide the most value relative to cost and, accordingly, how the information highways will be built.

The Administration's regulatory policies will promote competition among the firms that build and operate the information highways, and among the firms that sell their services and programming through the network. Under the Administration's legislative proposals, for example, local telephone monopolies will be required to unbundle the services they offer and to interconnect with new entrants on a nondiscriminatory basis. This will facilitate new competition in local telephone service by allowing new providers to combine, for example, switching provided by the telephone company with their own transmission facilities. The legislative proposals will also set forth a process by which local telephone companies will be permitted to provide new competition in the interstate long-distance telephone market. The Administration's proposals will identify safeguards that will protect against regulatory evasion through transfer pricing (strategic pricing of goods and services sold to affiliates) and the abuse of monopoly power until the time

that competition in local telephone service makes rate regulation unnecessary.

Rapid developments in technology and the marketplace will create new challenges for telecommunications regulation. Old regulatory structures based on the natural monopoly paradigm are not appropriate for a market now characterized by mixed elements of competition and monopoly. Accordingly, the Administration will propose adding a new title to the Communications Act of 1934, specifying a flexible regulatory framework for this new environment. The new framework can adapt to technological and marketplace developments, to protect consumers from monopolies without discouraging investment, innovation, or the growth of competition. In addition, the Administration's legislative initiative will give the FCC broad power to forbear from regulating when markets become effectively competitive, and the power to preempt State and local regulation made unnecessary by the emergence of competition.

The Administration's policies will also promote universal service, to avoid creating a permanent class of information "have-nots," and open access to the network, to allow all service and information providers to reach potential customers. The government will also encourage research and development designed to create new technologies and new applications, as discussed below along with other technology initiatives.

ADDRESSING ENVIRONMENTAL EXTERNALITIES

The notion of tradeoffs is among the most fundamental in economics: nothing is free; everything has an opportunity cost. In private markets, tradeoffs are handled automatically, as consumers choose among alternative goods and services and producers choose among alternative inputs. Prices guide these decisions. Tradeoffs involving the environment cannot be made so easily, however, because use of the environment is generally unpriced. As a result, firms and individuals, in their marketplace decisions, do not always make the best tradeoffs from the standpoint of society as a whole. The effects of failing to price environmental goods and services are examples of externalities (Box 5–4). When externalities are significant, the government can often design policies that improve the functioning of markets and thereby increase aggregate social welfare.

The Administration has sought to encourage the development of environmental technologies to mitigate tradeoffs and foster economic growth. Improvements in the technologies for preventing and treating pollution, and efforts to spread knowledge about technologies already available, can free resources for other socially ben-

Box 5–4.—Externalities

An externality, or spillover, is a type of market failure that arises when the private costs or benefits of production differ from the social costs or benefits. For example, if a factory pollutes, and neither the firm nor its customers pay for the harm that pollution causes, the pollution is an externality. In the presence of this negative (harmful) externality, market forces will generate too much of the activity causing the externality, here the factory's production, and too much of the externality itself, here the pollution. In the case of beneficial externalities, firms will generate too little of the activity causing the externality, and too little of the externality itself, because they are not compensated for the benefits they offer. For example, the development of laser technology has had beneficial effects far beyond whatever gains its developers captured, improving products in industries as diverse as medicine and telecommunications. Too little research and development and other activities generating positive externalities will take place in the absence of some governmental intervention.

To remedy market failures and induce the market to provide the efficient level of the externality-causing activity, the private parties involved in the activity must face the full social costs and benefits of their actions. Policymakers may employ a variety of tools to accomplish this result, such as taxes, user fees, subsidies, or the establishment or clarification of property rights.

eficial purposes or permit the attainment of higher environmental goals without increasing the burden on the economy. Given the worldwide explosion in environmental regulatory activity—in the Far East, in eastern Europe, in Mexico, and elsewhere—the development of more-effective and lower cost pollution control technology can also increase our export competitiveness. In fact, we already enjoy considerable success in this area. The United States is now the world leader in exports of environmental equipment. In a global market for environmental technologies of $295 billion in 1992, the $134 billion U.S. share is the largest by far. Our trade surplus in pollution control equipment has been increasing and was $1.1 billion in 1991.

The Administration has also sought to improve the "technology" of regulating the use of natural and environmental resources. This effort involves seeking a better balance among conflicting interests in the use of natural resources, and developing approaches to regulate pollution that rely more on economic incentives and eliminate the economic distortions of some current regulations. Examples of

improving the technology for regulating the environment are found in the Administration's plan for managing the old growth forests of the Pacific Northwest, in its approach to grazing on Federal lands, in the Climate Change Action Plan, and in the Administration's position favoring the reauthorization of the Comprehensive Environmental Response, Compensation, and Liability Act, better known as "Superfund." To better assess where interventions to improve the environment will benefit the economy, the Administration is also engaged in efforts to define sustainable development and develop "green" GDP accounts.

MANAGING RESOURCES ON FEDERAL LANDS

The Federal Government owns vast tracts of land, primarily in the West. These lands contain natural resources of economic importance to both local communities and the Nation, including timber and other forest products, forage for grazing livestock, and mineral deposits. They are also sources of extremely valuable environmental amenities, such as open space for recreational uses like wildlife viewing, scenery, camping, hiking, and hunting; fish and wildlife (including endangered species) habitat; watershed protection; and many others.

Improving the "technology" of regulating the use of these Federal lands is a centerpiece of Administration policy. Two principles guide that policy: (1) reducing inefficiencies caused by improper pricing and regulatory restrictions, and (2) ensuring that both pricing and regulation will achieve a better balance among competing uses of these resources, particularly between extractive (timber, grazing, mining) and environmental uses. These principles can be seen at work in the Administration's plans for managing old growth forests in the Pacific Northwest and for rangeland reform.

Old Growth Forests, Spotted Owls, and Timber

The controversy over logging in the old growth forests and spotted owl habitat of the Northwest provides a case study in reconciling environmental and economic objectives and illustrates how a careful balancing of competing interests can result in progress on all fronts.

The forest products industry is a major industry in the Pacific Northwest, where it is heavily dependent on timber from Federal lands. Much of the Federal land on which this logging has taken place consists of mature forest stands. Referred to as "old growth," this mature forest is the habitat of the northern spotted owl, a threatened species, and many other plants and animals.

For several years Federal forest policy in the Northwest failed to take appropriate account of impacts on environmental quality and biodiversity. In particular, timber harvests on Federal lands were accelerated substantially in the mid- and late 1980s: Such harvests

in the habitat of the spotted owl rose from 2.4 billion board feet (bbf) in 1982 to 6.7 bbf in 1988. According to experts, these levels were too high to be sustained indefinitely. Legal challenges to Federal timber policy resulted in injunctions blocking the sale of timber on Federal forest lands in the spotted owl region, in part because agencies within the Federal Government had failed to work cooperatively to comply with environmental and forest management laws. The injunctions had a severe impact on the timber industry, albeit in large part because harvest levels had been extraordinarily and unsustainably large.

The Administration put a high priority on resolving the problems associated with forest management policy in the Pacific Northwest. Accordingly, in July 1993 the Administration announced a "Forest Plan for a Sustainable Economy and a Sustainable Environment." The plan attempts to end the uncertainty caused by legal wrangling and confusion and ameliorate the impact of economic dislocation, while achieving full compliance with existing laws. It also seeks to maintain and improve the ecosystem as a whole, balance the interests of competing uses of the ecosystem for environmental and economic purposes, and create a political consensus to avoid economic instability.

The plan provides for the maximum legally defensible harvest from Federal forests in the spotted owl region (about 1.2 bbf annually). The process of adjustment to the new, lower harvest levels will be smoothed by an economic adjustment plan that is expected to create more than 8,000 new jobs and 5,400 retraining opportunities in the region in 1994. Many of the new jobs will be in enterprises that improve water quality, expand the prospects for commercial fishing, and improve forest management in the region.

The plan focuses on maintaining and improving the environmental quality of watersheds in the region, recognizing how the complex interactions of flora, fauna, and human activities affect that ecosystem. It establishes old growth reserves and protects over 6.5 million acres of old growth forest (about 80 percent of existing old growth). It also establishes 10 "adaptive management areas" for experimentation into better ways of integrating ecological and economic objectives.

Rangeland Reform

The Federal Government owns extensive rangelands throughout the West. While these lands are used primarily for grazing cattle and sheep, increased demand for environmental uses has fueled controversy over Federal management. The controversy over rangeland reform shows the importance of integrating pricing with regulation to use the Nation's resources more efficiently and strike a better balance between economic and environmental objectives.

A central point of contention involves the fees that the Federal Government charges ranchers to graze animals on Federal land. These fees should reflect both the value of the forage used by an additional animal and the external environmental costs of grazing an additional animal (such as the value of reductions in recreation or water quality). Charging ranchers the marginal value of forage, the first component, encourages efficient use of the range. By preventing overgrazing, it protects the condition of the range for future grazing uses. It also promotes long-run efficiency in the livestock industry: Prices for forage that are too low encourage excessive investment in the industry. Forage value varies from tract to tract because of differences in forage productivity, location, proximity to roads and other transportation, rainfall, and access to water. But it can still be measured easily and reliably using the value of private rangelands in nearby locations. The second component, the external costs of grazing, cannot be determined from private market transactions. But economists have developed ways of inferring the value of open space or other environmental amenities from the costs people willingly incur to use them or from sophisticated survey methods.

Current Federal management policies are relics of an earlier era when the Federal Government used resource subsidies to encourage settlement of the West. One result is that grazing fees on Federal lands average only 17 to 37 percent of the value of grazing on comparable private lands. Moreover, the formula used to calculate Federal grazing fees has kept those fees from increasing along with private grazing lease rates. Promoting efficiency thus means both increasing grazing fees and ensuring that Federal grazing fees change from year to year in accordance with changes in rent on private grazing land. The Administration's plans for rangeland reform do both. The current proposal calls for phasing in a new fee structure that more than doubles current fees, and for using an updating formula that will adjust Federal fees at the same rate that private fees change.

Pricing reform must be accompanied by changes in regulation. For example, Federal grazing permits have "use-it-or-lose-it" provisions, under which decreases in the number of animals grazed may result in the loss of a grazing permit or a reduction in the number of animals that the permitholder may graze in the future. This policy prevents ranchers from temporarily reducing the number of animals grazed to improve range condition. The Administration's plan allows the terms of grazing permits to be rewritten to allow ranchers to vary the number of animals they graze in response to changes in weather or economic conditions. The plan also includes provisions to strengthen environmental management.

CLIMATE CHANGE ACTION PLAN

Certain gases emitted into the atmosphere by industrial, automotive, and other combustion have been implicated as a threat to the global climate: By preventing reflected solar radiation from escaping into space, these "greenhouse gases" may be causing a generalized warming of the planet. For this reason, an international agreement to reduce greenhouse gas emissions, the Framework Convention on Climate Change, was signed in 1992. The previous Administration had adopted what was called a "no regrets" policy; it was willing to take steps to reduce emissions only if those actions would be beneficial for other reasons—that is, even if greenhouse gas emissions were ultimately found unrelated to changes in the global climate. In contrast, this Administration sees cost-effective policies to reduce greenhouse gas emissions as appropriate "insurance" against the threat of climate change. Accordingly, the President, in his Earth Day speech on April 21, 1993, issued a "clarion call" for the creation of a cost-effective plan to reduce U.S. greenhouse gas emissions to 1990 levels by the year 2000.

The President's call resulted 6 months later in the Climate Change Action Plan, containing nearly 50 initiatives that cover reductions in all significant greenhouse gases and will affect most sectors of the economy. The plan was based on the understanding that the climate change threat results from *all* greenhouse gases, that it depends on *net* emissions (after accounting for greenhouse gas "sinks" such as forests and oceans), and that the problem is *global*. The strategies adopted to address the externalities associated with greenhouse gas emissions were chosen on the basis of a qualitative assessment of the cost-effectiveness of the alternatives, in part by selecting policies that make markets work better.

Some of the strategies expand upon initiatives of this and previous Administrations to promote energy-saving technology. For example, the Green Lights program improves the diffusion of technology by providing consumers and firms with information about environmentally friendly products such as energy-saving lights that promise to reduce electricity generation and the resulting emissions. Other strategies reduce emissions by making government more efficient. Two examples are (1) reform of regulations that block the seasonal use of natural gas (a low-polluting alternative to coal) by electric utilities, and (2) removal of regulatory impediments to private investments in upgrading Federal hydroelectric facilities.

Parking Cashout

Greenhouse gas emissions will also be reduced by improving the pricing of activities that generate externalities. The parking cashout policy attempts to correct a distortion in private incentives resulting from the tax treatment of employer-provided parking.

Currently, the Internal Revenue Code allows employers to deduct any costs for employer-provided parking as a business expense, and lets workers exclude the benefits from their taxable income (up to $155 a month). As a result, 95 percent of automobile commuters receive free or subsidized parking, more than half of them in central business districts. All told, U.S. companies claim $52 billion per year in parking-related deductions from this free or subsidized service.

The Climate Change Action Plan proposes that Federal tax laws be modified to require that firms offer employees the option of taking the cash value of their employer-provided parking benefit as taxable income rather than accepting their free parking space. The program would apply initially only to those firms with more than 25 employees that make monthly cash payments for their employees to park in lots owned by third parties. Thus, only about 15 percent of employer-provided parking would be covered at first, although the program would expand later as new parking leases are negotiated.

This policy change should reduce the overuse of automobiles for commuting resulting from the current parking subsidy, by making commuters face more of the social costs of driving. As consumers shift to carpools and public transportation, greenhouse gas emissions, other pollutants, and traffic congestion should all be reduced. Other distortions of the choice between commuting by car and by public transit will remain uncorrected, however, to the extent that current regulation of automobile emissions does not fully capture their environmental, congestion, and health costs.

International Strategies for Greenhouse Gas Reductions

One hundred and sixty-one countries signed the Framework Convention on Climate Change in 1992, agreeing that it is necessary to stabilize greenhouse gas concentrations at a level that will prevent "dangerous anthropogenic interference with the climate system." Because this is a global problem, the Climate Change Action Plan addressed what is termed "joint implementation"—the cooperative effort between countries or entities within them to reduce greenhouse gas emissions. The plan recognizes that there may be enormous cost savings to meeting global goals for greenhouse gas reductions if acceptable international strategies can be developed to reduce emissions where it is cheapest to do so, rather than have each country pursue its emissions reduction goals on its own. Some important questions need resolution, however, such as how reductions are to be identified, monitored, and enforced. To begin testing the joint implementation concept, the plan creates a pilot program that evaluates investments by U.S. firms and government assistance to foreign countries for new greenhouse gas emission reductions; measures, tracks, and scores these reductions; and, in gen-

eral, lays a foundation for broader, more formal policy initiatives in the future.

SUPERFUND REAUTHORIZATION: THE ADMINISTRATION POSITION

The Comprehensive Environmental Response, Compensation, and Liability Act, better known as Superfund, was enacted in 1980 and amended in 1986 in response to widespread concerns that improperly disposed-of wastes threatened human health and valuable natural resources, such as groundwater aquifers. The act has been unsatisfactory in addressing this problem. Fewer than 20 percent of the 1,300 disposal sites on the priority list drawn up by the Environmental Protection Agency (EPA) have been fully "cleaned up," although 3,500 separate actions have been taken to remove wastes posing an immediate threat to health.

At the same time, the costs of the program have been substantial, running almost $7 billion per year. This figure includes direct draws on the Superfund trust fund collected from the oil and chemical industries to pay for EPA expenses (including $1.6 billion in spending on cleanups where no private parties can be assigned responsibility), $3.2 billion in spending by Federal agencies that own or contributed to hazardous waste sites, and $2 billion in spending by private parties, much of which goes to lawyers' fees and other transactions costs in an effort to escape or reduce liability. Some estimates put the total cost of cleaning up the 3,000 sites projected to be on the EPA's National Priority List (NPL) over the next 30 to 40 years at $130 billion to $150 billion, with $200 billion to $300 billion more needed for Federal facility cleanups.

In response to the poor cost-effectiveness and slow pace of this program, the Administration has proposed several significant reforms. The two most important involve the standards and processes governing the cleanup strategy chosen at a site, and the process for assigning and financing liability.

Remedy Selection

Under the current law, remedial measures at Superfund sites are chosen with a preference for treatment and permanent cleanup of soil and water. They are also selected to meet high standards of cleanliness: land generally must become suitable for residential use, and water often must achieve drinking quality. Costs have little weight in remedy selection; they come into play only to identify the cheapest of the set of remedies meeting other criteria.

The Administration's position establishes more-reasonable goals and processes for cleanup decisions. It sets uniform national goals for health and environmental protection to guide remedy selection. It substitutes a concern for long-term reliability as a factor to consider in remedy selection, in place of the preference for treatment

and permanence (except for treatment of "hot spots"). It explicitly recognizes containment as a legitimate cleanup strategy. It limits the use of State and Federal standards designed for other pollution contexts. Finally, it introduces greater flexibility and community input into the determination of appropriate land use for the site, permitting some sites to be designated for industrial use, with appropriately lower levels of cleanup required.

The Administration's proposal also offers a streamlined approach to remedy selection at individual sites. With EPA approval, parties will be able to avail themselves of a set of cost-effective "generic" remedies established by the EPA that apply to certain frequently encountered types of waste disposal problems. Alternatively, they can formulate designs that meet national cleanup levels that are based on realistic assumptions and practices concerning risks. If the party liable for cleanup believes it can devise an even cheaper remedy that can meet the national health standards, it can perform a site-specific risk analysis to make its case to EPA. This option allows parties to propose remedies based on the ultimate goal of protecting health and the environment, rather than on the "intermediate" targets of reductions in soil or water concentrations, and helps tailor remedies chosen for a site to its particular features.

Most important, a factor in the remedy selection process at individual sites will be a comparison of the reasonableness of costs against several measures of effectiveness. This approach introduces discipline, transparency, and recognition of tradeoffs into the remedy selection process, while retaining consideration of other factors such as community acceptance and meeting the primary criterion of protecting health and the environment. Cost will also be considered in decisions on whether to defer final cleanups for cases where a new technology is on the horizon to replace a current one that has disproportionately high costs.

The Liability System

The transactions costs associated with cleanups, especially litigation expenses, have been massive under current law. One study found that these costs account for 19 to 27 percent of all Superfund costs. Transaction costs are substantial in part because liability under current law is strict, joint and several, and retroactive: A party that contributed waste to a site used by others can be held liable for the entire cost of cleanup, and a party is liable for the results of its dumping even if its action was legal at the time. As a result, potentially responsible parties (PRPs) have strong incentives to contest their liability (resulting in high enforcement costs to the EPA), to sue other PRPs to recover costs, and to sue their insurance companies when the latter refuse to pay related claims.

The Administration's proposal seeks to limit these transactions costs by streamlining the liability allocation process and making it more fair. The new allocation process is based upon nonbinding arbitration, in which PRPs are assigned a share of liability based on factors such as the volume and toxicity of their wastes. PRPs who settle for their assigned shares would surrender their rights to pursue other PRPs for contribution, be protected from suits by other PRPs, and be offered, for a fee, protection from future liability arising from remedy failure or undiscovered harms. As an added incentive to settle, the EPA would pay settling parties for their share of the "orphan shares"—the share of liability attributed to an identified but insolvent party—but nonsettling parties could still be held liable for all or part of the "orphan share."

The Administration proposal also addresses the growing problem of Superfund-related insurance litigation. The problem arises because insurance contracts written before Superfund was enacted did not expressly allocate Superfund liabilities. Subsequently, courts in some States have interpreted those contracts to require insurance companies to assume most Superfund liabilities, but courts in some other States have held the opposite. The scope of insurers' liability in most States is undecided. Building on a proposal originally suggested by the insurance industry, the Administration proposal calls for creation of an Environmental Insurance Resolution Fund financed through fees and assessments on property and casualty insurers. If the PRPs can show sufficient insurance coverage before 1986, the fund would be used to settle their insurance claims for cleanup and restoration costs at pre-1986 NPL sites, as well as some costs at non-NPL sites, at rates determined simultaneously for all of a PRP's sites. The combination of the allocation process and the insurance settlement process should substantially reduce transactions costs and increase fairness.

SUSTAINABLE DEVELOPMENT AND GREEN ACCOUNTING

According to the 1987 report of the World Commission on Environment and Development, sustainable development is that which "meets the needs of the present without compromising the ability of future generations to meet their own needs." In short, future generations must be able to attain a quality of life, in both economic and environmental terms, equal to ours if they desire. To make this possible, the present generation must leave the future with the wherewithal—the "social capital," consisting of human, natural, and physical (manmade) capital—to create our kind of life or a life of at least equal quality to ours. Although this definition is widely accepted, its interpretation remains subject to debate. One controversy concerns the extent to which the three types of

capital can substitute for one another, given the underlying scientific principles and economic behavior, while keeping the resulting development sustainable.

However this controversy is resolved, it will be necessary to measure social capital and the value its use brings in order to understand whether a growth path for the economy is sustainable. This is the province of "green accounting," an idea first raised in 1969. Much of the recent research effort to augment the national income and product accounts to incorporate previously unmeasured aspects of social welfare focuses on identifying the net change in the stock of social capital resulting from environmental externalities. This research effort seeks to identify the loss (depreciation) of social capital caused by pollution, the value of the reduction of finite resources (such as fossil fuels and minerals), the loss from overharvesting of renewable resources (such as forests and fisheries), and the value of the environmental services (e.g., clean air) derived from investments in pollution control equipment.

The President has made it a priority of his Administration to augment the national accounts to incorporate these aspects of social capital. In his 1993 Earth Day speech the President directed that "green" gross domestic product (GDP) measures be developed to improve existing national income and wealth accounts that ignore the cost of pollution or the loss of natural resources. In the first phase of fulfilling this mandate, the Commerce Department's Bureau of Economic Analysis will publish modified GDP accounts in 1994 to reflect the depletion of selected natural resources and will continue to explore measures that incorporate additional environmental values. This effort will be aided by the Department of Interior's forthcoming National Biological Survey, an effort to inventory the biological and ecological resources of the Nation.

PROMOTING TECHNOLOGY

Technological progress fuels economic growth. It creates new industries and reinvigorates old ones. It can enable small businesses to do high-quality design and manufacturing work that previously required the resources of big business. It can help big businesses achieve the speed, flexibility, and closeness to customers that once were a defining characteristic of small business. Technology helps to make our work force more productive and, in doing so, improves the Nation's standard of living. Every recent generation has seen its dreams turn into technological marvels, new products from new industries that have transformed the way we live and work: from the telephone, radio, airplanes, and x-rays, to television, xerography, computers, and magnetic resonance imaging equipment. Ad-

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vances in technical know-how have accounted for at least one-quarter of our Nation's economic growth over the past half-century.

During the past two decades, powerful trends have altered the environment for American technology development. Commercial technology has become increasingly science-based and interdisciplinary. International competition has intensified as other nations have advanced in wealth and technological sophistication. The Nation's defense capability has become increasingly dependent on technologies developed and applied first in commercial markets. A microelectronics-based revolution in production has transformed the organization of office and factory work, increasing the need for a well-trained and flexible work force.

By the end of the 1980s, many analysts believed that these trends required a reexamination of the existing approaches of government and industry for supporting technology development and diffusion. Accordingly, in its first year the Administration has supported tax incentives for investments in research and development (R&D) and new businesses, liberalized export controls, shifted Federal resources toward basic research and civilian technology, invested in worker skills, and promoted defense conversion. In addition, the Administration's technology initiatives, such as the promotion of the National Information Infrastructure discussed above, the Partnership for a New Generation of Vehicles, and the creation of a Manufacturing Extension Partnership, rely on an alliance of government and industry. They also require rigorous attention to the economic rationales for cooperative efforts and then to the details of project design and assessment, to ensure that market failures are corrected, not made worse, by government action.

PRINCIPLES OF TECHNOLOGY POLICY

The Administration's technology initiatives aim to promote the domestic development and diffusion of growth- and productivity-enhancing technologies. They seek to correct market failures that would otherwise generate too little investment in R&D, with programs that avoid "government failure."

The Economics of Appropriability

New technologies often fail to attract sufficient private sector investment because their technical risk is high or because of limited appropriability—that is, the new technologies create economic and social benefits beyond what the investing firms can capture for themselves. Indeed, despite intellectual property protection, the social returns to innovation have been estimated to exceed the private returns by between 35 and 60 percent.

The most important innovations generate spillover benefits for interconnected sectors, creating economic gains well beyond any that eventually accrue to their inventors. These innovations include

risky "pathbreaking" technologies that pay off in the creation of new industries (or the transformation of existing industries), and lower risk "infratechnologies" that can enhance the productive performance of a broad spectrum of firms and industries but that receive low levels of investment because of barriers to appropriability and implementation. For example, the development of refrigerated steamships at the end of the nineteenth century increased the availability of perishable agricultural products throughout the world. Most of this benefit ultimately accrued to farmers and consumers rather than to the inventors of refrigerated steamships. Similarly, the principle of interchangeable parts in manufacturing, originally developed for the production of firearms, soon was adopted for use in the fabrication of clocks, hardware, sewing machines, and other manufactured products.

The appropriability problem is not limited to basic research, but frequently extends to so-called precommercial technology development and eventual commercial applications. Indeed, technological progress is full of feedbacks where developments downstream alter the course of behavior upstream, as well as the degree of ultimate market success. A sharp distinction between basic research and precommercial development activities is difficult to draw. Investments that are necessary to the utilization and adoption of research results—investments in information gathering, work force training, or the integration of new production equipment into automated systems—can also create spillover benefits that the investing firm cannot perfectly appropriate. In addition, new manufacturing processes that lower cost or improve quality may not be patentable, and new ideas embodied in computer software can often be imitated rapidly without violating the originator's intellectual property rights. In all of these cases, public actions can offset the effects of underinvestment by the private sector that is caused by limitations on appropriability.

Avoiding "Government Failure"

The goal of technology policy is not to substitute the government's judgment for that of private industry in deciding which potential "winners" to back. Rather, the point is to correct a genuine and significant market failure—underinvestment in basic research and in precommercial R&D resulting from the divergence between private and social returns to those activities. A complementary goal is to design the technology investments that the government itself makes in public goods—national security, public health, education, a clean environment, an efficient transportation system—in ways that maximize the potential external benefits for the Nation's commercial technology base. In both cases, technology policy enhances the Nation's economic and social welfare.

Investments in R&D are risky. Like all risky investments, public or private, government-supported explorations sometimes drill dry holes—such as the efforts during the 1960s and 1970s to develop synthetic fuels, a supersonic transport, and a fast breeder reactor. Yet even research that never delivers an enormous economic payoff for itself often contributes useful technical knowledge and lessons for the future. And when the drilling strikes oil, as with government support of R&D for computers and integrated circuits, jet engines and airframes, and biotechnology and medical equipment, the initial gusher can generate an entire field of newly productive, wealth-enhancing, job-creating economic activity. For this reason, the success of government R&D policy must be measured by the rate of return on the entire portfolio of R&D investments supported by the public.

We can learn from both the gushers and the dry holes about how to design programs to promote investments in basic and precommercial R&D to maximize their prospects for success. Federal R&D investment programs leading to successful commercial products tend to share certain design features: They are insulated from the demands of distributional politics; they subject potential projects to rigorous technical and economic evaluation; and they recognize that product specifications must be developed with an eye toward manufacturability and a balance between product performance and cost that will be acceptable to commercial customers. Accordingly, the Administration's efforts to promote innovative technology contain design features that are meant to limit the possibility of "government failure" in the implementation of technology policy:

- To ensure that R&D funded by the government in cooperative ventures with the private sector has direct market applications, participating firms must bear a significant share of program costs. In most cases, the Administration's technology partnerships require that private firms cover at least 50 percent of the costs.
- To ensure that both the timing and the content of government investments in technology-based infrastructure impart maximum leverage on industry's competitive efforts, research frameworks for collaborative R&D should be initiated and designed by private industry and should be closely coordinated with industry investment patterns.
- To insulate publicly supported R&D efforts from political pressures exerted on behalf of special interests, evaluations of competing R&D proposals should be conducted by independent experts in the relevant scientific, technological, and economic fields. Political considerations should not be allowed to influ-

ence a project's technical objectives, the location of R&D facilities, or the way that management of the project is structured.

- Investments in a broad array of technical fields, including materials sciences, manufacturing product and process technologies, biotechnology and biomedical sciences, and telecommunications and computer-related technologies, should compete for a finite flow of funds. This competition will help to ensure that expanded Federal support for precommercial R&D does not get captured by the champions of any particular technology or by any particular set of firms.
- Government investments in basic and precommercial R&D should be reviewed while in progress to determine whether funding should continue. Such reviews are difficult because the success of an R&D project is often not apparent for many years, but rigorous assessments can nevertheless be made by independent expert panels at regular intervals.

A New Approach

An enduring American approach to promoting technology development and diffusion evolved just after the Second World War. The United States channeled public investment into basic research at universities and government laboratories, then supported the initial application of the results in products and production processes procured by public agencies. New technologies first developed for (and procured by) the Department of Defense, the Department of Energy, or the National Aeronautics and Space Administration (NASA), or supported by the National Science Foundation or the National Institutes of Health (NIH), would then diffuse, or "spin off," into commercial use. In this manner, the Federal Government supported the development and diffusion of jet aircraft and engines, semiconductor microelectronics, computers and computer-controlled machine tools, pharmaceuticals and biotechnology, advanced energy and environmental technologies, advanced materials, and a whole host of other commercially successful technologies.

This system worked well as long as military systems represented the leading-edge applications of new industrial technologies and as long as foreign competitors, with direct support from their own governments, did not pose a significant competitive challenge. In many areas of basic research supported outside the defense establishment, including biomedical research and the development of pharmaceuticals, biotechnology, and medical diagnostic devices, the system continues to work well. But the circumstances that allowed the United States to rely primarily on a defense-led model have changed. With the end of the cold war, demand for new defense systems is now less than it was. Commercial product spinoffs from military research have also diminished from their heyday of the

1950s and 1960s, and American companies face intense international competition from increasingly capable foreign firms. On the other hand, these changes also create exciting new opportunities: Innovative defense technologies are now more likely to emerge first in commercial products and production techniques, and American companies are taking advantage of expanded opportunities in foreign markets. Accordingly, the Administration's technology initiatives are shifting the composition of Federal R&D from military to civilian concerns, and the composition of military R&D toward the development of so-called dual-use technologies—those with applications to both military and commercial products.

THE ADMINISTRATION'S TECHNOLOGY INITIATIVES

The Administration's investments in growth- and productivity-enhancing technologies encompass a wide range of physical and human resource priorities. They finance basic research and leverage private funds for technology development and commercialization. They promote the diffusion and adoption of advanced manufacturing technologies by U.S. industry. They facilitate defense conversion by easing defense suppliers into civilian markets, focusing military R&D on dual-use technologies, and freeing the Pentagon to purchase commercial products and processes. They seek to promote the development of a national telecommunications infrastructure for the information age. Finally, they create partnerships with industry and academia to ensure that the government's investments to solve pressing problems in energy, transportation, and the environment simultaneously work to promote the Nation's economy and overall standard of living.

Basic Research

The Administration worked with the Congress to increase budget authority for basic research in all categories to $13.8 billion in fiscal year 1994. This includes a 7.2-percent increase in the National Science Foundation's budget to a total of $1.9 billion. The National Science Foundation will continue to provide strong support for fundamental research critical to manufacturing, advanced materials, environmental technologies, and biotechnology. It has also doubled its support for modernizing academic research facilities and instrumentation. In addition, basic space science research is continuing at NASA, representing an investment of $1.9 billion in fiscal 1994. The Department of Defense has been appropriated $1.2 billion for basic research in fiscal 1994; the Department of Energy will support an additional $1.7 billion in basic research, in areas including materials science, chemical science, engineering and geoscience, high-energy nuclear physics, and nuclear fusion. Finally, the Administration continues to support basic research conducted through the National Institutes of Health, which account for over 40 per-

cent of federally sponsored basic research. NIH is projected to spend nearly $6 billion for basic research in fiscal 1994, exceeding last year's level by almost $300 million (or 5 percent).

Technology Development and Commercialization

Through the Commerce Department's Advanced Technology Program and through the hundreds of cooperative research and development agreements that have been signed between private firms and researchers at many of America's 726 Federal laboratories, the government is investing in industrial projects to develop and to promote commercialization of technologies with high payoff potential. The Nation's antitrust laws have also been clarified to avoid discouraging beneficial private research collaborations.

The Advanced Technology Program (ATP). The ATP is administered by the Commerce Department's National Institute of Standards and Technology (NIST). In four competitions completed over the past 4 years, the ATP has made 89 awards to 66 companies and 23 joint ventures. The projects receiving awards have included ventures to develop a way to control personal computer programs through "natural language" instructions; a pen-based character-recognition system for the Chinese language, with the goal of enhancing software exports to Chinese-speaking companies; and a technology for preserving patients' bone marrow during chemotherapy.

The ATP is designed to avoid government failure. Government acts as the catalyst, but the ATP relies on industry to define and carry out its R&D projects. Independent expert panels select projects through rigorous competitions based on both technical and business merit. The ATP provides technology development funds under cooperative research agreements. It requires single-company applicants to pay their own indirect costs, and joint ventures to provide matching funds. In general, award recipients may patent inventions or copyright software developed under an ATP award, but the government retains a nonexclusive license.

The total of ATP awards plus private sector funds over the life of the first 89 awards amounts to over $500 million. The Administration has proposed to increase the ATP budget from $68 million in 1993 to $750 million in 1997, and $200 million has been appropriated for the program in 1994. In addition to announcing about 100 new awards to industry in fiscal 1994, the ATP will embark on a set of "strategic" program competitions. These competitions will focus on particular technology areas recommended by industry as having especially significant potential to generate large economic and social payoffs.

Cooperative Research at Government Laboratories. The Nation's 726 Federal laboratories, especially the three large, multiprogram nuclear weapons laboratories (Los Alamos and Sandia in New Mex-

ico and Lawrence Livermore in California), offer a repository of vast technical expertise that can be leveraged to enhance the competitive performance of American industry. As part of its plan to alter the balance between military and civilian objectives in the Federal R&D budget, the Administration has authorized the weapons labs to redirect at least 10 to 20 percent of their defense program budgets to commercial technology-transfer activities with industry. The Department of Energy's 31 laboratories, which employ over 23,000 scientists and engineers and perform $6 billion in civilian and military research annually, already have in place over 650 cooperative research and development agreements (CRADAs) with private firms, totaling $1.4 billion in combined public and private funds. CRADAs are also used to structure public-private partnerships involving laboratories at NIST and the Department of Defense. A similar program is in place at NASA.

Using CRADAs, Federal laboratories have already begun or strengthened jointly financed collaborations with companies and industry consortia in a number of research and production prototyping projects. These have covered semiconductor production equipment, flat panel display technology, new technologies for textile manufacturing, the investigation of new polymer blends, biosensors, new aerospace alloys, and microscopic-sized machines known as microelectromechanical systems. These partnerships may begin a longer term process of redirecting the defense-oriented labs' missions toward civilian needs—ranging from the development of energy-efficient and environmentally sustainable industries to the invention of new medical, manufacturing, and transportation technologies—while utilizing the labs' expertise in such fields as high-performance computing, communications, and new materials.

Collaboration in Research and Development. Competition promotes R&D, but collaboration can also promote both research and the effective commercialization of research results. When firms have complementary skills or information, an R&D joint venture among them may speed the development and commercial adoption of a new technology. And when firms have similar skills or information, an R&D joint venture may avoid costly duplication of effort. Yet allowing collaboration in R&D risks facilitating undesirable cooperation in the firms' other activities. For example, it may make it easier to engage in price fixing or other anticompetitive practices in the sale of the products manufactured by the firms collaborating on research. This risk is small if collaboration is limited to early-phase R&D, however.

The Congress balanced these concerns in 1984 when it passed legislation guaranteeing that collaborative research would violate the antitrust laws only if the collaboration were found unreasonable. That legislation also provided that research joint ventures

could register with the government and thereby limit their antitrust exposure to actual damages, rather than face the usual treble damage penalty for antitrust violations. Legislation enacted in 1993 extends these protections to production joint ventures, thereby removing a barrier to collaborative efforts to implement new manufacturing techniques and production processes. Because these aspects of the production process can be understood as research into product commercialization, this extension serves a purpose similar to that of the 1984 legislation.

Development and Diffusion of Advanced Manufacturing Technology

Anecdotal examples abound of technologies developed in the United States, such as numerically controlled machine tools, that were commercially exploited first or more successfully abroad. These anecdotes point to market failures other than imperfect appropriability that also contribute to insufficient adoption and utilization of research results. For example, firms may face unnecessarily high transactions costs for obtaining information, and firms with good ideas but limited sources of collateral or internal finance may find themselves unable to raise funds in the capital markets.

The effort to commercialize a new technology often presents firms with an array of organizational challenges: New manufacturing processes and distribution channels must be developed, workers must be retrained, and new suppliers and perhaps even new customers must be identified. In meeting these challenges, firms develop a great deal of valuable information—from manufacturing know-how to marketing insights—some of which cannot be protected as intellectual property or trade secrets.

On the other hand, firms sometimes have difficulty gaining access to other types of technological know-how developed inside other companies and the ways different firms have met implementation challenges. Adoption of advanced manufacturing technology is typically a "systems" problem. Suppliers must be able to sell components that fit into complex automated production systems. Buyers must be assured of compatibility among machines, robots, transfer lines, and the like, or they will not adopt the technology.

To help remedy these market failures, and so promote more rapid and extensive commercialization and diffusion of important new technologies, the Administration is expanding NIST's Manufacturing Extension Partnership (MEP) program. Manufacturing Technology Centers (MTCs) form the backbone of the program. MTCs offer impartial advice to small and medium-sized manufacturers from people with extensive industrial experience. This advice is backed by hands-on technical assistance. MTCs will be linked among themselves to a set of smaller Manufacturing Outreach Centers (MOCs), geared to areas with smaller concentrations

of industry. MOCs will be affiliated with technical colleges, vocational schools, and State technical assistance centers. Together MTCs and MOCs will help firms to identify, evaluate, install, adapt, and then commercially exploit appropriate advanced technology in their manufacturing and business operations. The Administration anticipates that 100 centers will be established nationwide by 1997, up from 7 at the outset of this Administration.

Linkages have also been formed between the MEP and other Federal agencies with roles to play in the delivery of technical assistance, work force training, and small business support services. These agencies include the Department of Energy, NASA, the Small Business Administration, and the Department of Labor. In addition, the Department of Energy dedicated over $400 million to advanced manufacturing-related technologies in fiscal 1993 and has under way or in negotiation more than 115 advanced manufacturing cooperative projects involving over 60 companies. One of these is the AMTEX Partnership, a model collaboration between the Department of Energy's national laboratories and the American textile industry. Finally, the deployment portion of the Administration's defense conversion Technology Reinvestment Project (discussed below) includes an additional $87 million for manufacturing extension programs.

Telecommunications Infrastructure for the Information Age

All Americans have a stake in the construction of the advanced National Information Infrastructure described earlier in this chapter. Private industry is already developing and deploying the NII, and, as explained above, it is the private sector that should build and own the NII of the future. There nevertheless remain essential roles for the government to play in ensuring the growth of an affordable and universally accessible telecommunications infrastructure. Many of the key breakthroughs in telecommunications and computing stemmed from research funded by the Federal Government. For example, the Internet and laser technology both grew out of government-sponsored research.

The Administration will continue the High-Performance Computing and Communications program, which funds R&D into more-powerful computers, faster computer networks, and more-sophisticated software. A key objective of this program is the application of computers to economically important problems. The Department of Energy has funded several collaborations among national laboratories, universities, and industry, applying these computing technologies to materials, chemistry, energy, and environmental problems. Beyond that, the Administration has created a new component of the program, emphasizing information infrastructure technologies and applications. This program will develop and apply high-performance computing and high-speed networking tech-

nologies for use in the fields of health care, education, libraries, manufacturing, and provision of government information. Additional research on information technologies and applications will be conducted by the Department of Energy's national laboratories.

Finally, the government is supporting an array of NII pilot and demonstration projects. Federal matching grants will be awarded on a competitive basis to school districts, libraries, State and local governments, health care providers, universities, and other nonprofit entities to connect institutions to existing networks, to enhance those networks, and to permit users to interconnect among different networks. The program is presently funded at $28 million per year and is planned to grow in coming years to $100 million annually. Its goal is to ensure that every school and library in the country is connected. In addition, NASA has launched the Advanced Communications Technology Satellite, an experiment to test pioneering concepts and technologies that promise to advance on-demand, flexible communications services.

Transportation, Energy, and the Environment: New Technologies for Growth

Environmental improvements have traditionally been viewed as something we trade off for increased economic performance. Yet, as noted earlier in this chapter, a strong environmental policy framework can encourage innovation, strengthen key competitive industries, and improve our environment simultaneously. Environmental policy can create new demand for the goods and services of the environmental protection industries, which then increase employment and production to meet this demand. Policies that call for leading-edge environmental solutions can induce U.S. industry to respond with novel, world-class technologies. This response positions U.S. industry to meet the rapidly growing world demand for advanced "green" technologies, providing additional economic and environmental benefits for U.S. consumers and producers.

Accordingly, this Administration is developing an environmental policy framework whose objective is to maintain and strengthen environmental protection while also promoting economic and technological development. The Administration is working with the U.S. business and research communities to promote the development and deployment of new technologies that simultaneously prevent pollution, increase energy efficiency and the efficiency of the Nation's transportation infrastructure, and promote economic growth. Clean technologies—such as energy-efficient light bulbs and motors, alternative fuel vehicles, computerized traffic management systems, and advanced steelmaking—reduce many kinds of pollutants. Such technologies can also reduce the energy needs of U.S. companies, trimming costs and improving international competi-

tiveness. Again, the hoped-for result is both enhanced environmental quality and greater long-term economic growth.

Partnership for a New Generation of Vehicles. This initiative, begun in September 1993, is a joint effort of the Federal Government and the three leading domestic automobile manufacturers. The initiative aims to develop the technologies necessary to create a new type of automobile, one that is both safer and up to three times more fuel efficient than today's cars. In both its goals and its implementation, the program is characteristic of this Administration's technology policy. It focuses on developing technologies that may generate technological progress in two important areas: in making U.S. automobile producers more technologically competitive in the international marketplace and in reducing air pollution. The initiative is structured as a set of public-private partnerships in R&D. One such partnership seeks to develop a "hybrid" vehicle that combines electric propulsion with conventional heat engine systems to increase efficiency and meet tight emission standards.

The Environmental Technologies Initiative. The EPA has launched the Environmental Technologies Initiative to stimulate technological innovation to meet the Nation's environmental objectives. The initiative aims to create a more productive environmental technology marketplace and works toward incorporating environmental considerations into the design of new technologies and into upgrades of existing technologies. This program is also designed to aid the Administration's defense conversion effort by facilitating the use of military bases for demonstrations of environmental remediation or "cleanup" technologies. In addition, the EPA and the Commerce Department are jointly developing environmental technology programs at NIST regional technology centers; and the EPA has undertaken a new collaborative venture with the Small Business Administration to help small businesses access information on pollution prevention. These and other domestic initiatives also support the Administration's strategic framework for environmental technologies exports, which engages U.S. environmental businesses in the design and implementation of market-specific export assistance and export financing strategies.

The NICE^3 program (National Industrial Competitiveness through Energy, Environment, and Economics), jointly administered by the EPA and the Department of Energy, aims to promote innovative technologies that simultaneously improve energy efficiency, reduce waste generation, and increase economic competitiveness and productivity. The program also seeks to improve cooperation between State agencies and industry. In addition, the President has directed the Department of Energy and the EPA to accelerate the commercialization of advanced, energy-efficient technologies through the formation of partnerships with key market

players. These partnerships may include contests for new technology introductions; working with government procurement agencies to leverage their purchasing power to acquire qualifying products; and working with utilities to coordinate incentives for markets for new technologies. For instance, the Department of Energy, together with the EPA and utilities, is using such partnerships to create a new market for manufacturers of chlorofluorocarbon-free refrigerators (chlorofluorocarbons have been implicated in degradation of the atmospheric ozone layer).

Finally, the Department of Energy is engaged in developing and deploying innovative environmental remediation and cleanup technologies to deal with the cleanup of military bases slated for closure, as well as of contaminated facilities and sites administered by the Energy Department itself.

Other Transportation Technology Initiatives. The Department of Transportation has begun a series of outreach seminars entitled "Promoting Transportation Applications in Defense Conversion and Other Advanced Technologies." In addition, the department has initiated studies aimed at having a prototype demonstration of an automated intelligent vehicle highway system by 1997. The Defense Department's Advanced Research Projects Agency (ARPA) has selected six regional coalitions—in Hawaii, Sacramento, Los Angeles, Indianapolis, Atlanta, and Boston—to work on electric and hybrid electric vehicle technology and infrastructure. A team of officials from the Departments of Defense and Transportation is also investigating how to augment the existing satellite-based global positioning system for use in improving air navigation and collision avoidance. The Department of Energy's Clean Cities program makes use of the Federal Government's purchasing power to accelerate the introduction of alternative fuel vehicles (and an alternative refueling infrastructure) into urban areas in order to reduce emissions. Finally, the Administration is continuing to fund research into an array of next-generation transportation technologies, including high-speed ground transportation, advanced subsonic planes, and supersonic air transports.

Facilitating Defense Conversion

The share of gross domestic product (GDP) devoted to national defense is expected to shrink from 6.5 percent in 1986 to 3.3 percent in 1997. This decline in defense spending, resulting from the end of the cold war, is smaller relative to the size of the economy than the cutbacks that followed World War II and the Korean and Vietnam wars, and much more gradual. Yet the impact on particular regions, such as southern California, is severe, and three additional factors work to make the economic adjustment this time more difficult. First, the economy's recovery from the recession of 1990–91 was weaker than the average postwar recovery, while ef-

forts to cut the massive Federal budget deficit leave little room for fiscal expansion to stimulate economic growth. Second, many defense firms and workers are more isolated from commercial market practice than during earlier builddowns, because the defense procurement system that has evolved over time has erected a wall between commercial sectors and defense. Third, technological innovation and the economic growth it generates may be hard hit by the defense retrenchment, because nearly 60 percent of Federal support for domestic R&D was defense related and because roughly one-fifth of the Nation's engineers work in defense-related areas.

The end of the cold war was an unanticipated event with serious economic consequences for several domestic economic sectors. Our Nation has long accepted a collective responsibility to ease the transition for those most heavily affected by major economic shocks, for example by providing unemployment insurance and disaster relief. This principle readily extends to transitional assistance when the shock results from a large and unanticipated structural economic change, particularly when government is effectively the agent of that change.

For workers, the problem of large, regionally concentrated economic dislocations is made worse by a capital market imperfection. It is often difficult for workers to borrow for retraining and relocation because their human capital cannot serve as collateral. Such capital market transactions are particularly difficult to arrange for people who have just lost a job or who have incurred a capital loss on their home—a frequent consequence of geographically concentrated defense cuts. Moreover, dislocated workers may have a difficult time learning about job opportunities in other regions or occupations.

Defense conversion is also difficult for firms. Although many defense contractors have access to knowledge, production facilities, and skilled workers that could be valuable if channeled to commercial applications, the many years spent designing their organizations to serve the needs of one customer—the Defense Department—often leave them without crucial skills or the right organizational configuration to serve the commercial marketplace. To the extent that these firms lack internal funds to finance new investment, and to the extent they are unable credibly to demonstrate to lenders and other capital providers their potential to serve other lines of business, these resources will not be able to move to their most efficient uses.

The Administration's 5-year, $22 billion Defense Reinvestment and Conversion Initiative addresses these problems of the post-cold war transition.

Workers. The initiative provides $5 billion over 5 years for worker adjustment, including funding for retraining displaced defense

workers and early retirement benefits for military personnel with at least 15 years of service. In addition, the Administration is sponsoring pilot programs to train defense workers and personnel leaving the military for national service as teachers, health care workers, and law enforcement personnel.

Communities. The Administration is also expanding the Defense Department's Office of Economic Adjustment, so that communities affected by scheduled military base closures have the resources and technical assistance necessary to plan a smoother adjustment to new economic activities. More resources are being devoted to the Commerce Department's Economic Development Administration, to target help to communities hardest hit by the defense industry drawdown. Meanwhile the Defense Department is working with the EPA and other public and private bodies to make sure that the process of environmental cleanup and restoration at closed military bases does not hamper local economic recovery.

Technology: The Technology Reinvestment Project. The Administration's Technology Reinvestment Project (TRP) is an effort to promote the development of dual-use (commercial and military) technologies and to help small defense firms make the transition to commercial production. The TRP is jointly implemented by a six-agency council representing the Departments of Commerce, Energy, Transportation, and Defense, NASA, and the National Science Foundation, and is chaired by an official from ARPA. One-hundred and sixty-two projects had been selected for TRP support as of early December 1993, totaling nearly $1 billion in combined public and private funds (the Federal share is about $415 million).

The TRP funds three types of projects: technology development (46 projects), technology deployment (70), and manufacturing education and training (46). Examples include construction of a highway bridge from composite plastics, development of a new jaws-of-life rescue device powered by pyrotechnic cartridges, and the exploration of medical uses for a noninvasive diagnostic device that measures oxygen levels in the blood. The TRP is also funding the development of a new manufacturing engineering curriculum at a State college, a manufacturing technology center to help defense suppliers adapt to other fields, and a project to retrain laidoff defense engineers in pollution-prevention and remediation.

MARITECH. The Defense Department's MARITECH (maritime technology) initiative, a defense conversion program focused on shipbuilding, is structured similarly to the TRP. This 5-year, $220 million program will supply matching funds to help U.S. shipyards shift production from military to commercial markets.

TECHNOLOGY POLICY, GROWTH, AND COMPETITIVENESS

Government must work with American industry to provide a sound communications and transportation infrastructure and a solid science and industrial technology base. These are among the prerequisites for economic growth. Yet to be effective in a market economy, technology policy must leverage private investment, not direct it. It must be sensitive to those reasons why markets by themselves may lead to insufficient investment. The Administration's technology initiatives take their inspiration from a long American history of public-private partnerships, from the Agricultural Extension Service to the Arpanet (now the Internet worldwide computer network). These initiatives seize strategic opportunities inherent in the shifting composition of Federal R&D from military to civilian concerns, help remedy the underinvestment in R&D created by the limitations on private appropriability of its economic returns, and focus Federal R&D funds on facilitating the commercialization and commercial diffusion of technology. Together these technology initiatives are essential to promote U.S. economic competitiveness, meaning not only the ability of American firms to sell high-quality goods and services in the international marketplace, but more importantly, the ability to do so while maintaining high and rising wages and living standards for the American people.

CHAPTER 6

The United States in the World Economy

SOON AFTER TAKING OFFICE, the President described the basic principles and goals of his Administration's international economic policy in a February 1993 speech at American University. He committed the United States to active global engagement to promote world trade and growth, to aid the development of less prosperous nations, to address the emerging problems of global environmental degradation, and to encourage market reform in Russia and other parts of the former Soviet empire. The President affirmed that the United States would continue to champion open markets and expanded trade: In the President's words, "We must compete, not retreat." Acting upon these words, the Administration successfully concluded two of the most important trade agreements in the Nation's history: the North American Free Trade Agreement (NAFTA) and the Uruguay Round Agreement under the General Agreement on Tariffs and Trade (GATT).

Like previous Administrations, Democratic and Republican alike, this Administration recognizes that international trade—the voluntary exchange of goods and services across national borders—is a means of increasing standards of living and economic well-being both at home and abroad. During the last half-century, world trade has grown enormously, largely as a result of American leadership in liberalizing global markets. Trade has been a major engine of growth for the world economy since World War II, in marked contrast to the 1930s, when protectionism worsened and helped spread global economic depression. As economists have long predicted, freer trade has been a win-win strategy for both the United States and its trading partners, allowing all to reap the benefits of enhanced specialization, lower costs, greater choice, and an improved international climate for investment and innovation. American industries—both their workers and their owners—have benefited from increased export markets and from cheaper imported inputs. American consumers have been able to purchase a wider variety of products at lower prices than they could have without the expansion of trade.

Recent changes in the global economy pose new challenges and new opportunities for the United States as we maintain our com-

mitment to an open international trading system. The new opportunities come from the explosion of global markets, while the new challenges come from the development of new global competitors. During much of the last 50 years, the United States was the only global economic superpower. But now there are three: the European Union (EU, the deeper integration of the European Community), Japan, and the United States; and all increasingly interdependent as a result of trade and capital flows, and increasingly competitive. All three superpowers face both intensifying competition from and expanding market opportunities in the rapidly industrializing countries of East Asia, which continue to increase their export competitiveness even as they open their own markets to greater trade and investment. Meanwhile the global trading system is being transformed by the emergence of new democratic and market-oriented regimes in central and eastern Europe, the former Soviet Union, Latin America, and Asia—regimes that have made substantial progress in tearing down their protectionist barriers and are now actively encouraging exports, accepting imports, and seeking foreign capital for development.

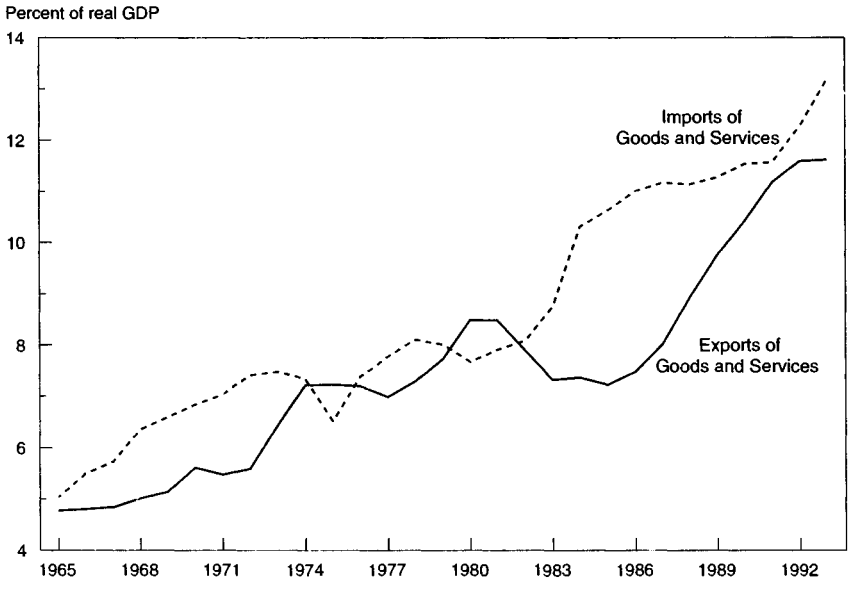
This Administration is committed to a high-wage strategy to enable the United States to take advantage of the new opportunities and to meet the new challenges of the changing global marketplace. This strategy consists of two distinct but interrelated parts: trade policies that will promote trade and foster more-open markets both at home and abroad; and domestic policies that will help American companies remain the world's productivity and technological leaders, and American workers remain the most skilled and productive in the world. This two-part strategy reflects the fundamental goal of the Administration's other economic policy initiatives: higher living standards for all Americans. Realizing this goal requires that America compete not on the basis of lower wages, but on the basis of superior productivity, technology, and quality. It also requires that our trade policy be complemented by domestic policies designed to increase labor force skills and facilitate the adjustment of American workers and communities to changing economic circumstances—whatever their source. Other chapters in this *Report* have analyzed the domestic economy. This chapter addresses the international dimension.

TRENDS IN U.S. TRADE

Trade has become increasingly important to the American economy. As shown in Chart 6–1, the share of exports of goods and services in real gross domestic product (GDP) has gradually risen and now stands at a postwar high of 11.6 percent. Between 1985 and 1993, U.S. merchandise exports increased from $222 billion to

$460 billion in current dollars, and by 95 percent in real terms. By 1992, the United States had regained its status as the world's largest exporter, and one in six American manufacturing jobs was directly or indirectly related to exports.

Chart 6-1 **U.S. Trade as Share of Real Gross Domestic Product**
The importance of trade to the U.S. economy has risen more or less steadily for three decades.



Source: Department of Commerce.

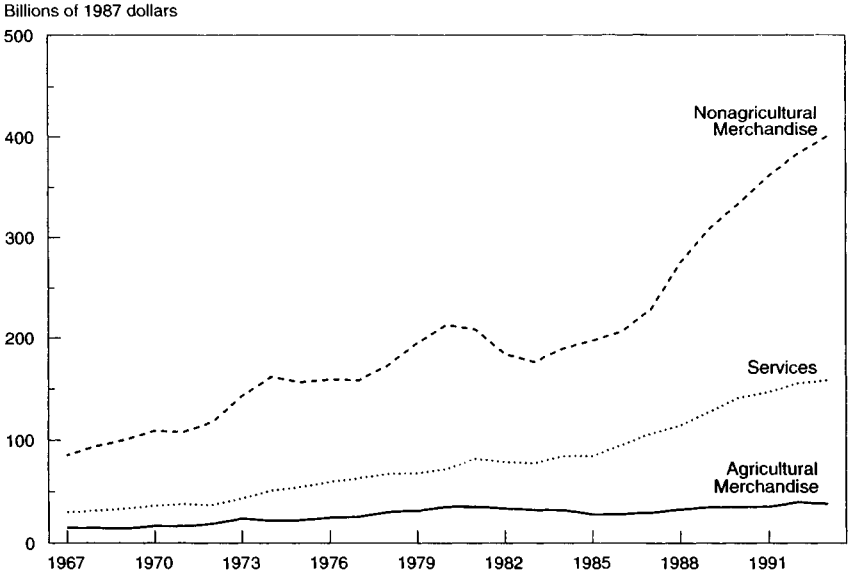
Imports have also grown in significance. As Chart 6–1 shows, the share of imports of goods and services in GDP has increased steadily and is also at a postwar high of 13.2 percent. Perhaps the most striking development has been the increasing role of multinational corporations in U.S. trade and, indeed, the growing importance of intrafirm trade—cross-border trade between the separate operations of a single firm. By 1990, multinational firms accounted for over 75 percent of total U.S. merchandise trade, and around 40 percent of U.S. merchandise trade was intrafirm. And whereas intrafirm trade initially involved mainly U.S.-based multinationals, more recently it has been led by foreign-based firms, especially Japanese firms.

The impact of international trade on the national economy is not restricted to exports and imports. International trade also affects the fortunes of producers who do not directly export or import but interact with producers who do. According to input-output analy-

ses, which take such intersectoral or interproducer relations into account, when the indirect effects of trade are included, exports accounted for nearly four-fifths of the increase in domestic production of manufactures between 1987 and 1992. Moreover, exports have become more dependent on imports. Between 1982 and 1987, the most recent years for which data are available, the import content of exports rose from 10 percent to 14 percent. Thus exports are becoming more important for the economy, and imports are becoming more important for exports. Overall, international trade is increasingly vital to American prosperity.

The growth of U.S. trade has been accompanied by significant changes in both its sectoral and its regional composition. As shown in Chart 6–2, real exports of nonagricultural merchandise and services have grown rapidly during the past quarter-century (Box 6–1), while the contribution of agricultural exports has remained relatively small. At the same time, the relative contributions of particular sectors within nonagricultural merchandise trade have been shifting (Table 6–1).

Chart 6-2 **U.S. Exports of Goods and Services**
Exports of services and nonagricultural goods have grown rapidly since the late 1960s.



Source: Department of Commerce.

Box 6–1.—U.S. Exports: More Than Peanuts

In 1992, American service firms exported to nonaffiliates abroad:

- over two-thirds as much in passenger fares ($17.4 billion), such as seats on U.S.-flagged air carriers, as the United States exported civilian aircraft ($24.5 billion)
- more educational services ($6.1 billion) than the United States exported corn ($5.7 billion)
- more financial services ($5.4 billion) than the United States exported wheat ($4.6 billion)
- more equipment installation and repair services ($2.8 billion) than the United States exported agricultural machinery ($2.1 billion)
- more information services, including computer and data processing and database services ($2.6 billion), than the United States exported aluminum ($1.2 billion)
- more legal services ($1.4 billion) than the United States exported vegetable oils ($1.0 billion)
- more management consulting services ($0.78 billion) than the United States exported milled rice ($0.72 billion) or peanuts ($0.21 billion).

TABLE 6–1.—*U.S. Merchandise Trade by Industry, 1972 and 1992*

[Percent of total]

Industry	1972		1992	
	Exports	Imports	Exports	Imports
Agricultural and forest products	18.5	15.4	11.7	6.2
Minerals	3.1	5.8	2.3	2.3
Fuels	3.2	8.5	2.6	11.1
Chemicals	8.4	3.6	10.4	5.4
Textiles, apparel, leather products, and footwear	3.9	8.8	3.4	10.5
Paper	1.5	2.3	1.5	1.6
Nonmetallic minerals products	1.2	2.3	.9	1.8
Iron and steel	1.7	5.3	1.0	1.9
Machinery	27.0	14.0	30.5	24.8
Transportation equipment	16.9	17.5	17.7	15.7
Furniture and fixtures	.3	.7	.9	1.4
Instruments	2.8	1.6	3.6	3.1
Miscellaneous manufactures	3.7	6.5	5.7	7.7
Other industries	7.8	7.5	7.9	6.3

Note.–The classifications are based on the SITC Revision 1 coding system. Import figures have been adjusted to net out reexports.

Detail may not add to 100 percent due to rounding.

Source: United Nations, Commodity Trade Statistics Division.

An important sectoral development in recent years has been the growth of high-technology products and industries in both U.S. exports and imports. In 1992, the United States exported $107 billion in advanced technology products, up in nominal terms from $83 billion in 1989. Imports of these products also increased—from $56 billion in 1989 to $72 billion in 1992. Aerospace, information and communications, and electronics together contributed the predominant share of U.S. high-technology exports. These sectors, along with a few high-technology product lines within other industrial sectors, are considerably more export-intensive than U.S. manufacturing as a whole. Indeed, aircraft and computers and office equipment have the highest ratios of export sales to value added among all manufacturing industries.

Heightened foreign competition and the globalization of production (technology respects no border) have made many high-technology industries relatively import-intensive as well. In fact, the most export-intensive of America's high-technology industries (with the marked exceptions of plastics and aircraft) are now also the most import-intensive. The electronics industries have been the arena of the most dramatic penetration of the U.S. high-technology market, both because Japanese and East Asian electronics producers have become more formidable competitors, and because American electronics multinationals have spread their own production around the world.

Just as the commodity composition of U.S. trade has been changing, so has its geographical composition. As shown in Table 6–2, the shares of U.S. exports going to and imports coming from developing countries have risen, while the shares to and from industrial countries have fallen. These trends reflect the fact that the developing countries as a group have been growing more rapidly than the industrial countries.

TABLE 6–2.—*U.S. Merchandise Trade by World Region, 1972 and 1992*

[Percent of total]

Region	1972		1992	
	Exports	Imports	Exports	Imports
Industrial countries	66.8	72.4	58.5	57.7
Japan	10.0	16.3	10.7	18.0
European Community [1]	26.8	24.0	23.0	17.6
Other	30.0	32.1	24.9	22.1
Developing countries	33.2	27.6	41.5	42.3
Asia	8.9	9.6	16.6	22.8
Middle East	4.1	1.6	4.5	3.1
Western Hemisphere	14.6	12.6	16.9	13.0
Other	5.6	3.8	3.5	3.4

[1] Membership as of 1992.

Note.–Detail may not add to totals due to rounding.

Source: International Monetary Fund.

The fast-growing countries of Asia have provided a rapidly expanding market for U.S. exports; their share of the total nearly doubled from 9 percent in 1972 to 17 percent in 1992. Indeed, by 1992 our trans-Pacific trade was 50 percent greater than our trans-Atlantic trade. The increasing importance of Asia in U.S. trade appears to contradict the common contention that the world is devolving into three trading blocs centered on Europe, Asia, and North America. Nor is such a conclusion supported by more-sophisticated evidence. When researchers have modeled the pattern of trade flows among different countries, they have found no real evidence that intraregional trade flows in Asia are unusually large once economic fundamentals are taken into account. The observed increases in intraregional flows can be explained largely in terms of differences in economic growth rates and geographical proximity. Likewise, when researchers have looked at financial flows, exchange-rate determination, and the like, there is little evidence that a "yen bloc" is developing in Asia.

In addition to leading the world in trade, the United States leads the world in the stock of foreign direct investment, both as investor and as recipient. In 1992, U.S. firms owned 25 percent, and the United States hosted 22 percent, of the world's foreign direct investment stock. The largest hosts of outward U.S. foreign direct investment (ranked in order of importance) are the United Kingdom, Canada, Germany, Switzerland, and Japan, which together account for nearly half the total (Table 6–3). Similarly, five industrial countries (again ranked in order of importance)—Japan, the United Kingdom, the Netherlands, Canada, and Germany—account for more than three-quarters of existing foreign direct investment in the United States. The predominant role of high-wage industrial countries in *both* inward and outward foreign direct investment in the United States refutes the popular notion that such investment is motivated primarily by the search for lower wages. In fact, many foreign investment decisions are motivated by other considerations, most often the need to have an active presence in large or rapidly expanding markets or the need to overcome trade and other barriers that impede access.

It is sometimes argued that outward foreign direct investment "exports" jobs. However, the parallel expansion of two-way foreign direct investment and intrafirm trade suggests that such investment is more likely to complement rather than substitute for trade, creating high-wage jobs domestically rather than destroying them. Several recent studies have concluded that foreign direct investment is more likely to create trade than reduce it. Another recent study found that inward foreign direct investment brings with it competition, new technologies, and new management techniques,

TABLE 6–3.—*Stock of U.S. Outward and Inward Foreign Direct Investment, 1992*

Country	Billions of dollars
INVESTMENT BY U.S. FIRMS ABROAD (OUTWARD):	
United Kingdom	77.8
Canada	68.4
Germany	35.4
Switzerland	28.7
Japan	26.2
All countries	486.7
INVESTMENT BY FOREIGN FIRMS IN THE UNITED STATES (INWARD):	
Japan	96.7
United Kingdom	94.7
Netherlands	61.3
Canada	39.0
Germany	29.2
All countries	419.5

Note.—All figures are on a historical cost basis.

Source: Department of Commerce, Bureau of Economic Analysis.

each of which has contributed to the resurgence in U.S. productivity, further enhancing national competitiveness.

TRADE, JOBS, AND WAGE INEQUALITY

In the short run, both the level of output and the level of employment in the American economy depend on the level of aggregate demand. One component of aggregate demand is net exports, the difference between exports and imports. Thus, as long as there is slack in the economy, an increase in net exports will stimulate production and create jobs. For example, most scholars estimate that NAFTA will create additional American jobs over the next several years because it will boost U.S. net exports to Mexico. Once the American economy nears full employment, however, additional net exports could create upward pressure on prices as well. Even when the economy is at full employment, however, and even if trade liberalization increases both imports and exports equally, leaving net exports unchanged, the American economy still reaps the benefits of freer trade in the form of greater productive efficiency, lower prices, and higher living standards.

Despite the possible benefits of trade liberalization for the level of employment in the short run, and the certain benefits of trade liberalization for living standards in the long run, some observers worry that expanding trade with developing countries will depress the wages of low-skilled American workers. As explained in Chapter 3, wage inequality has, in fact, increased over the past two decades as the share of trade in the U.S. economy has grown. Not surprisingly, concerns have been voiced that greater international trade may be responsible for greater inequality in the wage distribution.

Such concerns are plausible and are consistent with economic theory. Skilled labor is relatively abundant in the U.S. economy. According to theory, when the United States trades with economies in which unskilled labor is relatively abundant, we will tend to export products requiring skilled labor and import products using unskilled labor. The relative prices of skill-intensive goods will therefore rise in the United States, and U.S. production will expand in export industries and contract in industries that compete with imports. Demand for skilled labor will rise, while demand for unskilled labor falls. These changes in labor demand will raise the wages of skilled workers relative to those of unskilled workers. Thus, on *a priori* grounds, one might expect an expansion of trade with developing countries to lead to greater wage inequality in the United States.

Despite the plausibility of the theoretical argument, however, several studies find that it is difficult to discern any substantial impact of trade on wage inequality. Economists have posited a systematic relationship between the relative prices of goods and the relative returns to factors of production. If increased trade with developing countries were the cause of growing wage inequality, the relative prices of goods that use highly skilled labor would be rising relative to those of goods that use unskilled labor. However, one study has found no evidence that the relative price of skill-intensive goods has risen in the United States. Indeed, it is difficult to find any evidence of the changes in relative prices that would be required for changes in trade patterns to have altered the relative returns to different types of labor.

Similarly, if increased trade were responsible for increased wage inequality, the growth in wage differentials would lead firms in all sectors to substitute unskilled labor for skilled labor. Instead, studies find that virtually all manufacturing industries have increased their relative use of skilled labor despite growing wage differentials. Rising wage differentials along with greater use of skilled labor suggests that demand for skilled labor has been rising broadly in the economy. As expected, these wage differentials have led to an upgrading of skills in the work force, allowing firms to meet their rising demand for skilled labor.

Taken together, this evidence (little change in relative prices, and economy-wide increases in the demand for skilled labor) suggests that growing demand for skilled labor has resulted from widespread changes within industries rather than from changes in the structure of production engendered by greater trade. The preponderance of evidence indicates that the primary sources of growing wage inequality are domestic rather than foreign. As discussed in Chapter 3, the sources of wage inequality are difficult to pinpoint, but to the extent that growing inequality can be explained,

technical change has been offered as the leading candidate. Increased trade with developing countries may have reinforced some of the changes in wages caused by technological change, but careful studies have failed to discern a sizable impact of trade on wage inequality.

Two explanations of this finding have been offered. First, although trade with developing countries has been growing, most U.S. trade—about 60 percent—still involves other industrialized countries whose skill levels and wages are similar to those in the United States. Second, while trade is a growing part of the U.S. economy, it remains a relatively small part. Only extremely large changes in the composition of trade could have a discernable impact on wages and wage disparity in the U.S. economy.

Nonetheless, the expansion of trade will inevitably disadvantage some workers in the short run. One goal of Administration policy, as described in Chapter 3, is to facilitate the adjustment of the labor force to changing economic circumstances whatever the putative source of change. It is by recognizing both the opportunities and the challenges presented by the changing global economy that the Administration seeks to achieve a productive and stable basis for U.S. engagement in the world economy.

THE ADMINISTRATION'S TRADE INITIATIVES

The Clinton Administration supports the goal of freer trade on a reciprocal basis. In pursuit of that goal, the Administration is dedicated to working with the private sector and its trading partners to open foreign markets through bilateral, regional, and multilateral trade agreements. At the same time, the Administration believes that trade policy should complement, not substitute for, domestic policies to enhance the global competitiveness of American companies and their workers and to make the United States an attractive production location for both domestic and foreign firms.

DOMESTIC INITIATIVES: THE NATIONAL EXPORT STRATEGY

The Administration's trade policy begins at home with an activist commitment to promote American exports both by reducing domestic barriers to them and by improving the efficiency of our export promotion programs. Working within the interagency Trade Promotion Coordinating Committee, created by the Congress to reduce the fragmentation of our export promotion programs, the Administration unveiled a new National Export Strategy in September 1993. This strategy reflected six underlying themes: streamlining and combining functions across agencies, allocating resources stra-

tegically, involving the private sector and State and local governments, effectively advocating the interests of U.S. exporters abroad, measuring performance, and reducing export controls (restrictions on exports to meet national security, antiproliferation, or foreign policy objectives). Among the actions to be undertaken immediately are:

- Revising outmoded export controls on high-technology products. The specific technical revisions are expected to reduce regulation significantly on an estimated $35 billion worth of high-technology exports. For example, export restrictions that previously affected sales of even some personal computers to many foreign markets have been relaxed.
- Consolidating all Federal export promotion services in one location to facilitate "one-stop shopping." Initially, four centers will be created; more will be added until a national network has been created.
- Providing high-level government advocacy on behalf of U.S. firms pursuing major foreign government procurement opportunities through an interagency "Advocacy Network" and an "Advocacy Center" located in the Department of Commerce.
- Improving our export finance programs by combating the "tied aid" practices of other nations, increasing the limits on insurance guarantees by the Overseas Private Investment Corporation, broadening assistance to U.S. companies seeking to participate in activities funded by the multilateral development banks (such as the World Bank), and combining into one agency the infrastructure feasibility funds that are the seed money for U.S. firms' participation in major infrastructure projects abroad.

Taken together, the actions outlined in the National Export Strategy are expected to increase both the responsiveness and the efficiency of export promotion efforts.

BILATERAL NEGOTIATIONS

Along with these unilateral actions, the Administration has engaged numerous foreign countries in bilateral trade talks. The most prominent of these efforts has been with Japan.

The U.S.-Japan Framework Talks

Japan presents a special case for the United States. Japan is the world's second-largest economy, after the United States, and our second-largest trading partner, after Canada. And it is with Japan that the United States maintains its largest bilateral merchandise trade imbalance: a deficit of $49.6 billion in 1992 (Table 6–4). (In the same year, we enjoyed a $13.3 billion surplus with Japan in services trade.) Japan's large surplus with the United States is an important part of its large global current account surplus (the cur-

rent account is a broader measure of trade that includes both goods and services), which stood at $118 billion in 1992.

TABLE 6–4.—*U.S. Merchandise Trade Balances with Selected Countries, 1987–92*

[Billions of dollars]

Year	European Community	Japan	"Greater China"				Rest of world
			Total	People's Republic of China	Hong Kong	Taiwan	
1987	-20.6	-56.3	-25.9	-2.8	-5.9	-17.2	-49.3
1988	-9.2	-51.8	-20.6	-3.5	-4.6	-12.6	-36.9
1989	1.2	-49.1	-22.6	-6.2	-3.4	-13.0	-38.9
1990	6.3	-41.1	-24.4	-10.4	-2.8	-11.2	-42.5
1991	17.0	-43.4	-23.7	-12.7	-1.1	-9.8	-16.6
1992	9.0	-49.6	-28.4	-18.3	-0.7	-9.3	-15.5

Note.—Exports are f.a.s. and imports are customs value.
China, Hong Kong, and Taiwan have been grouped together as "Greater China" for analytical convenience.
Detail may not add to totals due to rounding.
Source: Department of Commerce, Bureau of the Census.

Moreover, certain of Japan's trade patterns appear to differ from those of other major industrial countries. Japan has an unusually low share of manufactured imports in domestic consumption, an unusually low share of intraindustry trade, an unusually small stock of inward foreign direct investment, an unusually small share of domestic sales accounted for by foreign-owned firms, and an unusually high share of intrafirm trade, which is predominantly controlled, moreover, by Japanese rather than foreign-based firms.

Manufactured imports play a relatively small role in the Japanese economy, with the share of manufactured imports in consumption less than half that of the other major industrialized countries (Table 6–5). And while this measure has risen considerably in the other countries, it has remained relatively unchanged in Japan for 20 years.

TABLE 6–5.—*Selected Trade Indicators for Six Industrialized Countries, 1990*

Indicator	Japan	United States	Germany	United Kingdom	France	Italy
Import share of domestic consumption of manufactures (percent)	5.9	15.3	15.4	17.7	13.7	12.6
Intraindustry trade index	.58	.83	.73	.79	.77	.67
Foreign firms' share of domestic sales (percent)	1.2	16.4	14.0	[1] 24.1	28.4	[2]

[1] Data for 1989.
[2] Not available.

Note.—Intra-European Community trade has been excluded from the intraindustry trade and import share calculations.

Sources: Institute for International Economics; United Nations, Commodity Trade Statistics Division; World Bank; and Department of Commerce.

Another interesting aspect of Japan's trade pattern is its relatively low level of intraindustry trade—trade in differentiated manufactures within a given industry. (One common example is trade in different makes and models of automobiles.) As economies develop and the demands of firms and consumers become more complex, individual firms become less able to produce the vastly broader range of products required to satisfy all demands. Intraindustry trade then increases, as firms penetrate each others' domestic markets to supply those particular products in which they specialize. Intraindustry trade, it is sometimes argued, is of particular importance because the adjustment costs associated with an expansion of intraindustry trade are thought to be lower than for a comparable expansion of interindustry trade—import-competing firms can retool and specialize rather than disappear. If this is so, expansion of intraindustry trade should be more compatible with trade liberalization.

Japan also exhibits an unusually high share of intrafirm trade. Intrafirm trade is important both as a major channel of trade and because intracorporate transactions may be less responsive to normal price and cost determinants than are arm's-length transactions.

This issue is of considerable interest with regard to Japan because of Japan's unusual pattern of intrafirm trade. For most countries, intrafirm trade is dominated by shipments from parent firms to their foreign affiliates. That is to say, intrafirm trade is export-oriented. Japan is unusual in that Japanese parents dominate trade in both exports *and* imports. Some researchers have attributed this dominance to the prominent role of giant trading companies and *keiretsu* relationships in Japanese trade and argue that this pattern of trade is consistent with imperfectly competitive Japanese domestic markets. (*Keiretsu* are large groups of Japanese firms that share financial, production, personnel, and other linkages.)

Table 6–6 reports data on U.S. bilateral trade with Europe and Japan. Intrafirm trade is a more important part of U.S.-Japan trade than of U.S.-Europe trade. Three-quarters of all U.S. imports from Japan are intrafirm (compared with less than 50 percent for trade with Western Europe), and 36 percent of U.S. exports to Japan are intrafirm (compared with 32 percent for Western Europe).

Japanese markets are not completely closed. Indeed, some U.S. firms excel in Japan. On the whole, however, the role of foreign firms and foreign goods is strikingly small (Table 6–5).

Explanations of Japan's apparent distinctiveness fall into two broad groups, one emphasizing direct trade and industrial policy interventions and the other emphasizing structural characteristics

TABLE 6–6.—*Intrafirm Trade as Share of Total U.S. Exports to and Imports from Europe and Japan, 1992*

[Percent of total]

Region	U.S. exports to region	U.S. imports from region
Europe	32.4	46.3
Japan	36.2	75.0
World total	30.6	45.0

Note.—Intrafirm trade is defined as merchandise trade between "related parties" (that is, between affiliates of the same firm).

Source: Department of Commerce, Bureau of the Census.

of the economy. Domestic industrial support policies in Japan have included subsidies to producers and to research and development consortia, preferential tax treatment, preferential access to credit, government procurement preferences, establishment of producer cartels, and lax antitrust enforcement. External policies have included trade protection, restrictions on inward foreign direct investment, and control over high-technology trade. These policies have been applied to both infant and senescent industries.

With a few notable exceptions, including agriculture, Japanese tariffs and import quotas are not significant trade barriers. Yet Japan's market is regarded by many as effectively closed to imports of many foreign manufactures, especially those that directly compete with Japanese goods. Structural barriers alleged to deter imports include reliance on bureaucratic control to ensure product safety; domestic cartels, discriminatory practices by the *keiretsu*, and weak enforcement of competition policies; inadequate intellectual property protection; government procurement procedures that favor domestic suppliers; imperfect capital markets that inhibit inward foreign investment; and impediments in the distribution channels for imported products—to name a few.

Estimating the impact of the mostly overt barriers to trade in primary products is relatively straightforward. One recent study concluded that complete elimination of all agricultural trade barriers in Japan might increase the incomes of U.S. producers by 28 percent of the value of bilateral agricultural exports. This would occur through a combination of higher export volumes to Japan and higher prices on exports to all markets. Comparable figures for potential gains in minerals and, importantly, services, are not available.

What attracts the most attention, however, is the potential gain in manufactures. And here the story is far more controversial because the subtle nature of Japan's trade barriers poses difficult problems for economists trying to assess their impact. In consequence, researchers have eschewed direct measurement of these barriers and focused instead on inferring their impact indirectly by

examining differences in predicted and actual trade volumes. These studies have been virtually unanimous in their conclusion that Japan's low volume of manufactured imports cannot be entirely explained by economic fundamentals.

In addition to examining quantities, one can look at prices. If markets were really open, traded goods should sell at "international prices" adjusted for transport costs. A number of studies have concluded that traded-goods prices are far higher in Japan than in other countries. Among these surveys were two involving exact brand and model comparisons conducted by the Department of Commerce and the Japanese Ministry of International Trade and Industry as part of the Structural Impediments Initiative talks. The 1991 survey found that two-thirds of the products covered were on average 37 percent more expensive in Japan than in the United States; the 1989 survey obtained quantitatively similar results. Additional evidence comes from Japanese researchers who used Japan's input-output table to calculate the tariff-equivalents of Japanese nontariff barriers. In some sectors they discovered tariff-equivalents of 500 percent and higher.

The question naturally arises as to why these price differences are not eliminated through arbitrage. Such large price differentials could perhaps be dismissed as the product of exchange-rate misalignment, were they temporary, but their persistence suggests that they are the product of market closure. Indeed, one recent study concluded that Japanese manufactured imports might increase by more than 20 percent if the price differentials were eliminated.

These studies, which extrapolate well beyond the historical experience and are therefore unavoidably imprecise, have reached a variety of conclusions as to the importance of economic policy in determining Japanese trade patterns. The preponderance of evidence, however, points to the closed nature of the Japanese market. According to one recent comprehensive study, if Japan were to eliminate all formal and informal barriers to trade, U.S. exports to Japan would initially increase by somewhere in the range of $9 billion to $18 billion per year.

It should be made clear, however, that even if these barriers were eliminated, the bilateral balance would not change by this full amount: Japanese imports would increase initially, but the resultant depreciation of the yen and reallocation of resources would boost Japanese exports and reduce Japanese imports, at least partly offsetting the initial change in the balance. Moreover, liberalization would occur over an extended period of time, making it potentially difficult to disentangle changes in the balance due to liberalization from those due to macroeconomic developments, even in retrospect but this in no way diminishes the desirability of obtaining

greater access to the Japanese market, though. With more-open markets not only will American firms sell more but, because of the exchange-rate adjustments, many American firms will receive more for what they sell. Moreover, Japanese consumers will benefit—for the same reasons that American consumers benefit—from opening trade: Both will have access to a greater variety of goods at lower prices. Open markets are a win-win situation in which both sides gain.

The existence of such a large, technologically dynamic, and distinctive economy as Japan poses special trade problems for the United States. Current U.S. policy centers around the United States-Japan Framework for a New Economic Partnership, announced in July 1993. The Framework is the successor to the 1985–86 Market Oriented Sector Selective (MOSS) talks and the SII talks already mentioned. The Framework document adopted at the time of the 1993 Tokyo economic summit calls for macroeconomic, sectoral, and structural reforms and cooperation on global issues of common interest such as the environment. In particular, Japan committed itself to "actively pursue the medium-run objectives of promoting strong and sustainable domestic demand-led growth...intended to achieve...a highly significant decrease in its current account surplus...." Japan also committed to "promoting a significant increase in global imports of goods and services." For its part, the United States "will...actively pursue the medium-term objectives of substantially reducing the fiscal deficit, promoting domestic saving, and strengthening its international competitiveness."

The sectoral and structural parts of the talks are organized into five baskets: government procurement, regulatory reform and competitiveness, other major sectors (in the first instance, automobiles and auto parts), economic harmonization, and implementation of existing arrangements and measures. Topics under the government procurement basket include Japanese procurement practices in such sectors as computers, supercomputers, satellites, medical technology, and telecommunications, as well as overall government procurement policies in both countries. Regulatory issues include policies and practices relating to financial services, insurance, competition policy, retail and wholesale distribution, and U.S. export competitiveness. Economic harmonization covers foreign direct investment, intellectual property rights, access to technology, and long-term buyer-supplier relationships. The implementation basket is concerned with carrying out existing agreements between the two countries (including SII). The Framework agreement explicitly states that the United States and Japan are committed to the multilateral trading system and that "benefits under this Framework will be on a Most Favored Nation basis."

The Framework represents a departure from previous negotiations in two substantive ways. The first is the use of "objective criteria" to assess progress. The Framework agreement states that "assessment will be based upon sets of objective criteria, either qualitative or quantitative or both as appropriate," on which the two governments will agree. In this sense the negotiation is results-oriented, with both governments agreeing that "tangible progress must be achieved." By establishing objective criteria, progress can be independently verified, allowing negotiators to agree on those areas where problems have successfully been resolved and to focus on those where progress is lacking.

The other innovation of the Framework talks is procedural: By explicitly incorporating biannual meetings between the President of the United States and the Prime Minister of Japan, the Framework dramatically raises the political profile of the negotiations. The hope is that this will significantly increase the pressure on policymakers to make steady progress on resolving outstanding issues.

Trade with China

China is also an important focus of U.S. trade policy because of its size, its reforming economy, and its large trade surplus with the United States, which reached $18.3 billion in 1992.

It is misleading to focus exclusively on China's bilateral balance with the United States. Table 6–4 reports trade balances for China, Taiwan, and Hong Kong and aggregates them as "Greater China." It becomes apparent that the increase in the U.S. deficit with China has been largely offset by declines in the U.S. deficits with Taiwan and Hong Kong. These developments are the result of large realignments in exchange rates since the late 1980s that have encouraged firms to relocate labor-intensive activities, such as the production of shoes, garments, and toys, from Hong Kong and Taiwan to China, where wage rates are lower. In other words, the growing U.S.-China trade imbalance represents in part a geographic reallocation of production, not a fundamental change in U.S. trade relations.

With regard to China, U.S. trade policy centers on prison labor and workers' rights, intellectual property rights, market access, textiles, services, and the issue of China's most-favored-nation (MFN) status. In the area of intellectual property rights, the United States and China signed a memorandum of understanding in January 1992. China agreed to provide product patent protection beginning January 1, 1993, and to adhere to international conventions on the protection of copyrights. A process has been established to enforce the memorandum, although there has been little actual progress on enforcement thus far.

In October 1992 the United States and China signed a market access agreement, under which China committed itself to increase

151-444 O - 94 - 8

the transparency of its trade regime, to remove import restrictions such as licensing requirements and quotas from hundreds of products, and to liberalize its import administration substantially. The United States agreed to liberalize restrictions that limit Chinese access to technology, providing greater opportunities for U.S. producers. China is largely in compliance with the market access agreement, although some issues remain unresolved with respect to transparency, quotas, and agricultural trade. The Administration is continuing to push for greater access in these areas, as well as for better access to the Chinese market for U.S. providers of financial, maritime, and air transport services.

A memorandum of understanding on exports to the United States produced by prison labor was concluded in 1992 and provides for prison inspections. China has begun to allow U.S. officials access to prisons to investigate allegations, and there has been a decline in such allegations since the memorandum was signed. China continues to be denied coverage under investment guarantees of the Overseas Private Investment Corporation, however. Coverage was suspended in 1990 on the grounds that China was not taking steps to extend internationally recognized workers' rights to its citizens.

In the case of textiles, conflicts have arisen over China's shortcomings in implementing the terms of the Multi-Fiber Arrangement, which regulates trade in textiles and apparel. Chinese producers have at times resorted to fraudulent practices to evade restrictions on Chinese exports of textiles and apparel to the United States. The most common technique has been to ship goods produced in China to third countries, and from there reexport them to the United States under the third countries' quotas. In January 1994 the United States and China reached a new agreement on this issue. In the long run, the transshipment problem can be solved through China's entry into GATT and the tariffication of the U.S. import control system as envisioned in the Uruguay Round agreement (discussed below). In the meantime, however, the United States will continue its two-track policy of negotiations with the Chinese government combined with criminal prosecutions for customs fraud.

The last major remaining U.S.-China issue is the annual renewal of China's MFN status. Under the terms of the Jackson-Vanik Amendment to the Trade Act of 1974, MFN status can be extended to nonmarket economies only if the President grants a waiver certifying that the country does not impede emigration. (The law was originally designed to encourage the Soviet Union to permit the emigration of Soviet Jews.) China first gained MFN status in the U.S. market in 1980, and renewal was routine until the Tiananmen Square incident in 1989. Since then, renewal of China's MFN sta-

tus has become increasingly controversial, with renewal in 1994 tied explicitly to human rights improvements.

In each trade area, the Administration is carefully monitoring Chinese implementation of the bilateral agreements and will use all means at its disposal to ensure compliance. Successful implementation will lay the foundation for Chinese accession to GATT and a far closer economic relationship between the United States and China.

Trade and the Reform Process in the Former Socialist Bloc

Another crucial focus of the Administration's foreign economic policy is support of the reform process in the countries of central and eastern Europe and the former Soviet Union, especially Russia. Never before has a country of Russia's size and influence (with a population of 150 million, a large conventional military presence, and nuclear weapons) attempted such a rapid metamorphosis. Because of the immediate implications of Russian economic reform for world peace, world economic growth, and the U.S. economy, the President has made support of the reforms one of his top foreign policy objectives. This involves both providing assistance to domestic reforms and facilitating the integration of Russia into the world trading system.

Most of the fundamental issues in economic reform—including liberalization (the freeing of prices), privatization (the transfer of ownership to private entities), and stabilization (the reduction of inflation and the budget deficit)—are essentially Russia's domestic policy decisions. Nevertheless, outside organizations including the International Monetary Fund, the World Bank, the Group of Seven (G–7), and the U.S. Government have important roles to play. Indeed, along with its G–7 partners, the United States has been actively assisting the cause of economic reform in Russia. In April 1993 the G–7 pledged $15 billion of debt rescheduling and $28.4 billion in other assistance. By the end of November over half of this total had been approved.

Economic assistance packages such as the one presented in Tokyo constitute a significant source of finance for reform policies. But Russian exports to the West represent another, perhaps even more important, source of hard-currency revenues. Because the trade patterns of Russia and the other transitional economies were formerly based on arbitrary central planning decisions, not market forces, these countries have encountered difficulties in establishing normal commercial relations with other countries. The transition to a market economy has involved dramatic changes in both the product content and geographical composition of trading patterns. After most of these changes have been effected, Russia may be a substantial participant in world trade. Russia's share of U.S. trade is quite small (0.4 percent of total U.S. trade), but one study found

that if the states of the former Soviet Union were like typical industrial economies, their share of world exports would eventually rise to over 10 percent, from around 4 percent in 1988. Through the first 9 months of 1993, Russia's two most important exports to the United States were aluminum ($326 million) and crude oil ($131 million), which together accounted for more than 40 percent of the total.

Expanding trade with economies in transition from socialism raises special problems for the application of U.S. antidumping laws, which divide the world into market and nonmarket economies (NMEs), with separate methodologies for assessing dumping specified for each. (Russia, for example, is classified as an NME.) For market economies, dumping is determined to have occurred when a foreign producer charges lower prices in the U.S. than in its home market (or, alternatively, prices below its costs in the home market). In the case of NMEs, since neither prices nor input costs are market determined, they are not used in dumping investigations. Instead, U.S. law instructs the Commerce Department to construct cost estimates based on costs in a "surrogate" country at a similar stage of development. In practice, the surrogates are often at quite *dis*similar stages of development, thus potentially tilting the calculation toward finding large dumping margins. For example, the Department of Commerce has used Swiss, Canadian, Dutch, French, German, and Japanese producers as surrogates for Chinese firms in antidumping petitions. Perhaps the best known example, however, is that of Polish golf carts, described in Box 6–2.

Box 6-2.—The Case of the Polish Golf Carts

In the mid-1970s an antidumping petition was filed against Polish electric golf carts. Because Poland was an NME that had no golf courses and therefore little domestic demand for golf carts, the U.S. authorities rightly concluded that it was impossible to compare the prices at which the carts were sold in the United States with prices in Poland. Instead, the authorities employed a surrogate-country approach: they attempted to estimate what golf carts cost in a country similar to Poland. Canada was chosen. Unfortunately, Canada didn't produce golf carts either, so the final determination was based on an estimate of what golf carts would have cost in Canada—if Canada had actually produced them.

Reclassification of NMEs such as Russia as market economies would not necessarily solve the problem, however, since they would then become subject to U.S. countervailing duty law at a time

when their subsidies to state-owned producers remain sizable. As a result, either the market or the nonmarket methodology may impede imports from economies in transition.

This situation is particularly problematic since allowing Russia and other economies in transition to export the goods in which they have comparative advantage benefits both these economies (which obtain valuable hard-currency revenues as well as experience in world markets) and Western nations (which obtain goods produced relatively more efficiently than they can be produced in the West). Open market access is therefore a positive-sum means of encouraging the reform process.

REGIONAL INITIATIVES

Some issues cannot be handled on a bilateral basis, and the Administration has been deeply engaged in a number of regional efforts. The most prominent of these has been the North American Free Trade Agreement, which will solidify the ongoing reforms in Mexico and help expand U.S.-Mexican trade.

The North American Free Trade Agreement

In November 1993 the Congress ratified the North American Free Trade Agreement, which went into effect on January 1, 1994. NAFTA creates a free-trade area of 370 million consumers and over $6.5 trillion of annual output, linking the United States to Canada and Mexico, our largest and third-largest trading partners. Building on the earlier United States–Canada Free-Trade Agreement, NAFTA will contribute to productive efficiency, enhance the ability of North American producers to compete globally, and raise the standard of living of all three countries. By improving the investment climate in North America, and by providing innovative companies with a larger market, NAFTA will also increase economic growth.

NAFTA will help reinforce the market reforms already under way in Mexico (Box 6–3). Mexico's reforms have raised its rate of economic growth, making it an increasingly important export market for the United States. A stable and prosperous Mexico is important to the United States for both economic and geopolitical reasons. The United States shares a border roughly 2,000 miles long with Mexico; and as economic opportunities in Mexico improve, Mexican workers will have fewer incentives to migrate to the United States. NAFTA will help forge a lasting relationship between the two countries, based on open trade and cooperation.

In addition to dismantling trade barriers in industrial goods, NAFTA includes agreements on services, investment, intellectual property rights, agriculture, and strengthening of trade rules. There are also side agreements on labor adjustment provisions, protection of the environment, and import surges.

Box 6–3.—Mexican Economic Reforms

Mexico is one of the outstanding economic success stories of the last decade. After the debt crisis of 1982, the Mexican government began a broad program of economic reform, which has continued through the early 1990s. Fiscal policy changes, which moved the primary budget (that is, excluding interest payments) from a deficit of about 7 percent of GDP in 1982 to a sustained surplus, were the first step. More-fundamental reform began in December 1987 when the Mexican government implemented a concerted program that combined macroeconomic stabilization with microeconomic liberalization.

Stabilization efforts in 1989–91 were pursued through a fiscal policy of tight spending controls and tax reform that broadened the tax base and lowered tax rates, while maintaining a roughly stable level of revenue. Monetary and exchange-rate policies were combined to reduce inflation while preventing large exchange-rate movements. Finally, incomes policies were used to reduce expectations of inflation and any inflationary inertia.

The microeconomic reforms were sweeping. More than 80 percent of the 1,155 public sector enterprises in existence in 1982 have already been privatized or liquidated. Privatization has enhanced microeconomic efficiency and reduced the fiscal demands imposed by badly run state-owned enterprises. In addition, Mexico joined GATT in 1986. Tariffs were cut sharply and many nontariff barriers to trade, such as quotas and import licenses, were removed. Finally, a renegotiation and restructuring of Mexico's external debt eased its debt burden and greatly reduced the uncertainty associated with debt service.

The results of these reforms have been impressive. Inflation fell from approximately 160 percent in 1987 to 12 percent in 1992. At the same time, real GDP growth rose from –3.8 percent in 1986 to 4.5 percent in 1990 before slowing somewhat to 2.6 percent in 1992. The recent passage of NAFTA should strengthen the reform effort in Mexico and make a positive contribution to its economic performance in the future.

NAFTA and Industrial Trade. As a result of NAFTA, existing duties on most goods from member countries either were eliminated on January 1, 1994, or will be phased out in 5 or 10 years (for certain sensitive items, up to 15 years). Among those industrial goods for which trade is now tariff-free are computers, medical equipment, agricultural equipment, internal combustion engines, and telephone switches, all of which previously faced tariffs of 10 per-

cent or more in the Mexican market. Approximately 65 percent of U.S. industrial and agricultural exports to Mexico will be eligible for duty-free treatment within 5 years. NAFTA will also eliminate quotas and import licenses that are not essential for such purposes as protecting human health.

NAFTA and Services Trade. NAFTA will allow U.S. service firms to provide their services directly from the United States on a nondiscriminatory basis, with any exceptions clearly spelled out. For investors, NAFTA assures nondiscriminatory treatment: Americans will generally be able to establish, acquire, and operate firms on the same basis as Mexicans in Mexico and Canadians in Canada. NAFTA also protects U.S. investors against restrictions on their repatriation of capital, profits, and royalties, and against expropriations without full compensation. Investors can seek monetary relief from an international arbitral panel for violation of their rights.

Virtually all types of inventions, including pharmaceuticals and agricultural chemicals, are protected under NAFTA provisions that require patents to be granted for both products and processes developed by firms in member countries. The agreement also protects copyrights for computer programs and databases, and rental rights for computer programs and sound recordings. Service marks and trade secrets are also covered, along with integrated circuit masks both directly and as components of other products.

NAFTA and Agricultural Trade. NAFTA will virtually eliminate barriers to trade in agricultural commodities between the United States and Mexico over a 15-year period. All restrictions on products representing about 50 percent of U.S.-Mexico agricultural trade were lifted as soon as the agreement took effect. Products such as frozen beef, strawberries, and cut flowers—all of which previously were subject to tariffs of 20 percent or more in the Mexican market—now trade tariff-free. For the remaining products, the phaseout will take between 5 and 15 years. The phaseout for most tariffs imposed by the United States will simply involve an annual reduction in the tariff rate.

In cases where the existing trade barrier is a nontariff barrier, such as an import license or quota, the phaseout process is more complicated. First, the license or quota will be replaced by a "tariff-rate quota," allowing a limited quantity of the good to be imported at a low (or zero) tariff rate, but charging a tariff for quantities above the limit. Second, the tariff-rate quota will be phased out gradually over a 10- to 15-year period by increasing the quantity limit and/or reducing the tariff rate applied to imports above the limit.

With respect to the other bilateral flows, U.S.-Canada trade liberalization will continue as specified under the earlier free-trade agreement, with tariffs on all agricultural goods eliminated by

1998, while nontariff barriers on a few products (poultry, eggs, dairy products, and sugar) are maintained. In a separate agreement under NAFTA, Mexico and Canada will eliminate tariffs on their bilateral trade (except for the four products listed above). All three countries agreed to work for the elimination of agricultural exports subsidies.

As a consequence of these changes under NAFTA, U.S.-Mexico agricultural trade is expected to grow significantly. U.S. corn growers, for example, can expect to export more corn to Mexico, while Mexican farmers can expect to export more fresh vegetables to the Untied States.

NAFTA-Plus: The Side Agreements. The Clinton Administration accepted NAFTA as negotiated by its predecessor, but argued that more was needed. The result was the negotiation of three innovative side agreements.

The North American Agreement on Labor Cooperation represents the first attempt to manage the terms of the potential change in labor markets brought about by an accord between the United States and a trading partner. The agreement involves such issues as restrictions on child labor, health and safety standards, and minimum wages. The supplemental labor agreement was developed around three fundamental principles: (1) enhanced collaboration, cooperation, and information exchange among the three countries; (2) increased efforts to make each country's labor laws and their implementation explicit and highly visible; and (3) increased use of effective mechanisms to encourage the enforcement of national labor laws. The agreement establishes procedural mechanisms for enforcement, including channels of public communication, exchanges of information, discussion of issues, and various levels of consultations. If a solution cannot be reached, the agreement provides for binding arbitration and assessment of penalties. In addition to signing the labor side agreement, the Mexican government has pledged to link increases in the Mexican minimum wage to productivity increases. Moreover, the United States has retained its right to use its domestic trade laws, such as Section 301 of the 1974 trade act, with respect to labor issues not covered under NAFTA.

The North American Agreement on Environmental Cooperation explicitly ensures our right to safeguard the environment. NAFTA maintains all existing U.S. health, safety, and environmental standards. It allows States and cities to enact even tougher standards, while providing mechanisms to encourage all parties to harmonize their standards upward. The environmental side agreement creates a new North American Commission on Environmental Cooperation, with a Council made up of the three countries' top environmental officials. The Commission will have a Secretariat with

a permanent staff. There is a "layered" enforcement mechanism to ensure that countries obey their own environmental laws. The mechanism starts with "sunshine" provisions that guarantee public participation in monitoring the enforcement of environmental laws. Trade sanctions are then provided for, if other avenues are not sufficient to resolve disputes. Besides the Commission, two new institutions will be established to fund and implement environmental infrastructure projects along the U.S.-Mexican border.

The side agreement on import surges creates an early warning mechanism to identify those sectors where explosive trade growth may do significant harm to domestic industry. The side agreement also establishes that, in the future, a working group can provide for revisions in the treaty text based on the experience with the existing safeguard mechanisms.

During the transition period, safeguard relief is available in the form of a temporary snapback to pre-NAFTA duties if an import surge threatens serious injury to a domestic industry. And, unless a NAFTA member's exports account for a substantial share of total imports and contribute significantly to the injury or its threat, these exports must be excluded from safeguard actions taken by other members against imports from all countries.

Other NAFTA Issues. NAFTA preserves the right of each member to retain its own contingent protection laws (such as antidumping and countervailing duty laws), but in reviewing determination under these laws, binational panels will replace domestic judicial review (as in the case of the United States–Canada Free-Trade Agreement). The panel will apply to domestic law of the importing country, and its decision is final. Either the importing or the exporting country may request a review of a panel's determination.

In other areas, such as intellectual property rights, dispute resolution is layered. First, a country may request consultations, and should these fail to resolve the dispute, it may call a meeting of the Trade Commission, which will include Ministers from each country. If the Commission is unable to resolve the dispute, it is submitted to an arbitral panel which issues a report. If the panel upholds the complaint, but the disputants are still unable to reach a resolution, the complaining country is authorized to suspend benefits as appropriate.

The North American Development Bank (NADBank) was created to address concerns about the environment and about worker dislocation. It will serve as a major lending institution to finance, coordinate, and implement environmental, infrastructure, and community development projects, both along the border and elsewhere, related to continuing North American integration. NADBank will be organized to invest specifically in the environmental, physical, and social infrastructure that will be needed to bring about an up-

ward convergence in environmental and social standards and practices between Mexico and the United States. In this way it will facilitate the adjustment of workers adversely impacted by NAFTA-related trade liberalization. The bank will be capitalized to provide $2 billion to $3 billion in loans and guarantees and will be able to leverage additional private and public funds, to generate an estimated total of $20 billion in project finance.

The Economic Impact of NAFTA. NAFTA may be the most thoroughly studied trade agreement in history. A review of the major studies of NAFTA's economic impact indicates a broad consensus on key points in the NAFTA debate: (1) All three NAFTA countries gain from the agreement. (2) In the United States, labor will gain from increased employment, increased wages, or both. (3) Increased investment in Mexico will not come at the expense of investment in the United States. The few studies reaching contrary conclusions have been strongly criticized by academic and other professional economists.

In a letter to the President, 286 academic economists, including 13 Nobel Prize winners, expressed their support for NAFTA, stating, "While we may not agree on the precise employment impact of NAFTA, we do concur that the agreement will be a net positive for the United States, both in terms of employment creation and overall economic growth." Nineteen out of twenty studies surveyed found that NAFTA would benefit the United States; the lone negative assessment was based on the unrealistic assumption that factories literally would be dismantled in the United States and moved to Mexico.

It has been estimated that the agreement will increase export employment in the United States by 200,000 jobs; on average Mexican export-related jobs pay wages 12 percent higher than the national average. Moreover, studies of NAFTA have found that gains would occur even among groups sometimes alleged to be adversely affected. For example, it was found that union workers will benefit from NAFTA because the growing sectors of U.S. exports to Mexico are disproportionately unionized. Likewise, African-American workers are more heavily concentrated in industries that export to Mexico than in Mexican import-competing sectors. As a result, African-Americans too may benefit disproportionately from the agreement. Finally, by contributing to the creation of more and better jobs in Mexico, NAFTA will discourage illegal immigration from Mexico to the United States.

In summary, NAFTA is an epochal agreement, and its passage was a triumph of facts over fear. It is the world's first free-trade agreement between industrial and developing countries. Its side agreements embody innovative ideas to deal with environmental and labor issues. The best available evidence shows that NAFTA

will create good, high-paying jobs for American workers. It will strengthen the ability of U.S. firms to compete in the global marketplace. It will help the Mexican and Canadian economies as well, providing a disincentive for illegal transborder migration and other illegal activities. The Administration's trade policy can be described as "export activism"—the United States will work actively to open foreign markets, and in return we will keep our market open. NAFTA is a key component of this activist strategy.

Asia-Pacific Economic Cooperation

The Asia-Pacific Economic Cooperation (APEC) was begun in 1989 to encourage economic cooperation among countries of the Pacific region. In the past quarter-century, the United States' APEC partners—Australia, Brunei, Canada, China, Hong Kong, Indonesia, Japan, Malaysia, Mexico, New Zealand, Papua New Guinea, the Philippines, the Republic of Korea, Singapore, Chinese Taipei (Taiwan), and Thailand—have increased their combined share of world income and trade by more than half (Box 6–4). These economies now account for more than half of all U.S. trade, or more than triple U.S. trade with the European Union. Even if Canada and Mexico are excluded from the calculation, U.S. trade with other APEC countries is 76 percent greater than our trade with the EU countries.

One consequence of this rapid growth is striking: as long as the Asian countries grow faster than the United States, they will become more important in our trade while we will become less important in theirs. Therefore past trade strategies based on threats of market closure are liable to become less and less effective.

This analysis suggests that, to achieve its trade policy goals in the region, the United States will increasingly have to act in concert with other countries rather than unilaterally. Thus it may be desirable to begin establishing the appropriate institutional infrastructure for cooperation now, and APEC is the leading candidate. The United States held the rotating chairmanship of APEC in 1993 and hosted the annual Ministerial meeting in Seattle in November, which was attended by economic policymakers from each of its members. The President elevated the importance of APEC by hosting the first-ever meeting of APEC leaders in Seattle.

At the APEC Ministerial meeting, a group of private individuals previously commissioned by the APEC Ministers to serve as an Eminent Persons Group presented its report. The report described the threats to trade and investment in the region and recommended ways to promote regional trade liberalization and cooperation. The Ministers indicated that those recommendations closely linked to ongoing work in APEC should be implemented promptly. These include recommendations to achieve a common set of investment principles, harmonize standards, and create a mecha-

Box 6–4.—The Asian "Miracle"

Per capita gross national product (GNP) in East Asia grew, on average, by over 5 percent per year between 1965 and 1990. During the same period, per capita GNP in the industrialized countries that make up the Organization for Economic Cooperation and Development (OECD) grew by less than 2.5 percent per year. What explains this relatively rapid growth in East Asia? A recent World Bank book argues that a major part of the explanation is that the average OECD member was much more technologically advanced than the average East Asian country in 1965. By adopting and adapting techniques from the industrial countries, the East Asian countries were able to increase both productivity levels and per capita GNP at a rapid pace.

This is undoubtedly true. But other countries that were poor in 1965 did not grow as fast as the successful East Asian nations. Why did East Asia experience faster growth? One key factor is almost certainly the macroeconomic environment: inflation and budget deficits were kept relatively low, and national currencies were kept from becoming overvalued. Macroeconomic policies encouraged, or at least did not discourage, high saving and investment rates as well as strong export growth. Governments also emphasized education. The focus was primarily on the quality of basic education, rather than on higher education. As a result of these policies, East Asian countries accumulated substantial physical and human capital, which spurred relatively rapid growth in GNP per capita.

The impact of other, more interventionist policies on growth in several East Asian countries remains a source of controversy. Some government interventions in the market may have improved economic performance, particularly when they were not excessively distortionary, were administered competently, were aimed at particular market imperfections, and were adapted to meet changing circumstances.

The Asian countries are expected to account for increasing shares of world income and trade. By 2000 it is likely that Asia will have surpassed North America and Europe as the world's largest economic zone. As its share of world income rises, so will its share of world trade—the Asian share of U.S. trade is projected to rise to 40 percent by the end of the decade.

nism for resolving trade and investment disputes. Other recommendations, relating to deepening and broadening the Uruguay Round of GATT, were singled out for additional study. The APEC leaders instructed the Eminent Persons Group to elaborate on their recommendations relating to longer term trade liberalization in a report to be presented to the leaders in 1994 in Indonesia.

MULTILATERAL INITIATIVES: THE URUGUAY ROUND

The most far-reaching of the Administration's market-opening efforts has been on a global scale: the Uruguay Round negotiations of GATT, whose 116 participating countries account for approximately 85 percent of world trade. GATT was created after World War II to reduce tariffs and remove nontariff barriers to international trade. In seven rounds of GATT-sponsored multilateral trade negotiations (the Uruguay Round is the eighth), the member countries have lowered tariffs and agreed on codes of conduct for nontariff barriers.

In the Uruguay Round negotiations, effectively completed on December 15, 1993, the United States and other GATT members agreed not only to lower tariffs on merchandise trade, but also to integrate into GATT certain areas of trade and investment that had not been subject to effective GATT discipline, including agriculture, textiles, trade in services, investment, and intellectual property rights. The Uruguay Round also made progress in reforming multilateral dispute settlement procedures and other multilateral trade rules, including those dealing with nontariff measures. The Congress is expected to ratify this agreement this year.

The stakes in the Uruguay Round negotiations were enormous. In the short run, failure to complete the Round would have significantly undermined business confidence around the globe and might have contributed to the erosion of the open trading system. In the long run, the successful completion of the Round will mean a major boost to the world economy. Preliminary studies suggest that the likely gains to the U.S. economy alone are more than $100 billion but less than $200 billion annually by 2005 (Box 6–5). These efficiency gains will manifest themselves in the form of more and better jobs for American workers.

The Round achieved major reductions in trade barriers facing industrial products. Key provisions of the market access agreement include the following:

- Tariffs imposed by major industrial countries are to be eliminated, and those of many developing countries either eliminated or sharply reduced, in the following areas: construction equipment, agricultural equipment, medical equipment, steel, beer, distilled spirits, pharmaceuticals, paper, toys, and furniture.

Box 6–5.—The Economic Impact of the Uruguay Round

Even before the Uruguay Round was completed, researchers were attempting to quantify its likely effects on the American economy. Studies based on existing formal economic models unanimously conclude that these effects will be beneficial. It is quite likely that new studies incorporating some of the Round's final accomplishments in such areas as intellectual property protection will yield even larger estimates of benefits.

The Uruguay Round will increase American output because the specialization encouraged by more-open markets will raise productivity. As foreign markets open, we will produce more of the goods that make use of the highly skilled, highly productive U.S. work force. Economic models offer a range of estimates of the output gain from greater specialization. A recent OECD study estimates those gains to be 0.4 percent of GDP for the United States. But this is almost certainly a gross underestimate of the impact of the Round, because it ignores a host of important factors, including gains from specialization *within* the manufacturing sector. Another study by World Bank and OECD economists estimates even smaller gains, but focuses on agriculture. Studies that more adequately capture gains from specialization suggest that the benefit to the U.S. economy is likely to be approximately 1 percent of GDP after the Uruguay Round tariff cuts are fully phased in.

Other important sources of benefit are not captured by the existing models, which do not quantify the impact of trade liberalization in services or enhanced protection of intellectual property rights. In addition, higher productivity will result in increased investment and innovation, providing an important additional benefit. These additional gains are difficult to quantify, but they are almost certainly sizable and may even exceed the more easily quantified gains. The total gain 10 years after implementation of the agreement begins is then likely to be more than $100 billion but less than $200 billion annually.

- Major U.S. trading partners agreed to deep tariff cuts, ranging from 50 to 100 percent, on important electronics items including semiconductors, computer parts, and semiconductor manufacturing equipment.
- Tariffs of industrial and major developing countries on chemical products are to be harmonized at very low rates (zero, 5.5, or 6.5 percent, according to product).
- The agreement significantly increased access to markets representing approximately 85 percent of world trade by reducing tariffs on certain specific items of key interest to U.S. export-

ers. Progress in textiles and apparel was particularly significant. For decades, international trade in textiles and apparel products has effectively been exempted from GATT rules. Instead, the Multi-Fiber Arrangement establishes a procedure for limiting textile and apparel exports from developing to industrial countries. Under the final Uruguay Round agreement, products covered by the Multi-Fiber Arrangement will be free of quotas after 10 years, and textiles will be integrated into general GATT rules. Tariffs will be reduced as well.

Throughout the Uruguay Round negotiations, one of the most contentious issues was agricultural trade liberalization. The final agreement on agriculture strengthens the long-term rules for agricultural trade and sharply limits national policies that distort that trade. U.S. agricultural exports will benefit significantly from reductions in foreign export subsidies and from market opening by our trading partners.

The United States was successful in its effort to obtain meaningful rules and explicit commitments to reduce export subsidies, cut domestic subsidies, and increase market access. Agricultural export subsidies and trade-distorting domestic farm subsidies are not only to be reduced, but for the first time will be subject to explicit multilateral disciplines. The United States also prevailed in establishing the principle of comprehensive tariffication, which will lead to the eventual removal of all import quotas and other nontariff import barriers. Nontariff barriers will first be replaced by tariffs, ensuring minimum or current access, and then these tariffs will gradually be reduced.

Progress in creating a more hospitable trading system for high-technology products was achieved on two fronts. First, the United States was able to win greater protection for intellectual property rights, such as patents, copyrights, and trademarks. This is very important for a diverse set of U.S. industries, including the electronics industry (where semiconductor masks will be protected), the pharmaceutical industry (patents), and the communications industry (protection of copyrights).

Second, the Uruguay Round agreement sets forth multilateral rules governing subsidies. Because of the beneficial social spillovers associated with research and development activities, government support cannot and should not be ruled out altogether. The challenge for the multilateral trading system is to find rules that permit governments to support innovations that benefit all nations while precluding rent-shifting subsidies designed to benefit one nation at the expense of others. The Uruguay Round agreement makes progress in this respect by establishing clearer rules and stronger disciplines in the subsidies area. It also makes nonactionable certain subsidies relating to basic research, regional

development, and environmental cleanup, provided they are subject to conditions designed to limit their distorting effects.

Negotiators were able to agree on comprehensive GATT rules governing trade and investment in services (the so-called General Agreement on Trade in Services, or GATS), such as telecommunications, professional, and financial services. The agreement contains a strong national-treatment provision: Member countries must accord to service suppliers of other countries treatment no less favorable than that accorded their own suppliers. GATS also includes a market access provision that incorporates disciplines on discriminatory measures that governments frequently impose to limit competition. These measures include restrictions on the number of firms allowed into the market, "economic need" tests, and mandatory local incorporation rules. Because of the breadth and complexity of these issues, not as much progress was made as was desirable. To realize additional progress, GATS establishes a procedural framework for further negotiation.

The Uruguay Round negotiations also yielded systematic prohibitions on trade-related investment measures. For example, the agreement prohibits so-called local content requirements, which force foreign firms to use a set amount of locally produced inputs as a condition for investment. It also prohibits "trade balancing" requirements, under which a foreign affiliate must export as much of its production as it imports for use as inputs. These requirements have bedeviled U.S. firms operating abroad in the past.

Lastly, the Uruguay Round agreement prohibits so-called voluntary export restraints and other, similar measures that are often used as safeguards outside GATT rules. It also provides specific time limits for the formation and operation of dispute settlement panels and requires the automatic adoption of panel reports (except in the case of unanimous veto). Previously, any country, including the country against which the complaint was lodged, could effectively block the implementation of a panel's decision. The new procedures will greatly expedite the resolution of international trade disputes. The members of GATT agreed to establish a new multilateral organization, to be called the World Trade Organization (WTO), to enforce these new agreements.

In summary, the U.S. negotiators in the Uruguay Round were successful in negotiating broad-ranging multilateral trade liberalization. This was accomplished by reducing existing barriers and bringing areas of trade that had been largely outside the GATT system, such as agriculture, textiles, intellectual property, and services, under the GATT rubric. At the same time, GATT procedures have been strengthened to ensure that signatories meet their obligations, without compromising our ability to implement our national trade or other laws (Box 6–6). The liberalization of global

trade resulting from these substantive and procedural achievements will raise real incomes in the United States by billions of dollars annually in the coming years.

Box 6–6.—The Uruguay Round and U.S. Trade Laws

The Uruguay Round final agreement contains a number of provisions that will enhance dispute resolution and facilitate better enforcement of U.S. rights. The agreement both moves GATT procedures closer to U.S. laws and complements U.S. laws for dealing with unfair foreign trade practices.

Section 301 of the Trade Act of 1974 provides the basis for actions to enforce U.S. rights under trade agreements and to respond to foreign practices that impede or restrict U.S. exports. When disputes arise in areas covered by GATT, Section 301 requires the United States to use GATT dispute resolution procedures before undertaking unilateral action. The Uruguay Round brings agriculture, textiles, and services under GATT rules for the first time and enhances the speed and effectiveness of GATT dispute resolution procedures. As a result, the United States can now use GATT to accomplish objectives that formerly required unilateral action. When disputes arise in areas outside the GATT framework, the United States can still use Section 301 to combat unfair foreign trade practices.

The Uruguay Round brings GATT closer to U.S. practices in other areas. For example, in dealing with food safety measures, the Uruguay Round agreement allows countries to choose their own levels of safety but requires that each country's standards have a scientific basis and not be used as disguised trade barriers. Because U.S. laws already have a scientific basis, it is unlikely that they will be susceptible to challenge. Other countries, however, have used food safety regulations in an arbitrary manner to block imports. The agreement adopts similar provisions for dealing with technical barriers to trade, such as so-called conformity assessment procedures (registration, inspection, and laboratory accreditation procedures, among others) used to evaluate conformance with technical regulations.

Antidumping is another area in which the post–Uruguay Round GATT will become more like U.S. trade laws. The United States has a transparent process for implementing its antidumping laws. The Uruguay Round agreement will make foreign antidumping actions more transparent, which should help U.S. exporters by improving the fairness of other countries' antidumping procedures.

THE TRADE POLICY AGENDA

By lowering tariffs and providing a framework for cooperation in international trade, GATT has contributed significantly to a more harmonious world trading regime. But new issues in trade policy are coming to the fore as the world economy evolves. Among the important new issues confronting GATT and the new WTO will be issues relating to trade and the environment, competition policies, and regionalism.

TRADE AND THE ENVIRONMENT

Trade and environmental issues have become intertwined in recent years. Some accuse GATT of being hostile to the environment, while others argue that some countries' environmental policies are thinly veiled protectionism. In reality, protectionism often contributes to environmental degradation by encouraging inappropriate patterns of production. An obvious example is agricultural protection, which stimulates agricultural production in poorly suited locations. Farmers in these areas overuse chemicals or exhaust scarce water resources to compensate for their natural disadvantages, thereby contributing to environmental degradation. Freer trade would encourage more-appropriate patterns of production and improve the environment even as it increased living standards.

Standard economic analysis suggests offsetting government action when prices fail to reflect environmental costs (Chapter 5). But trade restraints are rarely the best solution to environmental problems. If the environmental problem is limited to one country, domestic policies, not trade protection, should be employed. If pollution or other environmental problems spill across borders, international rules and cooperation will be necessary. But here again trade protection will seldom be the most effective remedy.

Sometimes trade sanctions are used (or threatened) as a way to enforce environmental agreements. For example, the 1987 Montreal Protocol, which seeks to reverse the depletion of the upper-atmosphere ozone layer caused by the release of chlorofluorocarbons and other chemicals, requires trade actions against countries that do not abide by the environmental standards in the agreement. A second example is the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), which aims to protect endangered species of wildlife by restricting and monitoring their trade.

During 1993, the possibility of using trade sanctions for environmental purposes was raised, pursuant to a recommendation of CITES, in the case of trade by China and Taiwan in rhinoceros and tiger parts, and in regard to Norwegian whaling practices under the Pelly Amendment to enforce the International Whaling Con-

vention moratorium on whaling. In both cases, however, sanctions were deferred.

The founders of GATT could not have foreseen the present importance of environmental problems. Some headway in harmonizing trade and environmental concerns has already been made in the environmental side agreement to NAFTA. And the preamble to the agreement establishing the WTO recognizes the importance of environmental concerns. The WTO negotiators have also agreed to develop a work program on trade and the environment to ensure the responsiveness of the multilateral trading system to environmental objectives.

INTERNATIONAL TRADE AND COMPETITION POLICY

As tariff and nontariff barriers to trade fall and as national economies become more integrated into the world trading system, differences in national business practices and laws become more important determinants of trade outcomes. Currently there are no multilateral rules to redress possibly restrictive practices in the way companies compete—such as price fixing, price discrimination, and the preferential supplier and distributor relationships characteristic of Japan's *keiretsu*. Many nations, including the United States, rely on antitrust laws to prevent anticompetitive business practices by domestic firms in their domestic market.

National antidumping laws are the most commonly used remedy in such circumstances. But unlike domestic antitrust laws, which generally increase competition and lower prices, national antidumping laws sometimes reduce competition and raise prices. Both in the United States and elsewhere, antidumping laws go beyond preventing anticompetitive practices—which *should* be their rationale—and often have the effect of protecting domestic industries from foreign competition. For example, a recent study found that, during the Reagan Administration, nontariff barriers including antidumping actions probably reduced U.S. manufactured imports by around a fifth—largely by discouraging foreign producers from entering the U.S. market or by discouraging those that do export here from lowering their prices.

If sound competition policies were present and effectively enforced in more nations, and if such laws were more easily enforceable against foreign misconduct, they could serve as the first line of defense against restrictive business practices by both domestic and foreign firms. The United States is currently pursuing this goal through such bilateral mechanisms as antitrust cooperation agreements.

Here NAFTA is a step in the right direction. The agreement commits its signatories to cooperate in the area of competition law enforcement, and imposes discipline on certain government-des-

ignated monopolies. It also establishes a trilateral committee to consider the relationship between trade and competition policy in the NAFTA countries. Some other free-trade areas have gone further. For example, in the European Union and the Australia-New Zealand Free Trade Area, antidumping laws do not apply to trade among member countries, since this is considered internal trade, subject to organization-wide competition policies.

Until there is greater convergence and international cooperation in the enforcement of antitrust laws against cross-border conduct, international disputes over unfair pricing between corporations of different national origins will often continue to play out in one of two ways: through the application of national competition laws, with the continuing difficulties associated with their international enforcement, or through the application of overly restrictive national trade laws. As part of the Uruguay Round, the WTO Council for Trade in Goods will consider provisions on investment policy and competition policy in the future. The OECD is also pursuing a work program in this area.

REGIONALISM

Although there may be significant benefits to trade liberalization on a regional basis, some nonmember countries could be hurt through trade and investment diversion, as trade and investment are preferentially shifted from them to the member countries. One way to mitigate these concerns is for members of a free-trade area to move toward a customs union whose common external tariff would match the lowest tariff within the region prior to the formation of the customs union. Another possibility would be to open regional arrangements to new members. It has also been suggested that GATT rules be amended to allow compensation for nonmembers hurt by regional liberalization agreements. These and other proposals to deal with regional free-trade associations may need to be discussed in GATT in order to preserve the benefits of regional trade liberalization while addressing the concerns of outsiders.

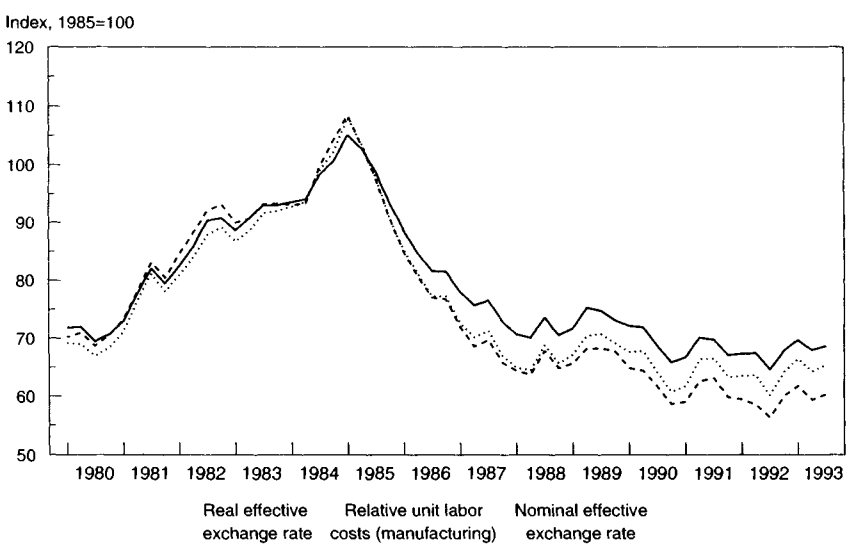
FOREIGN EXCHANGE MARKET DEVELOPMENTS

The international value of the dollar, as measured by its trade-weighted average exchange rate, rose by an astonishing 50 percent between the end of 1980 and early 1985. By mid-1988, however, the dollar had returned to its 1980 level, and since then it has continued on a slight downward trend, with much narrower fluctuations than earlier in the 1980s. The large appreciation and subsequent depreciation of the dollar had a marked impact on the com-

petitive position of U.S. firms. Had they been offset by differences between the inflation rates of the United States and its trading partners, these large swings in the value of the dollar would have had no impact on our competitiveness. Inflation differentials, however, were much smaller than the exchange-rate swings. As a result, the dollar appreciated and then depreciated in both real and nominal terms by roughly equal amounts.

Chart 6–3 shows indexes of the value of the dollar relative to the currencies of our major trading partners. In addition to the nominal effective exchange rate, which does not adjust for inflation differences, the chart shows two measures of the real effective exchange rate: one in which relative consumer prices are used for the inflation adjustment, and one in which relative unit labor costs are used. The chart clearly demonstrates the high correlation between nominal and real exchange-rate movements since 1980. In addition, the chart shows that relative unit labor costs in manufacturing have declined sharply since their 1985 peak. Partly as a result, U.S. manufacturing firms have become extremely competitive in world markets.

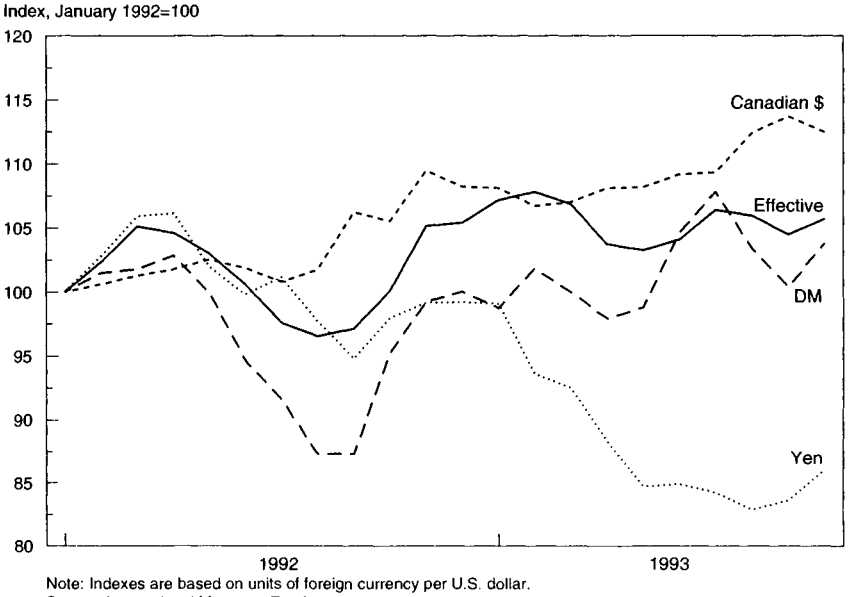
Chart 6-3 **Nominal and Real Effective Dollar Exchange Rates**
The value of the dollar has been more stable in the 1990s than during the 1980s.



Note: Indexes are based on units of foreign currency per U.S. dollar. A decline in any of the indexes indicates falling relative costs and increasing competitiveness.
Source: International Monetary Fund.

The dollar ended 1993 roughly where it began. After rising sharply in the second half of 1992, it varied in a narrow range in 1993 (Chart 6–4). The relatively small movements in the dollar's effective exchange rate masked considerable changes in the value of the dollar relative to individual currencies, however. The U.S. dollar rose relative to the Canadian dollar and most continental European currencies but declined sharply relative to the yen.

Chart 6-4 **Exchange Rates of the Dollar Against Selected Currencies**
The dollar strengthened against the Canadian and German currencies after mid-1992 but weakened against the yen.



Note: Indexes are based on units of foreign currency per U.S. dollar.
Source: International Monetary Fund.

The appreciation of the dollar relative to the European currencies occurred despite low short-term and falling (until November) long-term interest rates in the United States. Since low and falling interest rates are frequently associated with currency *de*preciations, this may at first appear puzzling. The decline in European interest rates during 1993 explains the apparent puzzle.

The stability of the dollar and the cyclical behavior of the Japanese and European economies are important in understanding the likely impact of the President's deficit reduction package on the U.S. current account. As Chapter 2 points out, deficit reduction is generally associated with an increase in net exports. This expansion in net exports provides a stimulus that partially offsets the impact of spending cuts and tax increases on domestic demand.

The weakness in the economies of our major trading partners has, on the other hand, reduced demand for U.S. exports. Some of the boost to export demand that can be expected to result from the deficit reduction package may therefore be delayed until economic activity picks up in Europe and Japan. But by 1995 export demand should begin to rise.

THE EUROPEAN MONETARY SYSTEM

The European Monetary System (EMS) was created in March 1979 to limit exchange-rate variability among the European currencies (Box 6–7). A majority of countries in the EMS agreed to participate in the system's Exchange Rate Mechanism (ERM), under which most member countries were required to maintain their exchange rates within 2.25 percent of "central rates" between their currency and each of the other members' currencies. When an exchange rate between two members' currencies moves to the limits of the band, both central banks are required to intervene to prevent the exchange rate from moving outside the band. In the event of irresistible pressure on a member country's exchange rate, realignments of the country's central rate are permitted.

Inflation in most European economies declined by the mid-1980s, moving toward the rates of Germany and the Netherlands. Countries concentrated on maintaining their parities with respect to the deutsche mark, since Germany had for historical reasons established an unwavering commitment to price stability. Increasingly, then, the deutsche mark became the monetary anchor for the EMS. By linking their monetary policies to German policy, other ERM members brought their inflation rates down. French inflation, for example, declined from over 10 percent at the start of the 1980s to under 3 percent in 1992.

To some observers, the disinflation achieved within the EMS highlights an important rationale for pegging exchange rates. An alternative view holds that disinflation was not simply a product of the EMS but was worldwide in scope. During the 1980s, for example, inflation also declined in the United Kingdom, which did not join the ERM until 1990, and in the United States and Canada. So perhaps the relative stability of EMS parities in recent years was as much the result as the cause of a convergence in inflation rates.

Realignments took place relatively frequently in the first years of the EMS but not thereafter. Between 1979 and 1987 there were 11 realignments; these tended to be small as well as frequent and thereby occurred without major crises. After January 1987, essentially no realignments took place until September 1992.

Box 6–7.—Exchange-Rate Volatility and International Trade

Proponents of the ERM argue that stabilizing exchange rates is important for expanding trade. Exchange-rate volatility, they argue, is a source of uncertainty to firms engaging in trade because it adds volatility to the domestic currency value of future foreign currency transactions. Firms therefore face greater uncertainty in revenues and profits from foreign sales when exchange rates are more volatile. This added uncertainty, it is claimed, discourages firms from engaging in trade and from making the investments that support trade.

Such claims seem plausible, but they enjoy little empirical support. The volume of U.S. trade did grow slightly faster between 1950 and 1971, when the dollar was fixed, than between 1973 and 1993, when the dollar floated. Relative to GDP, however, trade volumes grew more quickly in the second period. In addition, studies that have examined the extent to which greater exchange-rate volatility inhibits trade flows have generally failed to find a robust relationship. One possible explanation is that financial markets provide firms with risk management tools that can be used to hedge exchange-rate movements. For example, a firm can buy currencies forward to fix the domestic currency value of future payments. Whatever the explanation, it is difficult to find empirical support for an adverse impact of exchange-rate volatility on trade volumes.

THE EUROPEAN CURRENCIES IN TURMOIL

The EMS has experienced a series of crises since the summer of 1992. Germany adopted tight monetary policies in response to inflationary pressures that arose following German reunification in 1990. As a result, German short-term interest rates, which had been rising since 1988, continued to rise, reaching nearly 10 percent by the summer of 1992.

German policy, in turn, created a dilemma for other ERM participants. Maintaining fixed parities with the deutsche mark required them to tighten monetary policy despite stagnating or declining output, rising unemployment, and low rates of inflation.

When investors are free to choose among assets denominated in different currencies, the rates of return they expect to receive for comparable degrees of risk cannot vary too far from one currency to another. Expected exchange-rate changes are important in determining expected rates of return on assets denominated in different currencies. If, for example, investors expect the French franc to depreciate relative to the deutsche mark, they will move funds from French franc deposits into deutsche mark deposits unless they are

compensated by a higher franc interest rate. Thus interest rates on franc-denominated assets would have to rise above the interest rate on deutsche mark assets to prevent sustained flows of capital out of franc assets and into deutsche mark assets.

Speculative pressures motivated by the possibility of a change in parities precipitated a crisis in September 1992. In the United Kingdom, where output had declined by more than 4 percent from its previous peak and the unemployment rate had topped 10 percent, pressure increased to realign or to drop out of the EMS so that interest rates could be lowered. Finland and Sweden, although not formal participants in the ERM, had been unilaterally maintaining pegged exchange rates, and so faced similar dilemmas as their economies went through deep and prolonged recessions. In September 1992, Finland, the United Kingdom, and Italy decided to allow their currencies to float, with the last two effectively leaving the ERM. Sweden followed in November. Spain, Portugal, and Ireland all devalued within the ERM between September 1992 and January 1993.

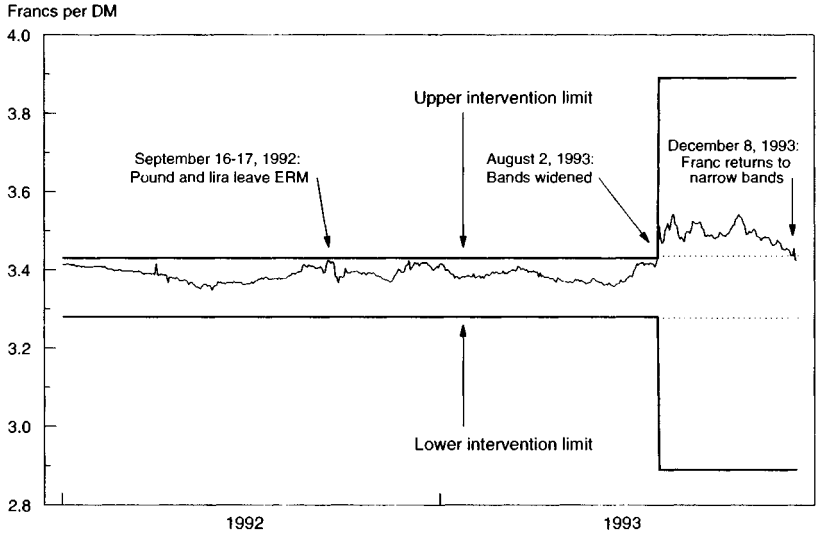
A second crisis erupted in mid-July 1993, following additional signs of growing slack in the European economies. Massive speculative capital flows occurred. Belgium, Denmark, France, and Portugal all raised interest rates and intervened heavily to defend their currencies. Nonetheless, the Belgian franc, the French franc, and the Danish krone dropped through their ERM floors. Selling pressures on these currencies continued, and on August 2, 1993, the countries participating in the ERM decided to widen the bands around the (unchanged) central parities to ±15 percent (Chart 6–5). (A separate agreement maintains bands of ±2.25 percent for the deutsche mark and the Dutch guilder.) Since all currencies were well within the wider bands, central banks were not obliged to intervene and the speculative crisis stopped.

The wider bands allow the participating countries much greater latitude to change interest rates independently. For the most part, however, the authorities have not used this ability to push interest rates down. Instead, they have sought to maintain relatively stable exchange rates with the deutsche mark and have cut interest rates only in parallel with Germany. By the end of 1993 the Belgian, Danish, French, Portuguese, and Spanish currencies were within or near the old ERM limits relative to the deutsche mark. The United Kingdom aggressively cut interest rates after leaving the ERM in September 1992.

THE MAASTRICHT TREATY ON ECONOMIC AND MONETARY UNION

In the Maastricht Treaty of 1991, the members of the European Community agreed to replace the EMS with an Economic and Mon-

Chart 6-5 **French Franc-Deutsche Mark Exchange Rates**
Last summer's exchange-rate crisis precipitated a widening of the Exchange Rate Mechanism's intervention bands.



Note: The Exchange Rate Mechanism prescribes intervention bands for participating members of the European Monetary System.
Sources: Council of Economic Advisers and Board of Governors of the Federal Reserve System.

etary Union (EMU), a common currency, and a European Central Bank overseeing a single monetary policy. Under the treaty, progress toward EMU would take place in stages, with the final stage—under which exchange rates are fixed irrevocably—coming no later than 1999.

The treaty establishes conditions for implementing a common currency and monetary policy (Box 6–8). As of late 1993, no country in the European Union met these conditions. With reunification swelling its public sector deficit, even Germany failed to meet the criteria.

The process of ratifying the Maastricht Treaty was completed in 1993, although the timing of full implementation will depend in part on the achievement of the agreed conditions. In May 1993, Danish voters reversed the outcome of the previous year's referendum and accepted the treaty. The British House of Commons then approved the treaty in July. The final steps in the ratification process were completed when court challenges to the treaty failed in July in the United Kingdom and in October in Germany. The Maastricht Treaty entered into force on November 1, 1993, creating the European Union.

Box 6–8.—Criteria for Joining the Economic and Monetary Union

Countries acceding to EMU must meet several strict criteria:

- The entering country's inflation rate must not exceed the average of the lowest three members' rates by more than 1.5 percentage points.
- Its interest rate on long-term government bonds cannot exceed those of the three lowest-inflation members by more than 2 percentage points.
- The country's general-government budget deficit must not exceed 3 percent of GDP, and outstanding government debt must not exceed 60 percent of GDP.
- For at least 2 years, the country's currency must have remained within its narrow ERM band without realignment.

Shortly after completing the ratification process, the EU countries selected Frankfurt as the home of the new European Monetary Institute, the forerunner of the European Central Bank. Despite their failure to complete the first stage (bringing all countries within narrow ERM bands), the EU countries are proceeding with the timetable set out in the Maastricht Treaty.

CONCLUSIONS

The year 1993 proved to be the most important year for American trade policy in half a century, thanks to developments that vastly increased the prospects for free and open trade.

During the past year, the Administration completed two landmark negotiations. The first created a North American Free Trade Area encompassing the United States, Canada, and Mexico. In many respects this agreement is historically unprecedented: It is the first free-trade agreement between industrialized and developing countries; it is the first trade agreement to incorporate environmental provisions explicitly; and it contains technical innovations in areas such as dispute settlement that may become models for the global trade regime.

The Administration did not stop there, however. It also led a successful conclusion of the Uruguay Round of GATT, the most far-reaching global trade agreement in history. This agreement will reduce trade barriers, protect the legitimate interests of U.S. producers in areas such as intellectual property rights where none existed before, and bring areas of trade such as agriculture and textiles into the multilateral system for the first time.

Besides bringing these endeavors to fruition, the Administration launched several new trade initiatives and breathed new life into some old ones. The Administration made major progress in establishing APEC as a prominent forum for advancing our interests in the critical Asia-Pacific region. In addition, the United States reached a new bilateral agreement with Japan. Complementing the new international initiatives, the Administration also launched a new National Export Strategy to promote American exports.

This Administration understands that expanding trade relations are not only inevitable but critical to the future health of the U.S. economy. It is determined to ensure that the growing interdependence with our trading partners brings benefits to the United States. To this end the United States Government is committed to act unilaterally, bilaterally, regionally, plurilaterally, and globally to open markets to maintain the ability of U.S. firms to compete around the world. Through increasing integration into the global economy, we can achieve ever-rising living standards for all of our people.