

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.

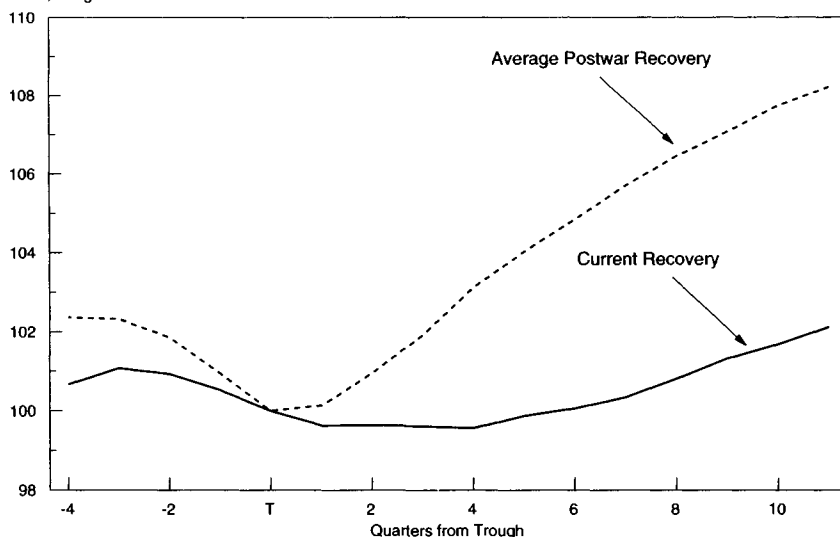
THE END OF THE COLD WAR

The end of the cold war was a major geopolitical event for the United States, and the ensuing defense build-down 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.

Index, trough=100



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.

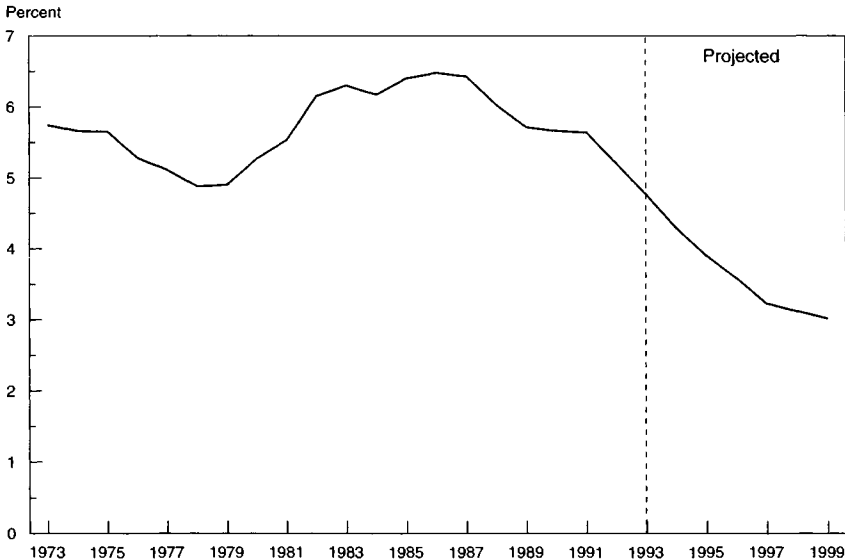
the whole defense sector. For example, total defense-related jobs are projected to number 4.5 million by 1997, down from 7.2 million jobs in 1987. In a purely arithmetical sense, reduced defense spending subtracted roughly 0.5 percentage point off the real GDP growth rate in 1993. Moreover, the defense 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.

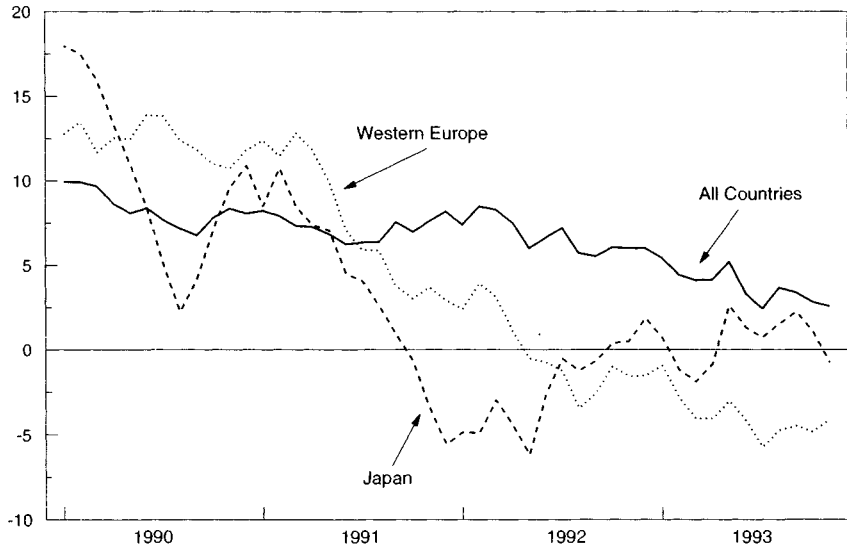
THE DEBT WORKOUT

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.

Percent change from year earlier, 6-month moving average

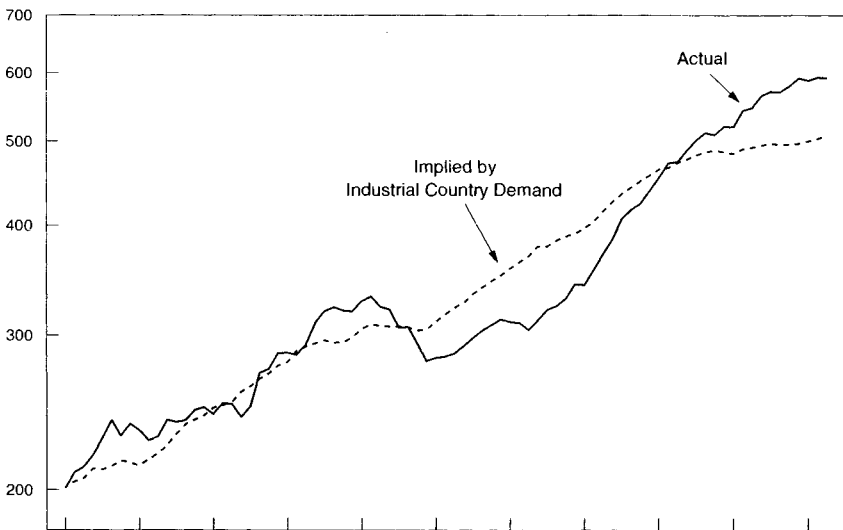


Note: Data are not seasonally adjusted, f.a.s. basis.
Source: Department of Commerce.

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.

Billions of 1987 dollars (ratio scale)



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.

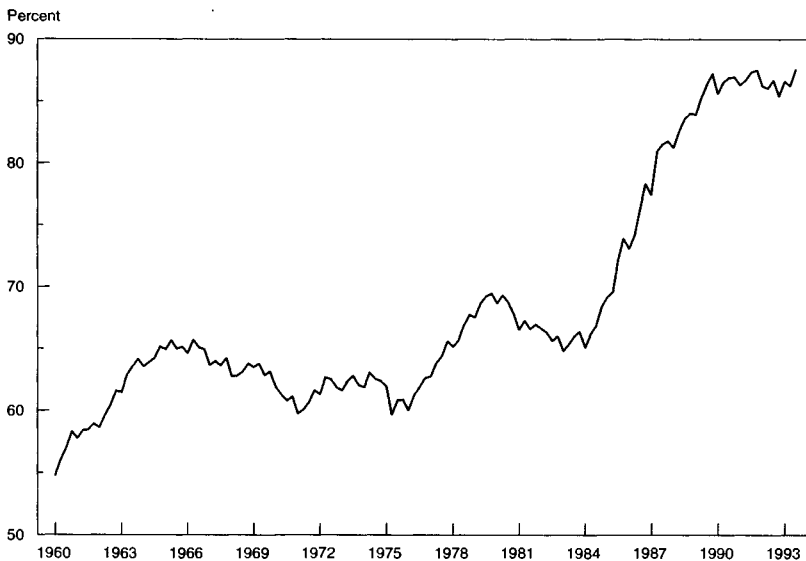
Of course, the causality could be reversed. Indebted households and firms might have decided for reasons other than those based on the state of their balance sheets (e.g., reduced expectations of income or profitability of investment projects) to reduce expenditures, using their free cash flow to repay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

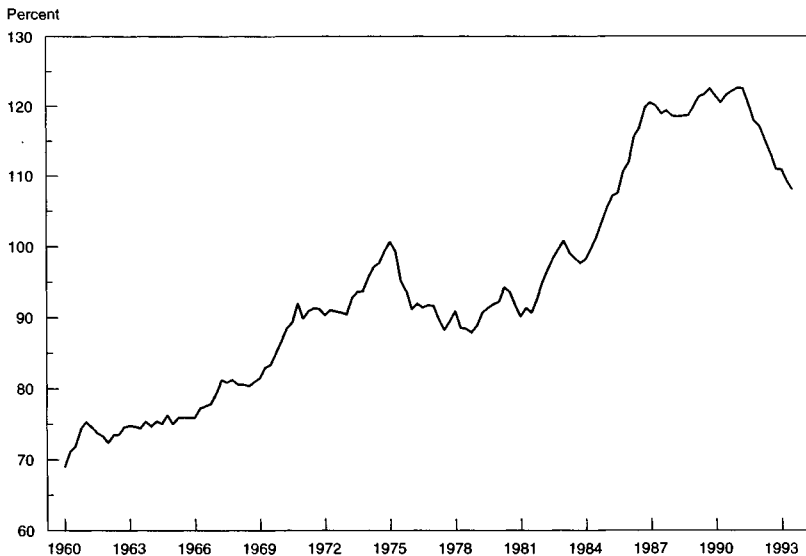
The reversal of the 1981 tax provisions by the 1986 tax reforms, together with higher interest rates in the late 1980s, derailed the boom in commercial real estate. The decline in this sector was further exacerbated by the movement of the rest of the economy into

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 let-down 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 work-week 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-

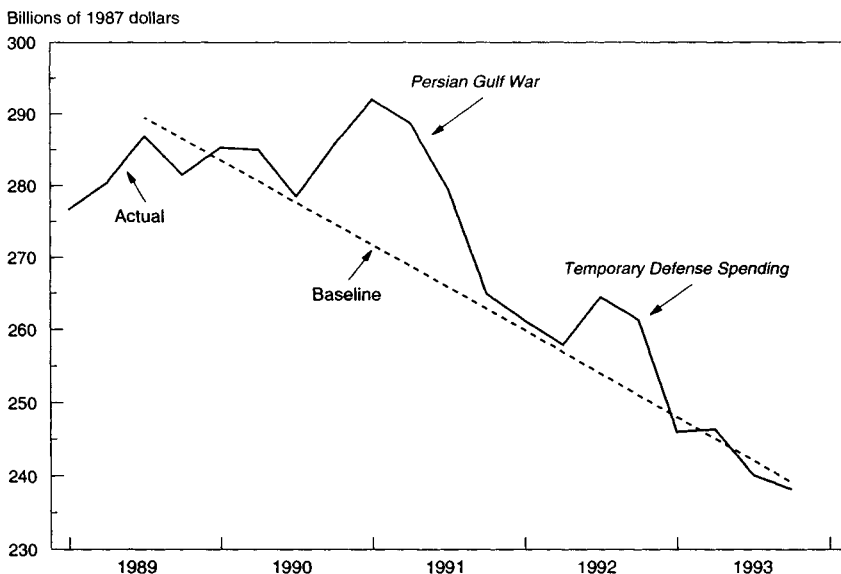
ments with the Internal Revenue Service (IRS). The Council estimates that these two factors added 0.2 percent to the level of GDP in the second quarter of 1992 and 0.4 percent in the third and fourth quarters. These gains were temporary, however. GDP growth was 0.3 percent lower in the first quarter 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.

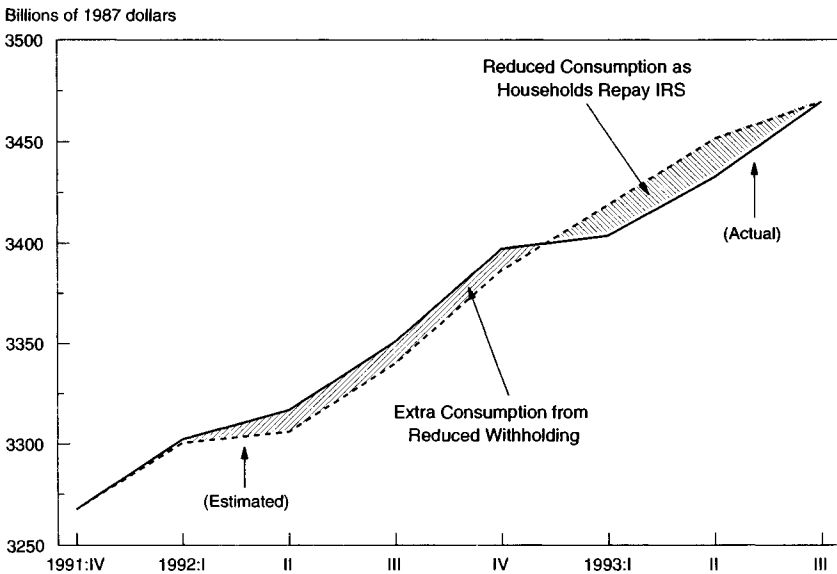


Note: Baseline is trend in spending from 1989:III to 1993:IV, excluding 1990:IV-1991:III and 1992:III-IV.
Sources: Council of Economic Advisers and Department of Commerce.

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.

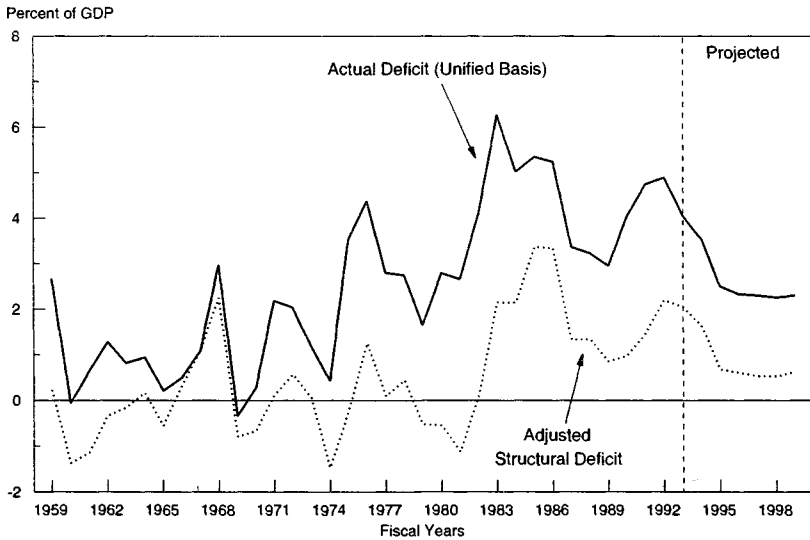
THE FEDERAL GOVERNMENT'S FISCAL STANCE

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.

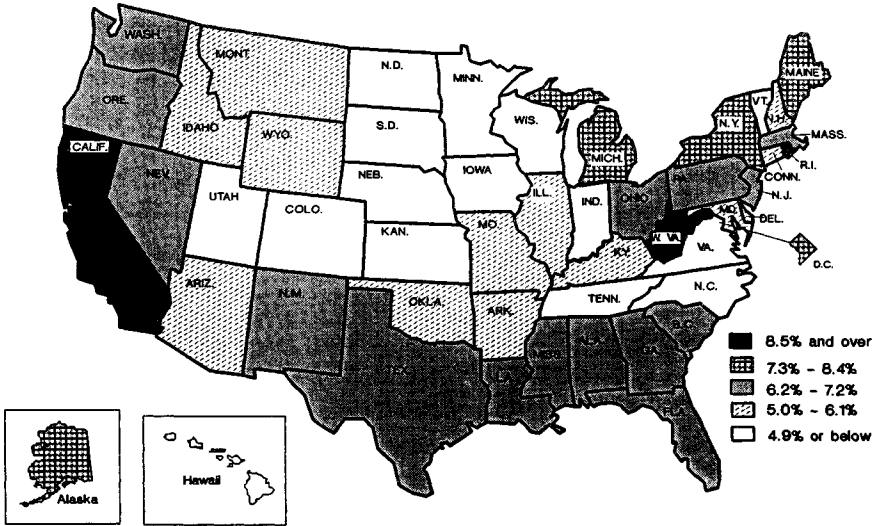
INDUSTRIAL AND REGIONAL DISPARITIES

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—airspace, 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 build-down 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

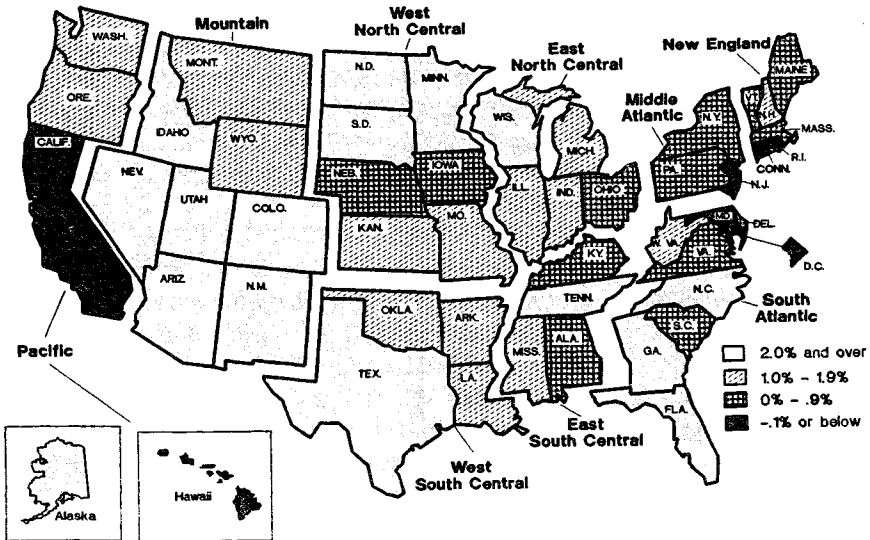
The national unemployment rate masks substantial regional differences. California is the only large state with an unemployment rate above 8 1/2 percent.



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.

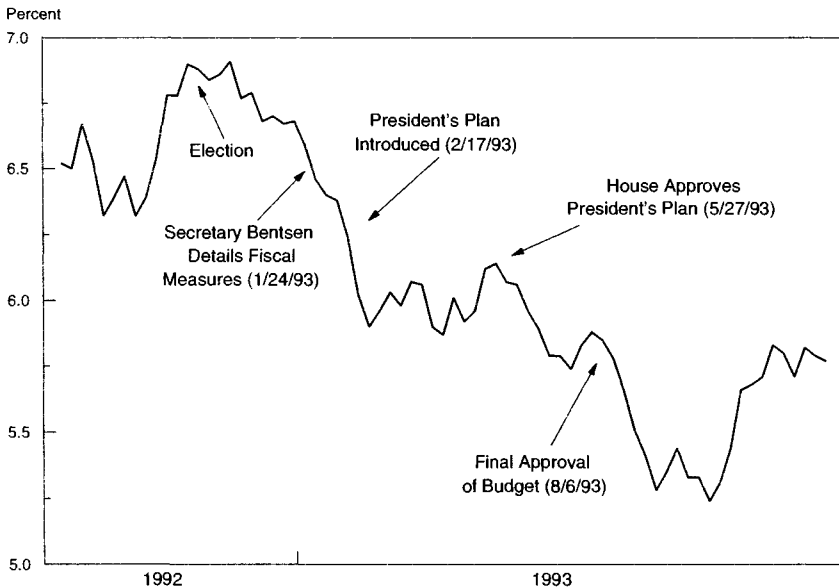
The President's economic plan reoriented fiscal policy from consumption toward investment, both by reducing the size of projected budget deficits and by changing the composition of Federal spending from current expenditures to investment. The reduction in future Federal borrowing was well received by 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.

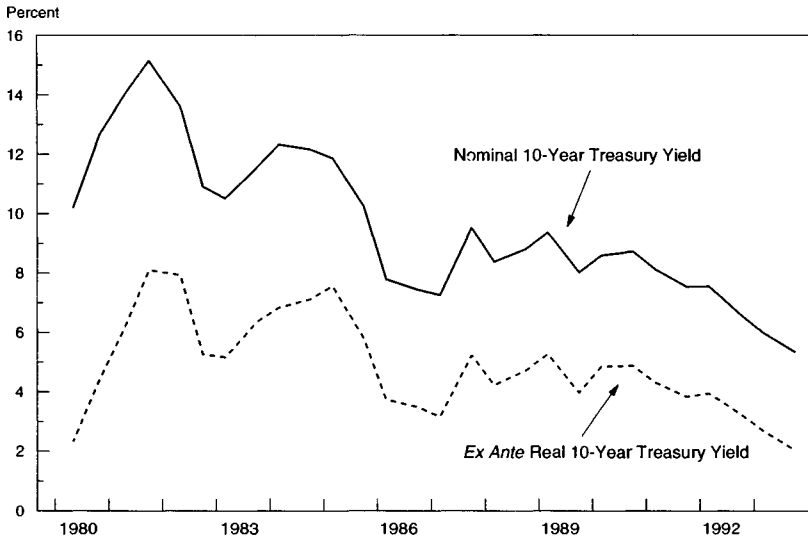
The sharp decline in long-term interest rates in 1993 continued the downward trend that began in the early 1980s. Interest rates, both short- and long-term, had reached historic highs in the late 1970s and early 1980s, during the period of very high inflation and the subsequent period of very tight money. 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

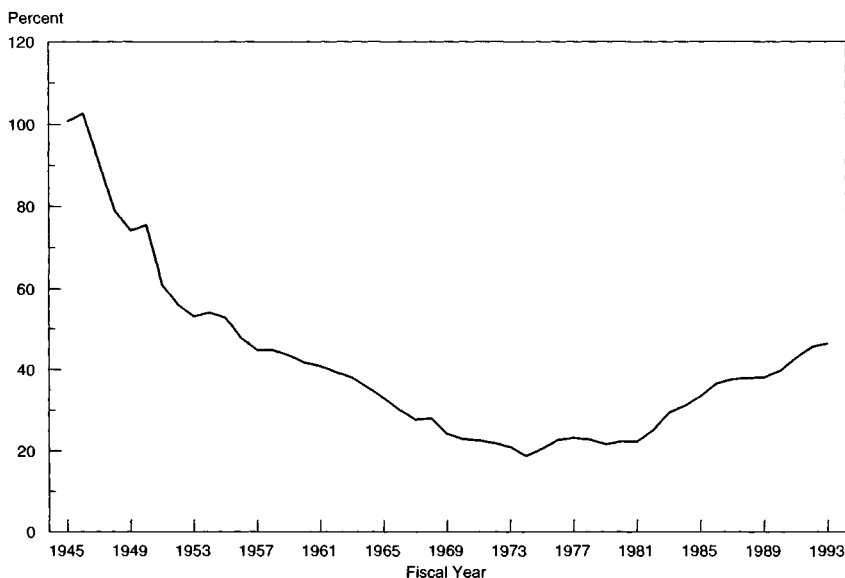
The previous section discussed the circumstantial evidence linking Federal deficit reduction to the decline in real long-term interest rates. Over the 1980s, which saw a growing and potentially explosive Federal debt, real long-term rates were unprecedentedly high. Over the last 15 months there have 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 $1\frac{3}{4}$ 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 dis-saving. 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.)

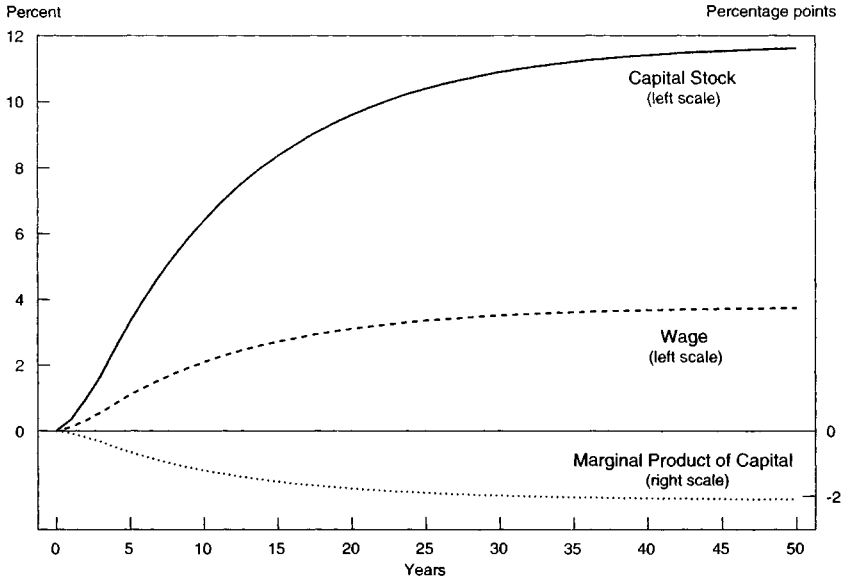
LONG-TERM EFFECTS OF DEFICIT REDUCTION

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 $3\frac{3}{4}$ 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 $2\frac{1}{2}$ 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.

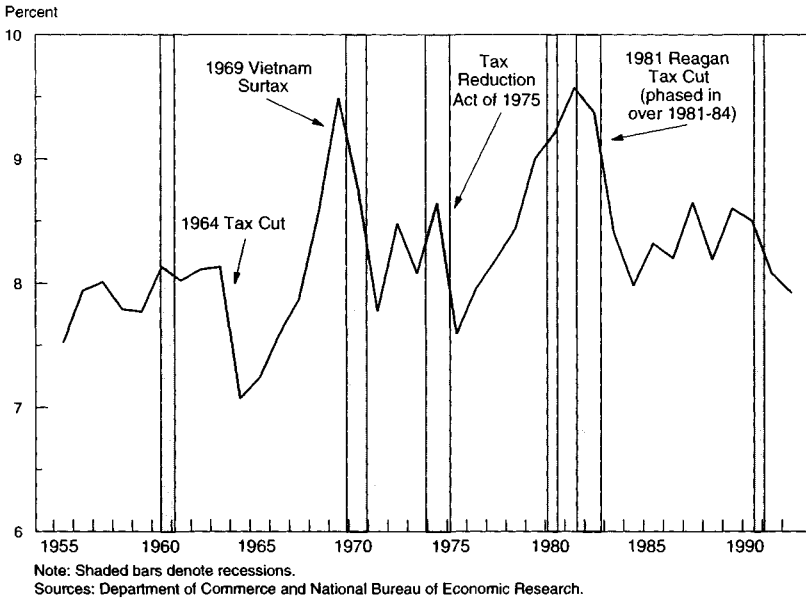
History can serve as a guide to determining whether these offsetting effects of a change in tax rates are strong enough to have a significant impact on revenues. For the United States, contrary to the supply-siders' claims, income tax cuts have generally *reduced* income tax revenues and tax increases 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.



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 employ- ment (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-

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 em- ployment	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.