

## CHAPTER 2

# Macroeconomic Policy and Performance

MACROECONOMIC PERFORMANCE over the past 5 years has been excellent, and the record in 1997 was truly remarkable. In general, the behavior of the economy last year bore out the analysis of macroeconomic conditions presented in last year's *Economic Report of the President*, which was confident that the economy would continue to grow without rising inflation. What was not anticipated fully at that time, however, was how rapidly the economy would grow or how strong the pace of job creation would be—or that inflation would actually *decline*.

Last year the Administration forecast 2-percent growth during 1997 with an average unemployment rate of 5.3 percent. This forecast was not meant as an assessment of the best the economy could do. Rather, it represented a conservative and credible set of economic assumptions to be used for forecasting Federal revenues, outlays, and deficits in the preparation of the budget. Last year's *Report* recognized that the actual outcome could be even better. And it was, with growth at nearly 4 percent and the unemployment rate averaging only 4.9 percent. More jobs were created in 1997 than in either of the 2 previous years. Yet inflation remained subdued, with the consumer price index (CPI) rising just 1.7 percent during the year.

This chapter's analysis of macroeconomic policy and performance concludes that the economy should continue to grow with low inflation in 1998. The chapter begins with a review of macroeconomic performance and policy in 1997, to show in some detail where the year's growth came from and how inflation remained so tame. The second section examines the important question of whether our understanding of inflation and our ability to predict it have changed in significant ways. This question is part of a broader inquiry into whether the economy has changed in such fundamental ways that standard analyses of how fast it can grow without inflation need to be replaced with a new view. The conclusion reached here is that no sea change has occurred that would justify ignoring the threat of inflation when the labor market is as tight as it is now; however, the unemployment rate at which rising inflation becomes a serious threat appears to be lower than it was in the 1980s, and the rate of growth of potential output may be higher.

Prudence dictates keeping a wary eye on inflationary pressures, but, as discussed in Chapter 1, the economy remains remarkably free of the kinds of imbalances that often appear at the end of expansions. For example, the analysis in the third section of this chapter indicates that the financial condition of households remains fundamentally sound, even though they took on considerable debt in 1997. Two cautionary notes are introduced. First, the rise in the stock market over the first 7 months of 1997 put price-earnings ratios and other measures of stock market valuation near historical highs. Second, households are continuing to consume a very high proportion of their disposable income and are saving little. The implications of this low saving rate for long-term growth are explored in the fourth section of the chapter, which also assesses the positive contribution of deficit reduction. The chapter concludes with the Administration's forecast and outlook.

## OVERVIEW OF 1997: A BURST OF GROWTH

Economic growth exceeded expectations in 1997, and the unemployment rate declined to a 24-year low. Households and firms both increased their spending at robust rates as continued low inflation, low unemployment, declining costs of business equipment, and lower long-term interest rates contributed to a favorable economic environment for both consumers and producers. Federal Government purchases of goods and services declined in real terms, and purchases by State and local governments increased only modestly. Net exports continued to be a restraining influence on growth.

Strong investment in new productive capacity in the past few years has helped the economy accommodate higher spending without rising inflation. But inflation has also been held in check by several other favorable developments that have kept prices from accelerating even as wage growth has picked up. Chief among these have been the rise in the value of the dollar on foreign exchange markets (which makes imports cheaper), unusually steep declines in prices for computers, and continued moderation in employer costs of health insurance.

Late in 1996 the economy was already operating near the consensus estimate of its noninflationary potential. Continued robust economic growth in the latter part of 1996 and early 1997 promised to increase resource utilization rates even further, raising concerns that inflationary pressures would build, and the Federal Reserve raised short-term interest rates in March. With inflation low and stable—and in light of the turmoil in Asian financial markets that began to emerge in mid-1997—the Federal Reserve made no further interest rate moves.

## AGGREGATE SPENDING IN 1997

An accounting of the sectoral contributions to growth in 1997 shows that increases in private domestic spending for consumption and investment combined exceeded growth in gross domestic product (GDP; Table 2-1). Modest increases in State and local government expenditures accounted for the increase in total government spending. Net exports became more negative.

TABLE 2-1.—*Components of GDP and Growth in GDP, 1997*

Item	Billions of dollars	Percent of GDP	Contribution to growth	
			Percentage points	Percent of total change
Personal consumption expenditures.....	5,488.6	67.9	2.5	65.2
Gross private domestic investment.....	1,237.6	15.3	1.5	38.4
Fixed investment.....	1,173.0	14.5	1.1	27.3
Nonresidential.....	845.4	10.5	.8	21.3
Structures.....	230.2	2.8	-.0	-6
Producers' durable equipment.....	615.2	7.6	.9	21.9
Residential.....	327.5	4.1	.2	6.0
Change in business inventories.....	64.6	.8	.4	10.9
Net exports of goods and services.....	-96.7	-1.2	-.4	-10.0
Exports.....	958.8	11.9	1.2	31.7
Imports.....	1,055.5	13.1	-1.6	-41.9
Government consumption expenditures and gross investment.....	1,453.9	18.0	.2	6.1
Federal.....	524.8	6.5	-.0	-.0
State and local.....	929.1	11.5	.2	6.1
GROSS DOMESTIC PRODUCT.....	8,083.4	100.0	3.9	100.0
MEMORANDUM: FINAL SALES.....	8,018.8	99.2	3.5	89.1

Note.—Data are preliminary estimates. Contribution to growth is measured fourth quarter to fourth quarter.

Sources: Department of Commerce (Bureau of Economic Analysis) and Council of Economic Advisers.

### *Private Domestic Spending*

The factors traditionally thought to determine household spending are household income, consumer sentiment, and household net worth in the current and recent years. Signals were favorable for all of these fundamentals through most of 1997: real disposable personal income grew 3.7 percent over the four quarters of the year, consumer sentiment remained at or near record highs for most of the year, and year-end stock market values were up about 30 percent from a year earlier. Outlays grew even faster than income, and as a result, the personal saving rate edged down.

Although consumption was robust over the past year, it was not smooth. Real consumption grew in excess of a 5-percent annual rate in the first and third quarters, but at only a 0.9-percent annual rate in the second. No reason for this volatility is apparent; neither fluctuating income, changes in consumer confidence, nor ups and downs in the stock market explain it. Although the stock market dipped in

April after the Federal Reserve's interest rate hike, it had fully recovered by mid-May. At the same time, consumer sentiment continued to rise. Most of the volatility was in goods consumption; services consumption grew at around a 4- to 5-percent annual rate in each quarter. Durable goods, which rose at double-digit annual rates in the first and third quarters but fell at a 5-percent annual rate in the second, accounted for much of the quarter-to-quarter fluctuations in growth. Light motor vehicle sales of roughly 15 million units in 1997 were about the same as in each of the past 3 years; over this 4-year period, sales of light motor vehicles were just shy of the record 4-year pace set in the mid-1980s.

Like those for consumption, the signals for the traditional determinants of business investment—lagged GDP growth, cash flow growth, and the cost of capital—were strongly favorable throughout 1997. Several special factors added further impetus to investment spending. Business equipment grew 12 percent over the four quarters of the year, with strong demand for most types of equipment. Industrial equipment grew a healthy 7 percent over the year, and transportation equipment advanced 10 percent, with particularly rapid growth in aircraft purchases.

The standout categories of business equipment investment in 1997 were office and computing equipment and telecommunications equipment. Growth in real computer spending was fueled in part by price declines that were even sharper than normal (32 percent over the past year). Real spending on telecommunications equipment increased 10 percent. One factor possibly boosting sales in this industry is the rapidly expanding capacity and availability of cellular telephone and other wireless services. Although nominal spending on computers and telecommunications equipment represents about 25 percent of investment in equipment, measured relative declines in computer prices have been rapid, so that these categories now account for a rising fraction of real equipment purchases.

In contrast to the strength in equipment spending, investment in nonresidential structures was about flat last year, following solid gains in 1996. Construction of new office buildings made solid gains, as the strength in the economy allowed the sector to grow out from under an overhang of empty office buildings at the beginning of the decade. These gains were offset by small declines in the construction of industrial, utility, and mining structures.

A pickup in inventory investment added 0.4 percentage point to real GDP growth over the four quarters of 1997, with an especially large buildup in the first quarter. The demand for inventories was probably a result of strong final sales, which increased faster than inventories over the first three quarters of the year. As a result, stocks remained lean in relation to sales.

Residential construction increased 6 percent over the four quarters of 1997, with much of that growth occurring in the fourth quarter. The

pickup toward the end of year reflected in part the pattern of mortgage rates, which after rising through April, fell more than 1 percentage point later in the year. Falling mortgage rates, together with strong real income growth, resulted in an increase in housing affordability in the second half of the year. In addition to new home construction, real estate commissions moved up over the year, as sales of existing homes grew by 3 percent over 1997 as a whole to their highest level ever.

When consumption and investment are combined, real private domestic demand grew 4.8 percent over the four quarters of 1997; this was somewhat faster than plausible estimates of the sustainable long-run growth rate of the economy. The impact of this surge of private spending was muted, however, by an erosion in net exports, a continuing decline in real Federal Government spending, and slow growth in spending by State and local governments.

### *Government Spending and Fiscal Policy*

Government expenditures made only a modest contribution to growth in real GDP in 1997—and all of that came from expenditures by State and local governments. Real Federal Government expenditures were lower last year than in 1996. Fiscal policy was tight in 1997, with the adjusted structural budget deficit (the deficit measured at a standardized level of economic activity) declining by \$54 billion in fiscal 1997 from \$112 billion in fiscal 1996.

These developments reflected ongoing efforts to restore Federal fiscal responsibility, which culminated in the Balanced Budget Act of 1997. The Federal Government's unified budget deficit for fiscal 1997 was \$22 billion, a reduction of \$86 billion from 1996. The Federal budget position has now improved in each of the last 5 years, the longest unbroken period of improvement since 1948. Last year's unified deficit was just 0.3 percent of GDP, the smallest by this measure since 1970. Relative to the size of the economy, last year's general-government deficit (the combined deficit of all levels of government) is estimated to have been smaller than that of any other large industrial country except Canada. Moreover, last year's primary Federal surplus (defined as revenues less outlays other than net interest) was \$221 billion; as a share of GDP this was the largest since the 1950s. It reveals that the overall budget would have shown a substantial surplus last year were it not for the interest obligations on debt run up during the period of large deficits.

Much of the long-term progress on the deficit can be traced to the effects of the Omnibus Budget Reconciliation Act of 1993. However, last year's improvement in the deficit was considerably greater than had been anticipated; as recently as February 1997 the projected deficit for fiscal 1997 was \$126 billion.

The continuing vigor of the economy is clearly responsible for part of this progress toward a balanced budget. Of course, sound policies—

including a credible commitment to deficit reduction—have nurtured the expansion. About \$30 billion of the improvement in the deficit resulted from lower-than-expected expenditures. Robust economic growth also was responsible for some of the \$76 billion in unanticipated revenues collected by the Treasury. However, revenues increased even more than would have been predicted on the basis of observed economic growth (Box 2-1).

**Box 2-1.—Accounting for the Deficit Surprise During Fiscal 1997**

In last year's budget the current-services deficit for fiscal 1997 was projected at \$127.7 billion. (The current-services deficit assumes no change in law. The President's budget, which includes policy proposals, was projected at \$125.6 billion.) The actual budget deficit was \$21.9 billion—or \$105.8 billion lower than the current-services projection. Although a full accounting for this deficit surprise will not be possible for several years, the table below summarizes what is now known.

Of the \$105.8 billion difference between the actual and the current-services deficit, \$30.3 billion was accounted for by lower-than-expected outlays. About one-quarter of these savings were in income security programs such as food stamps, unemployment insurance, and family support programs; spending on all of these programs is typically linked to economic performance.

The remaining \$75.5 billion of the difference was attributable to unexpectedly high revenues. Only \$12.3 billion of this revenue surprise was accounted for by higher-than-expected collections of corporate, social insurance, excise, and other taxes. Most (\$63.2 billion) of the unanticipated revenues came from individual income taxes. A large portion of the unanticipated individual income tax revenue, \$28.2 billion, came in as payments on 1997 obligations. A full accounting of this surprise will have to wait until 1997 tax returns are processed, but a large share of the unanticipated collections on 1997 liabilities is likely related to better-than-expected economic growth in 1997. Approximately \$6.0 billion in additional individual tax receipts came from payment of back taxes or from taxes on trusts.

Another \$29.0 billion of the revenue surprise arrived in the form of higher-than-anticipated final payments and lower-than-anticipated refunds on 1996 individual income tax liabilities. The largest identifiable contributing factor was higher-than-anticipated tax liability on capital gain realizations, which accounted for \$20.1 billion of the \$29.0 billion in unanticipated

**Box 2-1.—continued**

payments on 1996 obligations. The remaining \$8.9 billion came from higher-than-expected tax liabilities on pensions, dividends, distributions from Individual Retirement Accounts, interest payments, and wages and salaries, which were partially offset by higher-than-anticipated deductions.

**Accounting for the Fiscal 1997 Deficit Surprise**

(Billions of dollars)

Item	Actual versus projected <sup>1</sup>
<b>Outlays</b>	<b>36.3</b>
Income security programs	-7.1
Other	-23.6
<b>Receipts</b>	<b>75.5</b>
Individual income taxes	63.2
On 1996 liability	29.9
Wages and salaries	3
Capital gains	26.1
Pension and IRA distributions	4.1
Interest income	4.3
Dividend income	1.9
Itemized deductions	-3.2
On 1997 liability	28.2
Mark taxes and fiduciaries	6.9
Corporate income taxes	6.1
Social insurance taxes	2.6
Estate taxes	2.9
Other	1
Increase in surplus or reduction in deficit	106.8

<sup>1</sup> Current-services projection.

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

In national income accounting terms, the slowdown in the growth of government expenditures and the improving general-government budget balance have exerted a moderating influence on overall aggregate demand that has partly offset the robust stimulus coming from private consumption and investment. Nevertheless, the combined impetus from private and government spending exceeded the increase in domestic aggregate production, so that net exports declined further.

**Net Exports and the Current Account**

U.S. exporters had a good year in 1997, as real exports rose 10.9 percent. However, robust growth in domestic demand pushed real

imports up by 13.3 percent. Real net exports fell by \$35.8 billion over the course of the year, and their contribution to growth in real GDP was -0.4 percentage point.

One useful perspective on the performance of real net exports comes from looking at the pattern of growth in the global economy. At least four major locomotives matter for global economic growth: North America, Europe, Japan, and—in the past decade—the East Asian industrializing economies. Expectations at the end of 1996 were that

### **Box 2-2.—Turmoil in Asian Economies**

The outbreak of financial crisis in Asia was one of the most notable—and troubling—developments in the global economy during 1997. Events began in midyear as a currency crisis and intensified over the rest of the year, spilling over to the real sectors of the affected economies as well as to the rest of the world.

By May 1997 Thailand was in the throes of the fourth speculative attack on its currency, the baht, since August 1996. By then the buildup of financial difficulties and balance of payments pressures had reached such a point that efforts to defend the baht could not be sustained. Pressures soon spilled over to other emerging Asian economies (especially Indonesia, Malaysia, and South Korea), most of which also had some balance of payments weaknesses, as well as to Eastern Europe. These countries' difficulties shook financial market confidence elsewhere in Asia and in emerging markets around the world, even those with sounder policies and economic fundamentals, in a contagion effect.

Since June, four of the countries in the region (Indonesia, the Philippines, South Korea, and Thailand) have requested and received assistance from the International Monetary Fund (IMF). In each instance the adjustment programs developed by the domestic authorities and the IMF have included a heavy emphasis on financial and structural adjustment measures (for example, to reform bank lending practices and further liberalize the economy), as well as the more traditional macroeconomic adjustments necessary to restore financial market stability. For each of the affected economies, the question of when their financial and balance of payments situations will stabilize depends, first and foremost, on whether and how aggressively they implement their policy commitments, and second, on the easing of the contagion effect from those economies that continue to experience difficulties. In the medium term the return of these economies' strong growth performance will depend significantly upon the degree to which structural and financial sector reforms are implemented.



growth would slow in the United States and that the other regions (except Japan) would easily outpace it. Instead, the United States (and Canada) saw higher growth rates in 1997 (about 4 percent each), while growth among our trading partners in the other regions slowed. In Japan the recovery from the recession of the early 1990s came to a standstill. In Europe growth continued in 1997, especially in a northern tier composed of the British Isles and the Nordic countries. In the developing economies of East Asia, slowing growth turned to financial crisis in the second half of the year (Box 2-2).

Growth rates in the United States and its trading partners, along with exchange rates, are major determinants of short-run fluctuations in real net exports. The fact that income increased more rapidly here in 1997 than it did in most other advanced industrial economies worked to increase U.S. imports from those economies more rapidly than their imports from the United States. The negative effects of the East Asian crunch on U.S. net exports to developing countries had barely begun to materialize at the end of the year.

In analyzing the components of real growth, it is appropriate to look at real net exports. But the focus generally shifts to nominal imports and exports when examining current income flows between the United States and the rest of the world. The comprehensive measure of such flows is the current account balance, which comprises not only the trade balance in goods and services but also net investment income and transfers.

In a fundamental sense, trends in the current account balance reflect movements in saving and investment. When the demand for investment in the United States exceeds the pool of national saving, the difference is made up by borrowing from foreigners. Conversely, when saving exceeds investment, the surplus is invested abroad. The United States first experienced large current account deficits during the mid-1980s, when net investment fell as a share of national income and net national saving fell even faster. The deficit shrank briefly as investment collapsed in the 1990-91 recession, but it has reemerged in the current expansion. The good news in this expansion is that investment has been booming. But saving does not appear to have kept pace. (The interpretation of current trends in saving, investment, and the current account is complicated by the statistical discrepancy between GDP measured as the sum of all spending on output and GDP measured as the sum of all income generated in producing that output.)

The current account deficit for the first 9 months of 1997 was about \$8.7 billion greater than in the comparable period in 1996, and the deficit for the year is likely to be moderately higher than the \$148 billion (1.9 percent of GDP) recorded in 1996. Much of the increase reflects the emergence of a deficit in the balance on investment income. As a result of past deficits, foreign holdings of U.S. assets are

now sufficiently large that the investment income paid to foreigners now exceeds investment income earned on U.S. holdings of foreign assets. The balance on all goods and services may show little change at all from last year's \$111 billion. The modest size of the increase in the trade deficit last year is probably related to changes in the exchange rate of the dollar.

The effect of exchange rates on the nominal trade balance last year is complicated. The trade-weighted exchange rate of the dollar rose about 3 percent during the first quarter of the year (that is, the dollar strengthened against a weighted average of the currencies of our trading partners). In the long run the effect of a stronger dollar is to slow exports and probably raise spending on imports, thereby depressing the trade balance. But in the short run the effects on the nominal trade balance may go the other way. This is because, with a stronger dollar, importers do not have to pay out as many dollars to obtain the foreign currency they need to pay for previous quantities of imports (in what is called a valuation effect), and because it takes time for the quantity demanded to adjust. There can be a lag of 2 years or more before price changes have their full effect on trade volumes, but when they do they dominate the valuation effect. (This pattern of response is often called the J-curve, because the dollar value of imports at first declines with a stronger dollar but later rises.) The difficulty in interpreting what happened in 1997 is due to the fact that in 1996, before the most recent appreciation, the dollar had also increased in value. Thus the lagged effects from that earlier appreciation may have partly canceled out the immediate effects from the 1997 appreciation. The delayed effects of the dollar's appreciation, together with the other effects of the East Asian financial crisis, are likely to show up in a more marked increase in the trade deficit, by all measures, in 1998.

## MONETARY POLICY AND FINANCIAL MARKETS

The Federal Reserve raised its target Federal funds rate by 25 basis points in March, to 5.5 percent. The proximate cause of the rate increase was the perception that strong demand would boost utilization rates, which were already approaching levels that in the past had been associated with rising inflation. The mild deceleration in GDP prices in the second half of the year translated into a slight upward drift in the real Federal funds rate as 1997 came to a close, putting the real rate slightly above its mid-1995 peak. Moreover, the rise in the real short-term rate did not appear to feed through to intermediate- and long-term real rates, which remained essentially unchanged—or, by some measures, even declined—in the second half of the year.

Short-term interest rates fluctuated within a narrow range over the course of the year, whereas long-term rates rose slightly early in the year but then declined, finishing the year roughly 50 basis points (half

a percentage point) lower. Long-term interest rates remain very low. The yield on 10-year Treasury notes remained within 50 basis points of its 30-year low, while the 30-year Treasury yield stood near its lowest level since that bond's introduction in 1977. This largely reflects two related factors: continued progress in deficit reduction, which lowers nominal interest rates by reducing expected future real rates, and market participants' expectations of low future inflation, which act to reduce nominal rates. In addition, turmoil in foreign asset markets in the second half of the year helped make U.S. securities more attractive to investors; this "flight to quality" probably boosted demand for U.S. assets, putting additional downward pressure on nominal interest rates. The net result was a flattening of the yield curve, with the spread (the difference in interest rates) between 3-month Treasury bills and 10-year Treasury notes falling to roughly 60 basis points by the end of 1997. This spread is now well below its historical average of 135 basis points and is roughly equal to the level that prevailed during the 1960s.

The risk premium on corporate debt—measured as the spread between the yield on Baa-rated corporate bonds and the 30-year Treasury bond yield—averaged roughly 125 basis points in 1997 (a Baa rating denotes bonds of intermediate credit quality); this spread remains quite narrow by historical standards. The spread between riskier, high-yield corporate debt ("junk" bonds) and 10-year Treasury securities also remained narrow in 1997 but began to rise toward the end of the year. Taken as a whole, these low risk premiums suggest that market participants perceive the financial and business sectors to be quite healthy; most relevant statistics provide support for this view. In the banking sector, business loan charge-offs and delinquency rates remained low, while bank capital ratios remained high. Although business failures increased in 1997, a large portion of this increase appears to reflect special, one-time factors, not a permanent change in trend.

For equity markets 1997 was a noteworthy year. The rise in stock prices was checked only slightly following the Federal Reserve's March tightening, and even sharp declines in some foreign stock markets were unable to do more than temporarily slow the market's advance. All three major stock price indexes—the Dow Jones Industrial Average, the Standard & Poor's (S&P) 500, and the NASDAQ composite—shattered previous records; the S&P 500, for example, peaked in October at 983.12, a record high and 40 percent above its October 1996 average. The runup in stock prices appeared to be fueled by continued high profitability in the corporate sector and forecasts of strong future earnings growth, and it pushed aggregate price-earnings ratios up sharply. By some measures price-earnings ratios are at levels not seen in decades.

Declines in foreign stock markets spread to domestic markets later in the year, causing them to retreat from these record highs. On October 27th the Dow posted a 554-point decline—the 12th-largest in percentage terms in its history. The drop was steep enough to cause the New York

Stock Exchange's system of "circuit breakers" to suspend trading temporarily for the first time ever (Box 2-3). The day after the plunge saw the volume of shares traded on the New York Stock Exchange reach a record high of 1.2 billion (the market made up much of its previous day's decline that day). The stock market rebounded quickly following its October losses, with the S&P 500 index and the Dow finishing 1997 near their highs for the year. Turmoil in East Asia apparently continued to be a source of downward pressure on stock prices for the remainder of the year.

The rise in stock prices in 1997 represents the continuation of a trend that has seen major indexes more than double over the past 3 years. One explanatory factor is market expectations of strong future corporate earnings. Another possible factor is a reduction of the premium that investors require to hold stocks in lieu of less risky assets. Such a reduction could occur if the perception has become more widespread that stocks represent an attractive, high-return asset, or if investors' interest in longer term investments for retirement has grown. Still other possible explanations are a reduction in investors' expectations of future inflation or of future real interest rates, or the effect of financial innovations in channeling a larger share of savings into the stock market by way of mutual funds and pension funds.

There is some scattered evidence that investors have come to view stocks as a less risky investment: for example, a survey of individuals' attitudes toward the stock market shows a marked decline in the perceived riskiness of stocks since 1994. Similarly, participants in the largest private retirement savings plan in the United States have directed an increasing fraction of their retirement saving contributions to equities since 1986; however, it is unclear how much this reflects a reduction in participants' tolerance for risk, a change in their perception of the riskiness of the stock market, or other factors. If the risk premium on stocks has declined, this could explain why price-earnings ratios are at historically high levels; a simple calculation indicates that even a relatively small change in the risk premium is sufficient to raise price-earnings ratios sharply. Nevertheless, the possibility exists that price-earnings ratios will eventually return to more normal levels, given that periods in which price-earnings ratios are high tend to be followed by slower future growth in stock prices.

## INFLATION AND THE LABOR MARKET

Inflation remained remarkably subdued in 1997. Both GDP and core CPI inflation (a measure of inflation that excludes the volatile food and energy components) fell over the course of the year, continuing a decline that began in 1995. Surprisingly, this deceleration of prices occurred in an economic environment that was characterized by extremely low unemployment: as 1997 came to a close, the unemployment rate had been at or below 5.5 percent for almost 2 years, and at or below 5 per-

### **Box 2-3.—Circuit Breakers**

"Circuit breakers" are rules that automatically halt trading on a securities exchange when prices move by a given amount. The boards of a number of major exchanges, including the New York Stock Exchange (NYSE) and the Chicago Mercantile Exchange, set up circuit breakers in the wake of the 1987 stock market crash. The NYSE circuit breakers provide a good example of how such rules operate. Before the October 27th stock market decline, the circuit breakers were set to halt trading for 30 minutes if the Dow Jones Industrial Average declined more than 350 points from its morning opening price, and for another hour if the Dow were to fall an additional 200 points. Both of these limits were hit on October 27th, and the circuit breakers operated as designed and closed the market twice (the second event occurred less than an hour before the closing bell and thus ended trading for the day).

When they were introduced, it was argued that circuit breakers would reduce the chance of a major market disruption in three ways: by preventing an overload of the exchanges' trading systems during periods of extraordinary price movements; by reducing the possibility that sharp (and possibly unchecked) declines in stock prices would leave market participants unable to make good on their trading commitments; and by providing a forced pause in trading—a chance for market participants to "take a deep breath."

Many observers and market participants criticized the role that the circuit breakers actually played on October 27th. The trigger limits had only been adjusted once since 1988, and the percentage declines in the Dow that they reflected were only about a third as large as they were when the triggers were set up in 1988. Furthermore, the securities exchanges now have enormously greater capacity to process trades than they did in 1987; by all accounts the record trading volumes on October 27th and 28th did not remotely threaten to overload the system. And concerns about fulfillment of trading commitments appear to have been at least partially allayed, because traders now have greater access to emergency credit. The "deep breath" argument is more difficult to assess, because nobody knows what would have happened had the markets not closed early on October 27th. But some critics argue that circuit breakers can add to market volatility by causing a race to the exit—a sharp selloff in shares—as stock prices approach the threshold for a trading halt. Indeed, many traders argue that that is just what happened when the NYSE reopened after the first of its two shutdowns on October 27th. The NYSE has announced that it will propose modifications to the rule in 1998.

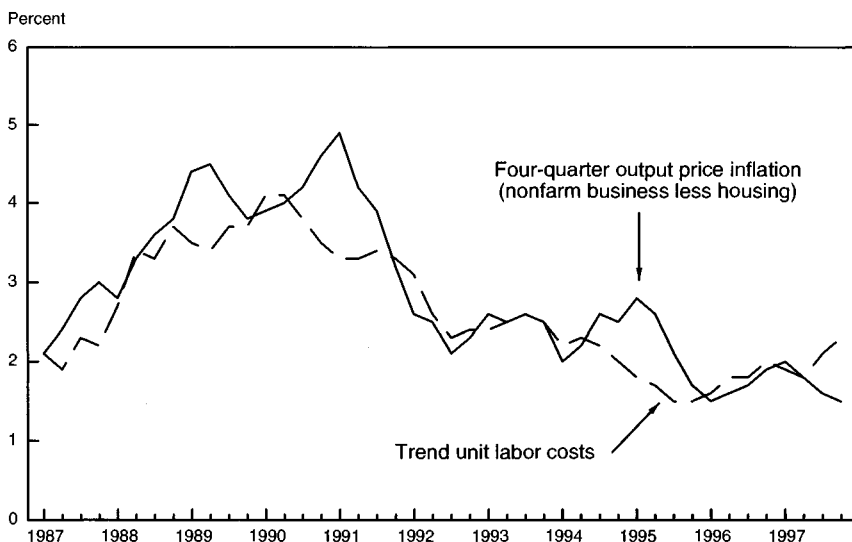
cent for 9 months. The unemployment rate fell from 5.3 percent in the fourth quarter of 1996 to 4.7 percent in the fourth quarter of 1997; all major demographic groups participated, with declines of 1.0 percentage point among blacks, 0.6 percentage point among whites, and 0.6 percentage point among Hispanics.

The pace of job creation was quite rapid. More than 3.2 million jobs were created in 1997, for an average of 267,000 new jobs per month—a substantially faster rate than in either of the 2 preceding years. Factory employment rose significantly, by 230,000 new jobs, while employment at construction sites rose by 210,000 jobs following a slightly larger gain in 1996. Among the service-producing industries growth was particularly rapid in computers and data processing (which increased 13 percent) and engineering and management services (which increased 7 percent).

These hiring gains were matched by large increases in industrial capacity. Nevertheless, tightness in labor markets was reflected in a continued acceleration of wages during the year. Hourly wages as measured by the employment cost index (ECI) rose by 3.9 percent in 1997, 0.5 percentage point faster than in 1996. The ECI for total hourly compensation accelerated by a slightly smaller amount, and continued slow growth in the cost of benefits—particularly health insurance—kept the growth rate of total hourly compensation 0.5 percentage point lower than that for hourly wages. Trend unit labor costs (defined as compensation growth relative to trend productivity growth) continued to rise moderately through the year, while overall price inflation fell slightly (Chart 2-1).

**Chart 2-1 Inflation and Trend Unit Labor Costs**

Inflation has dropped below growth in trend unit labor costs.



Note: Trend unit labor costs defined as the four-quarter percent change in compensation as measured by the employment cost index minus 1.1 percentage points.

Sources: Department of Commerce (Bureau of Economic Analysis), Department of Labor (Bureau of Labor Statistics), and Council of Economic Advisers.

## PRODUCTIVITY

Growth in output per hour worked picked up sharply in 1997: over the first three quarters of the year the official measure of productivity in the nonfarm business sector rose at an average annual rate of 2.6 percent. This measure has exceeded its trend rate of growth in all but one of the past eight quarters. These recent gains were sufficient to offset the earlier weak performance of this product-side measure of productivity, bringing it back to its post-1973 trend. (Trend growth in productivity is discussed in the “Forecast and Outlook” section of this chapter.) Part of the surge in productivity probably reflected special factors: productivity growth in the third quarter of 1997 was boosted in part by a decline in hours worked by self-employed workers; these data tend to be more volatile and somewhat less reliable than measures of hours worked by employees. However, even when self-employed workers are excluded, measured productivity growth in the third quarter remains over twice as fast as its trend rate. The pickup in productivity growth is significant because it occurred at the same time that hourly compensation showed some signs of accelerating. This has kept growth in unit labor costs from rising by as much as compensation, thus eliminating a potential source of inflationary pressure.

## EXPLAINING RECENT INFLATION PERFORMANCE

Inflation continued to moderate in 1997 even as the unemployment rate reached a 24-year low. To what extent can recent inflation performance be explained with the traditional tools of macroeconomic forecasting and analysis?

## RECENT INFLATION PERFORMANCE AND THE NAIRU

The present combination of low and declining inflation and sustained low unemployment would appear to pose a challenge to models of price inflation based on the concept of a NAIRU, or nonaccelerating-inflation rate of unemployment. As discussed in the 1997 *Economic Report of the President*, historical experience indicates that the chances are high that inflation will rise in periods when the unemployment rate is very low, and fall when unemployment is unusually high. The NAIRU can therefore be defined as the unemployment rate at which—absent special factors—the odds of falling and rising inflation are roughly balanced. Although a specific value of the NAIRU represents a forecaster’s best estimate of the rate of unemployment that can be sustained on average without causing an increase in inflation, any estimate of the NAIRU is subject to some degree of imprecision, inasmuch as there will be periods when inflation is falling even though unemployment is below the NAIRU, and vice versa. In addition, the NAIRU itself is not invariant over time, but is instead affected by such factors as the demographic composition of the labor force and changes in the structure of labor and product markets.

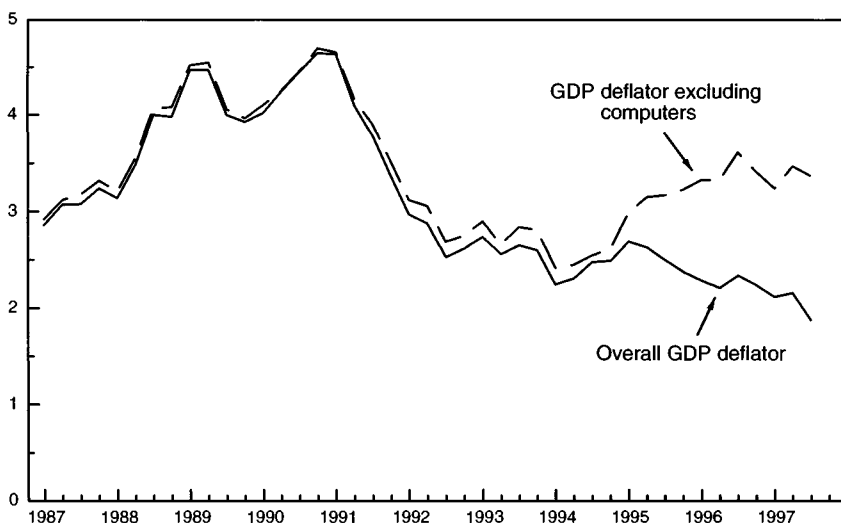
The 1997 *Report* indicated that reasonable estimates for the NAIRU lie between 5 and 6 percent, with a midpoint of 5.5 percent. In 1997 the unemployment rate averaged 4.9 percent, about one-half percentage point below the midrange estimate of the NAIRU. A forecasting model built around a NAIRU of 5.5 percent would therefore have predicted some acceleration in prices over the course of 1997; one reasonable estimate would have been a 0.3-percentage-point increase in core CPI inflation. Instead, core CPI inflation finished the year roughly 0.4 percentage point below its year-earlier rate, although 0.1 percentage point of this deceleration can be accounted for by methodological changes introduced into the calculation of the CPI.

The observed decline in inflation is consistent with the view that changes in inflation are influenced by other factors besides labor market slack (measured here by the gap between the actual unemployment rate and the NAIRU). A number of factors did in fact help mitigate inflationary pressure in 1997. First, the costs of providing workers with nonwage compensation (such as health insurance) continued to rise at a very low rate; as mentioned above, this helped keep growth in labor costs from adding to inflation. Second, also as noted above, computer prices have recently declined at a faster-than-average rate; without this decline, overall inflation would have risen steadily since early 1994 (Chart 2-2). Although it is always possible to find components of GDP whose prices are growing faster or slower than the average, relative price changes for computers are particularly noteworthy in that they are largely driven by technological change, as opposed to cyclical forces such as shortages in raw materials, bottlenecks in production, or rising labor costs.

**Chart 2-2 Computer Prices and Total Inflation**

Declines in computer prices have helped to keep overall inflation from increasing in recent years.

Four-quarter percent change



Sources: Department of Commerce (Bureau of Economic Analysis) and Council of Economic Advisers.



Overall price inflation has been further reduced by sharp declines in the relative price of imported goods, particularly non-oil merchandise imports. Since the second quarter of 1995 the relative price of all imported goods has fallen by 14 percent, and the relative price of non-oil merchandise imports has declined by 15 percent. In part this decline in import prices reflects two interrelated factors: significant excess capacity—and hence low rates of inflation—abroad, and the dollar's appreciation against other major currencies. It is difficult to determine precisely what effect this has had on overall inflation, but some estimates indicate that this factor could have reversed much if not all of the increase in inflation that would have been predicted solely from the gap between the actual unemployment rate and the estimated NAIRU.

Judged from the perspective of a NAIRU model, therefore, it seems possible that the economy is currently operating at an unemployment rate that is inconsistent with stable inflation over the long run, but that the influence of special, possibly transitory factors has prevented prices and labor costs from accelerating. Although this is a plausible explanation for recent inflation performance, it is certainly not the only one; an alternative hypothesis is that structural changes in labor and product markets have led to further declines in the NAIRU. If true, this would imply that at least some portion of the recent decline in the unemployment rate can be sustained without an eventual increase in inflation.

The rate of unemployment consistent with stable inflation would be expected to vary over time in response to such factors as shifts in labor force demographics, changes in the relation between workers' real wage demands and their productivity, and structural shifts that alter the degree of mismatch between workers and jobs (both sectorally and regionally). For a number of reasons, however, it is difficult at present to justify a large additional reduction in the estimated NAIRU on the basis of recent experience. First, the presence of fortuitous supply shocks clouds the inflation picture significantly; although it is evident that these shocks have contributed to lower inflation, the exact extent of this contribution cannot be perfectly gauged. Second, although inflation in goods and services prices has not risen as unemployment has fallen below 5.5 percent, some acceleration in wages has occurred (Chart 2-3), which might reflect labor market tightness. Finally, the unemployment rate has been below 5.5 percent for too short a time to allow any certainty that the risk of a gradual buildup of inflationary pressure is entirely absent.

However, a small downward revision to the estimated range of the NAIRU is indeed justifiable. A portion of recent inflation performance cannot be explained by special factors; moreover, the fact that prices have not accelerated as the unemployment rate has fallen below 5.5 percent suggests that the estimated range should be shifted down. A

model that accounts for supply shocks such as recent declines in relative import prices and that allows the NAIRU to vary over time indicates that a reasonable range for the NAIRU now has a midpoint of 5.4 percent, 0.1 percentage point lower than in previous estimates. The Administration's budget forecast has been revised to reflect this slightly lower estimated midpoint of the NAIRU's range.

**Chart 2-3 Wage Growth and the Unemployment Rate**  
Wages have accelerated as the unemployment rate has fallen.



## ALTERNATIVE MEASURES OF UTILIZATION AND CAPACITY

The unemployment rate is a useful predictor of future inflation in that it can directly indicate the potential for rising inflationary pressure on the cost side, as excess demand in the labor market tends to raise nominal wages and thus nominal labor costs. The unemployment rate can also proxy for the state of aggregate demand in the economy, and thus help assess the degree of excess demand in product markets. However, the unemployment rate is not the only indicator of resource utilization and demand (even for the labor market), nor does it necessarily provide the best forecast of future inflation. It is therefore of interest to consider what other measures of resource utilization and labor market tightness suggest about the current degree of inflationary pressure in the economy.

Several plausible indicators—such as the State insured unemployment rate, the demographically adjusted unemployment rate, and the unemployment rate for men of prime working age—imply a degree of

labor market tightness that exceeds that which has historically been associated with stable inflation. In addition, an index of help-wanted advertising (which can be considered a proxy for the job vacancy rate) fails to reveal a large degree of slack in the labor market at present; earlier in the expansion some observers argued that this measure indicated a weaker labor market than did the unemployment rate. The picture painted by these labor market variables is therefore one in which the potential for inflationary pressure is relatively high.

The effects of a tight labor market on wages may have been muted by the presence of widespread worker insecurity, which has been evident since the 1990-91 recession. Despite a strong job market and a high level of consumer confidence, surveys indicate that workers' fears of job loss remain high relative to the level that prevailed before the recession. Quit rates are low as well, which could reflect workers' unwillingness to leave their current jobs in the hope of "trading up" to better jobs. And strike activity is at a low ebb, although this is related at least in part to declines in unionization rates. These factors suggest that workers may be relatively unwilling to press for the wage gains that they could normally command in a labor market as tight as that of today.

One indicator that tempers somewhat the general conclusion that labor and product markets are tight is the rate of capacity utilization (both in the manufacturing sector alone and for all industry). Capacity utilization remains below its peak for this expansion and is roughly at the level historically associated with stable inflation. It is also noteworthy that core producer price inflation, which more closely reflects the output price measure that is relevant to manufacturing capacity utilization, has declined rapidly since the end of 1995. This suggests that industry has not yet reached the point where production bottlenecks or other capacity constraints are putting upward pressure on inflation. Gains in capacity, which have followed an increase in real private investment growth, have helped keep capacity utilization in the noninflationary zone; measured capacity growth increased sharply after 1993 and has stayed high as real business fixed investment growth has remained strong. In fact, recent revisions to the capacity utilization data indicate that the economy had more industrial capacity over the past 4 years than was previously thought (Box 2-4), making the recent declines in core producer price inflation somewhat less of a mystery. However, manufacturing represents only about 20 percent of total output, and although total goods output (which includes manufacturing as well as trade and mining) accounts for a larger fraction (40 percent), it is still less than half of the economy. The possibility of overheating in the economy as a whole, therefore, should not be dismissed.

#### **Box 2-4.—Recent Revisions to Capacity and Utilization**

In December the Federal Reserve revised its estimates of capacity and industrial production, on the basis of improved source data. For the preceding 2 years estimates of industrial capacity and utilization had largely been extrapolated from national accounts data on real investment. The recent revision incorporates direct estimates of utilization based on survey data and industry reports, as well as more comprehensive data on physical output and labor and other inputs.

The new data indicate that industrial capacity has been growing about 1 percentage point faster than previously estimated. Over the past 3 years capacity has grown at an average annual rate of 4.7 percent. In each of the past 3 years average annual capacity growth has exceeded every previous growth rate since 1968. Similarly, recent estimates of the rate of capacity utilization were revised downward by more than a percentage point. Currently, production as a share of total capacity is about 83 percent; this is only slightly higher than the series' long-term average.

### **A NEW ERA FOR THE ECONOMY?**

To summarize the chapter thus far, the past few years have seen rapid growth in output with stable inflation, gradual declines in the NAIRU, strong growth in profits and stock prices, and a pickup in productivity that, if sustained, would herald a significant departure from past productivity trends. Indeed, economic performance in recent years has been so extraordinary that some have wondered whether it reflects fundamental structural change in the economy—change so great that a “new paradigm” is needed to describe an economy that is in a “new era.”

Many such assessments are extreme and unsupportable. In particular, any claim that the business cycle has been vanquished must be viewed with considerable skepticism. Nevertheless, it is possible to identify a number of areas in which fundamental changes are probably influencing the economy's current performance, in many cases favorably.

First, U.S. producers face increased foreign and domestic competition. Exports and imports today play a greater role in the U.S. economy than at any other time in history. And here at home, deregulation has taken place or is under way in a number of industries, including telecommunications, transportation, electricity, and banking. Increased competition and more open markets contribute to greater efficiency, thus helping raise the *level* of output. But it is possible that greater competition also fosters a faster pace of innovation,

inducing long-run improvements in productivity and thus a higher *rate* of output growth.

Labor and product markets have also changed in significant ways. Since the early 1980s the unionization rate has dropped by nearly half, continuing a decline in union membership that began in the late 1960s. In addition, the use of temporary and contingent employees is much higher than it was 15 years ago. Although this has probably made labor markets more flexible, it might also have contributed to an increase in worker anxiety. Information technology might prove as revolutionary as the steam engine or the automobile. Adoption of just-in-time inventory management by manufacturers also represents a significant development, since changes in inventories have often been an important source of business-cycle fluctuations. Whether just-in-time inventories will be able to dampen future business cycles, however, remains to be seen.

Even the public sector has been transformed in recent years. Our system of social welfare has been changed to help welfare recipients make the transition to employment. The end of the Cold War saw a vast amount of defense-related resources freed up for civilian uses. The government itself is being reinvented to make it more efficient and responsive. Perhaps most important, deficit reduction has increased private sector investment; this recent expansion in capital investment raises productivity by providing workers with more modern and efficient workplaces.

Not all of these changes represent unalloyed boons. Nor is it possible to quantify the effects of these changes on the economy or on specific groups or sectors with any degree of precision (although these factors would have to be very large to reverse the post-1973 productivity slowdown to any significant degree). And even if these changes are having a significant influence on recent economic performance, it may imply not that a new model of the economy is needed, but rather that certain key parameters of the current model, such as the NAIRU or trend productivity growth, have changed. Hence one cannot declare with any certainty that the old rules no longer apply. But the factors just described suggest that the economy may be experiencing some important structural changes that will shape our economic analysis and forecasts in the years ahead.

## THE ECONOMIC CONDITION OF HOUSEHOLDS

Both aggregate statistics and consumer surveys painted an exceptionally favorable picture of the economic circumstances of American households in 1997. The tight labor market that led to a 24-year-low in the unemployment rate also lured enough new workers into the labor market to set an all-time record for the labor force participation rate. The combination of healthy wage growth and increasing employment helped push real disposable personal income up a solid 3 percent

over the year. Despite the stock market volatility witnessed in the second half of the year, at year's end all major market indexes remained sharply above their levels at the end of 1996, representing a substantial boost to household net worth. Largely reflecting this combination of favorable circumstances and the low inflation rate, consumer sentiment reached record highs in early summer and remained near those levels for the rest of the year. Growing income and wealth together with buoyant sentiment led to a 3.8-percent rate of spending growth over the four quarters of 1997—outpacing even the robust growth of disposable income.

Against this backdrop of general prosperity only a few potentially worrisome trends were discernible. The first was the drop in the personal saving rate implied by the excess of consumption growth over income growth. A temporary shortfall in personal saving would not necessarily be a problem, but the personal saving rate has remained low for about a decade now, raising questions about whether American households are preparing adequately for the future. A second persistent concern has been the ongoing buildup of household debt. Upon analysis, however, this growth in debt does not appear very menacing, both because household assets have risen even faster, and because households still appear to be able to service their rising debt loads comfortably. A final potential concern has been the continuing rise in personal bankruptcies despite the robust economy, which might seem to suggest an increase in the number of households experiencing sudden financial shocks. However, the bankruptcy rate has been trending upward for about 20 years now, and the available evidence suggests that the uptrend is attributable to a complex mix of economic, legal, and social developments rather than a dramatic worsening of the economic shocks hitting households.

## THE CONFIDENT CONSUMER

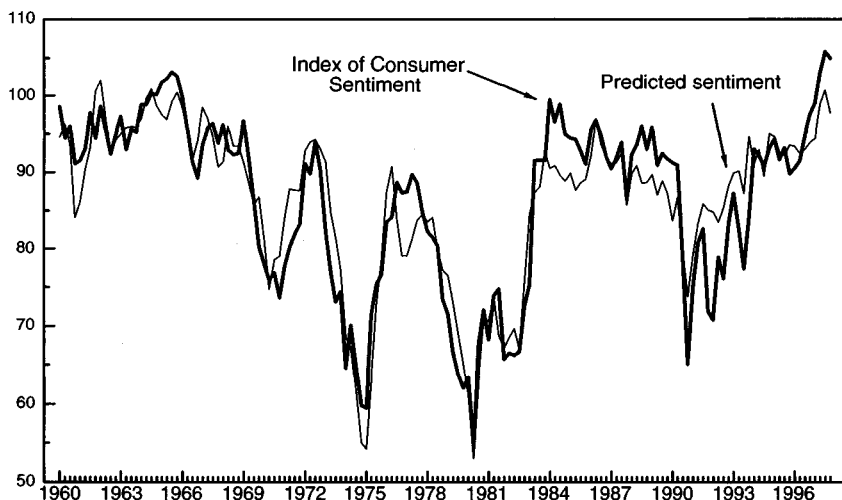
Early in the summer of 1997 the Index of Consumer Sentiment constructed by the University of Michigan reached an all-time high; it remained near that record level for the remainder of the year (Chart 2-4). Some observers have suggested that consumers have become overly optimistic, and that a return to more normal levels of confidence could have adverse economic consequences. But a major part of the surge in consumer sentiment in 1997 can be explained by the simultaneously favorable values of all four of the indicators that have historically influenced consumer sentiment: the inflation rate, the unemployment rate, the performance of the stock market, and, to a lesser extent, the growth rate of household income. Moreover, although Chart 2-4 shows that the actual level of sentiment in 1997 has been even higher than would be predicted given the values of these indicators, the size of the underprediction is not large compared with typical past prediction errors.

The Michigan index comprises two subindexes: one for current conditions and one for expected future conditions. Recently, both have been hovering near record levels. Roughly two-thirds of the increase in the index of expected conditions over 1997 can be attributed to the favorable economic environment, and the remaining underprediction is not large by historical standards. This suggests that consumers are not unrealistically optimistic about future developments. However, very little of 1997's increase in the index of current conditions can be explained by changes in observed aggregate variables. Again, the magnitude of underprediction is not very large; moreover, there are good reasons not to attribute this prediction error to irrational confidence on the part of consumers. Because the current conditions index largely reflects consumers' answers to questions about their own individual financial circumstances, a plausible interpretation of the prediction error is simply that economy-wide variables such as the inflation rate and the unemployment rate do not fully capture the complex elements that influence consumers' assessments of their personal financial situation. It therefore seems more appropriate to accept consumers' rosy assessments of their personal financial circumstances at face value. And judging by past episodes when sentiment has exceeded the predicted value, the danger appears modest of a sudden sharp plunge in sentiment that would quickly return it to the level that aggregate indicators would predict.

#### Chart 2-4 Consumer Sentiment

Much of the increase in consumer sentiment recently can be explained by the exceptional performance of the economy.

Index, 1966:Q1 = 100



Note: Predicted sentiment is calculated from a model in which the inflation rate, the unemployment rate, stock market performance, and wages and salaries are independent variables.

Sources: University of Michigan and calculations by Council of Economic Advisers.

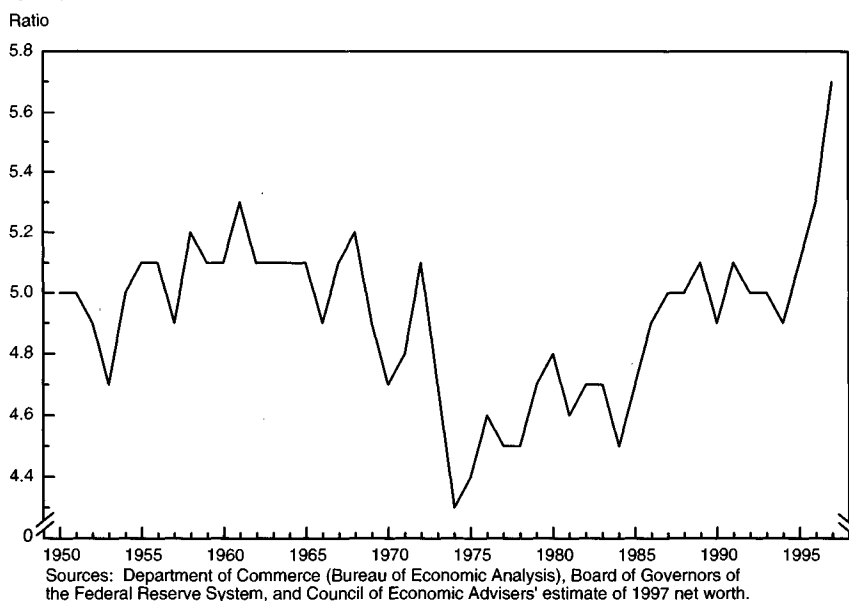
Other measures of consumer attitudes also reflect optimism. The Conference Board's Consumer Confidence Index, the main alternative to the Michigan index, rose to a 28-year record in December; as with the Michigan index, a large part of the improvement in the Conference Board index can be attributed to observable economic conditions. Both the Michigan and the Conference Board surveys contain many questions that are not incorporated in their overall indexes, and answers to these other survey questions have also generally been quite favorable. For example, throughout the year consumers interviewed for the Michigan survey said they expected low inflation rates to continue and believed it was a good time to buy automobiles and houses.

## THE CONDITION OF HOUSEHOLD BALANCE SHEETS

The exceptional performance of the stock market appears to be one of the factors contributing to consumers' sanguine assessments of their financial circumstances. The rise in the stock market boosted total household net worth by around \$2.6 trillion over the course of 1997, following similarly strong gains in 1995 and 1996. Higher stock prices lifted the ratio of household net worth to disposable income to record levels (Chart 2-5).

**Chart 2-5 Ratio of Household Net Worth to Disposable Personal Income**

The stock market boom helped boost the household net-worth-to-income ratio to a record level in 1997.



Despite the recent boost to stock market wealth, the family home is still the most valuable single asset most American households own. On this front, too, 1997 brought encouraging news: the rate of homeownership reached a new all-time record, boosted by robust income



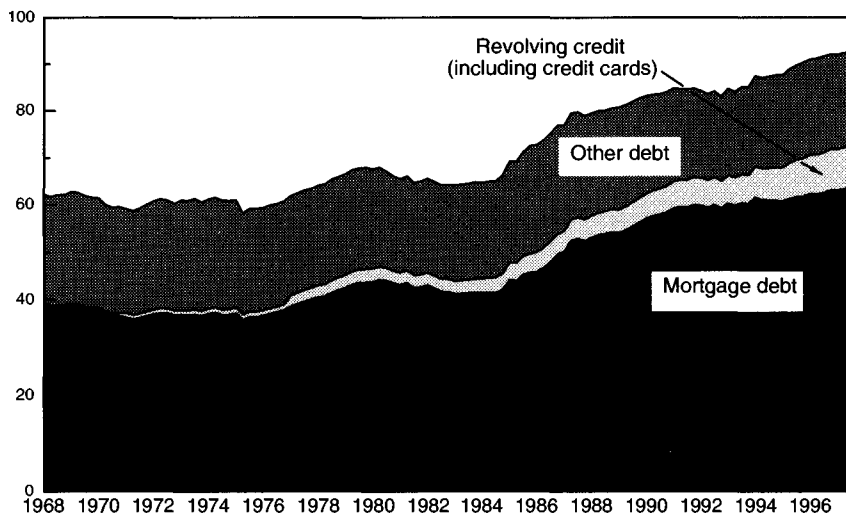
growth and relatively low mortgage interest rates. Another factor that has likely contributed to the increase in the homeownership rates in the 1990s is the increasing availability of sub-prime mortgage loans, which do not meet traditional industry lending guidelines. Such loans carry a higher interest rate to compensate lenders for the extra risk. For example, home buyers who put up less than the traditional 20-percent down payment usually have to purchase private mortgage insurance to guarantee repayment of the loan; the premium for this insurance rises as the size of the down payment declines. Indeed, mortgages that require no down payment at all are now available for consumers willing to pay very high rates.

Home buyers who take advantage of these loans, of course, take on more debt than was typical of past buyers who put up a traditional down payment of 20 percent. The relaxation of down payment constraints is therefore probably part of the explanation for the runup in mortgage debt depicted in Chart 2-6. Some of this rise, however, is attributable to the increasing popularity of home equity borrowing. A substantial part of new home equity borrowing likely reflects the growing use of home equity loans to buy motor vehicles, to pay for home repairs and additions, and to finance other large expenses that might previously have been financed by separate consumer loans. Home equity loans are an attractive way of financing such expenditures because their interest is tax deductible, whereas the interest on traditional consumer loans lost its tax-deductible status with the tax reform of 1986.

#### Chart 2-6 Household Debt by Type

The ratio of household debt to disposable income has risen sharply since the mid-1970s, mostly in the form of higher mortgage debt.

Percent of disposable personal income



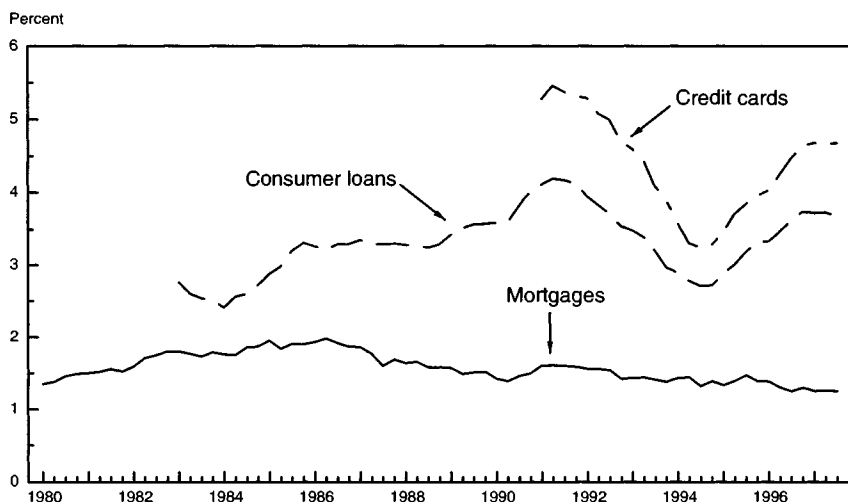
Sources: Department of Commerce (Bureau of Economic Analysis) and Board of Governors of the Federal Reserve System.

The increasing substitution of mortgage debt for other kinds of debt suggests that any assessment of the aggregate household balance sheet needs to look at the value of all debts combined, not just mortgage debt. As Chart 2-6 shows, the uptrend in overall household debt is somewhat less dramatic than that for mortgage debt alone; the ratio of total debt to disposable income increased from 77 percent in 1986 to 92 percent in 1997. Nevertheless, the ratio of overall debt to disposable personal income has been trending upward since the mid-1970s, except for pauses around the recessions of the early 1980s and early 1990s.

The chart does not support the common perception that aggregate credit card borrowing has soared out of control. Although revolving debt (which consists mainly of credit card debt) has grown more rapidly than other kinds of borrowing, it still represents only a modest fraction of consumers' debt load. Most of the runup in total debt instead reflects the sharp rise in mortgage debt.

**Chart 2-7 Household Debt Delinquency Rates**

After rising from 1994 to 1996, delinquency rates on credit cards and consumer loans have stabilized. Mortgage delinquencies edged down to the lowest rate since 1980.



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

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

The dominance of mortgage debt in household balance sheets implies that the mortgage delinquency rate is a particularly important indicator of the magnitude of debt repayment problems. Chart 2-7 shows that the mortgage delinquency rate has actually edged down over the last year and remains well below rates posted in the mid-1980s, suggesting that comparatively few consumers have found their rising mortgage debt insupportable. The chart also shows that although delinquency rates on credit card borrowing and consumer

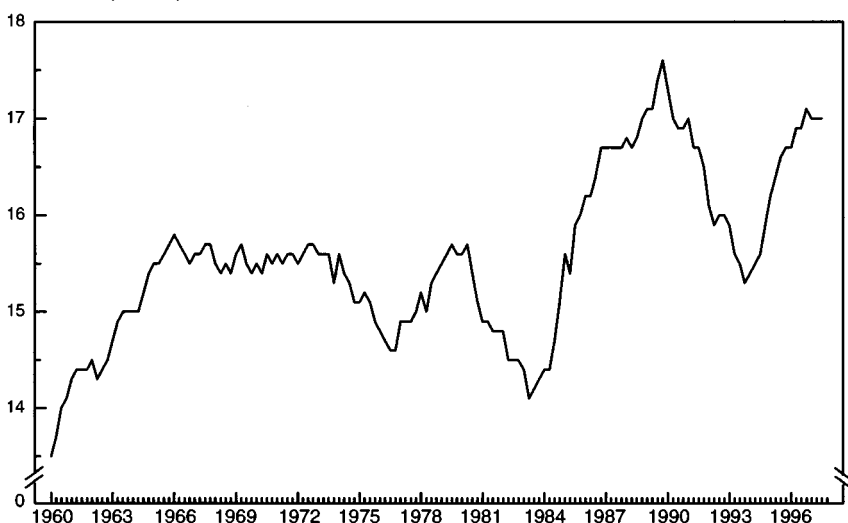
loans have gone up, they remain below their peak levels of the early 1990s and appear to have flattened off in the past year or so.

One probable reason why the continuing runup in debt has not caused greater repayment problems is that interest rates have fallen, reducing the payments required to service the outstanding stock of debt (the debt service burden). The debt service burden has also been lightened by an increase in the average duration of loans. Chart 2-8 shows that although the aggregate debt service burden has risen substantially since its trough in 1993, it is still below the level attained in the late 1980s and certainly does not exhibit the relentless uptrend evident in the ratio of total debt to disposable income.

**Chart 2-8 Household Debt Service Payments**

The debt service burden fell after the 1990-91 recession but has risen since 1994. Although high by historical standards, it remains below late-1980s levels.

Percent of disposable personal income



Sources: Department of Commerce (Bureau of Economic Analysis) and Board of Governors of the Federal Reserve System.

On the whole, then, aggregate statistics paint a favorable picture of the financial condition of households. Although household debt has risen, the aggregate value of household assets has risen even more, leading to a net gain in aggregate household net worth. Judging from mortgage delinquency rates, the recent rise in the debt service burden does not seem to be causing unusual strain. And although credit card debt has been growing, this category still represents a relatively minor fraction of the aggregate debt households owe.

Aggregate statistics, however, can sometimes mask divergent trends among different subgroups of the population. If, for example, the rise in household assets were occurring entirely among the affluent, and if the rise in household debt were concentrated among lower income households, then the increase in aggregate household net worth would

not provide much reassurance about the ability of the indebted households to repay their debt. In practice, however, household-level data do not seem to be telling a story very different from that told by the aggregate data. Although affluent households still hold disproportionate amounts of stock, the surging popularity of mutual funds and the rise of 401(k) and other tax-sheltered retirement plans have considerably increased the fraction of households who benefit directly from stock market gains. Indeed, a recent poll found that roughly half of American families own stock in some form. And as Table 2-2 shows, although the debt service burden for the median household increased somewhat between 1983 and 1989, by 1995 the combination of falling interest rates and lengthening debt maturities had reduced the median household's burden to near its 1983 level; the fraction of households with high or very high debt service burdens (defined as debt service payments greater than 30 and 50 percent of income, respectively) was actually lower in 1995 than in 1983.

TABLE 2-2.—*Household Debt Service Burden*

Item	1983	1989	1995
Debt service burden of the median household (percent of income) <sup>1</sup> .....	12.8	15.2	13.1
Percent of households with debt service burden:			
Over 30 percent .....	18.8	23.1	16.3
Over 50 percent .....	6.4	7.9	5.6

<sup>1</sup> Debt service burden is required debt service payments as a percent of income.

Note. — Data are for households whose heads are employed.

Sources: Board of Governors of the Federal Reserve System and calculations of the Council of Economic Advisers.

## THE PERSONAL SAVING RATE

The personal saving rate has been trending downward since the mid-1980s. According to the preliminary figures currently available, the personal saving rate in 1997 was only 3.8 percent, down from 4.3 percent in 1996. Given the exuberant level of consumer sentiment and the large gains in household wealth last year, the fact that there was a modest decline in the saving rate from 1996 to 1997 is neither surprising nor disturbing; such modest annual fluctuations are of little consequence. The longer term decline in personal saving, however, has aroused considerable concern among academic economists and policymakers, for at least three reasons. First, because national saving is the sum of personal, business, and government saving, low personal saving contributes to a low national saving rate, and low national saving has a variety of negative consequences, which are discussed in more detail later in this chapter. Second, the falling saving rate raises questions about whether many American consumers are preparing

adequately for their retirement. Finally, families with too little savings may be unprepared to deal successfully with financial emergencies such as a spell of unemployment or large medical expenses.

### *Personal Saving and Retirement*

One of the most obvious reasons for households to save is to provide for a comfortable standard of living in retirement. One way to judge whether personal saving is too low, then, is to ask whether consumers appear to be saving enough for retirement. Several recent studies have examined whether the baby-boom generation, in particular, is doing enough retirement saving. One set of studies has concluded that typical baby-boomers need to roughly triple their saving rates if they hope to maintain their living standards in retirement. Another study, however, asserts that even if they do not change their saving behavior at all, the majority of boomers probably will not experience a sharp drop in living standards upon retirement.

These different conclusions largely reflect a difference in approach. The first set of studies begins by calculating the gap between the income that baby-boomers can expect to receive from the combination of Social Security and traditional pensions, and the income that would be required to maintain their preretirement standard of living. These studies then calculate the “target” saving rates that baby-boomers would need to achieve to plug that income gap, and show that the saving rates of typical baby-boom households are only about a third of the target rates, leading to a “baby boom retirement adequacy index” of 33 percent.

Critics point out that this approach can be misleading, in part because it is not a measure of the consequences if consumers decide *not* to increase their saving. In particular, an index value of 33 percent does not imply that retirement spending will have to be one-third the level of preretirement spending. For example, consider a household for whom Social Security and pensions will provide sufficient retirement income to finance spending at 80 percent of preretirement income, and suppose that the household only needs 85 percent of preretirement income to maintain its accustomed standard of living. (Spending needs could decline in retirement for several reasons, notably the decline in commuting and other work-related expenses.) Such a household could save nothing, and therefore would have an index value of zero, yet would only experience about a 5-percent decline in its standard of living at retirement.

An alternative way to evaluate the adequacy of retirement saving is to calculate the ratio of the level of sustainable retirement spending to the level of spending necessary to maintain standards of living. Using this measure of retirement adequacy, a recent study calculated that, under plausible assumptions about the rate of return on savings, and assuming no changes in saving behavior or in the Social

Security system, almost half of married-couple baby-boomer households in which the husband works full-time are saving enough to maintain their standard of living in retirement. (Single baby-boomers are probably not faring as well, however.) And only about a third of these married-couple baby-boomer households are projected to suffer large cuts in their standard of living. These figures improve if home equity is included in the measure of retirement savings, although there is some debate whether including home equity is appropriate. The recent runup in the stock market would improve the picture further, although most of the improvement would likely be concentrated among the third of households who are already best prepared for retirement to the extent that they hold a disproportionate share of equity investments.

Even the optimists, however, acknowledge that current saving rates of most baby-boom households are not high enough to provide much of a cushion against the many uncertainties that they face. In particular, if their retirement savings earn low rates of return, or if rising medical costs or other unexpected expenses increase their spending needs in retirement, or if retirement income from sources other than personal savings falls substantially short of the projections made on the basis of current pension and social insurance programs, then many baby-boomers may end up wishing they had saved much more. And even under optimistic assumptions, it appears likely that unless they boost their saving, most unmarried boomers will reach normal retirement age with insufficient assets to fully maintain their preretirement standard of living.

On the whole, therefore, it does appear that unless their saving rates rise, a very substantial proportion of the baby-boom generation is at risk of reaching retirement age with insufficient assets to maintain their standard of living. One response may be for them to delay retirement. Since Social Security and many other pension benefits are adjusted upward for those who delay retirement, some of the boomers who are not saving enough to retire at the normal retirement age may nevertheless be able to retire in relative comfort several years later. Of course, those who have saved little but whose state of health or line of work prevents them from remaining in the work force may have no choice but to accept significantly lower living standards in their retirement years.

### *Personal Saving and Financial Emergencies*

When consumers are asked about their primary reasons for saving, the most common answer is that saving is important in order to build up resources that can be drawn upon in case of emergency. Although precautionary saving of this kind cannot plausibly explain either the practice of regular payroll deductions for pension plans or the accumulation of wealth held by the richest few percent of households, it can account for the consistent finding by consumer surveys that most

households usually have on hand an amount of liquid assets that corresponds to between a few weeks' and a few months' worth of spending.

It is difficult to judge whether these liquid assets are enough to cushion consumers against financial emergencies. Certainly, they alone would not be enough to fully maintain spending through the worst possible emergencies such as a long spell of unemployment. But most households could probably substantially cut their spending during an extended unemployment spell. Also, in today's economy most consumers have the option of credit card, home equity, or other kinds of borrowing to finance emergency spending. Indeed, a potential partial explanation of the drop in the personal saving rate over the past decade is that some consumers have decided that credit cards or other consumer credit sources can help fill the buffer role traditionally served by liquid assets.

Unquestionably, credit card availability has risen in recent years. Particularly notable has been the increase in availability of credit cards to consumers in lower income and wealth brackets: in 1983 only 28 percent of consumers with annual incomes of less than \$15,000 (in 1992 dollars) held credit cards, but by 1995 the ownership rate for that group had increased to 44 percent. In addition, those groups of consumers who already had credit cards in 1983 have seen a large increase in their credit limits in recent years: the median total credit limit among all consumers with cards increased from about \$6,000 in 1989 to over \$9,000 in 1995 (both in 1992 dollars).

As might be expected, credit card borrowing has increased as credit has become more available. But the increases in borrowing have been fairly modest compared with the increases in credit limits. Table 2-3 shows the distribution of credit balances (the part of the credit card bill that consumers choose not to pay off at the end of the month) as a percentage of income for employed working-age consumers in 1983, 1989, and 1995. Whereas the median ratio of credit card balance to income was close to zero in all 3 years, consumers at the 75th and 95th percentiles of the distribution had increasingly large balances relative to their incomes. Still, even in 1995 consumers at the 95th percentile of the distribution had credit card debt equal to only 22 percent of annual income—a substantial but by no means unbearable burden.

TABLE 2-3.—*Household Credit Card Balances as a Percent of Income*

Point in distribution <sup>1</sup>	1983	1989	1995
Median household .....	0	0	1
Household at 75th percentile .....	2	3	6
Household at 95th percentile .....	7	14	22

<sup>1</sup> Distribution is that of households according to credit card balances as a fraction of income.

Note. — Data are for households whose heads are employed.

Sources: Board of Governors of the Federal Reserve System and calculations of the Council of Economic Advisers.

The available data are consistent with the idea that the expanding availability of credit card debt may have somewhat reduced the need for consumers to hold buffer stocks of liquid assets, and thus may have contributed at least modestly to the drop in the personal saving rate. But for most households credit availability appears to have increased considerably more than credit use, so that there appears to be little reason to worry that typical households have less capacity to withstand financial shocks. Even the small subset of consumers who have run up quite substantial credit card debts could plausibly expect to be able to repay those debts, if they do not experience a major disruption to their income or a large unavoidable expenditure. On the other hand, consumers with large credit card debts who do experience a major financial blow may be forced into bankruptcy.

## THE LONG-TERM UPTREND IN THE BANKRUPTCY RATE

After remaining roughly stable over much of the 1960s and 1970s, the personal bankruptcy rate began rising sharply sometime around the late 1970s or early 1980s. Some have argued that this uptrend resulted from passage of the Bankruptcy Act of 1978, which eased some of the burdens of bankruptcy. Other analysts argue that the approximate correspondence between passage of that act and the beginning of the uptrend in bankruptcies is just a coincidence, and that rising bankruptcy rates reflect other social and economic developments that would have led to a rising bankruptcy rate even if the law had remained unchanged.

One intuitively plausible explanation is that the rise in bankruptcies reflects the increasingly aggressive marketing of credit cards to high-risk consumers who previously would not have been granted credit at all. As noted above, it is true that some households have borrowed increasingly large amounts on credit cards. Some of those highly indebted individuals presumably end up in bankruptcy if they lose their jobs or experience other large financial shocks. But there are reasons to doubt that increased availability of credit cards provides a full explanation of the rise in bankruptcies. First, some suggestive evidence indicates that credit card debt is not a large fraction of the total debt of consumers who declare bankruptcy; consumers who end up in bankruptcy court must therefore have borrowed heavily from non-credit card sources. Second, much of the increase in bankruptcy appears to have come not from low-income consumers who until recently could not get cards, but from the kinds of middle-income consumers who have presumably had access to credit cards all along.

If excessive credit card borrowing is not a complete explanation for the rising bankruptcy rate, what does explain the rise? One possibility is that an increasing number of consumers are simply taking on more debt than they can manage, in non-credit card form as well as



with credit cards. On its face, this explanation seems plausible in light of the large increases in aggregate household debt over the past 15 years, depicted in Chart 2-6. But as noted above, although the aggregate debt service burden has climbed recently, it remains below its late-1980s levels, yet the bankruptcy rate has continued to rise. And as shown in Table 2-2, the proportion of households who had either high or very high debt service burdens was actually lower in 1995 than in 1983. Hence, the available data do not seem to support the theory that bankruptcy has risen simply because increasingly large numbers of ordinary consumers have unwisely taken out so much debt that any financial shock will send them into bankruptcy.

Unfortunately, the evidence on alternative explanations is scant, and no consensus has emerged among experts. One researcher points out that, under the post-1978 bankruptcy law, up to 15 percent of households could increase their net worth by declaring bankruptcy; this researcher and others argue that the rise in the bankruptcy rate over time largely reflects consumers learning about the costs and benefits of declaring bankruptcy, perhaps partly through advertising by bankruptcy lawyers. A related hypothesis is that there has been a decline in the stigma associated with bankruptcy. This theory is consistent with evidence showing that, controlling for other factors, people who live in areas where the bankruptcy rate has been high in the past are more likely to declare bankruptcy.

Other authors have suggested that increasing divorce rates, skyrocketing medical costs, or large legal judgments or settlements may have contributed to the rise in the bankruptcy rate. However, although each of these factors is clearly important in many individual bankruptcy cases, none appears to be sufficient to explain more than a small fraction of the increase in bankruptcies. For example, the divorce rate stabilized in the mid- to late-1980s, yet bankruptcies have continued to rise. And some evidence indicates that only a modest fraction of bankrupt consumers have significant amounts of medical debt or large legal judgments against them.

Whatever is driving the increase in bankruptcies, the rising bankruptcy rate has focused attention on the bankruptcy system. In response, in 1994 the Congress established a commission to recommend reforms in the bankruptcy system. The National Bankruptcy Review Commission released its final report in October 1997 (Box 2-5).

## LONG-TERM GROWTH: BUDGET DEFICITS AND NATIONAL SAVING

Since its first budget proposal in 1993, this Administration has demonstrated a strong commitment to reducing the Federal budget deficit. As a result, the deficit has declined from \$290 billion in 1992 to only \$22 billion in 1997, or from 4.7 percent to 0.3 percent of GDP.

### **Box 2-5.—The National Bankruptcy Review Commission**

The National Bankruptcy Review Commission, created by Congress in 1994 and charged with recommending bankruptcy reforms, released its final report in October 1997. The commission's proposals for business bankruptcy reform are largely uncontroversial. Perhaps partly because of a lack of compelling evidence, the commissioners were unable to achieve consensus on what has caused the rise in personal bankruptcies, and therefore could not agree on a set of final recommendations for personal bankruptcy reform. Many of the commission's final recommendations regarding personal bankruptcy were approved by a bare 5-4 majority of commissioners, and the minority wrote a series of detailed dissents explaining their objections. The dissenting commissioners argue that the recommendations of the report are too lenient toward debtors. For example, the majority's reform plan does not mandate that consumers with incomes over some threshold be forced to repay a portion of their debts out of future earnings.

In August 1997 the President and the Congress sealed a historic agreement that was projected to lead to a balanced budget by 2002; the continuing robust performance of the economy since August has improved the outlook further, leading the President to propose a balanced budget for fiscal 1999.

Balancing the budget has been achieved in large part through a combination of expenditure restraint and increases in income taxes for the 1 percent of households with the highest incomes. Both budget cuts and tax increases are difficult and painful measures. Why did the Administration judge that taking such measures was so important? Principally because persistent budget deficits as large as those of the 1980s and early 1990s constitute an unacceptable drain on national saving.

To see why budget deficits reduce national saving, it is useful to imagine the private saving of all Americans as flowing into a common national pool. This pool of saving is then made available to borrowers. The budget deficit measures how much of this pool of saving is drawn down by the government; national saving is the amount left in the pool after the government has borrowed what it needs to pay for that portion of current expenses that exceed its current revenues.

Because of the reduction in Federal borrowing, net national saving (gross national saving less depreciation of the private and public capital stock) has increased from 3.1 percent of GDP in 1992 to 6.4 percent in 1997 (on the basis of incomplete data for the year). But even this net national saving rate is far below the 10-percent average over the period 1960-80.

Given the Nation's favorable recent economic performance even without a high national saving rate, it might be tempting to conclude that the low national saving rate does not matter. But such a conclusion would be a mistake. There are still good reasons to believe that the benefits of boosting national saving would outweigh the short-term pain of cutting back on spending.

## SAVING IN A CLOSED ECONOMY

One way of thinking about whether more saving would make the Nation better off is to ask whether the aggregate capital stock is at the "golden rule" level—the level that maximizes sustainable per capita consumption. (Economists call this the golden rule level because every generation must resist the temptation to consume more than its share and thereby leave less for future generations.)

Whether an economy is at the golden rule level can be determined by comparing the net extra output that would be produced by more capital against the cost of equipping the growing work force with that extra capital. If the extra output is greater than this cost, then total national output could be increased by adding to the capital stock. In the United States, economists estimate that the before-tax rate of return on additional capital is much higher than the cost of equipping the work force with extra capital, implying that the Nation's capital stock is well below the golden rule level.

The golden rule, however, is an imperfect way to judge whether saving should be higher. The principal problem is that the rule provides no way to weigh the short-term pain from lower current consumption against the long-term gain from eventually higher future consumption. A more flexible framework is provided by the "modified golden rule," which makes explicit assumptions about how current consumption should be traded off against future consumption. The modified golden rule assumes that society as a whole is slightly impatient, in the sense of preferring current consumption to future consumption, and that consumers prefer gradual changes in the level of consumption and dislike abrupt changes. But under plausible assumptions about the before-tax rate of return, the rate of impatience, and the degree to which one year's consumption is substitutable for another year's, even the modified golden rule implies that the saving rate is too low.

## SAVING IN AN OPEN ECONOMY

In an economy closed to foreign trade and capital, all domestic investment must be financed by domestic saving. One of the principal benefits of increasing globalization of trade and capital markets is that the ability to borrow and lend in foreign markets relaxes the need to balance national saving with national investment in every year. If attractive investment opportunities are available at home but domestic

saving is insufficient to pursue them, foreign investors can step in; the resulting excess of investment over national saving is manifested in a current account deficit. This aspect of globalization has been a favorable development for the United States, because it has allowed the economy recently to invest in capital equipment at high rates despite the persistently low national saving rate. The high rates of investment in capital equipment over the past few years have been critical in preventing the kinds of production bottlenecks that have often led to rising inflation rates at comparable points in past business cycles.

But maintaining national investment above national saving over long periods does come at a price: growing indebtedness to foreign investors. In the long run, increased foreign indebtedness means that a portion of the extra future output generated by the extra investment will be needed to pay a return to foreign lenders. In light of the demands that will be placed on the economy over the next 30 or 40 years by the retirement of the baby-boom generation, and considering that countries that are currently lending to us face similar demographic challenges, there remains a strong argument that it would be better to finance our high investment rates more through higher national saving and less by borrowing abroad.

## IMPLICATIONS

This Administration has believed from the beginning that the case for a higher national saving rate is compelling. That conviction led to the Administration's steadfast commitment to reducing the budget deficit. But as important as the progress on the budget deficit has been, the net national saving rate is still too low. One important priority for the Administration and the Nation is to address the actuarial imbalance in the Nation's entitlement programs in a way that increases the national saving rate and thereby increases the resources available to meet the impending demographic crunch.

## FORECAST AND OUTLOOK

### THE ADMINISTRATION FORECAST

The Administration projects GDP growth over the long term at about 2.4 percent per year—a figure consistent with the experience so far during this business cycle as well as with reasonable growth rates of its supply-side components. From the business-cycle peak in the third quarter of 1990 until the third quarter of 1997, real output growth has averaged 2.4 percent per year. This figure is the average of real growth rates of the product side (gross domestic product, 2.3 percent) and the income side (gross domestic income, 2.6 percent). Because the unemployment rate fell by 0.1 percentage point per year over this period, the empirical regularity known as Okun's law sug-

gests that these growth rates overstate the growth of trend output by 0.2 percentage point—a calculation that results in a backward-looking estimate of 2.2-percent growth of potential output.

This estimate is likely understated by about 0.2 percentage point because of methodological problems with the CPI that have been or will soon be corrected (Box 2-6). By lowering measured inflation while leaving nominal GDP unaffected, these methodological changes will boost measured real output (and better capture its true value).

#### **Box 2-6.—Methodological Changes in the Consumer Price Index**

The Bureau of Labor Statistics has recently made several methodological changes that have improved the accuracy of the consumer price index; a few more changes are planned over the next several years (Table 2-4). Most of these improvements have reduced the measured increase in the CPI, and many of these also will affect the deflation of nominal output, and therefore will raise the growth rate of measured real GDP. Changes made through 1997 include the substitution of generic drugs when patents expire on proprietary brands; the correction of a problem in rotating new stores into the survey through a procedure called “seasoning” (a problem that was corrected first in the food category and later in other categories of goods); the modification of the formula for measuring increases in rent; and a change to measuring transaction rather than list prices for hospital services. Changes scheduled to be made in the next 2 years include a switch to measuring computer prices by their intrinsic characteristics (“hedonics”); an update of the market basket from 1982-84 to 1993-95; the use of geometric rather than arithmetic means to address substitution bias within categories; and more frequent rotation of the items sampled in categories with many new product introductions.

The changes made through 1997 have a combined effect of lowering the CPI inflation rate by 0.28 percentage point per year, and raising real GDP growth by 0.06 percentage point per year. The post-1997 changes lower CPI inflation by 0.41 percentage point per year and raise real GDP growth by 0.14 percentage point per year.

In addition, continued capital deepening may add a bit to productivity growth as the net capital stock grows faster than GDP. This would not happen in a steady state where capital and output are growing at the same pace. But the economy is projected not to reach a steady state during the forecast period, as the relative price of capital is expected to continue to fall.

TABLE 2-4.—*Expected Effects on Changes in the CPI and Real GDP of CPI Methodological Changes*

Change in method	Year introduced	Percentage-point effect on:	
		CPI percent change	Real GDP percent change
Pre-1998 .....		-0.28	0.06
Generic prescription drugs .....	1995	-.01	.00
Food at home seasoning .....	1995	-.04	.0
Owners' equivalent rent formula .....	1995	-.10	.00
Rent composite estimator .....	1995	.03	.00
General seasoning .....	1996	-.10	.06
Hospital services index .....	1997	-.06	.00
1998 and after .....		-.41	.14
Personal computer hedonics .....	1998	-.06	.00
Updated market basket .....	1998	-.15	.02
Geometric means .....	1999	-.15	.09
Rotation by item .....	1999	-.05	.03
Total .....		-.69	.20

Sources: Department of Labor (Bureau of Labor Statistics) and Council of Economic Advisers.

## COMPONENTS OF LONG-TERM GROWTH

After rising rapidly in the 1970s and 1980s, the labor force participation rate was relatively flat between 1990 and 1996. But the participation rate rose 0.3 percentage point to 67.1 percent in 1997—the first year in which it surpassed the 1990 level (after correcting for the redesign of the Current Population Survey). One might interpret the pickup in participation in 1997 as a return toward the rapid growth of earlier decades, but other explanations, which suggest that the increase in the rate of participation growth will not endure, are also likely. Given the strong growth of labor demand, it seems that some of last year's labor force pickup ought to be interpreted as a cyclical response to a tight labor market.

The welfare reform law passed in the summer of 1996 may also have boosted labor force participation growth last year and can be expected to do so for several years to come. The legislation requires that, by 2002, States either reduce their welfare caseloads by 50 percent or have 50 percent of the caseload either working or engaged in work-related activities (such as vocational or job skills training), or some combination of the two (with some exemptions). This legislation also set a 2-year time limit on any spell of welfare reciprocity and a 5-year lifetime limit, except that 20 percent of a State's caseload may be exempted from this requirement. Rough calculations suggest that the

requirement for work-related activities and the 2-year limit on welfare spells together could cause the labor force participation rate to grow by almost 0.1 percentage point per year over the next several years.

At the same time, the long-term demographic forces that have restrained growth in labor force participation in the 1990s are expected to remain in place. The stalling of the overall participation rate in the 1990s is accounted for largely by a deceleration in the participation rate of women; the participation rate for men has fallen no faster than in earlier years. The child dependency ratio (the number of children per woman aged 20-54) fell between the late 1960s and the early 1980s, echoing the earlier pattern in the birth rate. The decline in this ratio allowed an increasing fraction of women to enter the labor force between the mid-1970s and the 1980s, but its subsequent flattening in the late 1980s has limited further increases in participation.

Balancing these influences, the Administration's long-term outlook includes a 0.1-percent per year increase in the participation rate through 2007. Together with population growth of 1.0 percent per year for the working-age population, this implies labor force growth of 1.1 percent per year (Table 2-5).

## PRODUCTIVITY

A good way to begin the analysis of productivity growth is by examining the recent past. Labor productivity (that is, worker output per hour) can be measured using either the product-side or the income-side measure of output (Chart 2-9). By the product-side measure, labor productivity has grown at a 1.1-percent annual rate since the business-cycle peak in the third quarter of 1990, whereas the income-side measure shows productivity growth at a more robust 1.5-percent annual rate. Because neither of these two measures is perfect, an argument can be made for averaging them, to yield an estimated annual rate of 1.3 percent over this business cycle.

By either measure, productivity growth was particularly rapid over the first three quarters of 1997, as noted earlier. An acceleration in productivity is not usually observed in the latter part of an expansion (Chart 2-10); historically, productivity growth has tended to slow as the economy returns to full employment. This tendency could reflect several factors, such as overly optimistic hiring decisions by firms, or firms' having to hire less productive workers as the labor market tightens. Whatever the explanation, the fact that no such slowdown is now apparent is evidence that none of these imbalances are currently present, and that the economy is behaving as if it remains in a mid-expansion phase, rather than an end-of-expansion phase.

**TABLE 2-5.—Accounting for Growth in Real GDP, 1960-2005**  
[Average annual percent change]

Item	1960 II to 1973 IV	1973 IV to 1990 III	1990 III to 1997 III	1997 III to 2005
1) Civilian noninstitutional population aged 16 and over .....	1.8	1.5	1.0	1.0
2) PLUS: Civilian labor force participation rate <sup>1</sup> .....	.2	.5	.0	.1
3) EQUALS: Civilian labor force <sup>1</sup> .....	2.0	2.0	1.1	1.1
4) PLUS: Civilian employment rate <sup>1</sup> .....	.0	-.1	.1	-.1
5) EQUALS: Civilian employment <sup>1</sup> .....	2.0	1.9	1.2	1.0
6) PLUS: Nonfarm business employment as a share of civilian employment <sup>12</sup> .....	.1	.1	.2	.1
7) EQUALS: Nonfarm business employment .....	2.1	2.0	1.4	1.1
8) PLUS: Average weekly hours (nonfarm business) .....	-.5	-.4	.1	.0
9) EQUALS: Hours of all persons (nonfarm business) .....	1.6	1.7	1.5	1.1
10) PLUS: Output per hour (productivity, nonfarm business) .....	2.9	1.1	1.1 <sup>3</sup> (1.5)	1.3
11) EQUALS: Nonfarm business output .....	4.5	2.8	2.7 <sup>3</sup> (3.0)	2.4
12) LESS: Nonfarm business output as a share of real GDP <sup>4</sup> .....	.3	.1	.4 <sup>3</sup> (.4)	.1
13) EQUALS: Real GDP .....	4.2	2.7	2.3 <sup>3</sup> (2.6)	<sup>5</sup> 2.3

<sup>1</sup> Adjusted for 1994 revision of the Current Population Survey.

<sup>2</sup> Line 6 translates the civilian employment growth rate into the nonfarm business employment growth rate.

<sup>3</sup> Income-side definition.

<sup>4</sup> Line 12 translates nonfarm business output back into output for all sectors (GDP), which includes the output of farms and general government.

<sup>5</sup> GDP growth is projected to fall below its long-term trend (2.4 percent) as the employment rate is projected to fall 0.1 percent per year over this period.

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

Except for 1997, time periods are from business-cycle peak to business-cycle peak to avoid cyclical variation.

Sources: Council of Economic Advisers, Department of Commerce (Bureau of Economic Analysis), and Department of Labor (Bureau of Labor Statistics).

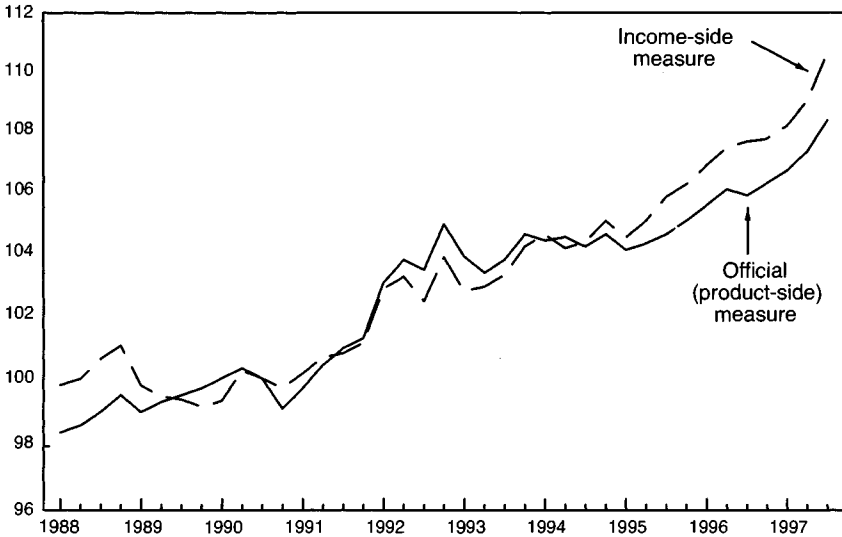
Because hours worked usually reacts to changes in output with a lag, hours probably have not caught up with the acceleration in GDP in 1997. As a result, the growth of productivity over the four quarters ending in the third quarter of 1997 likely exceeded its trend rate, as it often does midway through an expansion. A better estimate of trend productivity growth comes from a model that takes this lagged adjustment into account. This procedure estimates that the trend rate of productivity thus far in this business cycle has been similar to the 1.1-percent annual rate that has prevailed since 1973. Looking ahead, measured productivity can be expected to grow at a 1.3-percent annual rate because of the 0.2-percentage-point effect that the CPI methodological adjustments will have on real GDP.



### Chart 2-9 Alternative Measures of Productivity

Since the last business-cycle peak, the income-side measure of productivity has grown significantly faster than the product-side measure.

Index, 1990:Q3 = 100 (ratio scale)

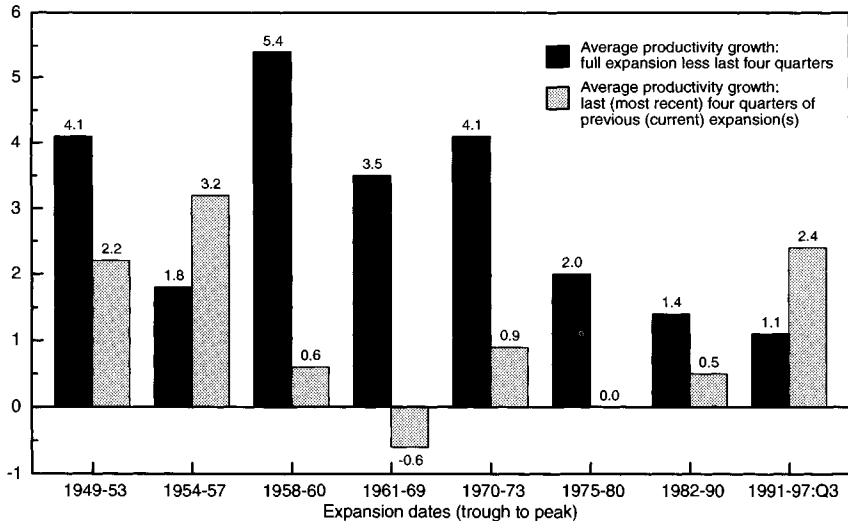


Sources: Department of Commerce (Bureau of Economic Analysis), Department of Labor (Bureau of Labor Statistics), and Council of Economic Advisers.

### Chart 2-10 Productivity Growth and the End-of-Expansion Effect

Nonfarm business productivity growth has slowed in the late stages of almost all previous postwar expansions. Over the past year, productivity accelerated.

Average annual percent change



Sources: Department of Labor (Bureau of Labor Statistics) and National Bureau of Economic Research.

## INFLATION CONSIDERATIONS

Continued labor market tightness can be expected to put some upward pressure on inflation. With the relative price of investment goods continuing to fall, strong growth of investment is expected to keep industrial capacity relatively more ample than labor supply. And the future development of inflation will also be affected by the factors that have thus far suppressed it. The restructuring of the Asian economies virtually guarantees that the price of imports from these economies will remain low and may fall further. The relative price of computers will continue to fall, although the rate of decline is expected to return to the roughly 15-percent annual rate that has prevailed over much of the 1990s. Finally, the methodological changes to the CPI planned to be implemented before 2000 are eventually expected to lower annual CPI inflation by another 0.4 percentage point, and the price index for GDP by 0.1 percentage point. With these considerations in mind, the Administration projects CPI inflation to creep up by about 0.3 percentage point over the next few years, to 2.3 percent by 2000.

## THE DEMAND FOR HOUSING

A surge in the fourth quarter raised residential investment growth above that of GDP during the past year. New home construction (housing starts and shipments of mobile homes) was roughly unchanged in 1997 from its year-earlier pace, despite a jump in the fourth quarter. Demographic trends indicate stable demand for housing during the next decade.

The current shape of the age distribution reflects the legacy of the baby boom and the baby bust. Because most new households are formed by young adults, the passage of the first wave of baby-boomers into the prime years of household formation in the late 1970s was associated with a rapid pace of home construction and rising house prices. But household formation fell to an annual rate of about 1.1 million per year during the first half of the 1990s as the smaller baby-bust cohort moved into adulthood. Demographic forecasts project a similar rate of household formation over the second half of the 1990s.

In addition to growth in the number of households, demand for new homes is created by the replacement of homes that are scrapped or destroyed and by the increase in the number of second homes and vacant homes (Table 2-6). Replacement demand (which can be estimated over long periods only) has averaged about 300,000 units per year. The increase in "vacant" homes (which includes second homes) is highly cyclical and has reflected the general economic strength of recent years, but tends to average about 200,000 units per year. Altogether, housing demand has averaged 1.53 million units per year thus far in the 1990s and, in light of the demographic forecast, is expected to continue at a similar pace for the next decade.

This projection of the long-run demand for housing is slightly stronger than what has prevailed thus far in the 1990s, but not quite as strong as demand in the past 2 years. As Table 2-6 shows, long-run demand is consistent with a rate of housing starts of roughly 1.40 million units per year, slightly below the 1.48-million-unit pace of homebuilding in 1997. Of course, economic conditions can push housing starts away from their demographic fundamentals. Recessions generally slow the pace of both home construction and household formation as young people remain longer in their parents' homes—this is what happened in 1990. In good times, people spend more on larger homes and second homes. If the current good times continue, homebuilding could exceed these projections of its demographic determinants.

TABLE 2-6.—*Contribution of Selected Determinants of Demand and Supply for New Homes*  
[Millions, annual average]

Determinant	1970s	1980s	1990-96	1996-2006
<b>Demand:</b>				
Household growth.....	1.73	1.26	1.05	1.10
Change in vacancies.....	.20	.40	.18	.24
Net removals.....	.30	.30	.30	.30
<b>Total demand.....</b>	<b>2.23</b>	<b>1.96</b>	<b>1.53</b>	<b>1.64</b>
<b>Supply:</b>				
Single-family homes.....	1.14	.99	1.05	1.08
Multifamily homes.....	.62	.51	.24	.30
Mobile homes.....	.37	.25	.26	.26
<b>Total supply.....</b>	<b>2.12</b>	<b>1.75</b>	<b>1.54</b>	<b>1.64</b>
Measurement error.....	.11	.21	-.01	.00

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

Sources: Department of Commerce (Bureau of the Census) and Council of Economic Advisers.

## THE NEAR-TERM OUTLOOK

Both supply- and demand-side considerations argue for some moderation in real GDP growth from its rapid 3.6-percent annual pace of the past 2 years (Table 2-7). On the supply side, the unemployment rate has fallen about a percentage point over the past 2 years, and it is therefore doubtful whether a further decline of this magnitude could be accommodated without inflationary consequences. Labor force growth has not kept up with demand in the past 2 years, nor can it be expected to keep up with a repetition of that kind of demand growth.

On the demand side, some restraint is likely to come from the international economy, where the recent rise in the dollar and the restructuring of several Asian economies may slow the demand for American-built products. Because the direction of trade responds

with a lag to changes in the exchange rate, the large rise in the dollar over the past 2 years is likely to boost demand for imports and limit growth of our exports. The recent movements of the Asian currencies are particularly dramatic and will make imports from these economies less expensive. Even so, the cloud formed by the Asian restructuring has a silver lining: aggressive competition from foreign producers is likely to restrain domestic inflation—as it has during the past 2 years.

TABLE 2-7.—*Administration Forecast*

Item	Actual		1998	1999	2000	2001	2002	2003	2004
	1996	1997							
	Percent change, fourth quarter to fourth quarter								
Nominal GDP .....	5.6	'5.8	4.0	4.1	4.3	4.6	4.6	4.6	4.7
Real GDP (chain-type) .....	3.2	'3.9	2.0	2.0	2.0	2.3	2.4	2.4	2.4
GDP price index (chain-type) .....	2.3	'1.8	2.0	2.1	2.2	2.2	2.2	2.2	2.2
Consumer price index (CPI-U) .....	3.2	1.9	2.2	2.2	2.3	2.3	2.3	2.3	2.3
	Calendar year average								
Unemployment rate (percent) .....	5.4	4.9	4.9	5.1	5.3	5.4	5.4	5.4	5.4
Interest rate, 91-day Treasury bills (percent) .....	5.0	5.1	5.0	4.9	4.8	4.7	4.7	4.7	4.7
Interest rate, 10-year Treasury notes (percent) .....	6.4	6.4	5.9	5.8	5.8	5.7	5.7	5.7	5.7
Nonfarm payroll employment (millions) .....	119.5	'122.3	124.0	125.4	126.8	128.4	130.4	132.5	134.5

<sup>1</sup> Preliminary.

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

Other factors also are expected to slow the growth of demand. Business purchases of capital goods have been growing faster than the overall economy, and because the relative price of equipment investment is falling, this trend is expected to continue. However, some moderation of the recent torrid pace is expected as business demand for capital goods becomes more sated. A similar effect may limit expenditures on consumer durables, where—given the length and strength of this expansion—pent-up demand has been exhausted.

The rate of inventory investment was particularly strong during the first half of 1997 and remained high despite tapering off somewhat in the second half of the year. Because output grew so rapidly, inventories remain lean with respect to sales, and certainly no overhang of excess inventories exists at this point. Still, the rate of inventory growth during 1997, at about 5 percent, is in excess of what will be needed once demand moderates to its trend. As a result, inventory investment is also expected to restrain near-term growth in demand.

As in recent Administration projections, a moderation in output growth to 2.0 percent is projected in the near term—slightly below the economy's long-run growth rate, but in line with the consensus of professional economic forecasters. The balance of the Administration's forecast is built around a growth rate for potential output of 2.4 percent per year. The Administration does not think that 2.4-percent annual real growth is the best that the economy can do; rather, this projected growth reflects a conservative estimate of the effects of Administration policies to promote education and investment and to balance the budget. The outcome could be even better—as it has been in the past 2 years. But the Administration's forecast is used for a very important purpose: to project Federal revenues and outlays and the Federal budget deficit. For this purpose excessive optimism is dangerous and can stand in the way of making difficult but necessary budget decisions. In the final analysis, the most important goal is the creation of a sound forecast that accurately captures likely economic trends.

As of December 1997 the current expansion had lasted 81 months, making it the third longest in the postwar record. There is no foreseeable reason why this expansion cannot continue. As the 1996 *Report* argued, expansions do not die of old age. Instead, recent postwar expansions have ended because of rising inflation, financial imbalances, or inventory overhangs. None of these conditions exists at present. The most likely prognosis is therefore for sustained job creation and continued noninflationary growth.