
*Monetary Policy and
Economic Developments*

Monetary Policy and the Economy in 2000

Bolstered by the exceptional strength of domestic demand, the U.S. economy continued to expand at a rapid pace in the first half of 2000. The economy slowed appreciably thereafter, however, and growth eventually became quite sluggish as the year wound down. Overall rates of inflation were higher than in 1999, largely as a result of steep increases in energy prices.

The Federal Reserve adjusted its policy settings and its perceptions of risk as economic conditions changed. When the FOMC convened for its first two meetings of 2000, in February and March, economic indicators were pointing toward an increasingly taut labor market as a consequence of a persistent imbalance between the growth rates of aggregate demand and potential aggregate supply. Reflecting the underlying strength in spending and expectations of tighter monetary policy, market interest rates were rising, especially after the century date change passed without incident. But, at the same time, equity prices were still posting appreciable gains on net. Knowing that the two safety valves that had been keeping underlying inflation from picking up until then—the economy's ability to draw on the pool of available workers and to expand its trade deficit on reasonable terms—could not be counted on indefinitely, the FOMC voted for a further tightening in monetary policy at both its February and March meetings, raising the target for

the overnight federal funds rate $\frac{1}{4}$ percentage point on each occasion. In related actions, the Board of Governors also approved quarter-point increases in the discount rate in both February and March.

Between the March and May meetings of the FOMC some readings on labor costs and prices suggested a possible increase of inflation pressures. Moreover, aggregate demand had continued to grow at a fast clip, and markets for labor and other resources were showing signs of further tightening. Financial market conditions had firmed in response to these developments; the substantial rise in private borrowing rates between March and May had been influenced by the buildup in expectations of more policy tightening. Given all these circumstances, the FOMC decided in May to raise the target for the overnight federal funds rate $\frac{1}{2}$ percentage point, to $6\frac{1}{2}$ percent, and the Board of Governors approved an increase of the same size in the discount rate.

By the June FOMC meeting, the incoming data were suggesting that the expansion of aggregate demand might be starting to moderate toward a more sustainable pace: Consumers had increased their outlays for goods modestly during the spring; home purchases and starts appeared to have softened; and readings on the labor market suggested that the pace of hiring might be cooling off. Moreover, much of the effects on demand of previous policy firmings, including the $\frac{1}{2}$ percentage point tightening in May, had not yet been fully realized. Financial market participants interpreted signs of economic slowing as suggesting that the

NOTE. The discussions here and in the next section ("Economic and Financial Developments in 2000") are adapted mainly from *Monetary Policy Report to the Congress* (Board of Governors, February 2001). The data cited are those available as of mid-February 2001.

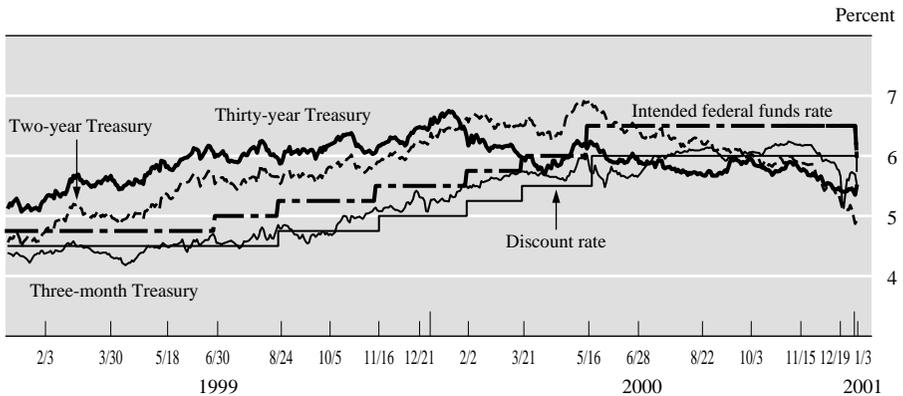
Federal Reserve probably would be able to hold inflation in check without much, if any, additional policy firming. However, whether aggregate demand had moved decisively onto a more moderate expansion track was not yet clear, and labor resource utilization remained unusually elevated. The FOMC decided to take no policy action in June, but it indicated that the balance of risks was still on the side of rising inflation in the foreseeable future.

Further evidence accumulated over the summer and into the fall to indicate that demand growth was moderating to a pace around that of potential supply. Although consumer spending had picked up again during the summer, it did not regain the vigor it had displayed earlier in the year, and capital spending, while still growing briskly, had decelerated from its first-half pace. With increases in demand moderating, private employment gains slowed from the rates seen earlier in the year. However, labor markets remained exceptionally tight, and the hourly compensation of workers had accelerated to a point at which unit labor costs were edging up despite strong gains in productivity. In addition,

sizable increases in energy prices were pushing broad inflation measures above the levels of recent years. Although core inflation measures were at most only creeping up, the Committee felt that there was some risk that the increase in energy prices, which was lasting longer than had seemed likely earlier in the year, would start to leave an imprint on business costs and longer-run inflation expectations, posing the risk that core inflation rates could rise more substantially. Weighing these considerations, the FOMC decided to hold the federal funds rate unchanged at both its August and October meetings, and it indicated that the balance of risks still was weighted toward heightened inflation pressures.

By the time of the November FOMC meeting, conditions in the financial markets were becoming less accommodative in some ways, even as the Federal Reserve held the federal funds rate steady. Equity prices had declined considerably over the previous several months, resulting in an erosion of household wealth that seemed likely to restrain consumer spending going forward. Those price declines, along with

Selected Interest Rates



NOTE. The data are daily. The dates on the horizontal axis are those of scheduled FOMC meetings and of any intermeeting policy actions.

the elevated volatility of equity prices, also hampered the ability of firms to raise funds in equity markets and were likely discouraging business investment. Some firms faced more restrictive conditions in credit markets as well, as risk spreads in the corporate bond market widened significantly for firms with lower credit ratings and as banks tightened the standards and terms on their business loans. Meanwhile, incoming data indicated that the pace of economic activity had softened a bit further. Still, the growth of aggregate demand apparently had moved only modestly below that of potential supply. Moreover, while crude oil prices appeared to be topping out, additional inflationary pressures were arising in the energy sector in the form of surging prices for natural gas, and there had been no easing of the tightness in the labor market. In assessing the evidence, the members of the Committee felt that the risks to the outlook were coming into closer balance but had not yet shifted decisively. At the close of the meeting, the FOMC left the funds rate unchanged once again, and it stated that the balance of risks continued to point toward increased inflation. However, in the statement released after the meeting, the FOMC noted the possibility of subpar growth in the economy in the period ahead.

Toward the end of the year, the moderation of economic growth gave way, fairly abruptly, to more sluggish conditions. By the time of the December FOMC meeting, manufacturing activity had softened considerably, especially in motor vehicles and related industries, and a number of industries had accumulated excessive stocks of inventories. Across a broader set of firms, forecasts for corporate sales and profits in the fourth quarter and in 2001 were being slashed, contributing to a continued decline in equity prices and a further

widening of risk spreads on lower-rated corporate bonds. In this environment, growth in business fixed investment appeared to be slowing appreciably. Consumer spending showed signs of decelerating further, as falling stock prices eroded household wealth and consumer confidence weakened. Moreover, growth in foreign economies seemed to be slowing, on balance, and U.S. export performance began to deteriorate. Market interest rates had declined sharply in response to these developments. Against this backdrop, the FOMC at its December meeting decided that the risks to the outlook had swung considerably and now were weighted toward economic weakness, although it decided to wait for additional evidence on the extent and persistence of the slowdown before moving to an easier policy stance. Recognizing that the current position of the economy was difficult to discern because of lags in the data and that prospects for the near term were particularly uncertain, the Committee agreed at the meeting that it would be especially attentive over coming weeks to signs that an intermeeting policy action was called for.

Additional evidence that economic activity was slowing significantly emerged not long after the December meeting. New data indicated a marked weakening in business investment, and retail sales over the holiday season were appreciably lower than businesses had expected. To contain the resulting buildup in inventories, activity in the manufacturing sector continued to drop. In addition, forecasts of near-term corporate profits were being marked down further, resulting in additional declines in equity prices and in business confidence. Market interest rates continued to fall, as investors became more pessimistic about the economic outlook. On the basis of these developments, the Com-

mittee held a telephone conference call on January 3, 2001, and decided to cut the intended federal funds rate $\frac{1}{2}$ percentage point. By the following day, the Board of Governors had approved decreases in the discount rate totaling $\frac{1}{2}$ percentage point. Equity

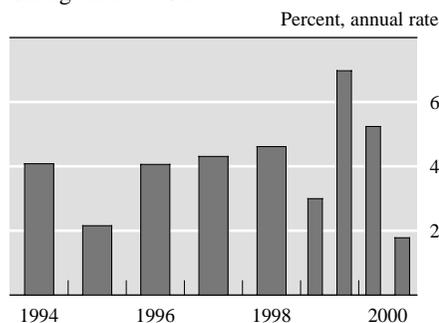
prices surged on the announcement of the federal funds rate cut, and the Treasury yield curve steepened considerably, apparently because market participants became more confident that a prolonged downturn in economic growth would likely be forestalled. ■

Economic and Financial Developments in 2000

The combination of exceptionally strong growth in the first half of 2000 and subdued growth in the second half resulted in a rise in real GDP of about 3½ percent for the year overall. Domestic demand started out the year with incredible vigor but decelerated thereafter and was sluggish by year-end. Exports surged for three quarters and then faltered. In the labor market, growth of employment slowed over the year but was sufficient to keep the unemployment rate around the lowest sustained level in more than thirty years.

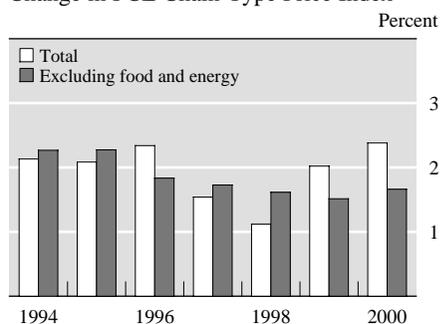
Core inflation remained low in 2000 in the face of sharp increases in energy prices. Although the chain-type price index for personal consumption expenditures (PCE) moved up faster than in 1999, it showed only a slight step-up in the rate of increase after excluding the prices of food and energy. Unit labor costs picked up moderately, adding to the cost pressures from energy, but the ability of businesses to raise prices was

Change in Real GDP



NOTE. Here and in subsequent charts, except as noted, annual changes are measured from Q4 to Q4, and change for a half-year is measured between its final quarter and the final quarter of the preceding period.

Change in PCE Chain-Type Price Index



NOTE. Data are for personal consumption expenditures (PCE).

restrained by the slowing of the economy and the persistence of competitive pricing conditions.

The economy continued to benefit in 2000 from the remarkable step-up in structural productivity growth since the mid-1990s, which seems to be closely related to the spread of new technologies. Even as the economy slowed in the latter half of the year, evidence of ongoing efficiency gains were apparent in the form of further appreciable advances in output per worker hour in the nonfarm business sector. The impressive performance of productivity and the accompanying environment of low and stable underlying inflation suggested that the longer-run outlook for the economy remained favorable at the end of 2000, despite the downside risks that were apparent in the near-term outlook.

The Household Sector

Personal consumption expenditures increased 4½ percent in real terms in 2000 after having advanced 5 percent in

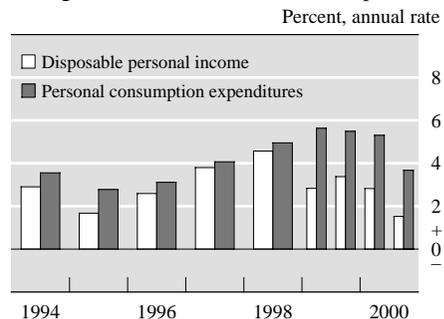
1998 and 5½ percent in 1999. A large portion of the gain in 2000 came in the first quarter, when consumption moved ahead at an unusually rapid pace. The increase in consumer spending over the remainder of the year was moderate, averaging about 3½ percent at an annual rate. Consumer outlays for motor vehicles and parts surged to a record high early in 2000 but reversed that gain over the remainder of the year; sales of vehicles tailed off especially sharply as the year drew to a close. Real consumer purchases of gasoline fell during the year in response to the steep run-up in gasoline prices. Most other broad categories of goods and services posted sizable gains over the year as a whole, but results late in the year were mixed: Real outlays for goods other than motor vehicles eked out only a small gain in the fourth quarter, while real outlays for consumer services rose very rapidly, not only because of higher outlays for home heating fuels during a spell of colder-than-usual weather but also because of continued strength in real outlays for other types of services.

Changes in income and wealth provided less support to consumption in 2000 than in other recent years. Real disposable personal income rose about 2¼ percent during the year after a gain of slightly more than 3 percent in 1999. Disposable income did not rise quite as much in nominal terms as it had in 1999, and rising prices eroded a larger portion of the nominal gain. Meanwhile, the net worth of households turned down in 2000 after having climbed rapidly for several years, as the effect of a decline in the stock market was only partially offset by a sizable increase in the value of residential real estate. With the peak in stock prices not coming until the year was well under way, and with valuations having previously been on a sharp upward course for an extended period,

stock market wealth may well have continued to exert a strong positive effect on consumer spending for several months after share values had topped out. As time passed, however, the impetus to consumption from this source most likely diminished. The personal saving rate, which had dropped sharply during the stock market surge of previous years, fell further in 2000, but the rate of decline slowed, on average, after the first quarter.

Even with real income growth slowing and the stock market turning down, consumers maintained a high degree of optimism through most of 2000 regarding the state of the economy and the economic outlook. Indexes of sentiment from both the University of Michigan Survey Research Center and the Conference Board rose to new peaks in the first quarter of the year, and the indexes remained close to those levels for several more months. Survey readings on personal finances, general business conditions, and the state of the labor market remained generally favorable through most of the year. As of late autumn, only mild softness could be detected. Toward year-end, however, confidence in the economy dropped sharply in response to a combination of developments, including the weakness in the stock market over the latter part of the year and more frequent reports of layoffs.

Change in Real Income and Consumption



Real outlays for residential investment declined about 2¼ percent, on net, over the course of 2000, as construction of new housing dropped back from the elevated level of the previous year. Investment in housing was influenced by a sizable swing in mortgage interest rates as well as by slower growth of employment and income and the downturn in the stock market. After having moved up appreciably in 1999, mortgage rates continued to advance through the first few months of 2000. By mid-May, the average commitment rate on conventional fixed-rate mortgages was above 8½ percent, up roughly 1½ percentage points from the level of a year earlier. New construction held up even as rates were rising in 1999 and early 2000, but it softened in the spring of the latter year. Starts and permits for single-family houses declined from the first quarter of 2000 to the third quarter.

But even as homebuilding activity was turning down, conditions in mortgage markets were moving back in a direction more favorable to housing. From the peak in May, mortgage interest rates fell substantially over the remainder of the year, reversing the earlier increases. Sales of new homes firmed as rates turned down, and prices of new houses continued to trend up faster than the general rate of inflation. Inventories of unsold new homes held fairly steady over the year and were up only moderately from the lows of 1997 and 1998. With demand well-maintained and inventories under control, activity stabilized. Starts and permits for single-family houses in the fourth quarter of 2000 were up from the average for the third quarter.

Households continued to borrow at a brisk pace in 2000, with household debt expanding an estimated 8¾ percent, well above the growth rate of dispos-

able personal income. Consumer credit increased rapidly early in the year, boosted by strong outlays on durable goods; but as consumer spending cooled later in the year, the expansion of consumer credit slowed. For the year as a whole, consumer credit is estimated to have advanced more than 8½ percent, up from the 7 percent pace of 1999. Households also took on large amounts of mortgage debt, which grew an estimated 9 percent in 2000, reflecting the solid pace of home sales.

With the rapid expansion of household debt in recent years, the household debt service burden has increased to levels not seen since the late 1980s. Even so, with unemployment low and household net worth still high by historical standards, the credit quality of the household sector appears to have deteriorated little in 2000. Personal bankruptcy filings held relatively steady and remained well below their peak from several years ago. Delinquency rates on home mortgages, credit cards, and auto loans edged up in 2000 but were at most only slightly above their levels of the fourth quarter of 1999. Lenders did not appear to be significantly concerned about the credit quality of the household sector for most of 2000, although some lenders eventually became more cautious. According to surveys of banks conducted by the Federal Reserve, few commercial banks tightened lending conditions on consumer installment loans and mortgage loans to households over the first three quarters of 2000. However, the survey that included the latter part of the year indicated that a number of banks tightened standards and terms on consumer loans, particularly non-credit-card loans, perhaps because of some uneasiness about how the financial position of households might hold up as the pace of economic activity slowed.

The Business Sector

Real business fixed investment rose 10 percent in 2000 according to the advance estimate from the Commerce Department. Investment spending shot ahead at an annual rate of 21 percent in the first quarter of the year; its strength in that period came, in part, from high-tech purchases that had been delayed from 1999 by companies that did not want their operating systems to be in a state of change at the onset of the new millennium. Expansion of investment was slower but still relatively brisk in the second and third quarters, at annual rates of about 15 percent and 8 percent respectively. In the fourth quarter, however, capital spending downshifted abruptly in response to the slowing economy, tightening financial conditions, and rising concern about the prospects for profits; the initial estimate for that period showed real investment outlays having fallen at an annual rate of 1½ percent.

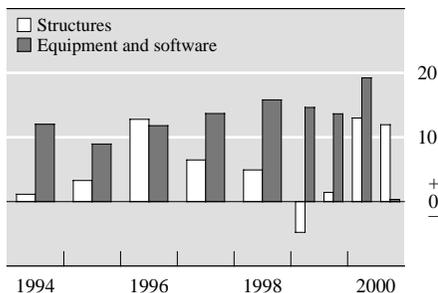
Fixed investment in equipment and software was up 9½ percent in 2000, with the bulk of the gain coming in the first half of the year. Spending slowed to a rate of growth of about 5½ percent in the third quarter and then declined in the fourth quarter. Business investment in motor vehicles fell roughly 15 percent, on net, during 2000, with the larg-

est portion of the drop coming in the fourth quarter; the declines in real outlays on larger types of trucks were particularly sizable. Investment in industrial equipment, tracking the changing conditions in manufacturing, also fell in the fourth quarter but was up appreciably for the year overall. Investment in high-tech equipment decelerated over the year but was still expanding in the fourth quarter: Real outlays for telecommunications equipment posted exceptionally large gains in the first half of the year, flattened out temporarily in the third quarter, and expanded again in the fourth. Spending on computers and peripherals increased, in real terms, at an average rate of about 45 percent over the first three quarters of the year but slowed abruptly to a 6 percent rate of expansion in the year's final quarter, the smallest quarterly advance in several years.

Investment in nonresidential structures rose substantially in 2000, about 12½ percent in all, after having declined 1¾ percent in 1999. Investment in factory buildings, which had fallen more than 20 percent in 1999 in an apparent reaction to the economic disruptions abroad and the associated softness in demand for U.S. exports, more than recouped that decline over the course of 2000. Real outlays for office construction, which had edged down in 1999 after several years of strong advance, got back on track in 2000, posting a gain of about 13½ percent. Real investment in commercial buildings other than offices was little changed after moderate gains in the two previous years. Spending on structures used in drilling for energy strengthened in response to the surge in energy prices.

Business inventory investment was subdued early in the year when final sales were surging; aggregate inventory-sales ratios, which have trended lower

Change in Real Business Fixed Investment
Percent, annual rate



in recent years as companies became more efficient at managing stocks, edged down further. As sales moderated in subsequent months, production growth did not decelerate quite as quickly, and inventories began to rise more rapidly. Incoming information through the summer suggested that some firms might be encountering a bit of backup in stocks but that the problems were not severe overall. In the latter part of the year, however, inventory–sales ratios turned up, indicating that more serious overhangs were developing. Responding to the slowing of demand and the increases in stocks, manufacturers reduced output in each of the last three months of the year. Businesses also began to clamp down on the flow of imports. Despite those adjustments, stocks in a number of domestic industries were likely well above desired levels as the year drew to a close.

Business profits followed a pattern much like that of other economic data. After having risen at an annual rate of more than 16 percent in the first half of the year, U.S. corporations' economic profits—that is, book profits with inventory and capital consumption adjustments—slowed to less than a 3 percent rate of growth in the third quarter. Profits from operations outside the United States continued to increase rapidly in the third quarter. However, economic profits from domestic operations edged down in that period, as solid gains for financial corporations were more than offset by a 4 percent rate of decline in the profits of nonfinancial corporations. Profits of nonfinancial corporations as a share of their gross nominal output rose about ½ percentage point in the first half of 2000 but reversed part of that gain in the third quarter. Earnings reports for the fourth quarter indicated that corporate profits fell sharply in that period.

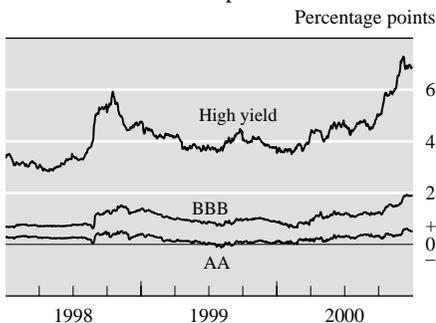
Business debt expanded strongly over the first half of 2000, propelled by robust capital spending as well as by share repurchases and cash-financed merger activity. The high level of capital expenditures outstripped internally generated funds by a considerable margin despite continued impressive profits. To meet their borrowing needs, firms tapped commercial paper, bank loans, and corporate bonds in volume in the first quarter. The rapid pace of borrowing continued in the second quarter, although borrowers relied more heavily on bank loans and commercial paper to meet their financing needs in response to a rise in longer-term interest rates.

Business borrowing slowed appreciably in the second half of the year. As economic growth moderated and profits weakened, capital spending decelerated sharply. In addition, firms held down their borrowing needs by curbing their buildup of liquid assets, which had been accumulating quite rapidly in previous quarters. Borrowing may have been deterred by a tightening of financial conditions for firms with lower credit ratings, as investors and lenders apparently became more concerned about credit risk. Those concerns likely were exacerbated by indications that credit quality had deteriorated at some businesses. The default rate on high-yield bonds continued to climb in 2000, reaching its highest level since 1991. Some broader measures of credit quality also slipped. The amount of nonfinancial debt downgraded by Moody's Investor Services in 2000 was more than twice as large as the amount upgraded, and the delinquency rate on business loans at commercial banks continued to rise over the year. But while some firms were clearly having financial difficulties, many other firms remained soundly positioned to service their debt. Indeed, the ratio of net interest payments to cash flow for all

nonfinancial firms moved only modestly above the relatively low levels of recent years.

As concerns about risk mounted, lenders became more cautious about extending credit to some borrowers. An increasingly large proportion of banks reported firming terms and standards on business loans over the course of the year. In the corporate bond market, yield spreads on high-yield and lower-rated investment-grade bonds, measured relative to the ten-year swap rate, began climbing sharply in September and by year-end were at levels well above those seen in the fall of 1998. Lower-rated commercial paper issuers also had to pay unusually large premiums late in the year, particularly on paper spanning the year-end. As financial conditions became more stringent, issuance of high-yield debt was cut back sharply in the fourth quarter, although investment-grade bond issuance remained strong. Bank lending to businesses was also light at that time, and net issuance of commercial paper came to a standstill. In total, the debt of nonfinancial businesses expanded at an estimated 5½ percent rate in the fourth quarter, less than half the pace of the first half of the year.

Spreads of Corporate Bond Yields over the Ten-Year Swap Rate



NOTE. The data are daily. The spreads compare the yields on the Merrill Lynch AA, BBB, and 175 indexes with the ten-year swap rate.

The slowdown in borrowing in the latter part of the year damped the growth of nonfinancial business debt over 2000, although it still expanded an estimated 8¾ percent.

Growth in commercial mortgage debt slowed in 2000 to an estimated rate of 9¼ percent, and issuance of commercial-mortgage-backed securities fell back from its 1999 pace. Spreads on lower-rated commercial-mortgage-backed securities over swap rates widened by a small amount late in the year, and banks on net reported tightening their standards on commercial real estate credit over the year. Nevertheless, fundamentals in the commercial real estate market remained solid, and delinquency rates on commercial mortgages stayed around their historic lows.

The Government Sector

Real consumption and investment expenditures of federal, state, and local governments, the part of government spending that is included in GDP, rose only 1¼ percent in the aggregate during 2000. The increase was small partly because the consumption and investment expenditures of the federal government had closed out 1999 with a large increase in advance of the century date change. Federal purchases in the fourth quarter of 2000 were about 1 percent below the elevated level at year-end 1999. Abstracting from the bumps in the spending data, the underlying trend in real federal consumption and investment outlays appears to have been mildly positive over the past couple of years. The consumption and investment expenditures of state and local governments rose about 2½ percent in 2000 after an unusually large increase of 4¼ percent in 1999. The slowdown in spending was mainly a reflection of a downshift in government investment in structures,

which can be volatile from year to year and had posted a large gain in 1999.

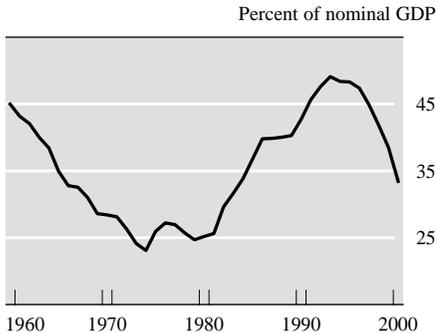
Total federal spending, as reported in the unified budget, rose 5 percent in fiscal year 2000, the largest increase in several years. A portion of the rise stemmed from shifts in the timing of some outlays in a way that tended to boost the tally for fiscal 2000. But even allowing for those shifts, the rise in spending would have exceeded the increases of other recent years. Outlays accelerated for most major functions, including defense, health, social security, and income security. Of these, spending on health—about three-fourths of which consists of outlays for Medicaid—recorded the biggest increase. Medicaid grants to the states were affected in the fiscal year by increased funding for the child health insurance initiative that was passed in 1997 and by a rise in the portion of Medicaid expenses picked up by the federal government. Spending on agriculture rose very sharply for a third year but not as rapidly as in fiscal 1999. The ongoing paydown of debt by the federal government led to a decline of nearly 3 percent in net interest payments in fiscal 2000 after a somewhat larger drop in these payments in fiscal 1999.

Federal receipts increased 10 $\frac{3}{4}$ percent in fiscal year 2000, the largest advance in more than a decade. The increase in receipts from taxes on the income of individuals amounted to more than 14 percent. In most recent years, these receipts have grown much faster than nominal personal income as measured in the national income and product accounts. One important factor in the difference is that rising levels of income and a changing distribution have shifted more taxpayers into higher tax brackets; another is an increase in revenues from taxes on capital gains and other items that are not included in per-

sonal income. Receipts from the taxation of corporate profits also moved up sharply in fiscal 2000, rebounding from a small decline the previous fiscal year. With federal receipts rising much faster than spending, the surplus in the unified budget rose to \$236 billion in fiscal 2000, nearly double that of fiscal 1999. The on-budget surplus, which excludes surpluses accumulating in the social security trust fund, rose from essentially zero in fiscal 1999 to \$86 billion in fiscal 2000. Excluding net interest payments, a charge resulting from past deficits, the surplus in fiscal 2000 was about \$460 billion.

Federal saving, which is basically the federal budget surplus adjusted to conform to the accounting practices followed in the national income and product accounts, amounted to about 3 $\frac{1}{2}$ percent of nominal GDP over the first three quarters of 2000. This figure has been rising roughly 1 percentage point a year over the past several years. Mainly because of that rise in federal saving, the national saving rate has been running at a higher level in recent years than was observed through most of the 1980s and first half of the 1990s, even as the personal saving rate has plunged. The rise in federal saving has kept interest rates lower than they otherwise would have been and has contributed, in turn, to the rapid growth of capital investment and the faster growth of the economy's productive potential.

The burgeoning federal budget surplus allowed the Treasury to pay down its debt in 2000 at an even faster pace than in previous years. As of the end of fiscal 2000, the stock of marketable Treasury debt outstanding had fallen about \$500 billion from its peak in 1997. The existing fiscal situation and the anticipation that budget surpluses would continue led the Treasury to implement a number of debt management changes

Federal Government Debt
Held by the Public

NOTE. The data are as of the end of the fiscal year. Excludes debt held in federal government accounts and by the Federal Reserve System.

during 2000, many designed to preserve the liquidity of its securities. In particular, the Treasury sought to maintain large and regular offerings of new securities at some key maturities, because such attributes are thought to importantly contribute to market liquidity. In part to make room for continued sizable auctions of new securities, the Treasury initiated a debt buyback program through which it can purchase debt that it previously issued. In total, the Treasury conducted twenty buyback operations in 2000, repurchasing a total of \$30 billion par value of securities with maturities ranging from twelve years to twenty-seven years. Those operations were generally well received and caused little disruption to the market.

Despite conducting buybacks on that scale, the Treasury had to cut back considerably its issuance of new securities. To still achieve large sizes of individual issues at some maturities, the Treasury implemented a schedule of regular reopenings—in which it auctions additional amounts of a previously issued security instead of issuing a new one—for its five-, ten-, and thirty-year instruments. Under that schedule, every other auction of each of those securities is a

smaller reopening of the previously auctioned security. At other maturities, the Treasury reduced the sizes of its two-year notes and inflation-indexed securities and eliminated the April auction of the thirty-year inflation-indexed bond. In addition, the Treasury reduced the frequency of new offerings of one-year bills in 2000.

These reductions in the issuance of Treasury securities caused the Federal Reserve to modify some of its procedures for obtaining securities at Treasury auctions, as described in detail below. The Treasury also announced changes in the rules for auction participation by foreign and international monetary authority (FIMA) accounts, which primarily include foreign central banks and governmental monetary entities. The new rules, which were to go into effect on February 1, 2001, impose limits on the size of noncompetitive bids from individual FIMA accounts and on the total amount of such bids that will be awarded at each auction. These limits will leave a larger pool of securities available for competitive bidding at the auctions, helping to maintain the liquidity and efficiency of the market. Moreover, FIMA purchases will be subtracted from the total amount of securities offered, rather than being added on as they were in some previous instances, making the amount of funds raised at the auction more predictable.

State and local government debt increased little in 2000. Gross issuance of long-term municipal bonds was well below the robust pace of the past two years. Refunding offerings were held down by higher interest rates through much of the year, and the need to raise new capital was diminished by strong tax revenues. Net issuance was also damped by an increase in the retirement of bonds from previous refunding activity. Credit quality in the municipal mar-

ket improved considerably in 2000, with credit upgrades outnumbering downgrades by a substantial margin. The only notable exception was in the not-for-profit health care sector, where downgrades predominated.

The External Sector

The current account deficit reached \$452 billion (annual rate) in the third quarter of 2000, or 4.5 percent of GDP, compared with \$331 billion and 3.6 percent for 1999. In the financial account, the counterpart to the increased U.S. current account deficit in 2000 was an increase in net capital inflows.

Trade and the Current Account

Most of the expansion in the current account deficit occurred in the balance of trade in goods and services. The deficit on trade in goods and services widened to \$383 billion (annual rate) in the third quarter from \$347 billion in the first half of the year. Data for trade in October and November suggested that the deficit may have increased further in the fourth quarter. Net payments on investments were a bit less during the first three quarters of 2000 than in the second half of 1999 owing to a sizable increase in income receipts from direct investment abroad.

U.S. exports of goods and services rose an estimated 7 percent in real terms during 2000. Exports surged during the first three quarters, supported by a pickup in economic activity abroad that began in 1999. By market destination, U.S. exports were strongest to Mexico and countries in Asia. About 45 percent of U.S. goods exports were capital equipment, 20 percent were industrial supplies, and roughly 10 percent each were agricultural, automotive, con-

sumer, and other goods. Based on data for October and November, real exports were estimated to have declined in the fourth quarter, reflecting in part a slowing of economic growth abroad. This decrease was particularly evident in exports of capital goods, automotive products, consumer goods, and agricultural products.

The quantity of imported goods and services expanded rapidly during the first three quarters of 2000, reflecting the continuing strength of U.S. domestic demand and the effects of past dollar appreciation on price competitiveness. Increases were widespread among trade categories. Based on data for October and November, real imports of goods and services were estimated to have risen only slightly in the fourth quarter. Moderate increases in imported consumer and capital goods were partly offset by declines in other categories of imports, particularly industrial supplies and automotive products, for which domestic demand had softened. The price of non-oil imports was estimated to have increased by less than 1 percent during 2000.

The price of imported oil rose nearly \$7 per barrel over the four quarters of 2000. During the year, oil prices generally remained high and volatile, with the spot price of West Texas intermediate (WTI) crude fluctuating between a low of \$24 per barrel in April and a high above \$37 per barrel in September. Strong demand—driven by robust world economic growth—kept upward pressure on oil prices even as world supply increased considerably. Over the course of 2000, OPEC raised its official production targets by 3.7 million barrels per day, reversing the production cuts made in the previous two years. Oil production from non-OPEC sources rebounded as well. During the last several weeks of 2000, oil prices fell sharply as market

participants became convinced that the U.S. economy was slowing.

The Financial Account

As in 1999, U.S. capital flows in 2000 reflected the relatively strong cyclical position of the U.S. economy for most of the year and the global wave of corporate mergers. Foreign private purchases of U.S. securities were exceptionally robust—well in excess of the record set in 1999. The composition of U.S. securities purchased by foreigners continued the shift away from Treasuries as the U.S. budget surplus, and the attendant decline in the supply of Treasuries, lowered their yield relative to other debt. Private foreigners sold, on net, about \$50 billion in Treasury securities in 2000, compared with net sales of \$20 billion in 1999. Although sizable, these sales were slightly less than what would have occurred had foreigners reduced their holdings in proportion to the reduction in Treasuries outstanding. The increased sale of Treasuries was fully offset by larger foreign purchases of U.S. securities issued by government-sponsored agencies. Net purchases of agency securities topped \$110 billion, compared with the previous record of \$72 billion set in 1999. In contrast to the shrinking supply of Treasury securities, U.S. government-sponsored agencies accelerated the pace of their debt issuance. Private foreign purchases of U.S. corporate debt grew to \$180 billion, while net purchases of U.S. equities ballooned to \$170 billion compared with \$108 billion in 1999.

The pace of foreign direct investment inflows in the first three quarters of 2000 also accelerated from the record pace of 1999. As in the previous two years, direct investment inflows were driven by foreign acquisition of U.S. firms, reflecting the global strength in merger

and acquisition activity. Of the roughly \$200 billion in direct investment inflows in the first three quarters, about \$100 billion was directly attributable to merger activity. Many of these mergers were financed, at least in part, by an exchange of equity, in which shares in the U.S. firm were swapped for equity in the acquiring firm. Although U.S. residents generally appear to have sold a portion of the equity acquired through these swaps, the swaps likely contributed significantly to the \$97 billion capital outflow attributed to U.S. acquisition of foreign securities. U.S. direct investment abroad was also boosted by merger activity and totaled \$117 billion in the first three quarters of 2000, a slightly faster pace than that of 1999.

Capital inflows from foreign official sources totaled \$38 billion in 2000—a slight increase from 1999. Nearly all of the official inflows were attributable to reinvested interest earnings. Modest official sales of dollar assets associated with foreign exchange intervention were offset by larger inflows from some non-OPEC oil exporting countries, which benefited from the elevated price of oil.

The Labor Market

Nonfarm payroll employment increased about 1½ percent in 2000, measured on a December-to-December basis. The job count had risen slightly more than 2 percent in 1999 and roughly 2½ percent a year over the 1996–98 period. Over the first few months of 2000, the expansion of jobs proceeded at a faster pace than in 1999, boosted both by the federal government's hiring for the decennial Census and by a somewhat faster rate of job creation in the private sector. Indications of a moderation in private hiring started to emerge toward midyear, but because of volatility of the incoming data a slowdown could not be identified with some

confidence until late summer. Over the remainder of the year monthly increases in private employment stepped down further.

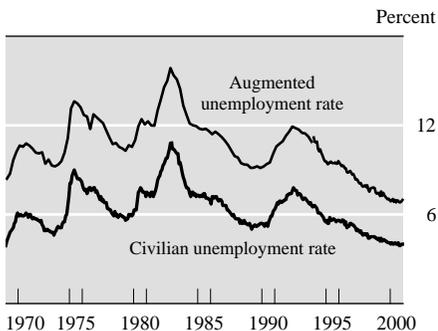
Employment rose moderately in the private service-producing sector of the economy in 2000, about 2 percent overall after an increase of about 3 percent in 1999. In the fourth quarter, however, hiring in the services-producing sector was relatively slow, in large part because of a sizable decline in the number of jobs in personnel supply—a category that includes temporary help agencies. Employment in construction increased about 2½ percent in 2000 after several years of gains that were considerably larger. The number of jobs in manufacturing was down for a third year, owing to reductions in factory employment in the second half of the year, when manufacturers were adjusting to the slowing of demand. Those adjustments in manufacturing may also have involved some cutbacks in the employment of temporary hires, which would help to account for the sharp job losses in personnel supply. The average length of the workweek in manufactur-

ing was scaled back as well over the second half of the year.

The slowing of the economy did not lead to any meaningful easing in the tightness of the labor market in 2000. The household survey's measure of the number of persons employed rose 1 percent, about in line with the expansion of labor supply. On net, the unemployment rate changed little; its fourth-quarter average of 4.0 percent was down a tenth of a percentage point from the average unemployment rate in the fourth quarter of 1999. The flatness of the rate through the latter half of 2000, when the economy was slowing, may have partly reflected a desire of companies to hold on to labor resources that had been difficult to attract and retain in the tight labor market of recent years.

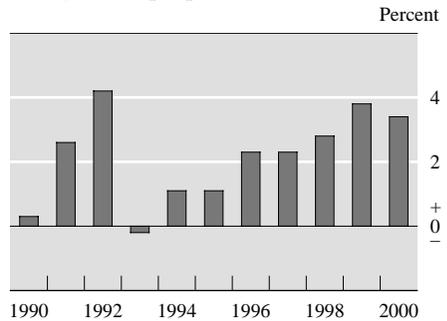
Productivity continued to rise rapidly in 2000. Output per hour in the nonfarm business sector was up about 3½ percent over the year as a whole. Sizable gains in efficiency continued to be evident even as the economy was slowing in the second half of the year. Except for 1999, when output per hour rose about 3¾ percent, the increase in 2000 was the largest since 1992, a year in which the economy was in cyclical recovery from the 1990–91 recession. Cutting through the year-to-year variations in measured productivity, the underlying

Measures of Labor Utilization



NOTE. The augmented unemployment rate is the number of unemployed plus those who are not in the labor force and want a job, divided by the civilian labor force plus those who are not in the labor force and want a job. The break in data at January 1994 marks the introduction of a redesigned survey; data from that point on are not directly comparable with those of earlier periods.

Change in Output per Hour



NOTE. Nonfarm business sector.

trend still appeared to be tracing out a pattern of strong acceleration since the middle part of the 1990s. Support for a step-up in the trend came from increases in the amount of capital per worker—especially high-tech capital—and from organizational efficiencies that resulted in output rising faster than the combined inputs of labor and capital.

Alternative measures of the hourly compensation of workers, while differing in their coverage and methods of construction, were consistent in showing some acceleration in 2000. The employment cost index for private industry (ECI), which attempts to measure changes in the labor costs of non-farm businesses in a way that is free from the effects of employment shifts among occupations and industries, rose nearly 4½ percent during 2000 after having increased about 3½ percent in 1999. Compensation per hour in the nonfarm business sector, a measure that picks up some forms of employee compensation that the ECI omits but that also is more subject to eventual revision than the ECI, showed hourly compensation advancing 5¾ percent in 2000, up from a 1999 increase of about 4½ percent. Tightness of the labor market was likely one factor underlying the acceleration of hourly compensation in 2000, with employers relying both on larger wage increases and more attractive benefit packages to attract and retain workers. Compensation gains may also have been influenced to some degree by the pickup of consumer price inflation since 1998. Rapid increases in the cost of health insurance contributed importantly to a sharp step-up in benefit costs.

Unit labor costs, the ratio of hourly compensation to output per hour, increased about 2¼ percent in the non-farm business sector in 2000 after having risen slightly more than ½ percent in 1999. Roughly three-fourths of the

acceleration was attributable to the faster rate of increase in compensation per hour noted above. The remainder stemmed from the small deceleration of measured productivity. The labor cost rise for the year was toward the high end of the range of the small to moderate increases that have prevailed over the past decade.

Prices

Led by the surge in energy prices, the aggregate price indexes showed some acceleration in 2000. The chain-type price index for real GDP, the broadest measure of goods and services produced domestically, rose 2¼ percent in 2000, roughly ¾ percentage point more than in 1999. The price index for gross domestic purchases, the broadest measure of prices for goods and services purchased by domestic buyers, posted a rise of almost 2½ percent in 2000 after having increased slightly less than 2 percent the previous year. Prices paid by consumers, as measured by the chain-type price index for personal consumption expenditures, picked up as well, about as much as the gross purchases index. The consumer price index (CPI) continued to move up at a faster pace than the PCE index in 2000, and it

Alternative Measures of Price Change

Percent

Price measure	1999	2000
<i>Chain-type</i>		
Gross domestic product	1.6	2.3
Gross domestic purchases	1.9	2.4
Personal consumption expenditures ...	2.0	2.4
Excluding food and energy	1.5	1.7
<i>Fixed-weight</i>		
Consumer price index	2.6	3.4
Excluding food and energy	2.1	2.6

NOTE. Changes are based on quarterly averages and are measured to the fourth quarter of the year indicated from the fourth quarter of the preceding year.

exhibited slightly more acceleration—an increase of nearly 3½ percent in 2000 was ¾ percentage point larger than the 1999 rise. Price indexes for fixed investment and government purchases also accelerated.

The prices of energy products purchased directly by consumers increased about 15 percent in 2000, a few percentage points more than in 1999. In response to the rise in world oil prices, consumer prices of motor fuels rose nearly 20 percent in 2000, bringing the cumulative price hike for those products over the past two years to roughly 45 percent. Prices also rose rapidly for home heating oil. Natural gas prices increased 30 percent, as demand for that fuel outpaced the growth of supply, pulling stocks down to low levels. Prices of natural gas were exceptionally high toward year-end because of the added demand for heating that resulted from unusually cold weather in November and December. Electricity costs jumped for some users, and prices nationally rose faster than in other recent years, about 2¼ percent at the consumer level.

Businesses had to cope with rising costs of energy in production, transportation, and temperature control. In some industries that depend particularly heavily on energy inputs, the rise in costs had a large effect on product prices. Producer prices of goods such as industrial chemicals posted increases that were well above the average rates of inflation in 2000, and rising prices for natural gas sparked especially steep price advances for nitrogen fertilizers used in farming. Prices of some services also exhibited apparent energy impacts: Producers paid sharply higher prices for transportation services via air and water, and consumer airfares moved up rapidly for a second year, although not nearly as much as in 1999.

Despite the spillover of energy effects into other markets, inflation outside the energy sector remained moderate overall. The ongoing rise in labor productivity helped to limit the step-up in labor costs, and the slow rate of rise in the prices of non-oil imports meant that domestic businesses had to remain cautious about raising their prices because of the potential loss of market share. Rapid expansion of capacity in manufacturing prevented bottlenecks from developing in the goods-producing sector of the economy when domestic demand was surging early in the year; later on, an easing of capacity utilization was accompanied by a softening of prices in a number of industries. Inflation expectations, which at times in the past have added to the momentum of rising inflation, remained quiescent in 2000.

Against this backdrop, core inflation remained low. Producer prices of intermediate materials excluding food and energy, after having accelerated through the first few months of 2000, slowed thereafter, and their four-quarter rise of 1¾ percent was only a bit larger than the increase during 1999. Prices of crude materials excluding food and energy fell moderately in 2000 after having risen about 10 percent a year earlier. At the consumer level, the CPI excluding food and energy moved up 2½ percent in 2000, an acceleration of slightly less than ½ percentage point from 1999 when put on a basis that maintains consistency of measurement. The rise in the chain-type price index for personal consumption expenditures excluding food and energy was 1¾ percent, just a bit above the increases recorded in each of the two previous years.

Consumer food prices rose 2½ percent in 2000 after an increase of about 2 percent in 1999. In large part, the moderate step-up in these prices prob-

ably reflected cost and price considerations similar to those at work elsewhere in the economy. Also, farm commodity prices moved up, on net, during 2000, after three years of sharp declines, and this turnabout likely showed through to the retail level to some extent. Meat prices, which are linked more closely to farm prices than is the case with many other foods, recorded increases that were appreciably larger than the increases for food prices overall.

The chain-type price index for private fixed investment rose about 1¾ percent in 2000, but that small increase amounted to a fairly sharp acceleration from the pace of the preceding few years, several of which had brought small declines in investment prices. Although the price index for investment in residential structures slowed a little, to about a 3½ percent rise, the index for nonresidential structures sped up from a 2¾ percent increase in 1999 to one of 4½ percent in 2000. Moreover, the price index for equipment and software ticked up slightly, after having declined 2 percent or more in each of the four preceding years. To a large extent, that turnabout was a reflection of a smaller rate of price decline for computers; they had dropped at an average rate of more than 20 percent through the second half of the 1990s but fell at roughly half that rate in 2000. Excluding computers, equipment prices increased slightly in 2000 after having declined a touch in 1999.

U.S. Financial Markets

Financial markets in 2000 were influenced by the changing outlook for the U.S. economy and monetary policy and by shifts in investors' perceptions of and attitudes toward risk. Private longer-term interest rates generally firmed in

the early part of the year as growth remained unsustainably strong and as market participants anticipated a further tightening of monetary policy by the Federal Reserve. Later in the year, as it became apparent that the pace of economic growth was slowing, market participants began to incorporate expectations of significant policy easing into asset prices, and most longer-term interest rates fell sharply over the last several months of 2000. Over the course of the year, investors became more concerned about credit risk and demanded larger yield spreads to hold lower-rated corporate bonds, especially once the growth of the economy slowed in the second half. Banks, apparently having similar concerns, reported widening credit spreads on business loans and tightening standards for lending to businesses. Weakening economic growth and tighter financial conditions in some sectors led to a slowing in the pace of debt growth over the course of the year.

Stock markets had another volatile year in 2000. After touching record highs in March, stock prices turned lower, declining considerably over the last four months of the year. Valuations in some sectors fell precipitously from high levels, and near-term earnings forecasts were revised down sharply late in the year. On balance, the broadest stock indexes fell more than 10 percent in 2000, and the tech-heavy Nasdaq was down nearly 40 percent.

Interest Rates

The economy continued to expand at an exceptionally strong and unsustainable pace in the early part of 2000, prompting the Federal Reserve to tighten its policy stance in several steps ending at its May meeting. Private interest rates and shorter-term Treasury yields rose considerably over that period, reaching

a peak just after the May FOMC meeting. Investors apparently became more concerned about credit risk as well; spreads between rates on lower-rated corporate bonds and swaps widened in the spring, adding to the upward pressure on private interest rates. Long-term Treasury yields, in contrast, remained below their levels from earlier in the year, as market participants became increasingly convinced that the supply of those securities would shrink considerably in coming years and incorporated a “scarcity premium” into their prices. With the rapid expansion of economic activity showing few signs of letting up, rates on federal funds and eurodollar futures, which can be used as a rough gauge of policy expectations, were indicating that market participants expected additional policy tightening going forward.

Signs of a slowdown in the growth of aggregate demand began to appear in the incoming data soon after the May FOMC meeting and continued to gradually accumulate over subsequent months. In response, market participants became increasingly convinced that the FOMC would not have to tighten its policy stance further, which was reflected in a flattening of the term structure of rates on federal funds and eurodollar futures. Interest rates on most corporate bonds declined gradually on the shifting outlook for the economy, and by the end of August had fallen more than $\frac{1}{2}$ percentage point from their peaks in May.

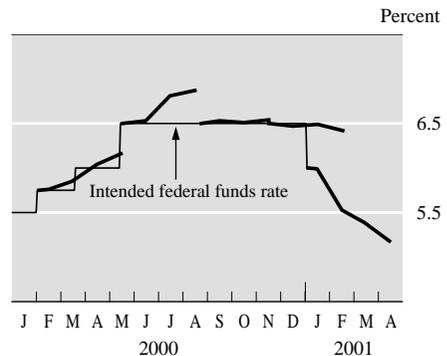
Most market interest rates continued to edge lower into the fall, as the growth of the economy seemed to moderate further. Over the last couple months of 2000, as it became apparent that economic growth was slowing more abruptly, market participants sharply revised down their expectations for future short-term interest rates. Treasury

yields plummeted over that period, particularly at shorter maturities: The two-year Treasury yield dropped more than $\frac{3}{4}$ percentage point from mid-November to the end of the year, moving below the thirty-year yield for the first time since early 2000. Yields on inflation-indexed securities also fell considerably, but by less than their nominal counterparts, suggesting that the weakening of economic growth lowered expectations of both real interest rates and inflation.

Although market participants had come to expect considerable policy easing over the first part of 2001, the timing and magnitude of the intermeeting cut in the federal funds rate in early January of that year was a surprise. In response, investors built into asset prices anticipations of a more rapid policy easing over the near term.

The prospect of a weakening in economic growth, along with sizable declines in equity prices and downward revisions to profit forecasts, apparently caused investors to reassess credit risks in the latter part of 2000. Spreads between rates on high-yield corporate

Federal Funds Futures Rates and the Intended Federal Funds Rate



NOTE. The thick line segments show the rates on federal funds futures contracts on the day after the scheduled FOMC meetings in February, May, August, and November 2000 and after the January 3, 2001 cut in the intended federal funds rate.

bonds and swaps soared beginning in September, pushing the yields on those bonds substantially higher. Concerns about credit risk also spilled over into the investment-grade sector, where yield spreads widened considerably for lower-rated securities. For most investment-grade issuers, though, the effects of the revised policy outlook more than offset any widening in risk spreads, resulting in a decline in private interest rates in the fourth quarter. By year-end, yields on higher-rated investment-grade corporate bonds had reached their lowest levels since the first half of 1999.

Although investors at times in late 2000 appeared more concerned about credit risk than they were in the fall of 1998, the financial environment during the more recent period, by most accounts, did not resemble the market turbulence and disruption of that earlier episode. The Treasury and investment-grade corporate bond markets remained relatively liquid, and the investment-grade market easily absorbed the high volume of bond issuance over 2000. Investors continued to show a heightened preference for larger, more liquid corporate issues, but they did not exhibit the extreme desire for liquidity that was apparent in the fall of 1998. For example, the liquidity premium for the on-the-run ten-year Treasury note remained well below the level of that fall.

Nonetheless, the Treasury market has become somewhat less liquid than it was several years ago. Moreover, in 2000, particular segments of the Treasury market occasionally experienced bouts of unusually low liquidity that appeared related to actual or potential reductions in the supply of individual securities. Given the possibility that liquidity could deteriorate further as the Treasury continues to pay down its debt, market participants reportedly increased their reliance on alternative instruments—

including interest rate swaps and debt securities issued by government-sponsored housing agencies and other corporations—for some of the hedging and pricing functions historically provided by Treasury securities. Fannie Mae and Freddie Mac continued to issue large amounts of debt under their Benchmark and Reference debt programs, which are designed to mimic characteristics of Treasury securities—such as large issue sizes and a regular calendar of issuance—that are believed to contribute to their liquidity. By the end of 2000, the two firms together had more than \$300 billion of notes and bonds and more than \$200 billion of bills outstanding under those programs. Trading volume and dealer positions in agency securities have risen considerably since 1998, and the market for repurchase agreements in those securities has reportedly become more active. Also, several exchanges listed options and futures on agency debt securities.

The shrinking supply of Treasury securities and the possibility of a consequent decline in market liquidity also pose challenges for the Federal Reserve. For many years, Treasury securities have provided the Federal Reserve with an effective asset for System portfolio holdings and the conduct of monetary policy. The remarkable liquidity of Treasury securities has allowed the System to conduct sizable policy operations quickly and with little disruption to markets, while the safety of Treasury securities has allowed the System to avoid credit risk in its portfolio. However, if Treasury debt continues to be paid down, at some point the amount outstanding will be insufficient to meet the Federal Reserve's portfolio needs. Well before that time, the proportion of Treasury securities held by the System could reach levels that would significantly disrupt the Treasury market and make

monetary policy operations increasingly difficult or costly. Recognizing this possibility, the FOMC initiated, in 2000, a study to consider alternative approaches to managing the Federal Reserve's portfolio, including expanding the use of the discount window and broadening the types of assets acquired in the open market. As it continues to study various alternatives, the FOMC will take into consideration the effect that such approaches might have on the liquidity and safety of its portfolio and the potential for distorting the allocation of credit to private entities.

Meanwhile, some measures were taken to prevent the System's holdings of individual Treasury securities from reaching possibly disruptive levels and to help curtail any further lengthening of the average maturity of the System's holdings. On July 5, 2000, the Federal Reserve Bank of New York announced guidelines limiting the System's holdings of individual Treasury securities to specified percentages of their outstanding amounts, depending on the remaining maturity of the issue. Those limits range from 35 percent for Treasury bills to 15 percent for longer-term bonds. As a result, the System redeemed some of its holdings of Treasury securities on occasions when the amount of maturing holdings exceeded the amount that could be rolled over into newly issued Treasury securities under these limits. Redemptions of Treasury holdings in 2000 exceeded \$28 billion, with more than \$24 billion of the redemptions in Treasury bills. In addition, the Federal Reserve accommodated a portion of the demand for reserves in 2000 by increasing its use of longer-term repurchase agreements rather than by purchasing Treasury securities outright. The System maintained an average of more than \$15 billion of longer-term repurchase agreements over 2000,

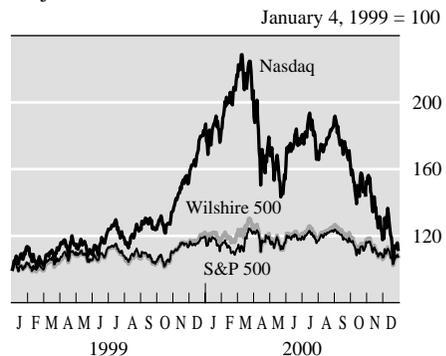
typically with maturities of twenty-eight days.

Equity Prices

After having moved higher in the first quarter of 2000, equity prices reversed course and finished the year with considerable declines. Early in the year, the rapid pace of economic activity lifted corporate profits, and stock analysts became even more optimistic about future earnings growth. In response, most major equity indexes reached record highs in March, with the Wilshire 5000 rising 6¾ percent above its 1999 year-end level and the Nasdaq soaring 24 percent, continuing its rapid run-up from the second half of 1999. Equity prices fell from these highs during the spring, with a particularly steep drop in the Nasdaq, as investors grew more concerned about the lofty valuations of some sectors and the prospect of higher interest rates.

Broader equity indexes recovered much of those losses through August, supported by the decline in market interest rates and the continued strength of earnings growth in the second quarter. But from early September through the end of the year, stock prices fell consid-

Major Stock Price Indexes



NOTE. The data are daily.

erably in response to the downshift in economic growth, a reassessment of the prospects for some high-tech industries, and disappointments in corporate earnings. Toward the end of 2000, equity analysts significantly reduced their forecasts for year-ahead earnings for companies in the S&P 500. However, analysts apparently viewed the slowdown in earnings as short-lived, as long-run earnings forecasts did not fall much and remained at very high levels, particularly for the technology sector.

On balance, the Wilshire 5000 index fell 12 percent over 2000—its first annual decline since 1994. The Nasdaq composite plunged 39 percent, leaving it at year-end more than 50 percent below its record high and erasing nearly all of its gains since the beginning of 1999. The broad decline in equity prices in 2000 is estimated to have lopped more than \$1¾ trillion from household wealth, or more than 4 percent of the total net worth of households. Nevertheless, the level of household net worth was still quite high—about 50 percent above its level at the end of 1995. Investors continued to accumulate considerable amounts of equity mutual funds over 2000, although they may have become increasingly discouraged by losses on their equity holdings toward the end of the year, when flows into equity funds slumped. At that time, money market mutual funds expanded sharply, as investors apparently sought a refuge for financial assets amid the heightened volatility and significant drops in equity prices.

Some of the most dramatic plunges in share prices in 2000 took place among technology, telecommunications, and Internet shares. While these declines partly stemmed from downward revisions to near-term earnings estimates, which were severe in some cases, they were also driven by a reassessment of

the elevated valuations of many companies in these sectors. The price-earnings ratio (calculated using operating earnings expected over the next year) for the technology component of the S&P 500 index fell substantially from its peak in early 2000, although it remained well above the ratio for the S&P 500 index as a whole. For the entire S&P 500 index, share prices fell a bit more in percentage terms than the downward revisions to year-ahead earnings forecasts, leaving the price-earnings ratio modestly below its historical high.

The volatility of equity price movements during 2000 was at the high end of the elevated levels observed in recent years. In the technology sector, the magnitudes of daily share price changes were at times remarkable. There were twenty-seven days during 2000 in which the Nasdaq composite index moved up or down by at least 5 percent; by comparison, such outsized movements were observed on a total of only seven days from 1990 to 1999.

Despite the volatility of share price movements and the large declines on balance over 2000, equity market conditions were fairly orderly, with few reports of difficulties meeting margin requirements or of large losses creating problems that might pose broader systemic concerns. The fall in share prices reined in some of the margin debt of equity investors. After having run up sharply through March, the amount of outstanding margin debt fell by about 30 percent over the remainder of the year. At year-end, the ratio of margin debt to total equity market capitalization was slightly below its level a year earlier.

The considerable drop in valuations in some sectors and the elevated volatility of equity price movements caused the pace of initial public offerings to slow markedly over the year, despite a

large number of companies waiting to go public. The slowdown was particularly pronounced for technology companies, which had been issuing new shares at a frantic pace early in the year. In total, the dollar amount of initial public offerings by domestic nonfinancial companies tapered off in the fourth quarter to its lowest level in two years.

Debt and the Monetary Aggregates

The aggregate debt of domestic nonfinancial sectors increased an estimated 5¼ percent over 2000, a considerable slowdown from the gains of almost 7 percent posted in 1998 and 1999. Growth of the monetary aggregates, particularly M3, continued at a strong rate.

Debt and Depository Intermediation

The expansion of nonfederal debt moderated to 8½ percent in 2000 from 9½ percent in 1999; the slowing owed primarily to a weakening of consumer and business borrowing in the second half of the year, as the growth of durables consumption and capital expenditures fell off and financial conditions tightened for some firms. Some of the slowdown in total nonfinancial debt was also attributable to the federal government, which paid down 6¾ percent of its debt in 2000, compared with 2½ percent in 1999. In 1998 and 1999, domestic nonfinancial debt increased faster than nominal GDP, despite the reduction in federal debt over those years. The ratio of nonfinancial debt to GDP edged down in 2000, however, as the federal debt paydown accelerated and nonfederal borrowing slowed.

Depository institutions continued to play an important role in meeting the demand for credit by businesses and

households. Credit extended by commercial banks, after adjustment for mark-to-market accounting rules, increased 10 percent over 2000, well above the pace for total nonfinancial debt. Bank credit expanded at a particularly brisk rate through late summer, when banks, given their ample capital base and solid profits, were willing to meet strong loan demand by households and businesses. Over the remainder of the year, the growth of bank credit declined appreciably, as banks became more cautious lenders and as several banks shed large amounts of government securities.

Banks reported a deterioration of the quality of their business loan portfolios in 2000. Delinquency and charge-off rates on C&I loans, while low by historical standards, rose steadily, partly reflecting some repayment difficulties in banks' syndicated loan portfolios. Several large banks stated that the uptrend in delinquencies was expected to continue in 2001. Higher levels of provisioning for loan losses and some narrowing of net interest margins contributed to a fallback of bank profits from the record levels of 1999. In addition, capitalization measures slipped a bit in 2000. Nevertheless, by historical standards banks remained quite profitable overall and appeared to have ample capital. In the aggregate, total capital (the sum of tier 1 and tier 2 capital) remained above 12 percent of risk-weighted assets over the first three quarters of 2000, more than 2 percentage points above the minimum level required to be considered well-capitalized.

In response to greater uncertainty about the economic outlook and a reduced tolerance for risk, increasing proportions of banks reported tightening standards and terms on business loans during 2000, with the share reaching the

highest level since 1990. The tightening became widespread for loans to large and middle-market firms. A considerable portion of banks reported firming standards and terms on loans to small businesses as well, consistent with surveys of small businesses indicating that a larger share of those firms had difficulty obtaining credit in 2000 than in previous years. With delinquency rates for consumer and real estate loans having changed little, on net, in 2000, banks did not tighten credit conditions significantly for loans to households over the first three quarters of 2000. Later on, however, an increasing portion of banks increased standards and terms for consumer loans other than credit cards, and some of the banks surveyed anticipated a further tightening of conditions on consumer loans during 2001.

The Monetary Aggregates

The monetary aggregates grew rather briskly in 2000. The expansion of the broadest monetary aggregate, M3, was particularly strong over the first three quarters of 2000, as the robust growth in depository credit was partly funded through issuance of the managed liabilities included in this aggregate, such as large time deposits. M3 growth eased somewhat in the fourth quarter because the slowing of bank credit led depository institutions to reduce their reliance on managed liabilities. Institutional money funds increased rapidly throughout 2000, despite the tightening of policy early in the year, in part owing to continued growth in their provision of cash management services for businesses. For the year as a whole, M3

Growth of Money and Debt

Percent

Period	M1	M2	M3	Domestic nonfinancial debt
<i>Annual¹</i>				
1990	4.2	4.2	1.9	6.7
1991	7.9	3.1	1.2	4.5
1992	14.4	1.8	.6	4.5
1993	10.6	1.3	1.0	4.9
1994	2.5	.6	1.7	4.8
1995	-1.5	3.8	6.1	5.4
1996	-4.5	4.5	6.8	5.3
1997	-1.2	5.6	8.9	5.4
1998	2.2	8.4	10.9	6.9
1999	1.8	6.2	7.7	6.8
2000	-1.5	6.3	9.2	5.3
<i>Quarterly (annual rate)²</i>				
2000:1	2.0	5.8	10.6	5.6
2	-1.8	6.4	9.0	6.2
3	-3.7	5.8	8.9	4.7
4	-2.7	6.6	7.1	4.1

NOTE. M1 consists of currency, travelers checks, demand deposits, and other checkable deposits. M2 consists of M1 plus savings deposits (including money market deposit accounts), small-denomination time deposits, and balances in retail money market funds. M3 consists of M2 plus large-denomination time deposits, balances in institutional money market funds, RP liabilities (overnight and term), and eurodollars (overnight and term).

Debt consists of the outstanding credit market debt of the U.S. government, state and local governments, households and nonprofit organizations, nonfinancial businesses, and farms.

1. From average for fourth quarter of preceding year to average for fourth quarter of year indicated.
2. From average for preceding quarter to average for quarter indicated.

expanded 9¼ percent, well above the 7¾ percent pace in 1999. This advance again outpaced that of nominal income, and M3 velocity—the ratio of nominal income to M3—declined for the sixth year in a row.

M2 increased 6¼ percent in 2000, about unchanged from its pace in 1999. Some slowing in M2 growth would have been expected based on the rise in short-term interest rates over the early part of the year, which pushed up the “opportunity cost” of holding M2, given that the interest rates on many components of M2 do not increase by the same amount or as quickly as market rates. However, with the level of long-term rates close to that of short-term rates, investors had much less incentive to shift funds out of M2 assets and into assets with longer maturities, which helped support M2 growth. M2 was also boosted at times by households’ increased preference for safe and liquid assets during periods of heightened volatility in equity markets. On balance over the year, the growth of M2 slightly exceeded that of nominal income, and M2 velocity edged down.

The behavior of the components of M2 was influenced importantly by interest rate spreads. The depressing effect of higher short-term market interest rates was most apparent in the liquid deposit components, including checkable deposits and savings accounts, whose rates respond very sluggishly to movements in market rates. Small time deposits and retail money market mutual funds, whose rates do not lag market rates as much, expanded considerably faster than liquid deposits. Currency growth was held down early in the year by a runoff of the stockpile accumulated in advance of the century date change, and it remained surprisingly sluggish over the balance of the year given the rapid pace of income growth, with weakness appar-

ently in both domestic and foreign demand.

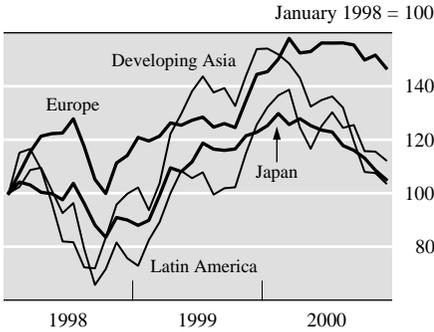
International Developments

In 2000, overall economic activity in foreign economies continued its strong performance of the previous year. However, in both industrial and developing countries, growth was strongest early, and clear signs of a general slowing emerged later in the year. Among industrial countries, growth in Japan in 2000 moved up to an estimated 2 percent, and growth in the euro area slowed slightly to 3 percent. Emerging market economies in both Asia and Latin America grew about 6 percent on average in 2000. For Asian developing economies, this represented a slowing from the torrid pace of the previous year, while growth in Latin America, especially Mexico, picked up from 1999.

Average foreign inflation edged up slightly to 3 percent, mainly reflecting higher oil prices. Over the first part of the year, monetary authorities moved to tighten conditions in many industrial countries, in reaction to continued strong growth in economic activity that was starting to impinge on capacity constraints, as well as some upward pressures on prices. Interest rates on long-term government securities declined on balance in most industrial countries, especially toward year-end, when evidence of a slowdown in global economic growth started to emerge.

Conditions in foreign financial markets were somewhat more unsettled than in the previous year. Overall stock indexes in the foreign industrial countries generally declined, most notably in Japan. As in the United States, technology-oriented stock indexes were extremely volatile during the year. After reaching peaks in the first quarter, they started down while experiencing great

Foreign Equity Indexes

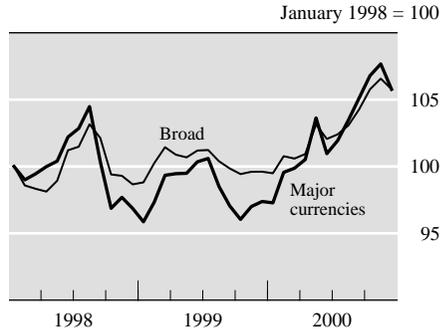


NOTE. The data are monthly.

swings toward midyear, then fell sharply in the final quarter, resulting in net declines for the year of one-third or more. Stock prices in emerging market economies were generally quite weak, especially in developing Asia, where growth in recent years has depended heavily on exports of high-tech goods. Although there was no major default or devaluation among emerging market economies, average risk spreads on developing country debt still moved higher on balance over the course of the year, as the threat of potential crises in several countries, most notably Argentina and Turkey, heightened investor concerns.

The dollar's average foreign exchange value increased over most of the year, supported by continued robust growth of U.S. activity, rising interest rates on dollar assets, and market perceptions that longer-term prospects for U.S. growth and rates of return were more favorable than in other industrial countries. Part of the rise in the dollar's average value was reversed late in the year when evidence emerged that the pace of U.S. activity was slowing much more sharply than had been expected. Despite this decline, the dollar's average foreign exchange value against the currencies of other major foreign industrial

Nominal U.S. Dollar Exchange Rate Indexes



NOTE. The data are monthly. Indexes are trade-weighted averages of the exchange value of the dollar against major currencies and against a broader group of important U.S. trading partners.

countries recorded a net increase of over 7 percent for the year as a whole. The dollar also strengthened nearly as much on balance against the currencies of the most important developing country trading partners of the United States.

Industrial Economies

The dollar showed particular strength in 2000 against the euro, the common currency of much of Europe. During the first three quarters of the year, the euro continued to weaken, and by late October had fallen to a low of just above 82 cents, nearly one-third below its value when it was introduced in January 1999. The euro's decline against the dollar through most of 2000 appeared to be due mainly to the vigorous growth of real GDP and productivity in the United States contrasted with steady but less impressive improvements in Europe. In addition, investors may have perceived that Europe was slower to adopt "new economy" technologies, making it a relatively less attractive investment climate.

In September, a concerted intervention operation by the monetary authori-

ties of G-7 countries, including the United States, was undertaken at the request of European authorities to provide support for the euro. The European Central Bank also made intervention purchases of euros on several occasions acting on its own. Late in the year, the euro abruptly changed course and started to move up strongly, reversing over half of its decline of earlier in the year. This recovery of the euro against the dollar appeared to reflect mainly a market perception that, while growth was slowing in both Europe and the United States, the slowdown was much sharper for the United States. For the year as a whole, the dollar appreciated, on net, about 7 percent against the euro.

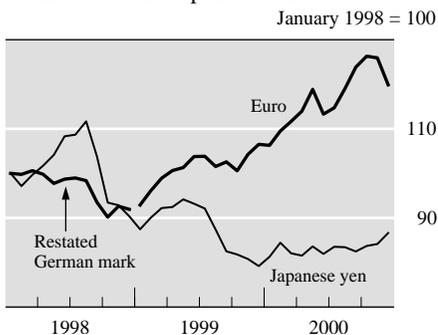
The European Central Bank raised its policy interest rate target six times by a total of 175 basis points over the first ten months of the year. These increases reflected concerns that the euro's depreciation, tightening capacity constraints and higher oil prices would put upward pressure on inflation. While core inflation—inflation excluding food and energy—remained well below the 2 percent inflation target ceiling, higher oil prices pushed the headline rate above

the ceiling for most of the year. Real GDP in the euro area is estimated to have increased about 3 percent for 2000 as a whole, only slightly below the rate of the previous year, although activity slowed toward the end of the year. Growth was supported by continued strong increases in investment spending. Net exports made only a modest contribution to growth, as rapid increases in exports were nearly matched by robust imports. Overall activity was sufficiently strong to lead to a further decline in the average euro-area unemployment rate to below 9 percent, a nearly 1 percentage point reduction for the year.

The dollar rose about 12 percent against the Japanese yen over the course of 2000, roughly reversing the decline of the previous year. Early in the year, the yen experienced periods of upward pressure on evidence of a revival of activity in Japan. On several of these occasions, the Bank of Japan made substantial intervention sales of yen. By August, signs of recovery were strong enough to convince the Bank of Japan to end the zero interest rate policy that it had maintained for nearly a year and a half, and its target for the overnight rate was raised to 25 basis points. Later in the year, evidence emerged suggesting that the nascent recovery in economic activity was losing steam, and in response the yen started to depreciate sharply against the dollar.

For the year as a whole, Japanese real GDP is estimated to have increased about 2 percent, a substantial improvement from the very small increase of the previous year and the decline recorded in 1998. Growth, which was concentrated in the first part of the year, was led by private nonresidential investment. In contrast, residential investment slackened as the effect of tax incentives waned. Consumption rebounded early in the year from a sharp decline at the end

U.S. Dollar Exchange Rates against the Euro and the Japanese Yen



NOTE. Foreign currency units per dollar. The data are monthly. Restated German mark is the mark-dollar exchange rate rescaled by the official conversion factor between the mark and the euro.

of 1999 but then stagnated, depressed in part by record-high unemployment and concerns that ongoing corporate restructuring could lead to further job losses. Public investment, which gave a major boost to the economy in 1999, remained strong through the first half of 2000 but then fell off sharply, and for the year as a whole the fiscal stance is estimated to have been somewhat contractionary. Inflation was negative for the second consecutive year, with the prices of both consumer goods and real estate continuing to move lower.

The dollar appreciated 4 percent relative to the Canadian dollar in 2000. Among the factors that apparently contributed to the Canadian currency's weakness were declines in the prices of commodities that Canada exports, such as metals and lumber, and a perception by market participants of unfavorable differentials in rates of return and economic growth prospects in Canada relative to the United States. For the year as a whole, real GDP growth in Canada is estimated to have been only slightly below the strong 5 percent rate of 1999, although, as in most industrial countries, there were signs that the pace of growth was tailing off toward the end of the year. Domestic demand continued to be robust, led by surging business investment and solid personal consumption increases. In the first part of the year, the sustained rapid growth of the economy led Canadian monetary authorities to become increasingly concerned with a buildup of inflationary pressures, and the Bank of Canada matched all of the Federal Reserve's interest rate increases in 2000, raising its policy rate by a total of 100 basis points. By the end of the year, the core inflation rate had risen to near the middle of the Bank of Canada's 1 percent to 3 percent target range, while higher oil prices pushed the overall rate above the top of the range.

Emerging Market Economies

In emerging market economies, the average growth rate of economic activity in 2000 remained near the very strong 6 percent rate of the previous year. However, there was a notable and widespread slowing near the end of the year, and results in a few individual countries were much less favorable. Growth in developing Asian economies slowed on average from the torrid pace of the previous year, while average growth in Latin America picked up somewhat. No major developing country experienced default or devaluation in 2000, but nonetheless, financial markets did undergo several periods of heightened unrest during the year. In the spring, exchange rates and equity prices weakened and risk spreads widened in many emerging market economies at a time of a general heightening of financial market volatility and rising interest rates in industrial countries, as well as increased political uncertainty in several developing countries. After narrowing at midyear, risk spreads on emerging market economy debt again widened later in the year, reflecting a general movement on financial markets away from riskier assets, as well as concerns that Argentina and Turkey might be facing financial crises that could spread to other emerging market economies.

Among Latin American countries, Mexico's performance was noteworthy. Real GDP rose an estimated 7 percent, an acceleration from the already strong result of the previous year. Growth was boosted by booming exports, especially to the United States, favorable world oil prices, and a rebound in domestic demand. In order to keep inflation on a downward path in the face of surging domestic demand, the Bank of Mexico tightened monetary conditions six times in 2000, pushing up short-term interest

rates, and by the end of the year the rate of consumer price inflation had moved below the 10 percent inflation target. The run-up to the July presidential election generated some sporadic financial market pressures, but these subsided in reaction to the smooth transition to the new administration. Over the course of the year, the risk spread on Mexican debt declined on balance, probably reflecting a favorable assessment by market participants of macroeconomic developments and government policies, reinforced by rating upgrades of Mexican debt. During 2000, the peso depreciated slightly against the dollar, but by less than the excess of Mexican over U.S. inflation.

Argentina encountered considerable financial distress in 2000. Low tax revenues due to continued weak activity along with elevated political uncertainty greatly heightened market concerns about the ability of the country to fund its debt. Starting in October, domestic interest rates and debt risk spreads soared amid market speculation that the government might lose access to credit markets and be forced to abandon the exchange rate peg to the dollar. Financial markets began to recover after an announcement in mid-November that an IMF-led international financial support package was to be put in place. Further improvement came in the wake of an official announcement in December of a \$40 billion support package.

Late in the year, Brazilian financial markets received some negative spillover from the financial unrest in Argentina, but conditions did not approach those prevailing during Brazil's financial crisis of early 1999. For 2000 as a whole, the Brazilian economy showed several favorable economic trends. Real GDP growth increased to an estimated 4 percent after being less than 1 percent the previous two years, inflation contin-

ued to move lower, and short-term interest rates declined.

Growth in Asian developing countries in 2000 slowed from the previous year, when they had still been experiencing an exceptionally rapid bounceback from the 1997–98 financial crises experienced by several countries in the region. In Korea, real GDP growth in 2000 is estimated to have been less than half of the blistering 14 percent rate of 1999. Korean exports, especially of high-tech products, started to fade toward the end of 2000. Rapid export growth had been a prominent feature of the recovery of Korea and other Asian developing economies following their financial crises. In addition, a sharp fall in Korean equity prices over the course of the year, as well as continued difficulties with the process of financial and corporate sector restructuring, tended to depress consumer and business confidence. These developments contributed to the downward pressure on the won seen near the end of the year.

Market concerns over heightened political instability were a major factor behind financial pressures in 2000 in Indonesia, Thailand, and the Philippines. In China, output continued to expand rapidly in 2000, driven by a combination of surging exports early in the year, sustained fiscal stimulus, and some recovery in private consumption. In contrast, growth in both Hong Kong and Taiwan slowed, especially in the latter part of the year. In Taiwan, the exchange rate and stock prices both came under downward pressure as a result of the slowdown in global electronics demand and apparent market concerns over revelations of possible weaknesses in the banking and corporate sectors.

Turkey's financial markets came under severe strain in late November as international investors withdrew capital amid market worries about the health of

Turkey's banks, the viability of the government's reform program and its crawling peg exchange rate regime, and the widening current account deficit. The resulting liquidity shortage caused short-term interest rates to spike up and led to a substantial decline in foreign exchange reserves held by the central bank. Markets stabilized somewhat after it was announced in December that Turkey had been able to reach loan agreements with the IMF, major international banks, and the World Bank in an effort to provide liquidity and restore confidence in the banking system.

Foreign Exchange Operations

On September 22 the U.S. monetary authorities sold \$1,339 million for euros as part of a coordinated intervention operation by G-7 members initiated by

the European Central Bank. The sales were evenly divided between the U.S. Treasury and the Federal Reserve System. No other intervention operations for the accounts of the System or of the Treasury were conducted during the year. Reported net purchases of dollars by major foreign central banks were \$22 billion in 2000, versus net purchases of \$67 billion in 1999.

At the end of the year, the Federal Reserve held the equivalent of \$15,670 million, valued at current exchange rates, in euros and yen. Taking into account the dollar's appreciation against both the euro and the yen in 2000, the cumulative valuation gains on System holdings of foreign currency decreased \$1,410 million, to \$258 million. The System sold no foreign currency in 2000 and thus realized no gains or losses on such sales. ■

Monetary Policy Reports to the Congress

Report submitted to the Congress on February 17, 2000, pursuant to the Full Employment and Balanced Growth Act of 1978

Report of February 17, 2000

Monetary Policy and the Economic Outlook

The U.S. economy posted another exceptional performance in 1999. The ongoing expansion appears to have maintained strength into early 2000 as it set a record for longevity, and—aside from the direct effects of higher crude oil prices—inflation has remained subdued, in marked contrast to the typical experience during previous expansions. The past year brought additional evidence that productivity growth has improved substantially since the mid-1990s, boosting living standards while helping to hold down increases in costs and prices despite very tight labor markets.

The Federal Open Market Committee's pursuit of financial conditions consistent with sustained expansion and low inflation has required some adjustments to the settings of monetary policy instruments over the past two years. In late 1998, to cushion the U.S. economy from the effects of disruptions in world financial markets and to ameliorate some of the resulting strains, money market conditions were eased. By the middle of last year, however, with financial markets resuming normal functioning, foreign economies recovering, and domestic demand continuing to outpace increases

in productive potential, the Committee began to reverse that easing.

As the year progressed, foreign economies, in general, recovered more quickly and displayed greater vigor than had seemed likely at the start of the year. Domestically, the rapid productivity growth raised expectations of future incomes and profits and thereby helped keep spending moving up at a faster clip than current productive capacity. Meanwhile, prices of most internationally traded materials rebounded from their earlier declines; this turnaround, together with a flattening of the exchange value of the dollar after its earlier appreciation, translated into an easing of downward pressure on the prices of imports in general. Core inflation measures generally remained low, but with the labor market at its tightest in three decades and becoming tighter, the risk that pressures on costs and prices would eventually emerge mounted over the course of the year. To maintain the low-inflation environment that has been so important to the sustained health of the current expansion, the FOMC ultimately implemented four quarter-point increases in the intended federal funds rate, the most recent of which came at the beginning of this month. In total, the federal funds rate has been raised 1 percentage point, although, at 5¾ percent, it stands only ¼ point above its level just before the autumn-1998 financial market turmoil. At its most recent meeting, the FOMC indicated that risks appear to remain on the side of heightened inflation pressures, so it will need to remain especially attentive to developments in this regard.

Monetary Policy, Financial Markets, and the Economy over 1999 and Early 2000

The first quarter of 1999 saw a further unwinding of the heightened levels of perceived risk and risk aversion that had afflicted financial markets in the autumn of 1998; investors became much more willing to advance funds, securities issuance picked up, and risk spreads fell further—though not back to the unusually low levels of the first half of 1998. At the same time, domestic demand remained quite strong, and foreign economies showed signs of rebounding. The FOMC concluded at its February and March meetings that, if these trends were to persist, the risks of the eventual emergence of somewhat greater inflation pressures would increase, and it noted that a case could be made for unwinding part of the easing actions of the preceding fall. However, the Committee hesitated to adjust policy before having greater assurance that the recoveries in domestic financial markets and foreign economies were on firm footing.

By the May meeting, these recoveries were solidifying, and the pace of domestic spending appeared to be outstripping the growth of the economy's potential, even allowing for an appreciable acceleration in productivity. The Committee still expected some slowing in the expansion of aggregate demand, but the timing and extent of any moderation remained uncertain. Against this backdrop, the FOMC maintained an unchanged policy stance but announced immediately after the meeting that it had chosen a directive tilted toward the possibility of a firming of rates. This announcement implemented the disclosure policy adopted in December 1998, whereby major shifts in the Committee's views about the balance of risks or the likely direction of future policy

would be made public immediately. Members expected that, by making the FOMC's concerns public earlier, such announcements would encourage financial market reactions to subsequent information that would help stabilize the economy. In practice, however, those reactions seemed to be exaggerated and to focus even more than usual on possible near-term Committee action.

Over subsequent weeks, economic activity continued to expand vigorously, labor markets remained very tight, and oil and other commodity prices rose further. In this environment, the FOMC saw an updrift in inflation as a significant risk in the absence of some policy firming, and at the June meeting it raised the intended level of the federal funds rate $\frac{1}{4}$ percentage point. The Committee also announced a symmetric directive, noting that the marked degree of uncertainty about the extent and timing of prospective inflationary pressures meant that further firming of policy might not be undertaken in the near term, but that the Committee would need to be especially alert to emerging inflation pressures. Markets rallied on the symmetric-directive announcement, and the strength of this response together with market commentary suggested uncertainty about the interpretation of the language used to characterize possible future developments and about the time period to which the directive applied.

In the period between the June and August meetings, the ongoing strength of domestic demand and further expansion abroad suggested that at least part of the remaining easing put in place the previous fall to deal with financial market stresses was no longer needed. Consequently, at the August meeting the FOMC raised the intended level of the federal funds rate a further $\frac{1}{4}$ percentage point, to $5\frac{1}{4}$ percent. The Committee agreed that this action, along

with that taken in June, would substantially reduce inflation risks and again announced a symmetric directive. In a related action, the Board of Governors approved an increase in the discount rate to 4¾ percent. At this meeting the Committee also established a working group to assess the FOMC's approach to disclosing its view about prospective developments and to propose procedural modifications.

At its August meeting, the FOMC took a number of actions that were aimed at enhancing the ability of the Manager of the System Open Market Account to counter potential liquidity strains in the period around the century date change and that would also help ensure the effective implementation of the Committee's monetary policy objectives. Although members believed that efforts to prepare computer systems for the century date change had made the probability of significant disruptions quite small, some aversion to Y2K risk exposure was already evident in the markets, and the costs that might stem from a dysfunctional financing market at year-end were deemed to be unacceptably high. The FOMC agreed to authorize, temporarily, (1) a widening of the pool of collateral that could be accepted in System open market transactions, (2) the use of reverse repurchase agreement accounting in addition to the currently available matched sale-purchase transactions to absorb reserves temporarily, and (3) the auction of options on repurchase agreements, reverse repurchase agreements, and matched sale-purchase transactions that could be exercised in the period around year-end. The Committee also authorized a permanent extension of the maximum maturity on regular repurchase and matched sale-purchase transactions from sixty to ninety days.

The broader range of collateral approved for repurchase transactions—mainly pass-through mortgage securities of government-sponsored enterprises and STRIP securities of the U.S. Treasury—would facilitate the Manager's task of addressing what could be very large needs to supply reserves in the succeeding months, primarily in response to rapid increases in the demand for currency, at a time of potentially heightened demand in various markets for U.S. government securities. The standby financing facility, authorizing the Federal Reserve Bank of New York to auction the above-mentioned options to the government securities dealers that are regular counterparties in the System's open market operations, would encourage market-making and the maintenance of liquid financing markets essential to effective open market operations. The standby facility was also viewed as a useful complement to the special liquidity facility, which was to provide sound depository institutions with unrestricted access to the discount window, at a penalty rate, between October 1999 and April 2000. Finally, the decision to extend the maximum maturity on repurchase and matched sale-purchase transactions was intended to bring the terms of such transactions into conformance with market practice and to enhance the Manager's ability over the following months to implement the unusually large reserve operations expected to be required around the turn of the year.

Incoming information during the period leading up to the FOMC's October meeting suggested that the growth of domestic economic activity had picked up from the second quarter's pace, and foreign economies appeared to be strengthening more than had been anticipated, potentially adding pressure to already-taut labor markets and possi-

bly creating inflationary imbalances that would undermine economic performance. But the FOMC viewed the risk of a significant increase in inflation in the near term as small and decided to await more evidence on how the economy was responding to its previous tightenings before changing its policy stance. However, the Committee anticipated that the evidence might well signal the need for additional tightening, and it again announced a directive that was biased toward restraint.

Information available through mid-November pointed toward robust growth in overall economic activity and a further depletion of the pool of unemployed workers willing to take a job. Although higher real interest rates appeared to have induced some softening in interest-sensitive sectors of the economy, the anticipated moderation in the growth of aggregate demand did not appear sufficient to avoid added pressures on resources, predominantly labor. These conditions, along with further increases in oil and other commodity prices, suggested a significant risk that inflation would pick up over time, given prevailing financial conditions. Against this backdrop, the FOMC raised the target for the federal funds rate an additional $\frac{1}{4}$ percentage point in November. At that time, a symmetric directive was adopted, consistent with the Committee's expectation that no further policy move was likely to be considered before the February meeting. In a related action, the Board of Governors approved an increase in the discount rate of $\frac{1}{4}$ percentage point, to 5 percent.

At the December meeting, FOMC members held the stance of policy unchanged and, to avoid any misinterpretation of policy intentions that might unsettle financial markets around the century date change, announced a symmetric directive. But the statement

issued after the meeting also highlighted members' continuing concern about inflation risks going forward and indicated the Committee's intention to evaluate, as soon as its next meeting, whether those risks suggested that further tightening was appropriate.

The FOMC also decided on some modifications to its disclosure procedures at the December meeting, at which the working group mentioned above transmitted its final report and proposals. These modifications, announced in January 2000, consisted primarily of a plan to issue a statement after every FOMC meeting that not only would convey the current stance of policy but also would categorize risks to the outlook as either weighted mainly toward conditions that may generate heightened inflation pressures, weighted mainly toward conditions that may generate economic weakness, or balanced with respect to the goals of maximum employment and stable prices over the foreseeable future. The changes eliminated uncertainty about the circumstances under which an announcement would be made; they clarified that the Committee's statement about future prospects extended beyond the intermeeting period; and they characterized the Committee's views about future developments in a way that reflected policy discussions and that members hoped would be more helpful to the public and to financial markets.

Financial markets and the economy came through the century date change smoothly. By the February 2000 meeting, there was little evidence that demand was coming into line with potential supply, and the risks of inflationary imbalances appeared to have risen. At the meeting, the FOMC raised its target for the federal funds rate $\frac{1}{4}$ percentage point to $5\frac{3}{4}$ percent, and characterized the risks as remaining on

Economic Projections for 2000

Percent

Indicator	MEMO: 1999 actual	Federal Reserve governors and Reserve Bank presidents	
		Range	Central tendency
<i>Change, fourth quarter to fourth quarter¹</i>			
Nominal GDP	5.9	5–6	5¼–5½
Real GDP ²	4.2	3¼–4¼	3¼–3¾
Consumer price index	2.0	1½–2½	1¾–2
<i>Average level, fourth quarter</i>			
Civilian unemployment rate	4.1	4–4¼	4–4¼

1. Change from average for fourth quarter of 1999 to average for fourth quarter of 2000.

2. Chain-weighted.

the side of higher inflation pressures. In a related action, the Board of Governors approved a ¼ percentage point increase in the discount rate, to 5¼ percent.

Economic Projections for 2000

The members of the Board of Governors and the Federal Reserve Bank presidents, all of whom participate in the deliberations of the FOMC, expect to see another year of favorable economic performance in 2000, although the risk of higher inflation will need to be watched especially carefully. The central tendency of the FOMC participants' forecasts of real GDP growth from the fourth quarter of 1999 to the fourth quarter of 2000 is 3½ percent to 3¾ percent. A substantial part of the gain in output will likely come from further increases in productivity. Nonetheless, economic expansion at the pace that is anticipated should create enough new jobs to keep the unemployment rate in a range of 4 percent to 4¼ percent, close to its recent average. The central tendency of the FOMC participants' inflation forecasts for 2000—as measured by the chain-type price index for personal consumption expenditures—is 1¾ percent to 2 percent, a range that runs a

little to the low side of the energy-led 2 percent rise posted in 1999.¹ Even though futures markets suggest that energy prices may turn down later this year, prices elsewhere in the economy could be pushed upward by a combination of factors, including reduced restraint from non-oil import prices, wage and price pressures associated with lagged effects of the past year's oil price rise, and larger increases in costs

1. In past Monetary Policy Reports to the Congress, the FOMC has framed its inflation forecasts in terms of the consumer price index. The chain-type price index for PCE draws extensively on data from the consumer price index but, while not entirely free of measurement problems, has several advantages relative to the CPI. The PCE chain-type index is constructed from a formula that reflects the changing composition of spending and thereby avoids some of the upward bias associated with the fixed-weight nature of the CPI. In addition, the weights are based on a more comprehensive measure of expenditures. Finally, historical data used in the PCE price index can be revised to account for newly available information and for improvements in measurement techniques, including those that affect source data from the CPI; the result is a more consistent series over time. This switch in presentation notwithstanding, the FOMC will continue to rely on a variety of aggregate price measures, as well as other information on prices and costs, in assessing the path of inflation.

that might be forthcoming in another year of tight labor markets.

The performance of the economy—both the rate of real growth and the rate of inflation—will depend importantly on the course of productivity. Typically, in past business expansions, gains in labor productivity eventually slowed as rising demand placed increased pressure on plant capacity and on the workforce, and a similar slowdown from the recent rapid pace of productivity gain cannot be ruled out. But with many firms still in the process of implementing technologies that have proved effective in reorganizing internal operations or in gaining speedier access to outside resources and markets, and with the technologies themselves still advancing rapidly, a further rise in productivity growth from the average pace of recent years also is possible. To the extent that rapid productivity growth can be maintained, aggregate supply can grow faster than would otherwise be possible.

However, the economic processes that are giving rise to faster productivity growth not only are lifting aggregate supply but also are influencing the growth of aggregate spending. With firms perceiving abundant profit opportunities in productivity-enhancing high-tech applications, investment in new equipment has been surging and could well continue to rise rapidly for some time. Moreover, expectations that the investment in new technologies will generate high returns have been lifting the stock market and, in turn, helping to maintain consumer spending at a pace in excess of the current growth of real disposable income. Impetus to demand from this source also could persist for a while longer, given the current high levels of consumer confidence and the likely lagged effects of the large increments to household wealth registered to date. The boost to aggregate demand

from the marked pickup in productivity growth implies that the level of interest rates needed to align demand with potential supply may have increased substantially. Although the recent rise in interest rates may lead to some slowing of spending, aggregate demand may well continue to outpace gains in potential output over the near term, an imbalance that contains the seeds of rising inflationary and financial pressures that could undermine the expansion.

In recent years, domestic spending has been able to grow faster than production without engendering inflation partly because the external sector has provided a safety valve, helping to relieve the pressures on domestic resources. In particular, the rapid growth of demand has been met in part by huge increases in imports of goods and services, and sluggishness in foreign economies has restrained the growth of exports. However, foreign economies have been firming, and if recovery of these economies stays on course, U.S. exports should increase faster than they have in the past couple of years. Moreover, the rapid rise of the real exchange value of the dollar through mid-1998 has since given way to greater stability, on average, and the tendency of the earlier appreciation to limit export growth and boost import growth is now diminishing. From one perspective, these external adjustments are welcome because they will help slow the recent rapid rates of decline in net exports and the current account. They also should give a boost to industries that have been hurt by the export slump, such as agriculture and some parts of manufacturing. At the same time, however, the adjustments are likely to add to the risk of an upturn in the inflation trend, because a strengthening of exports will add to the pressures on U.S. resources and a firming of the prices of non-oil imports will raise costs

directly and also reduce to some degree the competitive restraints on the prices of U.S. producers.

Domestically, substantial plant capacity is still available in some manufacturing industries and could continue to exert restraint on firms' pricing decisions, even with a diminution of competitive pressures from abroad. However, an already tight domestic labor market has tightened still further in recent months, and bidding for workers, together with further increases in health insurance costs that appear to be coming, seems likely to keep nominal hourly compensation costs moving up at a relatively brisk pace. To date, the increases in compensation have not had serious inflationary consequences because they have been offset by the advances in labor productivity, which have held unit labor costs in check. But the pool of available workers cannot continue to shrink without at some point touching off cost pressures that even a favorable productivity trend might not be able to counter. Although the governors and Reserve Bank presidents expect productivity gains to be substantial again this year, incoming data on costs, prices, and price expectations will be examined carefully to make sure a pickup of inflation does not start to become embedded in the economy.

The FOMC forecasts are more optimistic than the economic predictions that the Administration recently released, but the Administration has noted that it is being conservative in regard to its assumptions about productivity growth and the potential expansion of the economy. Relative to the Administration's forecast, the FOMC is predicting a somewhat larger rise in real GDP in 2000 and a slightly lower unemployment rate. The inflation forecasts are fairly similar, once account is taken of the tendency for the consumer price

index to rise more rapidly than the chain-type price index for personal consumption expenditures.

Money and Debt Ranges for 2000

At its most recent meeting, the FOMC reaffirmed the monetary growth ranges for 2000 that were chosen on a provisional basis last July: 1 percent to 5 percent for M2, and 2 percent to 6 percent for M3. As has been the case for some time, these ranges were chosen to encompass money growth under conditions of price stability and historical velocity relationships, rather than to center on the expected growth of money over the coming year or serve as guides to policy.

Given continued uncertainty about movements in the velocities of M2 and M3 (the ratios of nominal GDP to the aggregates), the Committee still has little confidence that money growth within any particular range selected for the year would be associated with the economic performance it expected or desired. Nonetheless, the Committee believes that money growth has some value as an economic indicator, and it will continue to monitor the monetary aggregates among a wide variety of economic and financial data to inform its policy deliberations.

M2 increased 6¼ percent last year. With nominal GDP rising 6 percent, M2

Ranges for Growth of Monetary and Debt Aggregates

Percent

Aggregate	1998	1999	2000
M2	1-5	1-5	1-5
M3	2-6	2-6	2-6
Debt	3-7	3-7	3-7

NOTE. Change from average for fourth quarter of preceding year to average for fourth quarter of year indicated.

velocity fell a bit overall, although it rose in the final two quarters of the year as market interest rates climbed relative to yields on M2 assets. Further increases in market interest rates early this year could continue to elevate M2 velocity. Nevertheless, given the Committee's expectations for nominal GDP growth, M2 could still be above the upper end of its range in 2000.

M3 expanded 7½ percent last year, and its velocity fell about 1¾ percent, a much smaller drop than in the previous year. Non-M2 components again exhibited double-digit growth, with some of the strength attributable to long-term trends and some to precautionary build-ups of liquidity in advance of the century date change. One important trend is the shift by nonfinancial businesses from direct holdings of money market instruments to indirect holdings through institution-only money funds; such shifts boost M3 at the same time they enhance liquidity for businesses. Money market funds and large certificates of deposit also ballooned late in the year as a result of a substantial demand for liquidity around the century date change. Adjustments from the temporarily elevated level of M3 at the end of 1999 are likely to trim that aggregate's fourth-quarter-to-fourth-quarter growth this year, but not sufficiently to offset the downward trend in velocity. That trend, together with the Committee's expectation for nominal GDP growth, will probably keep M3 above the top end of its range again this year.

Domestic nonfinancial debt grew 6½ percent in 1999, near the upper end of the 3 percent to 7 percent growth range the Committee established last February. This robust growth reflected large increases in the debt of businesses and households that were due to substantial advances in spending as well as to debt-financed mergers and acquisi-

tions. However, the increase in private-sector debt was partly offset by a substantial decline in federal debt. The Committee left the range for debt growth in 2000 unchanged at 3 percent to 7 percent. After an aberrant period in the 1980s during which debt expanded much more rapidly than nominal GDP, the growth of debt has returned to its historical pattern of about matching the growth of nominal GDP over the past decade, and the Committee members expect debt to remain within its range again this year.

Economic and Financial Developments in 1999 and Early 2000

The U.S. economy retained considerable strength in 1999. According to the Commerce Department's advance estimate, the rise in real gross domestic product over the four quarters of the year exceeded 4 percent for the fourth consecutive year. The growth of household expenditures was bolstered by further substantial gains in real income, favorable borrowing terms, and a soaring stock market. Businesses seeking to maintain their competitiveness and profitability continued to invest heavily in high-tech equipment; external financing conditions in both debt and equity markets were quite supportive. In the public sector, further strong growth of revenues was accompanied by a step-up in the growth of government consumption and investment expenditures, the part of government spending that enters directly into real GDP. The rapid growth of domestic demand gave rise to a further huge increase in real imports of goods and services in 1999. Exports picked up as foreign economies strengthened, but the gain fell short of that for imports by a large margin. Available economic indicators for January of this year show

the U.S. economy continuing to expand, with labor demand robust and the unemployment rate edging down to its lowest level in thirty years.

The combination of a strong U.S. economy and improving economic conditions abroad led to firmer prices in some markets this past year. Industrial commodity prices turned up—sharply in some cases—after having dropped appreciably in 1998. Oil prices, responding both to OPEC production restraint and to the growth of world demand, more than doubled over the course of the year, and the prices of non-oil imports declined less rapidly than in previous years, when a rising dollar, as well as sluggish conditions abroad, had pulled them lower. The higher oil prices of 1999 translated into sharp increases in retail energy prices and gave a noticeable boost to consumer prices overall; the chain-type price index for personal consumption expenditures rose 2 percent, double the increase of 1998. Outside the energy sector, however, consumer prices increased at about the same low rate as in the previous year, even as the unemployment rate continued to edge down. Rapid gains in productivity enabled businesses to offset a substantial portion of the increases in nominal compensation, thereby holding the rise of unit labor costs in check, and business pricing policies continued to be driven to a large extent by the desire to maintain or increase market share at the expense of some slippage in unit profits, albeit from a high level.

The Household Sector

Personal consumption expenditures increased about 5½ percent in real terms in 1999, a second year of exceptionally rapid advance. As in other recent years, the strength of consumption in

1999 reflected sustained increases in employment and real hourly pay, which bolstered the growth of real disposable personal income. Added impetus came from another year of rapid growth in net worth, which, coming on top of the big gains of previous years, led households in the aggregate to spend a larger portion of their current income than they would have otherwise. The personal saving rate, as measured in the national income and product accounts, dropped further, to an average of about 2 percent in the final quarter of 1999; it has fallen about 4½ percentage points over the past five years, a period during which yearly gains in household net worth have averaged more than 10 percent in nominal terms and the ratio of household wealth to disposable personal income has moved up sharply.

The strength of consumer spending this past year extended across a broad front. Appreciable gains were reported for most types of durable goods. Spending on motor vehicles, which had surged about 13½ percent in 1998, moved up another 5½ percent in 1999. The inflation-adjusted increases for furniture, appliances, electronic equipment, and other household durables also were quite large, supported in part by a strong housing market. Spending on services advanced about 4½ percent in real terms, led by sizable increases for recreation and personal business services. Outlays for nondurables, such as food and clothing, also rose rapidly. Exceptional strength in the purchases of some nondurables toward the end of the year may have reflected precautionary buying by consumers in anticipation of the century date change; it is notable in this regard that grocery store sales were up sharply in December and then fell back in January, according to the latest report on retail sales.

Households also continued to boost their expenditures on residential structures. After having surged 11 percent in 1998, residential investment rose about 3¼ percent over the four quarters of 1999, according to the advance estimate from the Commerce Department. Moderate declines in investment in the second half of the year offset only part of the increases recorded in the first half. As with consumption expenditures, investment in housing was supported by the sizable advances in real income and household net worth, but this spending category was also tempered a little by a rise in mortgage interest rates, which likely was an important factor in the second-half downturn.

Nearly all the indicators of housing activity showed upbeat results for the year. Annual sales of new and existing homes reached new peaks in 1999, surpassing the previous highs set in 1998. Although sales dropped back a touch in the second half of the year, their level through year-end remained quite high by historical standards. Builders' backlogs also were at high levels and helped support new construction activity even as sales eased. Late in the year, reports that shortages of skilled workers were delaying construction became less frequent as building activity wound down seasonally, but builders also continued to express concern about potential worker shortages in 2000. For 1999 in total, construction began on more than 1.3 million single-family dwellings, the most since the late 1970s; approximately 330,000 multifamily units also were started, about the same number as in each of the two previous years. House prices rose appreciably and, together with the new investment, further boosted household net worth in residential real estate.

The increases in consumption and residential investment in 1999 were, in

part, financed by an expansion of household debt estimated at 9½ percent, the largest increase in more than a decade. Mortgage debt, which includes the borrowing against owner equity that may be used for purposes other than residential investment, grew a whopping 10¼ percent. Higher interest rates led to a sharp drop in refinancing activity and prompted a shift toward the use of adjustable-rate mortgages, which over the year rose from 10 percent to 30 percent of originations. Consumer credit advanced 7¼ percent, boosted by heavy demand for consumer durables and other big-ticket purchases. Credit supply conditions were also favorable; commercial banks reported in Federal Reserve surveys that they were more willing than in the previous year or two to make consumer installment loans and that they remained quite willing to make mortgage loans.

The household sector's debt-service burden edged up to its highest level since the late 1980s; however, with employment rising rapidly and asset values escalating, measures of credit quality for household debt generally improved in 1999. Delinquency rates on home mortgages and credit cards declined a bit, and those on auto loans fell more noticeably. Personal bankruptcy filings fell sharply after having risen for several years to 1997 and remaining elevated in 1998.

The Business Sector

Private nonresidential fixed investment increased 7 percent during 1999, extending by another year a long run of rapid growth in real investment outlays. Strength in capital investment has been underpinned in recent years by the vigor of the business expansion, by the advance and spread of computer technologies, and by the ability of most busi-

nesses to readily obtain funding through the credit and equity markets.

Investment in high-tech equipment continued to soar in 1999. Outlays for communications equipment rose about 25 percent over the course of the year, boosted by a number of factors, including the expansion of wireless communications, competition in telephone markets, the continued spread of the Internet, and the demand of Internet users for faster access to it. Computer outlays rose nearly 40 percent in real terms, and the purchases of computer software, which in the national accounts are now counted as part of private fixed investment, rose about 13 percent; for both computers and software the increases were roughly in line with the annual average gains during previous years of the expansion.

The timing of investment in high-tech equipment over the past couple of years was likely affected to some degree by business preparations for the century date change. Many large businesses reportedly invested most heavily in new computer equipment before the start of 1999 to leave sufficient time for their systems to be tested well before the start of 2000; a very steep rise in computer investment in 1998—roughly 60 percent in real terms—is consistent with those reports. Some of the purchases in preparation for Y2K most likely spilled over into 1999, but the past year also brought numerous reports of businesses wanting to stand pat with existing systems until after the turn of the year. Growth in computer investment in the final quarter of 1999, just before the century rollover, was the smallest in several quarters.

Spending on other types of equipment rose moderately, on balance, in 1999. Outlays for transportation equipment increased substantially, led by advances in business purchases of motor vehicles

and aircraft. By contrast, a sharp decline in spending on industrial machinery early in the year held the yearly gain for that category to about 2 percent; over the final three quarters of the year, however, outlays picked up sharply as industrial production strengthened.

Private investment in nonresidential structures fell 5 percent in 1999 according to the advance estimate from the Commerce Department. Spending on structures had increased in each of the previous seven years, rather briskly at times, and the level of investment, though down this past year, remained relatively high and likely raised the real stock of capital invested in structures appreciably further. Real expenditures on office buildings, which have been climbing rapidly for several years, moved up further in 1999, to the highest level since the peak of the building boom of the 1980s. In contrast, investment in other types of commercial structures, which had already regained its earlier peak, slipped back a little, on net, this past year. Spending on industrial structures, which accounts for roughly 10 percent of total real outlays on structures, fell for a third consecutive year. Outlays for the main types of institutional structures also were down, according to the initial estimates. Revisions to the data on nonresidential structures often are sizable, and the estimates for each of the three years preceding 1999 have eventually shown a good bit more strength than was initially reported.

After increasing for two years at a rate of about 6 percent, nonfarm business inventories expanded more slowly this past year—about 3¼ percent according to the advance GDP report. During the year, some businesses indicated that they planned to carry heavier stocks toward year-end to protect themselves against possible Y2K disruptions,

and the rate of accumulation did in fact pick up appreciably in the fall. But business final sales remained strong, and the ratio of nonfarm stocks to final sales changed little, holding toward the lower end of the range of the past decade. With the ratio so low, businesses likely did not enter the new year with excess stocks.

After slowing to a 1 percent rise in 1998, the economic profits of U.S. corporations—that is, book profits with inventory valuation and capital consumption adjustments—picked up in 1999. Economic profits over the first three quarters of the year averaged about 3½ percent above the level of a year earlier. The earnings of corporations from their operations outside the United States rebounded in 1999 from a brief but steep decline in the second half of 1998, when financial market disruptions were affecting the world economy. The profits earned by financial corporations on their domestic operations also picked up after having been slowed in 1998 by the financial turmoil; growth of these profits in 1999 would have been greater but for a large payout by insurance companies to cover damage from Hurricane Floyd. The profits that nonfinancial corporations earned on their domestic operations in the first three quarters of 1999 were about 2½ percent above the level of a year earlier; growth of these earnings, which account for about two-thirds of all economic profits, had slowed to just over 2 percent in 1998 after averaging 13 percent at a compound annual rate in the previous six years. Nonfinancial corporations have boosted volume substantially further over the past two years, but profits per unit of output have dropped back somewhat from their 1997 peak. As of the third quarter of last year, economic profits of nonfinancial corporations amounted to slightly less than 11½ per-

cent of the nominal output of these companies, compared with a quarterly peak of about 12¾ percent two years earlier.

The borrowing needs of nonfinancial corporations remained sizable in 1999. Capital spending outstripped internal cash flow, and equity retirements that resulted from stock repurchases and a blockbuster pace of merger activity more than offset record volumes of both seasoned and initial public equity offerings. Overall, the debt of nonfinancial businesses grew 10½ percent, down only a touch from its decade-high 1998 pace.

The strength in business borrowing was widespread across funding sources. Corporate bond issuance was robust, particularly in the first half of the year, though the markets' increased preference for liquidity and quality, amid an appreciable rise in defaults on junk bonds, left issuance of below-investment-grade securities down more than a quarter from their record pace in 1998. The receptiveness of the capital markets helped firms to pay down loans at banks—which had been boosted to an 11¾ percent gain in 1998 by the financial market turmoil that year—and growth in these loans slowed to a more moderate 5¼ percent pace in 1999. The commercial paper market continued to expand rapidly, with domestic nonfinancial outstandings rising 18 percent on top of the 14 percent gain in 1998.

Commercial mortgage borrowing was strong again as well, as real estate prices generally continued to rise, albeit at a slower pace than in 1998, and vacancy rates generally remained near historical lows. The mix of lending shifted back to banks and life insurance companies from commercial mortgage-backed securities, as conditions in the CMBS market, especially investor appetites for lower-rated tranches, remained less favorable than they had been before the

credit market disruptions in the fall of 1998.

Risk spreads on corporate bonds seasawed during 1999. Over the early part of the year, spreads reversed part of the 1998 run-up as markets recovered. During the summer, they rose again in response to concerns about market liquidity, expectations of a surge in financing before the century date change, and anticipated firming of monetary policy. Swap spreads, in particular, exhibited upward pressure at this time. The likelihood of year-end difficulties seemed to diminish in the fall, and spreads again retreated, ending the year down on balance but generally above the levels that had prevailed over the several years up to mid-1998.

Federal Reserve surveys indicated that banks firmed terms and standards for commercial and industrial loans a bit further, on balance, in 1999. In the syndicated loan market, spreads for lower-rated borrowers also ended the year higher, on balance, after rising substantially in 1998. Spreads for higher-rated borrowers were fairly steady through 1998 and early 1999, widened a bit around midyear, and then fell back to end the year about where they had started.

The ratio of net interest payments to cash flow for nonfinancial firms remained in the low range it has occupied for the past few years, but many measures of credit quality nonetheless deteriorated in 1999. Moody's Investors Service downgraded more nonfinancial debt issuers than it upgraded over the year, affecting a net \$78 billion of debt. The problems that emerged in the bond market were concentrated mostly among borrowers in the junk sector, and partly reflected a fallout from the large volume of issuance and the generous terms available in 1997 and early 1998; default rates on junk bonds rose to levels

not seen since the recession of 1990–91. Delinquency rates on C&I loans at commercial banks ticked up in 1999, albeit from very low levels, while the charge-off rate for those loans continued on its upward trend of the past several years. Business failures edged up last year but remained in a historically low range.

The Government Sector

Buoyed by rapid increases in receipts and favorable budget balances, the combined real expenditures of federal, state, and local governments on consumption and investment rose about 4¾ percent from the fourth quarter of 1998 to the fourth quarter of 1999. Annual data, which smooth through some of the quarterly noise that is often evident in government outlays, showed a gain in real spending of more than 3½ percent this past year, the largest increase of the expansion. Federal expenditures on consumption and investment were up nearly 3 percent in annual terms; real defense expenditures, which had trended lower through most of the 1990s, rose moderately, and outlays for nondefense consumption and investment increased sharply. Meanwhile, the consumption and investment expenditures of state and local governments rose more than 4 percent in annual terms; growth of these outlays has picked up appreciably as the expansion has lengthened.

At the federal level, expenditures in the unified budget rose 3 percent in fiscal 1999, just a touch less than the 3¼ percent rise of the preceding fiscal year. Faster growth of nominal spending on items that are included in consumption and investment was offset in the most recent fiscal year by a deceleration in other categories. Net interest outlays fell more than 5 percent—enough to trim total spending growth about ¾ percentage point—and only small increases

were recorded in expenditures for social insurance and income security, categories that together account for nearly half of total federal outlays. In contrast, federal expenditures on Medicaid, after having slowed in 1996 and 1997, picked up again in the past two fiscal years. Spending on agriculture doubled in fiscal 1999; the increase resulted both from a step-up in payments under farm safety net programs that were retained in the “freedom to farm” legislation of 1996 and from more recent emergency farm legislation.

Federal receipts grew 6 percent in fiscal 1999 after increases that averaged close to 9 percent in the two previous fiscal years. Net receipts from taxes on individuals continued to outpace the growth of personal income, but by less than in other recent years, and receipts from corporate income taxes fell moderately. Nonetheless, with total receipts growing faster than spending, the surplus in the unified budget continued to rise, moving from \$69 billion in fiscal 1998 to \$124 billion this past fiscal year. Excluding net interest payments—a charge resulting from past deficits—the federal government recorded a surplus of more than \$350 billion in fiscal 1999.

Federal saving, a measure that results from a translation of the federal budget surplus into terms consistent with the national income and product accounts, amounted to $2\frac{1}{4}$ percent of nominal GDP in the first three quarters of 1999, up from $1\frac{1}{2}$ percent in 1998 and $\frac{1}{2}$ percent in 1997. Before 1997, federal saving had been negative for seventeen consecutive years, by amounts exceeding 3 percent of nominal GDP in several years—most recently in 1992. The change in the federal government’s saving position from 1992 to 1999 more than offset the sharp drop in the personal saving rate and helped lift national saving from less than 16 percent of nominal

GDP in 1992 and 1993 to a range of about $18\frac{1}{2}$ percent to 19 percent over the past several quarters.

Federal debt growth has mirrored the turnabout in the government’s saving position. In the 1980s and early 1990s, borrowing resulted in large additions to the volume of outstanding government debt. In contrast, with the budget in surplus the past two years, the Treasury has been paying down debt. Without the rise in federal saving and the reversal in borrowing, interest rates in recent years likely would have been higher than they have been, and private capital formation, a key element in the vigorous economic expansion, would have been lower, perhaps appreciably.

The Treasury responded to its lower borrowing requirements in 1999 primarily by reducing the number of auctions of thirty-year bonds from three to two and by trimming auction sizes for notes and Treasury inflation-indexed securities (TIIS). Weekly bill volumes were increased from 1998 levels, however, to help build up cash holdings as a Y2K precaution. For 2000, the Treasury plans major changes in debt management in an attempt to keep down the average maturity of the debt and maintain sufficient auction sizes to support the liquidity and benchmark status of its most recently issued securities, while still retiring large volumes of debt. Alternate quarterly refunding auctions of five- and ten-year notes and semiannual auctions of thirty-year bonds will now be smaller re-openings of existing issues rather than new issues. Thirty-year TIIS will now be auctioned once a year rather than twice, and the two auctions of ten-year TIIS will be modestly reduced. Auctions of one-year Treasury bills will drop from thirteen a year to four, while weekly bill volumes will rise somewhat. Finally, the Treasury plans to enter the market to buy back in “reverse

auctions” as much as \$30 billion of outstanding securities this year, beginning in March or April.

State and local government debt expanded 4¼ percent in 1999, well off the previous year’s elevated pace. Borrowing for new capital investment edged up, but the roughly full-percentage-point rise in municipal bond yields over the year led to a sharp drop in advance refundings, which in turn pulled gross issuance below the 1998 level. Tax revenues continued to grow at a robust rate, improving the financial condition of states and localities, as reflected in a ratio of debt rating upgrades to downgrades of more than three to one over the year. The surplus in the current account of state and local governments in the first three quarters of 1999 amounted to about ½ percent of nominal GDP, about the same as in 1998 but otherwise the largest of the past several years.

The External Sector

Trade and the Current Account

U.S. external balances deteriorated in 1999 largely because of continued declines in net exports of goods and services and some further weakening of net investment income. The nominal trade deficit for goods and services widened more than \$100 billion in 1999, to an estimated \$270 billion, as imports expanded faster than exports. For the first three quarters of the year, the current account deficit increased more than one-third, reaching \$320 billion at an annual rate, or 3½ percent of GDP. In 1998, the current account deficit was 2½ percent of GDP.

Real imports of goods and services expanded strongly in 1999—about 13 percent according to preliminary estimates—as the rapid import growth

during the first half of the year was extended through the second half. The expansion of real imports was fueled by the continued strong growth of U.S. domestic expenditures. Declines in non-oil import prices through most of the year, partly reflecting previous dollar appreciation, contributed as well. All major import categories other than aircraft and oil recorded strong increases. While U.S. consumption of oil rose about 4 percent in 1999, the quantity of oil imported was about unchanged, and inventories were drawn down.

Real exports of goods and services rose an estimated 4 percent in 1999, a somewhat faster pace than in 1998. Economic activity abroad picked up, particularly in Canada, Mexico, and Asian developing economies. However, the lagged effects of relative prices owing to past dollar appreciation held down exports. An upturn in U.S. exports to Canada, Mexico, and key Asian emerging markets contrasted with a much flatter pace of exports to Europe, Japan, and South America. Capital equipment composed about 45 percent of U.S. goods exports, industrial supplies were 20 percent, and agricultural, automotive, and consumer goods were each roughly 10 percent.

Capital Account

U.S. capital flows in 1999 reflected the relatively strong cyclical position of the U.S. economy and the global wave of corporate mergers. Foreign purchases of U.S. securities remained brisk—near the level of the previous two years, in which they had been elevated by the global financial unrest. The composition of foreign securities purchases in 1999 showed a continued shift away from Treasuries, in part because of the U.S. budget surplus and the decline in the supply of Treasuries relative to other

securities and, perhaps, to a general increased tolerance of foreign investors for risk as markets calmed after their turmoil of late 1998. Available data indicate that private foreigners sold on net about \$20 billion in Treasuries, compared with net purchases of \$50 billion in 1998 and \$150 billion in 1997. These sales of Treasuries were more than offset by a pickup in foreign purchases of their nearest substitute—government agency bonds—as well as corporate bonds and equities.

Foreign direct investment flows into the United States were also robust in 1999, with the pace of inflows in the first three quarters only slightly below the record inflow set in 1998. As in 1998, direct investment inflows last year were elevated by several large mergers, which left their imprint on other parts of the capital account as well. In the past two years, many of the largest mergers have been financed by a swap of equity in the foreign acquiring firm for equity in the U.S. firm being acquired. The Bureau of Economic Analysis estimates that U.S. residents acquired more than \$100 billion of foreign equity through this mechanism in the first three quarters of 1999. Separate data on market transactions indicate that U.S. residents made net purchases of Japanese equities. They also sold European equities, probably in an attempt to rebalance portfolios in light of the equity acquired through stock swaps. U.S. residents on net purchased a small volume of foreign bonds in 1999. U.S. direct investment in foreign economies also reflected the global wave of merger activity in 1999 and will likely total something near its record level of 1998.

Available data indicate a return to sizable capital inflows from foreign official sources in 1999, following a modest outflow in 1998. The decline in foreign official assets in the United States in

1998 was fairly widespread, as many countries found their currencies under unwanted downward pressure during the turmoil. By contrast, the increase in foreign official reserves in the United States in 1999 was fairly concentrated in a relatively few countries that experienced unwanted upward pressure on their currencies vis-à-vis the U.S. dollar.

The Labor Market

As in other recent years, the rapid growth of aggregate output in 1999 was associated with both strong growth of productivity and brisk gains in employment. According to the initial estimate for 1999, output per hour in the nonfarm business sector rose $3\frac{1}{4}$ percent over the four quarters of the year, and historical data were revised this past year to show stronger gains than previously reported in the years preceding 1999. As the data stand currently, the average rate of rise in output per hour over the past four years is about $2\frac{3}{4}$ percent—up from an average of $1\frac{1}{2}$ percent from the mid-1970s to the end of 1995. Some of the step-up in productivity growth since 1995 can be traced to high levels of capital spending and an accompanying faster rate of increase in the amount of capital per worker. Beyond that, the causes are more difficult to pin down quantitatively but are apparently related to increased technological and organizational efficiencies. Firms are not only expanding the stock of capital but are also discovering many new uses for the technologies embodied in that capital, and workers are becoming more skilled at employing the new technologies.

The number of jobs on nonfarm payrolls rose slightly more than 2 percent from the end of 1998 to the end of 1999, a net increase of 2.7 million. Annual job gains had ranged between $2\frac{1}{4}$ percent and $2\frac{3}{4}$ percent over the 1996–98

period. Once again in 1999, the private service-producing sector accounted for most of the total rise in payroll employment, led by many of the same categories that had been strong in previous years—transportation and communications, computer services, engineering and management, recreation, and personnel supply. In the construction sector, employment growth remained quite brisk—more than 4 percent from the final quarter of 1998 to the final quarter of 1999. Manufacturing employment, influenced by spillover from the disruptions in foreign economies, continued to decline sharply in the first half of the year, but losses thereafter were small as factory production strengthened. Since the start of the expansion in 1991, the job count in manufacturing has changed little, on net, but with factory productivity rising rapidly, manufacturing output has trended up at a brisk pace.

In 1999, employers continued to face a tight labor market. Some increase in the workforce came from the pool of the unemployed, and the jobless rate declined to an average of 4.1 percent in the fourth quarter. In January 2000, the rate edged down to 4.0 percent, the lowest monthly reading since the start of the 1970s. Because the unemployment rate is a reflection only of the number of persons who are available for work and actively looking, it does not capture potential labor supply that is one step removed—namely those individuals who are interested in working but are not actively seeking work at the current time. However, like the unemployment rate itself, an augmented rate that includes these interested nonparticipants also has declined to a low level, as more individuals have taken advantage of expanding opportunities to work.

Although the supply–demand balance in the labor market tightened further in 1999, the added pressure did not trans-

late into bigger increases in nominal hourly compensation. The employment cost index for hourly compensation of workers in private nonfarm industries rose 3.4 percent in nominal terms during 1999, little changed from the increase of the previous year, and an alternative measure of hourly compensation from the nonfarm productivity and cost data slowed from a 5¼ percent increase in 1998 to a 4½ percent rise this past year. Compensation gains in 1999 probably were influenced, in part, by the very low inflation rate of 1998, which resulted in unexpectedly large increases in inflation-adjusted pay in that year and probably dampened wage increments last year. According to the employment cost index, the hourly wages of workers in private industry rose 3½ percent in nominal terms after having increased about 4 percent in each of the two previous years. The hourly cost to employers of the nonwage benefits provided to employees also rose 3½ percent in 1999, but this increase was considerably larger than those of the past few years. Much of the pickup in benefit costs came from a faster rate of rise in the costs of health insurance, which were reportedly driven up by several factors: a moderate acceleration in the price of medical care, the efforts of some insurers to rebuild profit margins, and the recognition by employers that an attractive health benefits package was helpful in hiring and retaining workers in a tight labor market.

Because the employment cost index does not capture some forms of compensation that employers have been using more extensively—for example, stock options, signing bonuses, and employee price discounts on in-store purchases—it has likely been understating the true size of workers' gains. The productivity and cost measure of hourly compensation captures at least some of the labor costs that the employment cost index omits,

and this broader coverage may explain why the productivity and cost measure has been rising faster. However, it, too, is affected by problems of measurement, some of which would lead to overstatement of the rate of rise in hourly compensation.

With the rise in output per hour in the nonfarm business sector in 1999 offsetting about three-fourths of the rise in the productivity and cost measure of nominal hourly compensation, nonfarm unit labor costs were up just a shade more than 1 percent. Unit labor costs had increased slightly more than 2 percent in both 1997 and 1998 and less than 1 percent in 1996. Because labor costs are by far the most important item in total unit costs, these small increases have been crucial to keeping inflation low.

Prices

Rates of increase in the broader measures of aggregate prices in 1999 were somewhat larger than those of 1998. The chain-type price index for GDP—which measures inflation for goods and services *produced* domestically—moved up about 1½ percent, a pickup of ½ percentage point from the increase of 1998. In comparison, acceleration in various price measures for goods and services *purchased* amounted to 1 percentage point or more: The chain-type price index for personal consumption expenditures increased 2 percent, twice as much as in the previous year, and the chain-type price index for gross domestic purchases, which measures prices of the aggregate purchases of consumers, businesses, and governments, moved up close to 2 percent after an increase of just ¾ percent in 1998. The consumer price index rose more than 2½ percent over the four quarters of the year after having increased 1½ percent in 1998.

The acceleration in the prices of goods and services purchased was driven in part by a reversal in import prices. In 1998, the chain-type price index for imports of goods and services had fallen 5 percent, but it rose 3 percent in 1999. A big swing in oil prices—down in 1998 but up sharply in 1999—accounted for a large part of this turnaround. Excluding oil, the prices of imported goods continued to fall in 1999 but, according to the initial estimate, less rapidly than over the three previous years, when downward pressure from appreciation of the dollar had been considerable. The prices of imported materials and supplies rebounded, but the prices of imported capital goods fell sharply further. Meanwhile, the chain-type price index for exports increased 1 percent in the latest year, reversing a portion of the 2½ percent drop of 1998, when the sluggishness of foreign economies and the strength of the dollar had pressured U.S. producers to mark down the prices charged to foreign buyers.

Prices of domestically produced primary materials, which tend to be especially sensitive to developments in world markets, rebounded sharply in 1999. The producer price index for crude materials excluding food and energy advanced about 10 percent after having fallen about 15 percent in 1998, and the PPI for intermediate materials excluding food and energy increased about 1½ percent, reversing a 1998 decline of about that same size. But further along in the chain of processing and distribution, the effects of these increases were not very visible. The producer price index for finished goods excluding food and energy rose slightly less rapidly in 1999 than in 1998, and the consumer price index for goods excluding food and energy rose at about the same low rate that it had in 1998. Large gains in productivity and a mar-

gin of excess capacity in the industrial sector helped keep prices of goods in check, even as growth of domestic demand remained exceptionally strong.

“Core” inflation at the consumer level—which takes account of the prices of services as well as the prices of goods and excludes food and energy prices—changed little in 1999. The increase in the core index for personal consumption expenditures, 1½ percent over the four quarters of the year, was about the same as the increase in 1998. As measured by the CPI, core inflation was 2 percent this past year, about ¼ percentage point lower than in 1998, but the deceleration was a reflection of a change in CPI methodology that had taken place at the start of last year; on a methodologically consistent basis, the rise in the core CPI was about the same in both years.

In the national accounts, the chain-type price index for private fixed investment edged up ¼ percent in 1999 after having fallen about ¾ percent in 1998. With construction costs rising, the index for residential investment increased 3¾ percent, its largest advance in several years. By contrast, the price index for nonresidential investment declined moderately, as a result of another drop in the index for equipment and software.

Falling equipment prices are one channel through which faster productivity gains have been reshaping the economy in recent years; the drop in prices has contributed to high levels of investment, rapid expansion of the capital stock, and a step-up in the growth of potential output.

U.S. Financial Markets

Financial markets were somewhat unsettled as 1999 began, with the disruptions of the previous autumn still unwinding and the devaluation of the Brazilian *real* causing some jitters around mid-January. However, market conditions improved into the spring, evidenced in part by increased trading volumes and narrowed bid-asked and credit spreads, as it became increasingly evident that strong growth was continuing in the United States, and that economies abroad were rebounding. In this environment, market participants began to anticipate that the Federal Reserve would reverse the policy easings of the preceding fall, and interest rates rose. Nevertheless, improved profit expectations apparently more than offset the interest rate increases, and equity prices continued to climb until late spring. From May into the fall, both equity prices and longer-term interest rates moved in a choppy fashion, while short-term interest rates moved up with monetary policy tightenings in June, August, and November. Worries about Y2K became pronounced after midyear, and expectations of an acceleration of borrowing ahead of the fourth quarter prompted a resurgence in liquidity and credit premiums. In the closing months of the year, however, the likelihood of outsized demands for credit and liquidity over the year-end subsided, causing spreads to narrow, and stock prices surged once again. After the century

Alternative Measures of Price Change

Percent

Price measure	1998	1999
<i>Chain-type</i>		
Gross domestic product	1.1	1.6
Gross domestic purchases .....	.7	1.9
Personal consumption expenditures	1.0	2.0
Excluding food and energy ...	1.4	1.5
<i>Fixed-weight</i>		
Consumer price index	1.5	2.6
Excluding food and energy ...	2.3	2.0

NOTE. Changes are based on quarterly averages and are measured to the fourth quarter of the year indicated from the fourth quarter of the preceding year.

date change passed without disruptions, liquidity improved and trading volumes grew, although both bond and equity prices have remained quite volatile so far this year.

Interest Rates

Over the first few months of 1999, short-term Treasury rates moved in a narrow range, anchored by an unchanged stance of monetary policy. Yields on intermediate- and long-term Treasury securities rose, however, as the flight to quality and liquidity of the preceding fall unwound, and incoming data pointed to continued robust economic growth and likely Federal Reserve tightening. Over most of the rest of the year, short-term Treasury rates moved broadly in line with the three quarter-point increases in the target federal funds rate; longer-term yields rose less, as markets had already anticipated some of those policy actions.

Bond and note yields moved sharply higher from early November 1999 to mid-January 2000, as Y2K fears diminished, incoming data indicated surprising economic vitality, and the century date change was negotiated without significant technical problems. In recent weeks, long-term Treasury yields have retraced a good portion of that rise on expectations of reduced supply stemming from the Treasury's new buy-back program and reductions in the amount of bonds to be auctioned. This rally has been mostly confined to the long end of the Treasury market; long-term corporate bond yields have fallen only slightly, and yields are largely unchanged or have risen a little further at maturities of ten years or less, where most private borrowing is concentrated.

Concerns about liquidity and credit risk around the century date change led

to large premiums in private money market rates in the second half of 1999. During the summer, this "safe haven" demand held down rates on Treasury bills maturing early in the new year, until the announcement in August that the Treasury was targeting an unusually large year-end cash balance, implying that it would issue a substantial volume of January-dated cash management bills. Year-end premiums in eurodollar, commercial paper, term federal funds, and other money markets—measured as the implied forward rate for a monthlong period spanning the turn relative to the rate for a neighboring period—rose earlier and reached much higher levels than in recent years.

Those year-end premiums peaked in late October and then declined substantially, as markets reflected increased confidence in technical readiness and special assurances from central banks that sufficient liquidity would be available around the century date change. Important among these assurances were several of the Federal Reserve initiatives described in the first section of this report. Securities dealers took particular advantage of the widened pools of acceptable collateral for open market operations and used large volumes of federal agency debt and mortgage-backed securities in repurchase agreements with the Open Market Desk in the closing weeks of the year, which helped to relieve a potential scarcity of Treasury collateral over the turn. Market participants also purchased options on nearly \$500 billion worth of repurchase agreements under the standby financing facility and pledged more than \$650 billion of collateral for borrowing at the discount window. With the smooth roll-over, however, none of the RP options were exercised, and borrowing at the discount window turned out to be fairly light.

Equity Prices

Nearly all major stock indexes ended 1999 in record territory. The Nasdaq composite index paced the advance by soaring 86 percent over the year, and the S&P 500 and Dow Jones Industrial Average posted still-impressive gains of 20 percent and 25 percent. Last year was the fifth consecutive year that all three indexes posted double-digit returns. Most stock indexes moved up sharply over the first few months of the year and were about flat on net from May through August; they then declined into October before surging in the final months of the year. The Nasdaq index, in particular, achieved most of its annual gains in November and December. Stock price advances in 1999 were not very broad-based, however: More than half of the S&P 500 issues lost value over the year. So far in 2000, stock prices have been volatile and mixed; major indexes currently span a range from the Dow's nearly 10 percent drop to the Nasdaq's 8 percent advance.

Almost all key industry groups performed well. One exception was shares of financial firms, which were flat, on balance. Investor perceptions that rising interest rates would hurt earnings and, possibly, concern over loan quality apparently offset the boost resulting from passage in the fall of legislation reforming the depression-era Glass-Steagall constraints on combining commercial banking with insurance and investment banking. Small-cap stocks, which had lagged in 1998, also performed well; the Russell 2000 index climbed 20 percent over the year and finally surpassed its April 1998 peak in late December.

At large firms, stock price gains about kept pace with expected earnings growth in 1999, and the S&P 500 one-year-ahead earnings-price ratio fluctu-

ated around the historically low level of 4 percent even as real interest rates rose. Meanwhile, the Nasdaq composite index's earnings-price ratio (using actual twelve-month trailing earnings) plummeted from an already-slim 1¼ percent to ½ percent, suggesting that investors are pricing in expectations of tremendous earnings growth at technology firms relative to historical norms.

Debt and the Monetary Aggregates

Debt and Depository Intermediation

The debt of domestic nonfinancial sectors is estimated to have grown 6½ percent in 1999 on a fourth-quarter-to-fourth-quarter basis, near the upper end of the FOMC's 3 percent to 7 percent range and about a percentage point faster than nominal GDP. As was the case in 1998, robust outlays on consumer durable goods, housing, and business investment, as well as substantial net equity retirements, helped sustain nonfederal sector debt growth at rates above 9 percent. Meanwhile, the dramatically increased federal budget surplus allowed the Treasury to reduce its outstanding debt about 2 percent. These movements follow the pattern of recent years whereby increases in the debt of households, businesses, and state and local governments relative to GDP have come close to matching declines in the federal government share, consistent with reduced pressure on available savings from the federal sector facilitating private borrowing.

After increasing for several years, the share of total credit accounted for by depository institutions leveled out in 1999. Growth in credit extended by those institutions edged down to 6½ percent from 6¾ percent in 1998. Adjusted for mark-to-market accounting rules, bank credit growth retreated from

10¼ percent in 1998 to 5½ percent last year, with a considerable portion of the slowdown attributable to an unwinding of the surge in holdings of non-U.S. government securities, business loans, and security loans that had been built up during the market disruptions in the fall of 1998. Real estate loans constituted one of the few categories of bank credit that accelerated in 1999. By contrast, thrift credit swelled 9 percent, up from a 4½ percent gain in 1998, as rising mortgage interest rates led borrowers to opt more frequently for adjustable-rate mortgages, which thrifts tend to keep on their books. The trend toward securitization of consumer loans continued in 1999: Bank originations of consumer loans were up about 5 percent, while holdings ran off at a 1¾ percent pace.

The Monetary Aggregates

Growth of the broad monetary aggregates moderated significantly last year. Nevertheless, as was expected by the FOMC last February and July, both M2 and M3 finished the year above their annual price-stability ranges. M3 rose 7½ percent in 1999, somewhat outside the Committee's range of 2 percent to 6 percent but far below the nearly 11 percent pace of 1998. M3 growth retreated early in 1999, as the surge in depository credit in the final quarter of 1998 unwound and depository institutions curbed their issuance of the managed liabilities included in that aggregate. At that time, the expansion of institution-only money funds also slowed with the ebbing of heightened preferences for liquid assets. However, M3 bulged again in the fourth quarter of 1999, as loan growth picked up and banks funded the increase mainly with large time deposits and other managed liabilities in M3. U.S. branches and

Growth of Money and Debt

Percent

Period	M1	M2	M3	Domestic non-financial debt
<i>Annual¹</i>				
1989 .....	.6	5.2	4.1	7.4
1990	4.2	4.2	1.9	6.7
1991	7.9	3.1	1.1	4.5
1992	14.4	1.8	.6	4.5
1993	10.6	1.4	1.0	4.9
1994	2.5	.6	1.7	4.9
1995	-1.5	3.9	6.1	5.5
1996	-4.5	4.5	6.8	5.4
1997	-1.2	5.6	8.9	5.2
1998	2.2	8.5	10.9	6.7
1999	1.9	6.2	7.5	6.6
<i>Quarterly (annual rate)²</i>				
1999:Q1	1.9	7.5	8.2	6.7
Q2	2.2	6.0	6.0	6.9
Q3	-2.0	5.5	5.1	6.0
Q4	5.3	5.4	10.0	6.2

NOTE. M1 consists of currency, travelers checks, demand deposits, and other checkable deposits. M2 consists of M1 plus savings deposits (including money market deposit accounts), small-denomination time deposits, and balances in retail money market funds. M3 consists of M2 plus large-denomination time deposits, balances in institutional money market funds, RP liabilities (overnight and term), and eurodollars (overnight and term). Debt consists of the outstanding credit market debt of the U.S. government, state and local governments, households and nonprofit organizations, nonfinancial businesses, and farms.

1. From average for fourth quarter of preceding year to average for fourth quarter of year indicated.

2. From average for preceding quarter to average for quarter indicated.

agencies of foreign banks stepped up issuance of large certificates of deposit, in part to augment the liquidity of their head offices over the century date change, apparently because it was cheaper to fund in U.S. markets. Domestic banks needed the additional funding because of strong loan growth and a buildup in vault cash for Y2K contingencies. Corporations apparently built up year-end precautionary liquidity in institution-only money funds, which provided a further boost to M3 late in the year. Early in 2000, these effects began to unwind.

M2 increased 6¼ percent in 1999, somewhat above the FOMC's range of 1 percent to 5 percent. Both the easing of elevated demands for liquid assets that had boosted M2 in the fourth quarter of 1998 and a rise in its opportunity cost (the difference between interest rates on short-term market instruments and the rates available on M2 assets) tended to bring down M2 growth in 1999. That rise in opportunity cost also helped to halt the decline in M2 velocity that had begun in mid-1997, although the 1¾ percent (annual rate) rise in velocity over the second half of 1999 was not enough to offset the drop in the first half of the year. Within M2, currency demand grew briskly over the year as a whole, reflecting booming retail sales and, late in the year, some precautionary buildup for Y2K. Money stock currency grew at an annualized rate of 28 percent in December and then ran off in the weeks after the turn of the year.

In anticipation of a surge in the public's demand for currency, depository institutions vastly expanded their holdings of vault cash, beginning in the fall to avoid potential constraints in the ability of the armored car industry to accommodate large currency shipments late in the year. Depositories' cash drawings reduced their Federal Reserve balances and drained substantial volumes of reserves, and, in mid-December, large precautionary increases in the Treasury's cash balance and in foreign central banks' liquid investments at the Federal Reserve did as well. The magnitude of these flows was largely anticipated by the System, and, to replace the lost reserves, during the fourth quarter the Desk entered into a number of longer-maturity repurchase agreements timed to mature early in 2000. The Desk also executed a large number of short-term repurchase transactions for over the turn of the year, including some in the

forward market, to provide sufficient reserves and support market liquidity.

The public's demand for currency through year-end, though appreciable, remained well below the level for which the banking system was prepared, and vault cash at the beginning of January stood about \$38 billion above its year-ago level. This excess vault cash, and other century date change effects in money and reserve markets, unwound quickly after the smooth transition into the new year.

International Developments

Global economic conditions improved in 1999 after a year of depressed growth and heightened financial market instability. Financial markets in developing countries, which had been hit hard by crises in Asia and Russia in recent years, recovered last year. The pace of activity in developing countries increased, with Asian emerging-market economies in particular bouncing back strongly from the output declines of the preceding year. Real growth improved in almost all the major industrial economies as well. This strengthening of activity contributed to a general rise in equity prices and a widespread increase in interest rates. Despite stronger activity and higher prices for oil and other commodities, average foreign inflation was lower in 1999 than in 1998, as output remained below potential in most countries.

Although the general theme in emerging financial markets in 1999 was a return to stability, the year began with heightened tension as a result of a financial crisis in Brazil. With the effects of the August 1998 collapse of the ruble and the default on Russian government debt still reverberating, Brazil was forced to abandon its exchange-rate-based stabilization program in January

1999. The *real*, allowed to float, soon fell nearly 50 percent against the dollar, generating fears of a depreciation–inflation spiral that could return Brazil to its high-inflation past. In addition, there were concerns that the government might default on its domestic-currency and dollar-indexed debt, the latter totaling more than \$50 billion. In the event, these fears proved unfounded. The turning point appears to have come in March when a new central bank governor announced that fighting inflation was a top priority and interest rates were substantially raised to support the *real*. Over the remainder of the year, Brazilian financial markets stabilized on balance, despite continuing concerns about the government’s ability to reduce the fiscal deficit. Inflation, although accelerating from the previous year, remained under 10 percent. Brazilian economic activity also recovered somewhat in 1999, after declining in 1998, as the return of confidence allowed officials to lower short-term interest rates substantially from their crisis-related peak levels of early in the year.

The Brazilian crisis triggered some renewed financial stress in other Latin American economies, and domestic interest rates and Brady bond yield spreads increased sharply from levels already elevated by the Russian crisis. However, as the situation in Brazil improved, financial conditions in the rest of the region stabilized relatively rapidly. Even so, the combination of elevated risk premiums and diminished access to international credit markets tended to depress activity in much of the region in the first half of 1999. Probably the most strongly affected was Argentina, where the exchange rate peg to the dollar was maintained only at the cost of continued high real interest rates that contributed to the decline in real GDP in 1999. In contrast, real

GDP in Mexico rose an estimated 6 percent in 1999, aided by higher oil prices and strong export growth to the United States. The peso appreciated against the dollar for the year as a whole, despite a Mexican inflation rate about 10 percentage points higher than in the United States.

The recovery of activity last year in Asian developing countries was earlier, more widespread, and sharper than in Latin America, just as the downturn had been the previous year. After a steep drop in activity in the immediate wake of the financial crises that hit several Asian emerging-market economies in late 1997, the preconditions for a revival in activity were set by measures initiated to stabilize shaky financial markets and banking sectors, often in conjunction with International Monetary Fund programs that provided financial support. Once financial conditions had been stabilized, monetary policies turned accommodative in 1998, and this stimulus, along with the shift toward fiscal deficits and an ongoing boost to net exports provided by the sharp depreciations of their currencies, laid the foundation for last year’s strong revival in activity. Korea’s recovery was the most robust, with real GDP estimated to have increased more than 10 percent in 1999 after falling 5 percent the previous year. The government continued to make progress toward needed financial and corporate sector reform. However, significant weaknesses remained, as evidenced by the near collapse of Daewoo, Korea’s second largest conglomerate. Other Asian developing countries that experienced financial difficulties in late 1997 (Thailand, Malaysia, Indonesia, and the Philippines) also recorded increases in real GDP in 1999 after declines the previous year. Indonesian financial markets were buffeted severely at times during 1999

by concerns about political instability, but the rupiah ended the year with a modest net appreciation against the dollar. The other former crisis countries also saw their currencies stabilize or slightly appreciate against the dollar. Inflation rates in these countries generally declined, despite the pickup in activity and higher prices for oil and other commodities. Inflation was held down by the elevated, if diminishing, levels of excess capacity and unemployment and by a waning of the inflationary impact of previous exchange rate depreciations.

In China, real growth slowed moderately in 1999. Given China's exchange rate peg to the dollar, the sizable depreciations elsewhere in Asia in 1997 and 1998 led to a sharp appreciation of China's real effective exchange rate, and there was speculation last year that the renminbi might be devalued. However, with China's trade balance continuing in substantial, though reduced, surplus, Chinese officials maintained the exchange rate peg to the dollar last year and stated their intention of extending it through at least this year. After the onset of the Asian financial crisis, continuance of Hong Kong's currency-board-maintained peg to the U.S. dollar was also questioned. In the event, the tie to the dollar was sustained, but only at the cost of high real interest rates, which contributed to a decrease in output in Hong Kong in 1998 and early 1999 and a decline of consumer prices over this period. However, real GDP started to move up again later in the year, reflecting in part the strong revival of activity in the rest of Asia.

In Russia, economic activity increased last year despite persistent and severe structural problems. Real GDP, which had dropped nearly 10 percent in 1998 as a result of the domestic financial crisis, recovered about half the loss

last year. Net exports rose strongly, boosted by the lagged effect of the substantial real depreciation of the ruble in late 1998 and by higher oil prices. The inflation rate moderated to about 50 percent, somewhat greater than the depreciation of the ruble over the course of the year.

The dollar's average foreign exchange value, measured on a trade-weighted basis against the currencies of a broad group of important U.S. trading partners, ended 1999 little changed from its level at the beginning of the year. There appeared to be two main, roughly offsetting, pressures on the dollar last year. On the one hand, the continued very strong growth of the U.S. economy relative to foreign economies tended to support the dollar. On the other hand, the further rise in U.S. external deficits—with the U.S. current account deficit moving up toward 4 percent of GDP by the end of the year—may have tended to hold down the dollar because of investor concerns that the associated strong net demand for dollar assets might prove unsustainable. So far this year, the dollar's average exchange value has increased slightly, boosted by new evidence of strong U.S. growth. Against the currencies of the major foreign industrial countries, the dollar's most notable movements in 1999 were a substantial depreciation against the Japanese yen and a significant appreciation relative to the euro.

The dollar depreciated 10 percent on balance against the yen over the course of 1999. In the first half of the year, the dollar strengthened slightly relative to the yen, as growth in Japan appeared to remain sluggish and Japanese monetary authorities reduced short-term interest rates to near zero in an effort to jumpstart the economy. However, around midyear, several signs of a revival of activity—particularly the announcement

of unanticipated strong growth in real GDP in the first quarter—triggered a depreciation of the dollar relative to the yen amid reports of large inflows of foreign capital into the Japanese stock market. Data releases showing that the U.S. current account deficit had reached record levels in both the second and third quarters of the year also appeared to be associated with depreciations of the dollar against the yen. Concerned that a stronger yen could harm the fledgling recovery, Japanese monetary authorities intervened heavily to weaken the yen on numerous occasions. So far this year, the dollar has firmed about 7 percent against the yen. Japanese real GDP increased somewhat in 1999, following two consecutive years of decline. Growth was concentrated in the first half of the year, when domestic demand surged, led by fiscal stimulus. Later in the year, domestic demand slumped, as the pace of fiscal expansion flagged. Net exports made virtually no contribution to growth for the year as a whole. Japanese consumer prices declined slightly on balance over the course of the year.

The new European currency, the euro, came into operation at the start of 1999, marking the beginning of stage three of European economic and monetary union. The rates of exchange between the euro and the currencies of the eleven countries adopting the new currency were set at the end of 1998; based on these rates, the value of the euro at its creation was just under \$1.17. From a technical perspective, the introduction of the euro went smoothly, and on its first day of trading its value moved higher. However, the euro soon started to weaken against the dollar, influenced by indications that euro-area growth would remain very slow. After approaching parity with the dollar in early July, the euro rebounded, partly on gathering signs of European recov-

ery. However, the currency weakened again in the fall, and in early December it reached parity with the dollar, about where it closed the year. The euro's weakness late in the year was attributed in part to concerns about the pace of market-oriented structural reforms in continental Europe and to a political wrangle over the proposed imposition of a withholding tax on investment income. On balance, the dollar appreciated 16 percent relative to the euro over 1999. So far this year, the dollar has strengthened 2 percent further against the euro. Although the euro's foreign exchange value weakened in its first year of operation, the volume of euro-denominated transactions—particularly the issuance of debt securities—expanded rapidly.

In the eleven European countries that now fix their currencies to the euro, real GDP growth remained weak early in 1999 but strengthened subsequently and averaged an estimated 3 percent rate for the year as a whole. Net exports made a significant positive contribution to growth, supported by a revival of demand in Asia and Eastern Europe and by the effects of the euro's depreciation. The areawide unemployment rate declined, albeit to a still-high rate of nearly 10 percent. In the spring, the European central bank lowered its policy rate 50 basis points, to 2½ percent. This decline was reversed later in the year in reaction to accumulating evidence of a pickup in activity, and the rate was raised an additional 25 basis points earlier this month. The euro-area inflation rate edged up in 1999, boosted by higher oil prices, but still remained below the 2 percent target ceiling.

Growth in the United Kingdom also moved higher on balance in 1999, with growth picking up over the course of the year. Along with the strengthening of global demand, the recovery was stimu-

lated by a series of official interest rate reductions, totaling 250 basis points, undertaken by the Bank of England over the last half of 1998 and the first half of 1999. Later in 1999 and early this year, the policy rate was raised four times for a total of 100 basis points, with officials citing the need to keep inflation below its 2½ percent target level in light of the strength of consumption and the housing market and continuing tight conditions in the labor market. On balance, the dollar appreciated slightly against the pound over the course of 1999.

In Canada, real growth recovered in 1999 after slumping the previous year in response to the global slowdown and the related drop in the prices of Canadian commodity exports. Last year, strong demand from the United States spurred Canadian exports while rising consumer and business confidence supported domestic demand. In the spring, the Bank of Canada lowered its official interest rate twice for a total of 50 basis points in an effort to stimulate activity in the context of a rising Canadian dollar. This decline was reversed by 25-basis-point increases near the end of the year and earlier this month, as Canadian inflation moved above the midpoint of its target range, the pace of output growth increased, and U.S. interest rates moved higher. Over the course of 1999, the U.S. dollar depreciated 6 percent on balance against the Canadian dollar.

Concerns about liquidity and credit risk related to the century date change generated a temporary bulge in year-end premiums in money market rates in the second half of the year in some countries. For the euro, borrowing costs for short-term interbank funding over the year changeover—as measured by the interest rate implied by the forward market for a one-month loan spanning the year-end relative to the rates for neighboring months—started to rise in late

summer but then reversed nearly all of this increase in late October and early November before moving up more moderately in December. The sharp October–November decline in the year-changeover funding premium came in response to a series of announcements by major central banks that outlined and clarified the measures these institutions were prepared to undertake to alleviate potential liquidity problems related to the century date change. For yen funding, the century date change premium moved in a different pattern, fluctuating around a relatively low level before spiking sharply for several days just before the year-end. The late-December jump in the yen funding premium was partly in response to date change-related illiquidity in the Japanese government bond repo market that emerged in early December and persisted into early January. To counter these conditions, toward the end of the year the Bank of Japan infused huge amounts of liquidity into its domestic banking system, which soon brought short-term yen funding costs back down to near zero.

Bond yields in the major foreign industrial countries generally moved higher on balance in 1999. Long-term interest rates were boosted by mounting evidence that economic recovery was taking hold abroad and by rising expectations of monetary tightening in the United States and, later, in other industrial countries. Over the course of the year, long-term interest rates increased on balance by more than 100 basis points in nearly all the major industrial countries. The notable exception was Japan, where long-term rates were little changed.

Equity prices showed strong and widespread increases in 1999, as the pace of global activity quickened and the threat from emerging-market financial crises appeared to recede. In the

industrial countries equity prices on average rose sharply, extending the general upward trend of recent years. The average percentage increase of equity prices in developing countries was even larger, as prices recovered from their crisis-related declines of the previous year. The fact that emerging Latin American and Asian equity markets outperformed those in industrial countries lends some support to the view that global investors increased their risk tolerance, especially during the last months of the year.

Oil prices increased dramatically during 1999, fully reversing the declines in the previous two years. The average spot price for West Texas intermediate, the U.S. benchmark crude, more than doubled, from around \$12 per barrel at the beginning of the year to more than \$26 per barrel in December. This rebound in oil prices was driven by a combination of strengthening world demand and constrained world supply. The strong U.S. economy, combined with a recovery of economic activity abroad and a somewhat more normal weather pattern, led to a 2 percent increase in world oil consumption. Oil production, on the other hand, declined 2 percent, primarily because of reduced supplies from OPEC and other key producers. Starting last spring, OPEC consistently held production near targeted levels, in marked contrast to the widespread lack of compliance that characterized earlier agreements. So far this year, oil prices have risen further on speculation over a possible extension of current OPEC production targets and the onset of unexpectedly cold weather in key consuming regions.

The price of gold fluctuated substantially in 1999. The price declined to near a twenty-year low of about \$250 per ounce at midyear as several

central banks, including the Bank of England and the Swiss National Bank, announced plans to sell a sizable portion of their reserves. The September announcement that fifteen European central banks, including the two just mentioned, would limit their aggregate sales of bullion and curtail leasing activities, saw the price of gold briefly rise above \$320 per ounce before turning down later in the year. Recently, the price has moved back up, to above \$300 per ounce.

Report forwarded to the Congress on July 20, 2000.

Report of July 20, 2000

Monetary Policy and the Economic Outlook

The impressive performance of the U.S. economy persisted in the first half of 2000 with economic activity expanding at a rapid pace. Overall rates of inflation were noticeably higher, largely as a result of steep increases in energy prices. The remarkable wave of new technologies and the associated surge in capital investment have continued to boost potential supply and to help contain price pressures at high levels of labor resource use. At the same time, rising productivity growth—working through its effects on wealth and consumption, as well as on investment spending—has been one of the important factors contributing to rapid increases in aggregate demand that have exceeded even the stepped-up increases in potential supply. Under such circumstances, and with the pool of available labor already at an unusually low level, the continued expansion of aggregate demand in excess of the growth in potential supply increasingly threatened to set off greater price pressures.

Because price stability is essential to achieving maximum sustainable economic growth, heading off these pressures has been critical to extending the extraordinary performance of the U.S. economy.

To promote balance between aggregate demand and potential supply and to contain inflation pressures, the Federal Open Market Committee (FOMC) took additional firming actions this year, raising the benchmark federal funds rate 1 percentage point between February and May. The tighter stance of monetary policy, along with the ongoing strength of credit demands, has led to less accommodative financial conditions: On balance, since the beginning of the year, real interest rates have increased, equity prices have changed little after a sizable run-up in 1999, and lenders have become more cautious about extending credit, especially to marginal borrowers. Still, households and businesses have continued to borrow at a rapid pace, and the growth of M2 remained relatively robust, despite the rise in market interest rates. The favorable outlook for the U.S. economy has contributed to a further strengthening of the dollar, despite tighter monetary policy and rising interest rates in most other industrial countries.

Perhaps partly reflecting firmer financial conditions, the incoming economic data since May have suggested some moderation in the growth of aggregate demand. Nonetheless, labor markets remained tight at the time of the FOMC meeting in June, and it was unclear whether the slowdown represented a decisive shift to more sustainable growth or just a pause. The Committee left the stance of policy unchanged but saw the balance of risks to the economic outlook as still weighted toward rising inflation.

Monetary Policy, Financial Markets, and the Economy over the First Half of 2000

When the FOMC convened for its first two meetings of the year, in February and March, economic conditions in the United States were pointing toward an increasingly taut labor market as a consequence of a persistent imbalance between the growth rates of aggregate demand and potential aggregate supply. Reflecting the underlying strength in spending and expectations of tighter monetary policy, market interest rates were rising, especially after the century date change passed without incident. But, at the same time, equity prices were still posting appreciable gains on net. Knowing that the two safety valves that had been keeping underlying inflation from picking up until then—the economy's ability to draw on the pool of available workers and to expand its trade deficit on reasonable terms—could not be counted on indefinitely, the FOMC voted for a further tightening in monetary policy at both its February and its March meetings, raising the target for the overnight federal funds rate 25 basis points on each occasion. In related actions, the Board of Governors also approved quarter-point increases in the discount rate in both February and March.

The FOMC considered larger policy moves at its first two meetings of 2000 but concluded that significant uncertainty about the outlook for the expansion of aggregate demand in relation to that of aggregate supply, including the timing and strength of the economy's response to earlier monetary policy tightenings, warranted a more limited policy action. Still, noting that there had been few signs that the rise in interest rates over recent quarters had begun to bring demand in line with potential

supply, the Committee decided in both instances that the balance of risks going forward was weighted mainly in the direction of rising inflation pressures. In particular, it was becoming increasingly clear that the Committee would need to move more aggressively at a later meeting if imbalances continued to build and inflation and inflation expectations, which had remained relatively subdued until then, began to pick up.¹

Some readings between the March and May meetings of the FOMC on labor costs and prices suggested a possible increase of inflation pressures. Moreover, aggregate demand had continued to grow at a fast clip, and markets for labor and other resources were showing signs of further tightening. Financial market conditions had firmed in response to these developments; the substantial rise in private borrowing rates between March and May had been influenced by the buildup in expectations of more policy tightening as market participants recognized the need for higher short-term interest rates. Given all these circumstances, the FOMC decided in May to raise the target for the overnight federal funds rate 50 basis points, to 6½ percent. The Committee saw little risk in the more forceful action given the strong momentum of the economic expansion and widespread market expectations of such an action. Even after taking into account its latest action, however, the FOMC saw the strength in spending and pressures in labor markets as indicating that the balance of risks remained tilted toward rising inflation.

1. At its March and May meetings, the FOMC took a number of actions that were aimed at adjusting the implementation of monetary policy to actual and prospective reductions in the stock of Treasury debt securities. These actions are described in the discussion of U.S. financial markets.

By the June FOMC meeting, the incoming data were suggesting that the expansion of aggregate demand might be moderating toward a more sustainable pace: Consumers had increased their outlays for goods modestly during the spring; home purchases and starts appeared to have softened; and readings on the labor market suggested that the pace of hiring might be cooling off. Moreover, much of the effects on demand of previous policy firmings, including the 50 basis point tightening in May, had not yet been fully realized. Financial market participants interpreted signs of economic slowing as suggesting that the Federal Reserve probably would be able to hold inflation in check without much additional policy firming. However, whether aggregate demand had moved decisively onto a more moderate expansion track was not yet clear, and labor resource utilization remained unusually elevated. Thus, although the FOMC decided to defer any policy action in June, it indicated that the balance of risks was still on the side of rising inflation in the foreseeable future.²

Economic Projections for 2000 and 2001

The members of the Board of Governors and the Federal Reserve Bank presidents expect the current economic

2. At its June meeting, the FOMC did not establish ranges for growth of money and debt in 2000 and 2001. The legal requirement to establish and to announce such ranges had expired, and owing to uncertainties about the behavior of the velocities of debt and money, these ranges for many years have not provided useful benchmarks for the conduct of monetary policy. Nevertheless, the FOMC believes that the behavior of money and credit will continue to have value for gauging economic and financial conditions, and this report discusses recent developments in money and credit in some detail.

Economic Projections for 2000 and 2001

Percent

Indicator	Federal Reserve governors and Reserve Bank presidents		Administration ¹
	Range	Central tendency	
	2000		
<i>Change, fourth quarter to fourth quarter¹</i>			
Nominal GDP	6–7¼	6¼–6¾	6.0
Real GDP ²	3¾–5	4–4½	3.9
PCE prices ³	2–2¾	2½–2¾	3.2 ³
<i>Average level fourth quarter</i>			
Civilian unemployment rate	4–4¼	About 4	4.1
	2001		
<i>Change, fourth quarter to fourth quarter¹</i>			
Nominal GDP	5–6¼	5¼–6	5.3
Real GDP ²	2½–4	3¼–3¾	3.2
PCE prices ³	1¾–3	2–2½	2.5 ³
<i>Average level, fourth quarter</i>			
Civilian unemployment rate	4–4½	4–4¼	4.2

1. Change from average for fourth quarter of previous year to average for fourth quarter of year indicated.

2. Chain-weighted.

3. Chain-type price index.

expansion to continue through next year, but at a more moderate pace than the average over recent quarters. For 2000 as a whole, the central tendency of their forecasts for the rate of increase in real gross domestic product (GDP) is 4 percent to 4½ percent, measured as the change between the fourth quarter of 1999 and the fourth quarter of 2000. Over the four quarters of 2001, the central tendency forecasts of real GDP are in the 3¼ percent to 3¾ percent range. With this pace of expansion, the civilian unemployment rate should remain near its recent level of 4 percent. Even with the moderation in the pace of economic activity, the Committee members and nonvoting Bank presidents expect that inflation may be higher in 2001 than in 1999, and the Committee will need to be alert to the possibility that financial con-

ditions may need to be adjusted further to balance aggregate demand and potential supply and to keep inflation low.

Considerable uncertainties attend estimates of potential supply—both the rate of growth and the level of the economy's ability to produce on a sustained non-inflationary basis. Business investment in new equipment and software has been exceptionally high, and given the rapid pace of technological change, firms will continue to exploit opportunities to implement more-efficient processes and to speed the flow of information across markets. In such an environment, a further pickup in productivity growth is a distinct possibility. However, a portion of the very rapid rise in measured productivity in recent quarters may be a result of the cyclical characteristics of this expansion rather

than an indication of structural rates of increase consistent with holding the level of resource utilization unchanged. Current levels of labor resource utilization are already unusually high. To date, this has not led to escalating unit labor costs, but whether such a favorable performance in the labor market can be sustained is one of the important uncertainties in the outlook.

On the demand side, the adjustments in financial markets that have accompanied expected and actual tighter monetary conditions may be beginning to moderate the rise in domestic demand. As that process evolves, the substantial impetus that household spending has received in recent years from rapid gains in equity wealth should subside. The higher cost of business borrowing and more-restrictive credit supply conditions probably will not exert substantial restraint on investment decisions, particularly as long as the costs and potential productivity payoffs of new equipment and software remain attractive. The slowing in domestic spending will not be fully reflected in a more moderate expansion of domestic production. Some of the slowing will be absorbed in smaller increases in imports of goods and services, and given continued recovery in economic activity abroad, domestic firms are expected to continue seeing a boost to demand and to production from rising exports.

Regarding inflation, FOMC participants believe that the rise in consumer prices will be noticeably larger this year than in 1999 and that inflation will then drop back somewhat in 2001. The central tendency of their forecasts for the increase in the chain-type index for personal consumption expenditures is $2\frac{1}{2}$ percent to $2\frac{3}{4}$ percent over the four quarters of 2000 and 2 percent to $2\frac{1}{2}$ percent during 2001. Shaping the contour of this inflation forecast is the

expectation that the direct and indirect effects of the boost to domestic inflation this year from the rise in the price of world crude oil will be partly reversed next year if, as futures markets suggest, crude oil prices retrace this year's run-up by next year. Nonetheless, these forecasts show consumer price inflation in 2001 to have moved above the rates that prevailed over the 1997–98 period. Such a trend, were it not to show signs of quickly stabilizing or reversing, would pose a considerable risk to the continuation of the extraordinary economic performance of recent years.

The economic forecasts of the FOMC are similar to those recently released by the Administration in its Mid-Session Review of the Budget. Compared with the forecasts available in February, the Administration raised its projections for the increase in real GDP in 2000 and 2001 to rates that lie at the low end of the current range of central tendencies of Federal Reserve policymakers. The Administration also expects that the unemployment rate will remain close to 4 percent. Like the FOMC, the Administration sees consumer price inflation rising this year and falling back in 2001. After accounting for the differences in the construction of the alternative measures of consumer prices, the Administration's projections of increases in the consumer price index (CPI) of 3.2 percent in 2000 and 2.5 percent in 2001 are broadly consistent with the Committee's expectations for the chain-type price index for personal consumption expenditures.

Economic and Financial Developments in 2000

The expansion of U.S. economic activity maintained considerable momentum through the early months of 2000 despite the firming in credit markets

that has occurred over the past year. Only recently has the pace of real activity shown signs of having moderated from the extremely rapid rate of increase that prevailed during the second half of 1999 and the first quarter of 2000. Real GDP increased at an annual rate of 5½ percent in the first quarter of 2000. Private domestic final sales, which had accelerated in the second half of 1999, were particularly robust, rising at an annual rate of almost 10 percent in the first quarter. Underlying that surge in domestic spending were many of the same factors that had contributed to the considerable strength of outlays in the second half of 1999. The ongoing influence of substantial increases in real income and wealth continued to fuel consumer spending, and business investment, which continues to be undergirded by the desire to take advantage of new, cost-saving technologies, was further buoyed by an acceleration in sales and profits late last year. Export demand posted a solid gain during the first quarter while imports rose even more rapidly to meet booming domestic demand. The available data, on balance, point to another solid increase in real GDP in the second quarter, although they suggest that private household and business fixed investment spending likely slowed noticeably from the extraordinary first-quarter pace. Through June, the expansion remained brisk enough to keep labor utilization near the very high levels reached at the end of 1999 and to raise the factory utilization rate to close to its long-run average by early spring.

Inflation rates over the first half of 2000 were elevated by an additional increase in the price of imported crude oil, which led to sharp hikes in retail energy prices early in the year and again around midyear. Apart from energy, consumer price inflation so far this year has been somewhat higher than during

1999, and some of that acceleration may be attributable to the indirect effects of higher energy costs on the prices of core goods and services. Sustained strong gains in worker productivity have kept increases in unit labor costs minimal despite the persistence of a historically low rate of unemployment.

The Household Sector

Consumer Spending

Consumer spending was exceptionally vigorous during the first quarter of 2000. Real personal consumption expenditures rose at an annual rate of 7¾ percent, the sharpest increase since early 1983. At that time, the economy was rebounding from a deep recession during which households had deferred discretionary purchases. In contrast, the first-quarter surge in consumption came on the heels of two years of very robust spending during which real outlays increased at an annual rate of more than 5 percent, and the personal saving rate dropped sharply.

Outlays for durable goods, which rose at a very fast pace in 1998 and 1999, accelerated during the first quarter to an annual rate of more than 24 percent. Most notably, spending on motor vehicles, which had climbed to a new high in 1999, jumped even further in the first quarter of 2000 as unit sales of light motor vehicles soared to a record rate of 18.1 million units. In addition, households' spending on computing equipment and software rebounded after the turn of the year; some consumers apparently had postponed their purchases of these goods in late 1999 before the century date change. Outlays for nondurable goods posted a solid increase of 5¾ percent in the first quarter, marked by a sharp upturn in spending on clothing and shoes. Spending for consumer

services also picked up in the first quarter, rising at an annual rate of 5½ percent. Spending was quite brisk for a number of non-energy consumer services, ranging from recreation and telephone use to brokerage fees. Also contributing to the acceleration was a rebound in outlays for energy services, which had declined in late 1999, when weather was unseasonably warm.

In recent months, the rise in consumer spending has moderated considerably from the phenomenal pace of the first quarter, with much of the slowdown in outlays for goods. At an annual rate of 17¼ million units in the second quarter, light motor vehicles sold at a rate well below their first-quarter pace. Nonetheless, that level of sales is still historically high, and with prices remaining damped and automakers continuing to use incentives, consumers' assessments of the motor vehicle market continue to be positive. The information on retail sales for the April-to-June period indicate that consumer expenditures for other goods rose markedly slower in the second quarter than in the first quarter, at a pace well below the average rate of increase during the preceding two years. In contrast, personal consumption expenditures for consumer services continued to rise relatively briskly in April and May.

Real disposable personal income increased at an annual rate of about 3 percent between December and May—slightly below the 1999 pace of 3¾ percent. However, the impetus to spending from the rapid rise in household net worth was still considerable, labor markets remained tight, and confidence was still high. As a result, households continued to allow their spending to outpace their flow of current income, and the personal saving rate, as measured in the national income and product accounts, dropped further, averaging

less than 1 percent during the first five months of the year.

After having boosted the ratio of household net worth to disposable income to a record high in the first quarter, stock prices have fallen back, suggesting less impetus to consumer spending going forward. In addition, smaller employment gains and the pickup in energy prices have moderated the rise in real income of late. Although these developments left some imprint on consumer attitudes in June, households remained relatively upbeat about their prospective financial situation, according to the results of the University of Michigan Survey Research Center (SRC) survey. However, they became a bit less positive about the outlook for business conditions and saw a somewhat greater likelihood of a rise in unemployment over the coming year.

Residential Investment

Housing activity stayed at a high level during the first half of this year. Homebuilders began the year with a considerable backlog of projects that had developed as the exceptionally strong demand of the previous year strained capacity. As a result, they maintained starts of new single-family homes at an annual rate of 1.33 million units, on average, through April—matching 1999's robust pace. Households' demand for single-family homes was supported early in the year by ongoing gains in jobs and income and the earlier run-up in wealth; those forces apparently were sufficient to offset the effects that higher mortgage interest rates had on the affordability of new homes. Sales of new homes were particularly robust, setting a new record by March; but sales of existing units slipped below their 1999 high. As a result of the continued strength in sales, the homeownership

rate reached a new high in the first quarter.

By the spring, higher mortgage interest rates were leaving a clearer mark on the attitudes of both consumers and builders. The Michigan SRC survey reported that households' assessments of homebuying conditions dropped between April and June to the lowest level in more than nine years. Survey respondents noted that, besides higher financing costs, higher prices of homes were becoming a factor in their less positive assessment of market conditions. Purchases of existing homes were little changed, on balance, in April and May from the first-quarter average; however, because these sales are recorded at the time of closing, they tend to be a lagging indicator of demand. Sales of new homes—a more current indicator—fell back in April and May, and homebuilders reported that sales dropped further in June. Perhaps a sign that softer demand has begun to affect construction, starts of new single-family homes slipped to a rate of 1¼ million units in May. That level of new homebuilding, although noticeably slower than the robust pace that characterized the fall and winter period, is only a bit below the elevated level that prevailed throughout much of 1998, when single-family starts reached their highest level in twenty years. Starts of multifamily housing units, which also had stepped up sharply in the first quarter of the year, to an annual rate of 390,000 units, settled back to a 340,000 unit rate in April and May.

Household Finance

Fueled by robust spending, especially early in the year, the expansion of household debt remained brisk during the first half of 2000, although below the very strong 1999 growth rate.

Apparently, a favorable outlook for income and employment, along with rising wealth, made households feel confident enough to continue to spend and take on debt. Despite rising mortgage and consumer loan rates, household debt increased at an annual rate of nearly 8 percent in the first quarter, and preliminary data point to a similar increase in the second quarter.

Mortgage debt expanded at an annual rate of 7 percent in the first quarter, boosted by the high level of housing activity. Household debt not secured by real estate—including credit card balances and auto loans—posted an impressive 10 percent gain in the first quarter to help finance a large expansion in outlays for consumer durables, especially motor vehicles. The moderation in the growth of household debt this year has been driven primarily by its mortgage component: Preliminary data for the second quarter suggest that, although consumer credit likely decelerated from the first quarter, it still grew faster than in 1999.

Debt in margin accounts, which is largely a household liability and is not included in reported measures of credit market debt, has declined, on net, in recent months, following a surge from late in the third quarter of 1999 through the end of March 2000. There has been no evidence that recent downdrafts in share prices this year caused serious repayment problems at the aggregate level that might pose broader systemic concerns.

The combination of rapid debt growth and rising interest rates has pushed the household debt-service burden to levels not reached since the late 1980s. Nonetheless, with household income and net worth both having grown rapidly, and employment prospects favorable, very few signs of worsening credit problems in the household sector have emerged,

and commercial banks have reported in recent Federal Reserve surveys that they remain favorably disposed to make consumer installment and mortgage loans. Indeed, financial indicators of the household sector have remained mostly positive: The rate of personal bankruptcy filings fell in the first quarter to its lowest level since 1996; delinquency rates on home mortgages and auto loans remained low; and the delinquency rate on credit cards edged down further, although it remained in the higher range that has prevailed since the mid-1990s. However, delinquency rates may be held down, to some extent, by the surge in new loan originations in recent quarters because newly originated loans are less likely to be delinquent than seasoned ones.

The Business Sector

Fixed Investment

The boom in capital spending extended into the first half of 2000 with few indications that businesses' desire to take advantage of more-efficient technologies is diminishing. Real business fixed investment surged at an annual rate of almost 24 percent in the first quarter of the year, rebounding sharply from its lull at the end of 1999, when firms apparently postponed some projects because of the century date change. In recent months, the trends in new orders and shipments of non-defense capital goods suggest that demand has remained solid.

Sustained high rates of investment spending have been a key feature shaping the current economic expansion. Business spending on new equipment and software has been propelled importantly by ongoing advances in computer and information technologies that can be applied to a widening range of busi-

ness processes. The ability of firms to take advantage of these emerging developments has been supported by the strength of domestic demand and by generally favorable conditions in credit and equity markets. In addition, because these high-technology goods can be produced increasingly efficiently, their prices have continued to decline steeply, providing additional incentive for rapid investment. The result has been a significant rise in the stock of capital in use by businesses and an acceleration in the flow of services from that capital as more-advanced vintages of equipment replace older ones. The payoff from the prolonged period during which firms have upgraded their plant and equipment has increasingly shown through in the economy's improved productivity performance.

Real outlays for business equipment and software shot up at an annual rate of nearly 25 percent in the first quarter of this year. That jump followed a modest increase in the final quarter of 1999 and put spending for business equipment and software back on the double-digit uptrend that has prevailed throughout the current economic recovery. Concerns about potential problems with the century date change had the most noticeable effect on the patterns of spending for computers and peripherals and for communications equipment in the fourth and first quarters; expenditures for software were also affected, although less so. For these categories of goods overall, the impressive resurgence in business purchases early this year left little doubt that the underlying strength in demand for high-tech capital goods had been only temporarily interrupted by the century date change. Indeed, nominal shipments of office and computing equipment and of communication devices registered sizable increases over the April–May period.

In the first quarter, business spending on computers and peripheral equipment was up almost 40 percent from a year earlier—a pace in line with the trend of the current expansion. Outlays for communications equipment, however, accelerated; the first-quarter surge brought the year-over-year increase in spending to 35 percent, twice the pace that prevailed a year earlier. Expanding Internet usage has been driving the need for new network architectures. In addition, cable companies have been investing heavily in preparation for their planned entry into the markets for residential and commercial telephony and broad-band Internet services.

Demand for business equipment outside of the high-tech area was also strong at the beginning of the year. In the first quarter, outlays for industrial equipment rose at a brisk pace for a third consecutive quarter as the recovery of the manufacturing sector from the effects of the Asian crisis gained momentum. In addition, investment in farm and construction machinery, which had fallen steadily during most of 1999, turned up, and shipments of civilian aircraft to domestic customers increased. More recent data show a further rise in the backlog of unfilled orders placed with domestic firms for equipment and machinery (other than high-tech items and transportation equipment), suggesting that demand for these items has been well maintained. However, business purchases of motor vehicles are likely to drop back in the second quarter from the very high level recorded at the beginning of the year. In particular, demand for heavy trucks appears to have been adversely affected by higher costs of fuel and shortages of drivers.

Real investment in private non-residential structures jumped at an annual rate of more than 20 percent in the first quarter of the year after having

declined in 1999. Both last year's weakness and this year's sudden and widespread revival are difficult to explain fully. Nonetheless, the higher levels of spending on office buildings, other commercial facilities, and industrial buildings recorded early this year would seem to accord well with the overall strength in aggregate demand. However, the fundamentals in this sector of the economy are mixed. Available information suggests that property values for offices, retail space, and warehouses have been rising more slowly than they were several years ago. However, office vacancy rates have come down, which suggests that, at least at an aggregate level, the office sector is not overbuilt. The vacancy rate for industrial buildings has also fallen, but in only a few industries, such as semiconductors and other electronic components, are capacity pressures sufficiently intense to induce significant expansion of production facilities.

Inventory Investment

The ratio of inventories to sales in many nonfarm industries moved lower early this year. Those firms that had accumulated some additional stocks toward the end of 1999 as a precaution against disruptions related to the century date change seemed to have little difficulty working off those inventories after the smooth transition to the new year. Moreover, the first-quarter surge in final demand may have, to some extent, exceeded businesses' expectations. In current-cost terms, non-auto manufacturing and trade establishments built inventories in April and May at a somewhat faster rate than in the first quarter but still roughly in line with the rise in their sales. As a result, the ratio of inventories to sales, at current cost, for these businesses was roughly unchanged

from the first quarter. Overall, the ongoing downtrend in the ratios of inventories to sales during the past several years suggests that businesses increasingly are taking advantage of new technologies and software to implement better inventory management.

The swing in inventory investment in the motor vehicle industry has been more pronounced recently. Dealer stocks of new cars and light trucks were drawn down during the first quarter as sales climbed to record levels. Accordingly, auto and truck makers kept assemblies at a high level through June in order to maintain ready supplies of popular models. Even though demand appears to have softened and inventories of a few models have backed up, scheduled assemblies for the third quarter are above the elevated level of the first half.

Business Finance

The economic profits of nonfinancial U.S. corporations posted another solid increase in the first quarter. The profits that nonfinancial corporations earned on their domestic operations were 10 percent above the level of a year earlier; the rise lifted the share of profits in this sector's nominal output close to its 1997 peak. Nonetheless, with investment expanding rapidly, businesses' external financing requirements, measured as the difference between capital expenditures and internally generated funds, stayed at a high level in the first half of this year. Businesses' credit demands were also supported by cash-financed merger and acquisition activity. Total debt of nonfinancial businesses increased at a 10½ percent clip in the first quarter, close to the brisk pace of 1999, and available information suggests that borrowing remained strong into the second quarter.

On balance, businesses have altered the composition of their funding this year to rely more on shorter-term sources of credit and less on the bond market, although the funding mix has fluctuated widely in response to changing market conditions. After the passing of year-end, corporate borrowers returned to the bond market in volume in February and March, but subsequent volatility in the capital market in April and May prompted a pullback. In addition, corporate bond investors have been less receptive to smaller, less liquid offerings, as has been true for some time.

In the investment-grade market, bond issuers have responded to investors' concerns about the interest rate and credit outlook by shortening the maturities of their offerings and by issuing more floating-rate securities. In the below-investment-grade market, many of the borrowers who did tap the bond market in February and March did so by issuing convertible bonds and other equity-related debt instruments. Subsequently, amid increased equity market volatility and growing investor uncertainty about the outlook for prospective borrowers, credit spreads in the corporate bond market widened, and issuance in the below-investment-grade market dropped sharply in April and May. Conditions in the corporate bond market calmed in late May and June, and issuance recovered to close to its first-quarter pace.

As the bond market became less hospitable in the spring, many businesses evidently turned to banks and to the commercial paper market for financing. Partly as a result, commercial and industrial loans at banks have expanded briskly, even as a larger percentage of banks have reported in Federal Reserve surveys that they have been tightening standards and terms on such loans.

Underscoring lenders' concerns about the creditworthiness of borrowers, the ratio of liabilities of failed businesses to total liabilities has increased further so far this year, and the default rate on outstanding junk bonds has risen further from the relatively elevated level reached in 1999. Through mid-year, Moody's Investors Service has downgraded, on net, more debt in the nonfinancial business sector than it has upgraded, although it has placed more debt on watch for future upgrades than downgrades.

Commercial mortgage borrowing has also expanded at a robust pace over the first half of 2000, as investment in office and other commercial building strengthened. Extending last year's trend, borrowers have tapped banks and life insurance companies as the financing sources of choice. Banks, in particular, have reported stronger demand for commercial real estate loans this year even as they have tightened standards a bit for approving such loans. In the market for commercial mortgage-backed securities, yields have edged higher since the beginning of the year.

The Government Sector

Federal Government

The incoming information regarding the federal budget suggests that the surplus in the current fiscal year will surpass last year's by a considerable amount. Over the first eight months of fiscal year 2000—the period from October to May—the unified budget recorded a surplus of about \$120 billion, compared with \$41 billion during the comparable period of fiscal 1999. The Office of Management and Budget and the Congressional Budget Office are now forecasting that, when the fiscal year closes, the unified surplus will be around

\$225 billion to \$230 billion, \$100 billion higher than in the preceding year. That outcome would likely place the surplus at more than 2¼ percent of GDP, which would exceed the most recent high of 1.9 percent, which occurred in 1951.

The swing in the federal budget from deficit to surplus has been an important factor in maintaining national saving. The rise in federal saving as a percentage of gross national product from -3.5 percent in 1992 to 3.1 percent in the first quarter of this year has been sufficient to offset the drop in personal saving that occurred over the same period. As a result, gross saving by households, businesses, and governments has stayed above 18 percent of GNP since 1997, compared with 16½ percent over the preceding seven years. The deeper pool of national saving, along with the continued willingness of foreign investors to finance our current account deficit, remains an important factor in containing increases in the cost of capital and sustaining the rapid expansion of domestic investment. With longer-run projections showing a rising federal government surplus over the next decade, this source of national saving could continue to expand.

The recent good news on the federal budget has been primarily on the receipts side of the ledger. Nonwithheld tax receipts were very robust this spring. Both final payments on personal income tax liabilities for 1999 and final corporate tax payments for 1999 were up substantially. So far this year, the withheld tax and social insurance contributions on this year's earnings of individuals have also been strong. As a result, federal receipts during the first eight months of the fiscal year were almost 12 percent higher than they were during the year-earlier period.

While receipts have accelerated, federal expenditures have been rising only a little faster than during fiscal 1999 and continue to decline as a share of nominal GDP. Nominal outlays for the first eight months of the current fiscal year were 5¼ percent above the year-earlier period. Increases in discretionary spending have picked up a bit so far this year. In particular, defense spending has been running higher in the wake of the increase in budget authority enacted last year. The Congress has also boosted agricultural subsidies in response to the weakness in farm income. While non-discretionary spending continues to be held down by declines in net interest payments, categories such as Medicaid and other health programs have been rising more rapidly of late.

As measured by the national income and product accounts, real federal expenditures for consumption and gross investment dropped sharply early this year after having surged in the fourth quarter of 1999. These wide quarter-to-quarter swings in federal spending appear to have occurred because the Department of Defense speeded up its payments to vendors before the century date change; actual deliveries of defense goods and services were likely smoother. On average, real defense spending in the fourth and first quarters was up moderately from the average level in fiscal 1999. Real nondefense outlays continued to rise slowly.

With current budget surpluses coming in above expectations and large surpluses projected to continue for the foreseeable future, the federal government has taken additional steps aimed at preserving a high level of liquidity in the market for its securities. Expanding on efforts to concentrate its declining debt issuance in fewer highly liquid securities, the Treasury announced in February its intention to issue only two

new five- and ten-year notes and only one new thirty-year bond each year. The auctions of five- and ten-year notes will remain quarterly, alternating between new issues and smaller reopenings, and the bond auctions will be semi-annual, also alternating between new and smaller reopened offerings. The Treasury also announced that it was reducing the frequency of its one-year bill auctions from monthly to quarterly and cutting the size of the monthly two-year note auctions. In addition, the Treasury eliminated the April auction of the thirty-year inflation-indexed bond and indicated that the size of the ten-year inflation-indexed note offerings would be modestly reduced. Meanwhile, anticipation of even larger surpluses in the wake of the surprising strength of incoming tax receipts so far in 2000 led the Treasury to announce, in May, that it was again cutting the size of the monthly two-year note auctions. The Treasury also noted that it is considering additional changes in its auction schedule, including the possible elimination of the one-year bill auctions and a reduction in the frequency of its two-year note auctions.

Early in the year, the Treasury unveiled the details of its previously announced reverse-auction, or debt buyback, program, whereby it intends to retire seasoned, less liquid, debt securities with surplus cash, enabling it to issue more “on-the-run” securities. The Treasury noted that it would buy back as much as \$30 billion this year. The first operation took place in March, and in May the Treasury announced a schedule of two operations per month through the end of July of this year. Through midyear, the Treasury has conducted eight buyback operations, redeeming a total of \$15 billion. Because an important goal of the buyback program is to help forestall further increases in

the average maturity of the Treasury's publicly held debt, the entire amount redeemed so far has corresponded to securities with remaining maturities at the long end of the yield curve (at least fifteen years).

State and Local Governments

In the state and local sector, real consumption and investment expenditures registered another strong quarter at the beginning of this year. In part, the unseasonably good weather appears to have accommodated more construction spending than usually occurs over the winter. However, some of the recent rise is an extension of the step-up in spending that emerged last year, when real outlays rose 5 percent after having averaged around 3 percent for the preceding three years. Higher federal grants for highway construction have contributed to the pickup in spending. In addition, many of these jurisdictions have experienced solid improvements in their fiscal conditions, which may be allowing them to undertake new spending initiatives.

The improving fiscal outlook for state and local governments has affected both the issuance and the quality of state and local debt. Borrowing by states and municipalities expanded sluggishly in the first half of this year. In addition to the favorable budgetary picture, rising interest rates have reduced the demand for new capital financing and substantially limited refunding issuance. Credit upgrades have outnumbered downgrades by a substantial margin in the state and local sector.

The External Sector

Trade and Current Account

The deficits in U.S. external balances have continued to get even larger this

year. The current account deficit reached an annual rate of \$409 billion in the first quarter of 2000, or 4¼ percent of GDP, compared with \$372 billion and 4 percent in the second half of 1999. Net payments of investment income were a bit less in the first quarter than in the second half of last year owing to a sizable increase in income receipts from direct investment abroad. Most of the expansion in the current account deficit occurred in trade in goods and services. In the first quarter, the deficit in trade in goods and services widened to an annual rate of \$345 billion, a considerable expansion from the deficit of \$298 billion recorded in the second half of 1999. Trade data for April suggest that the deficit may have increased further in the second quarter.

U.S. exports of real goods and services rose at an annual rate of 6¼ percent in the first quarter, following a strong increase in exports in the second half of last year. The pickup in economic activity abroad that began in 1999 continued to support export demand and partly offset negative effects on price competitiveness of U.S. products from the dollar's past appreciation. By market destination, U.S. exports to Canada, Mexico, and Europe increased the most. By product group, export expansion was concentrated in capital equipment, industrial supplies, and consumer goods. Preliminary data for April suggest that growth of real exports remained strong.

The quantity of imported goods and services continued to expand rapidly in the first quarter. The increase in imports, at an annual rate of 11¾ percent, was the same in the first quarter as in the second half of 1999 and reflected both the continuing strength of U.S. domestic demand and the effects of past dollar appreciation on price competitiveness. Imports of consumer goods, automotive

products, semiconductors, telecommunications equipment, and other machinery were particularly robust. Data for April suggest that the second quarter got off to a strong start. The price of non-oil goods imports rose at an annual rate of 1¾ percent in the first quarter, the second consecutive quarter of sizable price increases following four years of price declines; non-oil import prices in the second quarter posted only moderate increases.

A number of developments affecting world oil demand and supply led to a further step-up in the spot price of West Texas intermediate (WTI) crude this year, along with considerable volatility. In the wake of the plunge of world oil prices during 1998, the Organization of Petroleum Exporting Countries (OPEC) agreed in early 1999 to production restraints that, by late in the year, restored prices to their 1997 level of about \$20 per barrel. Subsequently, continued recovery of world demand, combined with some supply disruptions, caused the WTI spot price to spike above \$34 per barrel during March of this year, the highest level since the Gulf War more than nine years earlier. Oil prices dropped back temporarily in April, but in May and June the price of crude oil moved back up again, as demand was boosted further by strong global economic activity and by rebuilding of oil stocks. In late June, despite an announcement by OPEC that it would boost production, the WTI spot price reached a new high of almost \$35 per barrel, but by early July the price had settled back to about \$30 per barrel.

Financial Account

Capital flows in the first quarter of 2000 continued to reflect the relatively strong performance of the U.S. economy and transactions associated with global

corporate mergers. Foreign private purchases of U.S. securities remained brisk—well above the record pace set last year. In addition, the mix of U.S. securities purchased by foreigners in the first quarter showed a continuation of last year's trend toward smaller holdings of U.S. Treasury securities and larger holdings of U.S. agency and corporate securities. Private-sector foreigners sold more than \$9 billion in Treasury securities in the first quarter while purchasing more than \$26 billion in agency bonds. Despite a mixed performance of U.S. stock prices, foreign portfolio purchases of U.S. equities exceeded \$60 billion in the first quarter, more than half of the record annual total set last year. U.S. purchases of foreign securities remained strong in the first quarter of 2000.

Foreign direct investment flows into the United States were robust in the first quarter of this year as well. As in the past two years, direct investment inflows have been elevated by the extraordinary level of cross-border merger and acquisition activity. Portfolio flows have also been affected by this activity. For example, in recent years, many of the largest acquisitions have been financed by swaps of equity in the foreign acquiring firm for equity in the U.S. firm being acquired. The Bureau of Economic Analysis estimates that U.S. residents acquired \$123 billion of foreign equities in this way last year. Separate data on market transactions indicate that U.S. residents made net purchases of Japanese equities but sold European equities. The latter sales likely reflect a rebalancing of portfolios after stock swaps. U.S. direct investment in foreign economies has also remained strong, exceeding \$30 billion in the first quarter of 2000. Again, a significant portion of this investment was associated with cross-border merger activity.

Capital inflows from foreign official sources in the first quarter of this year were sizable—\$20 billion, compared with \$43 billion for all of 1999. As was the case last year, the increase in foreign official reserves in the United States in the first quarter was concentrated in a relatively few countries. Partial data for the second quarter of 2000 show a small official outflow.

The Labor Market

Employment and Labor Supply

The labor market in early 2000 continued to be characterized by substantial job creation, a historically low level of unemployment, and sizable advances in productivity that have held labor costs in check. The rise in overall nonfarm payroll employment, which totaled more than 1½ million over the first half of the year, was swelled by the federal government's hiring of intermittent workers to conduct the decennial census. Apart from that temporary boost, which accounted for about one-fourth of the net gain in jobs between December and June, nonfarm payroll employment increased an average of 190,000 per month, somewhat below the robust pace of the preceding four years.

Monthly changes in private payrolls were uneven at times during the first half of the year, but, on balance, the pace of hiring, while still solid, appears to have moderated between the first and second quarters. In some industries, such as construction, the pattern appears to have been exaggerated by unseasonably high levels of activity during the winter that accelerated hiring that typically would have occurred in the spring. After a robust first quarter, construction employment declined between April and June; on average, hiring in this industry over the first half of the year was only

a bit slower than the rapid pace that prevailed from 1996 to 1999. However, employment gains in the services industry, particularly in business and health services, were smaller in the second quarter than in the first while job cutbacks occurred in finance, insurance, and real estate after four and one-half years of steady expansion. Nonetheless, strong domestic demand for consumer durables and business equipment, along with support for exports from the pickup in economic activity abroad, led to a leveling off in manufacturing employment over the first half of 2000 after almost two years of decline. And, with consumer spending brisk, employment at retail establishments, although fluctuating widely from month to month, remained generally on a solid uptrend over the first half.

The supply of labor increased slowly in recent years relative to the demand for workers. The labor force participation rate was unchanged, on average, at 67.1 percent from 1997 to 1999; that level was just 0.6 percentage point higher than at the beginning of the expansion in 1990. The stability of the participation rate over the 1997–99 period was somewhat surprising because the incentives to enter the workforce seemed powerful: Hiring was strong, real wages were rising more rapidly than earlier in the expansion, and individuals perceived that jobs were plentiful. However, the robust demand for new workers instead led to a substantial decline in unemployment, and the civilian jobless rate fell from 5¼ percent at the beginning of 1997 to just over 4 percent at the end of 1999.

This year, the labor force participation rate ratcheted up sharply over the first four months of the year before dropping back in recent months as employment slowed. The spike in participation early this year may have been

a response to ready availability of job opportunities, but Census hiring may also have temporarily attracted some individuals into the workforce. On net, growth of labor demand and supply have been more balanced so far this year, and the unemployment rate has held near its thirty-year low of 4 percent. At mid-year, very few signs of a significant easing in labor market pressures have surfaced. Employers responding to various private surveys of business conditions report that they have been unable to hire as many workers as they would like because skilled workers are in short supply and competition from other firms is keen. Those concerns about hiring have persisted even as new claims for unemployment insurance have drifted up from very low levels in the past several months, suggesting that some employers may be making workforce adjustments in response to slower economic activity.

Labor Costs and Productivity

Reports by businesses that workers are in short supply and that they are under pressure to increase compensation to be competitive in hiring and retaining employees became more intense early this year. However, the available statistical indicators are providing somewhat mixed and inconsistent signals of whether a broad acceleration in wage and benefit costs is emerging. Hourly compensation, as measured by the employment cost index (ECI) for private nonfarm businesses, increased sharply during the first quarter to a level more than 4½ percent above a year earlier. Before that jump, year-over-year changes in the ECI compensation series had remained close to 3½ percent for three years. However, an alternative measure of compensation per hour, calculated as part of the productivity and

cost series, which has shown higher rates of increase than the ECI in recent years, slowed in the first quarter of this year. For the nonfarm business sector, compensation per hour in the first quarter was 4¼ percent higher than a year earlier; in the first quarter of 1999, the four-quarter change was 5¼ percent.³

Part of the acceleration in the ECI in the first quarter was the result of a sharp step-up in the wage and salary component of compensation change. While higher rates of straight-time pay were widespread across industry and occupational groups, the most striking increase occurred in the finance, insurance, and real estate industry where the year-over-year change in wages and salaries jumped from about 4 percent for the period ending in December 1999 to almost 8½ percent for the period ending in March of this year. The sudden spike in wages in that sector could be related to commissions that are tied directly to activity levels in the industry and, thus, would not represent a lasting influence on wage inflation. For other industries, wages and salaries accelerated moderately, which might appear plausible in light of reports that employers are experiencing shortages of some types of skilled workers. However, the uptrend in wage inflation that surfaced in the first-quarter ECI has not been so readily apparent in the monthly data on average hourly earnings of production or non-supervisory workers, which are available through June. Although average hourly earnings increased at an annual rate of 4 percent between December and June, the June level of hourly wages

3. The figures for compensation per hour in the nonfinancial corporate sector are similar: an increase of about 4 percent for the year ending in the first quarter of this year compared with almost 5½ percent for the year ending in the first quarter of 1999.

stood 3¾ percent higher than a year earlier, the same as the increase between June 1998 and June 1999.

While employers in many industries appear to have kept wage increases moderate, they may be facing greater pressures from rising costs of employee benefits. The ECI measure of benefit costs rose close to 3½ percent during 1999, a percentage point faster than during 1998; these costs accelerated sharply further in the first quarter of this year to a level 5½ percent above a year earlier. Much of last year's pickup in benefit costs was associated with faster rates of increase in employer contributions to health insurance, and the first-quarter ECI figures indicated another step-up in this component of costs. Private survey information and available measures of prices in the health care industry suggest that the upturn in the employer costs of health care benefits is associated with both higher costs of health care and employers' willingness to offer attractive benefit packages in order to compete for workers in a tight labor market. Indeed, employers have been reporting that they are enhancing compensation packages with a variety of benefits in order to hire and retain employees. Some of these offerings are included in the ECI; for instance, the ECI report for the first quarter noted a pickup in supplemental forms of pay, such as overtime and nonproduction bonuses, and in paid leave. However, other benefits cited by employers, including stock options, hiring and retention bonuses, and discounts on store purchases, are not measured in the ECI.⁴ The productivity and costs measure of hourly

compensation may capture more of the non-wage costs that employers incur, but even for that series, the best estimates of employer compensation costs are available only after business reports for unemployment insurance and tax records are tabulated and folded into the annual revisions of the national income and product accounts.

Because businesses have realized sizable gains in worker productivity, compensation increases have not generated significant pressure on overall costs of production. Output per hour in the nonfarm business sector posted another solid advance in the first quarter, rising to a level 3¾ percent above a year earlier and offsetting much of the rise in hourly compensation over the period. For nonfinancial corporations, the subset of the nonfarm business sector that excludes types of businesses for which output is measured less directly, the 4 percent year-over-year increase in productivity held unit labor costs unchanged.

With the further robust increases in labor productivity recently, the average rise in output per hour in the nonfarm business sector since early 1997 has stepped up further to 3 percent from the 2 percent pace of the 1995–97 period. What has been particularly impressive is that the acceleration of productivity in the past several years has exceeded the pickup in output growth over the period and, thus, does not appear to be simply a cyclical response to more rapidly rising demand. Rather, businesses are likely realizing substantial and lasting pay-offs from their investment in equipment and processes that embody the technological advances of the past several years.

4. Beginning with publication of the ECI for June 2000, the Bureau of Labor Statistics plans to expand the definition of nonproduction bonuses in the ECI to include hiring and retention bonuses. These payments are already included in the wage

and salary measure underlying the data on compensation per hour calculated for the productivity and cost series.

Prices

Rates of increase in the broader measures of prices moved up further in early 2000. After having accelerated from 1 percent during 1998 to 1½ percent last year, the chain-type price index for GDP—prices of goods and services that are *produced* domestically—increased at an annual rate of 3 percent in the first quarter of this year. The upswing in inflation for goods and services *purchased* by consumers, businesses, and governments has been somewhat greater: The chain-type price index for gross domestic purchases rose at an annual rate of 3½ percent in the first quarter after having increased about 2 percent during 1999 and just ¾ percent during 1998.

The pass-through of the steep rise in the cost of imported crude oil that began in early 1999 and continued into the first half of this year has been the principal factor in the acceleration of the prices of goods and services purchased. The effect of higher energy costs on domestic prices has been most apparent in indexes of prices paid by consumers. After having risen 12 percent during 1999, the chain-type price index for energy items in the price index for per-

sonal consumption expenditures (PCE) jumped at an annual rate of 35 percent in the first quarter of 2000; the first-quarter rise in the energy component of the CPI was similar.

Swings in energy prices continued to have a noticeable effect on overall measures of consumer prices in the second quarter. After world oil prices dropped back temporarily in the spring, the domestic price of motor fuel dropped in April and May, and consumer prices for energy, as measured by the CPI, retraced some of the first-quarter increase. As a result, the overall CPI was little changed over the two months. However, with prices of crude oil having climbed again, the bounceback in prices of motor fuel led to a sharp increase in the CPI for energy in June. In addition, with strong demand pressing against available supplies, consumer prices of natural gas continued to rise rapidly in the second quarter. In contrast to the steep rise in energy prices, the CPI for food has risen slightly less than other non-energy prices so far this year.

Higher petroleum costs also fed through into higher producer costs for a number of intermediate materials. Rising prices for inputs such as chemicals and paints contributed importantly to

Alternative Measures of Price Change

Percent, annual rate

Price measure	1997:Q4 to 1998:Q4	1998:Q4 to 1999:Q4	1999:Q4 to 2000:Q1
<i>Chain-type</i>			
Gross domestic product	1.0	1.6	3.0
Gross domestic purchases .....	.7	1.9	3.5
Personal consumption expenditures .....	.9	2.0	3.5
Excluding food and energy	1.3	1.5	2.2
<i>Fixed-weight</i>			
Consumer price index	1.5	2.6	4.0
Excluding food and energy	2.4	2.1	2.3

NOTE. A fixed-weight index uses quantity weights from the base year to aggregate prices from each distinct item category. A chain-type index is the geometric aver-

age of two fixed-weight indexes and allows the weights to change each year. Changes are based on quarterly averages.

the acceleration in the producer price index for intermediate materials excluding food and energy from about 1¾ percent during 1999 to an annual rate of 3½ percent over the first half of this year. Upward pressure on input prices was also apparent for construction materials, although these have eased more recently. Prices of imported industrial supplies also picked up early this year owing to higher costs of petroleum inputs.

Core consumer price inflation has also been running a little higher so far this year. The chain-type price index for personal consumption expenditures other than food and energy increased at an annual rate of 2¼ percent in the first quarter compared with an increase of 1½ percent during 1999. Based on the monthly estimates of PCE prices in April and May, core PCE price inflation looks to have been just a little below its first-quarter rate. After having risen just over 2 percent between the fourth quarter of 1998 and the fourth quarter of 1999, the CPI excluding food and energy increased at an annual rate of 2¼ percent in the first quarter of 2000 and at a 2¾ percent rate in the second quarter. In part, the rise in core inflation likely reflects the indirect effects of higher energy costs on the prices of a variety of goods and services, although these effects are difficult to quantify with precision. Moreover, prices of non-oil imported goods, which had been declining from late 1995 through the middle of last year, continued to trend up early this year.

The pickup in core inflation, as measured by the CPI, has occurred for both consumer goods and services. Although price increases for nondurable goods excluding food and energy moderated, prices of consumer durables, which had fallen between 1996 and 1999, were little changed, on balance, over the first

half of this year. The CPI continued to register steep declines for household electronic goods and computers, but prices of other types of consumer durables have increased, on net, so far this year. The rate of increase in the prices of non-energy consumer services has also been somewhat faster; the CPI for these items increased at an annual rate of 3½ percent during the first two quarters of this year compared with a rise of 2¾ percent in 1999. Larger increases in the CPI measures of rent and of medical services have contributed importantly to this acceleration. Another factor has been a steeper rise in airfares, which have been boosted in part to cover the higher cost of fuel.

In addition to slightly higher core consumer price inflation, the national income and product accounts measure of prices for private fixed investment goods shows that the downtrend in prices for business fixed investment items has been interrupted. Most notably, declines in the prices of computing equipment became much smaller in the final quarter of last year and the first quarter of this year. A series of disruptions to the supply of component inputs to computing equipment has combined with exceptionally strong demand to cut the rate of price decline for computers, as measured by the chain-type price index, to an annual rate of 12 percent late last year and early this year—half the pace of the preceding three and one-half years. At the same time, prices of other types of equipment and software continued to be little changed, and the chain-type index for nonresidential structures investment remained on a moderate uptrend. In contrast, the further upward pressure on construction costs at the beginning of the year continued to push the price index for residential construction higher; after having accelerated from 3 percent to 3½ per-

cent between 1998 and 1999, this index increased at an annual rate of 4¼ percent in the first quarter of 2000.

Although actual inflation moved a bit higher over the first half of 2000, inflation expectations have been little changed. Households responding to the Michigan SRC survey in June were sensitive to the adverse effect of higher energy prices on their real income but seemed to believe that the inflationary shock would be short-lived. The median of their expected change in CPI inflation over the coming twelve months was 2.9 percent. Moreover, they remained optimistic that inflation would remain at about that rate over the longer run, reporting a 2.8 percent median of expected inflation during the next five to ten years. In both instances, their expectations are essentially the same as at the end of 1999, although the year-ahead expectations are above the lower levels that had prevailed in 1997 and early 1998.

U.S. Financial Markets

Conditions in markets for private credit firmed on balance since the end of 1999. Against a backdrop of continued economic vitality in the United States and a tighter monetary policy stance, private borrowing rates are higher, on net, particularly those charged to riskier borrowers. In addition, banks have tightened terms and standards on most types of loans. Higher real interest rates—as measured based on inflation expectations derived from surveys and from yields on the Treasury's inflation-indexed securities—account for the bulk of the increase in interest rates this year, with short-term real rates having increased the most. Rising market interest rates and heightened uncertainties about corporate prospects, especially with regard to the high-tech sector,

have occasionally dampened flows in the corporate bond market and have weighed on the equity market, which has, at times, experienced considerable volatility. Through mid-July, the broad-based Wilshire 5000 equity index was up approximately 3 percent for the year.

Interest Rates

As the year began, with worries related to the century date change out of the way, participants in the fixed-income market turned their attention to the signs of continued strength in domestic labor and product markets, and they quickly priced in the possibility of a more aggressive tightening of monetary policy. Both private and Treasury yields rose considerably. In the latter part of January, however, Treasury yields plummeted, especially those on longer-dated securities, as the announced details of the Treasury's debt buyback program and upwardly revised forecasts of federal budget surpluses led investors to focus increasingly on the prospects for a diminishing supply of Treasury securities. A rise in both nominal and inflation-indexed Treasury yields in response to strong economic data and tighter monetary policy in April and May was partly offset by supply factors and by occasional safe haven flows from the volatile equity market. Since late May, market interest rates have declined as market participants have interpreted the incoming economic data as evidence that monetary policy might not have to be tightened as much as had been previously expected. On balance, while Treasury bill rates and yields on shorter-dated notes have risen 15 to 80 basis points since the beginning of the year, intermediate- and long-term Treasury yields have declined 5 to 55 basis points. In the corporate debt market, by con-

trast, bond yields have risen 10 to 70 basis points so far this year.

Forecasts of steep declines in the supply of longer-dated Treasuries have combined with tighter monetary policy conditions to produce an inverted Treasury yield curve, starting with the two-year maturity. In contrast, yield curves elsewhere in the U.S. fixed-income market generally have not inverted. In the interest rate swap market, for instance, the yield curve has remained flat to upward sloping for maturities as long as ten years, and the same has been true for yield curves for the most actively traded corporate bonds.⁵ Nonetheless, private yield curves are flatter than usual, suggesting that, although supply considerations have played a potentially important role in the inversion of the Treasury yield curve this year, investors' forecasts of future economic conditions have also been a contributing factor. In particular, private yield curves are consistent with forecasts of a moderation in economic growth and expectations that the economy will be on a sustainable, non-inflationary track, with little further monetary policy tightening.

The disconnect between longer-term Treasury and private yields as a consequence of supply factors in the Treasury market is distorting readings from yield spreads. For instance, taken at face value, the spread of BBB corporate

yields over the yield on the ten-year Treasury note would suggest that conditions in the corporate bond market so far in 2000 are worse than those during the financial market turmoil of 1998. In contrast, the spread of the BBB yield over the ten-year swap rate paints a very different picture, with spreads up this year but below their peaks in 1998. Although the swap market is still not as liquid as the Treasury securities market, and swap rates are occasionally subject to supply-driven distortions, such distortions have been less pronounced and more short-lived than those affecting the Treasury securities market of late, making swap rates a better benchmark for judging the behavior of other corporate yields.

Aware that distortions to Treasury yields are likely to become more pronounced as more federal debt is paid down, market participants have had to look for alternatives to the pricing and hedging roles traditionally played by Treasuries in U.S. financial markets. In addition to interest rate swaps, which have featured prominently in the list of alternatives to Treasuries, debt securities issued by the three government-sponsored housing agencies—Fannie Mae, Freddie Mac, and the Federal Home Loan Banks—have been used in both pricing and hedging. The three housing agencies have continued to issue a substantial volume of debt this year in an attempt to capture benchmark status, and the introduction in March of futures and options contracts based on five- and ten-year notes issued by Fannie Mae and Freddie Mac may help enhance the liquidity of the agency securities market. Nonetheless, the market for agency debt has been affected by some uncertainty this year regarding the agencies' special relationship with the government. Both the Treasury and the Federal Reserve

5. A typical interest rate swap is an agreement between two parties to exchange fixed and variable interest rate payments on a notional principal amount over a predetermined period ranging from one to thirty years. The notional amount itself is never exchanged. Typically, the variable interest rate is the London Interbank Offered Rate (LIBOR), and the fixed interest rate—called the swap rate—is determined in the swap market. The overall credit quality of market participants is high, typically A or above; those entities with credit ratings of BBB or lower are generally either rejected or required to adopt credit-enhancing mechanisms, typically by posting collateral.

have suggested that it would be appropriate for the Congress to consider whether the special standing of these institutions continues to promote the public interest, and pending legislation would, among other things, restructure the oversight of these agencies and reexamine their lines of credit with the U.S. Treasury.

The implementation of monetary policy, too, has had to adapt to the anticipated paydowns of marketable federal debt. Recognizing that there may be limitations on its ability to rely as much as previously on transactions in Treasury securities to meet the reserve needs of depositories and to expand the supply of currency, the FOMC decided at its March 2000 meeting to facilitate until its first meeting in 2001 the Trading Desk's ability to continue to accept a broader range of collateral in its repurchase transactions. The initial approvals to help expand the collateral pool were granted in August 1999 as part of the Federal Reserve's efforts to better manage possible disruptions to financial markets related to the century date change.

At the March 2000 meeting, the Committee also initiated a study to consider alternative asset classes and selection criteria that could be appropriate for the System Open Market Account (SOMA) should the size of the Treasury securities market continue to decline. For the period before the completion and review of such a study, the Committee discussed, at its May meeting, some changes in the management of the System's portfolio of Treasury securities in an environment of decreasing Treasury debt. The changes aim to prevent the System from coming to hold high and rising proportions of new Treasury debt issues. They will also help the SOMA to limit any further lengthening of the aver-

age maturity of its portfolio while continuing to meet long-run reserve needs to the greatest extent possible through outright purchases of Treasury securities.⁶ The SOMA will cap the rollover of its existing holdings at Treasury auctions and will engage in secondary market purchases according to a schedule that effectively will result in a greater percentage of holdings of shorter-term security issues than of longer-dated ones. The schedule ranges from 35 percent of an individual issue for Treasury bills to 15 percent for longer-term bonds. These changes were announced to the public on July 5, replacing a procedure in which all maturing holdings were rolled over and in which coupon purchases were spread evenly across the yield curve.

Equity Prices

Major equity indexes have posted small gains so far this year amid considerable volatility. Fluctuations in technology stocks have been particularly pronounced: After having reached a record high in March—24 percent above its 1999 year-end value—the Nasdaq composite index, which is heavily weighted toward technology shares, swung widely and by mid-July was up 5 percent for the year. Given its surge in the second half of 1999, the mid-July level of the Nasdaq was about 60 percent above its mid-1999 reading. The broader S&P 500 and

6. The FOMC prefers a portfolio with a short average maturity because the higher turnover rate of such a portfolio gives it greater flexibility to redeem securities in times of financial market stress, which may require substantial decreases in the securities portfolio over a relatively short period, such as during an acute banking crisis that involves heavy lending through the discount window.

Wilshire 5000 indexes have risen close to 3 percent since the beginning of the year and are up about 10 percent and 13 percent, respectively, from mid-1999.

Corporate earnings reports have, for the most part, exceeded expectations, and projections of future earnings continue to be revised higher. However, the increase in interest rates since the beginning of the year likely has restrained the rise in equity prices. In addition, growing unease about the lofty valuations reached by technology shares and rising default rates in the corporate sector may have given some investors a better appreciation of the risks of holding stocks in general. Reflecting the uncertainty about the future course of the equity market, expected and actual volatilities of stock returns rose substantially in the spring. At that time, volatility implied by options on the Nasdaq 100 index surpassed even the elevated levels reached during the financial market turmoil of 1998.

Higher volatility and greater investor caution had a marked effect on public equity offerings. The pace of initial public offerings has fallen off considerably in recent months from its brisk first-quarter rate, with some offerings being canceled or postponed and others being priced well short of earlier expectations. On the other hand, households' enthusiasm for equity mutual funds, especially those funds that invest in the technology and international sectors, remains relatively high, although it appears to have faded some after the run-up in stock market volatility in the spring. Following a first-quarter surge, net inflows to stock funds moderated substantially in the second quarter but still were above last year's average pace.

Debt and the Monetary Aggregates

Debt and Depository Intermediation

The total debt of the U.S. household, government, and nonfinancial business sectors is estimated to have increased at close to a 5½ percent annual rate in the first half of 2000. Outside the federal government sector, debt expanded at an annual rate of roughly 9½ percent, buoyed by strength in household and business borrowing. Continued declines in federal debt have helped to ease the pressure on available savings and have facilitated the rapid expansion of non-federal debt outstanding: The federal government paid down \$218 billion of debt over the first half of 2000, compared with paydowns of \$56 billion and \$101 billion in the first six months of calendar years 1998 and 1999 respectively.

Depository institutions have continued to play an important role in meeting the strong demands for credit by businesses and households. Adjusted for mark-to-market accounting rules, credit extended by commercial banks rose 11½ percent in the first half of 2000. This advance was paced by a brisk expansion of loans, which grew at an annual rate of nearly 13 percent over this period. Bank credit increased in part because some businesses sought bank loans as an alternative to a less receptive corporate bond market. In addition, the underlying strength of household spending helped boost the demand for consumer and mortgage loans. Banks' holdings of consumer and mortgage loans were also supported by a slower pace of securitizations this year. In the housing sector, for instance, the rising interest rate environment has kept the demand for adjustable-rate mortgages relatively elevated, and banks tend to

hold these securities on their books rather than securitize them.

Banks have tightened terms and standards on loans further this year, especially in the business sector, where some lenders have expressed concerns about a more uncertain corporate outlook. Bank regulators have noted that depository institutions need to take particular care in evaluating lending risks to account for possible changes in the overall macroeconomic environment and in conditions in securities markets.

The Monetary Aggregates

Growth of the monetary aggregates over the first half of 2000 has been buffeted by several special factors. The unwinding of the buildups in liquidity that occurred in late 1999 before the century date change depressed growth in the aggregates early this year. Subsequently, M2 rebounded sharply in anticipation of outsized tax payments in the spring and then ran off as those payments cleared. On net, despite the cumulative firming of monetary policy since June 1999, M2 expanded at a relatively robust, 6 percent, annual rate during the first half of 2000—the same pace as in 1999—supported by the rapid expansion of nominal spending and income.

M2 velocity—the ratio of nominal income to M2—has increased over the first half of this year, consistent with its historical relationship with the interest forgone (“opportunity cost”) from holding M2. As usual, rates offered on many of the components of M2 have not tracked the upward movement in market interest rates, and the opportunity cost of holding M2 has risen. In response, investors have reallocated some of their funds within M2 toward those components whose rates adjust more quickly—such as small time deposits—

and have restrained flows into M2 in favor of longer-term mutual funds and direct holdings of market instruments.

M3 expanded at an annual rate of 9 percent in the first half of 2000, up from 7½ percent for all of 1999. The robust expansion of bank credit underlies much of the acceleration in M3 this year. Depository institutions have issued large time deposits and other managed liabilities in volume to help fund the expansion of their loan and securities portfolios. In contrast, flows to institutional money funds slowed from the rapid pace of late 1999 after the heightened preference for liquid assets ahead of the century date change ebbed.

As has been the case since 1994, depository institutions have continued to implement new retail sweep programs over the first half of 2000 in order to avoid having to hold non-interest-bearing reserve balances with the Federal Reserve System. As a result, required reserve balances are still declining gradually, adding to concerns that, under current procedures, low balances might adversely affect the implementation of monetary policy by eventually leading to increased volatility in the federal funds market. The pending legislation that would allow the Federal Reserve to pay interest on balances held at Reserve Banks would likely lead to a partial unwinding over time of the ongoing trend in retail sweep programs.

International Developments

In the first half of 2000, economic activity in foreign economies continued the strong overall performance that was registered last year. With a few exceptions, most emerging-market countries continued to show signs of solid recoveries from earlier recessions, supported by favorable financial market conditions.

Average real GDP in the foreign industrial countries accelerated noticeably in the first half of this year after a mild slowdown in late 1999. The pickup reflected in large part better performance of Japanese domestic demand (although its sustainability has been questioned) and further robust increases in Europe and Canada. In many countries, economic slack diminished, heightening concern about inflation risks. Higher oil prices bumped up broad measures of inflation almost everywhere, but measures of core inflation edged up only modestly, if at all.

Monetary conditions generally were tightened in foreign industrial countries, as authorities removed stimulus by raising official rates. Yield curves in several key industrial countries tended to flatten, as interest rates on foreign long-term government securities declined on balance after January, reversing an upward trend seen since the second quarter of 1999. Yields on Japanese government long-term bonds edged upward slightly, but at midyear still were only about 1¾ percent.

Concerns in financial markets at the end of last year about potential disruptions during the century date change dissipated quickly, and global markets in the early months of this year returned to the comparatively placid conditions seen during most of 1999. Starting in mid-March, however, global financial markets were jolted by several episodes of increased volatility set off typically by sudden downdrafts in U.S. Nasdaq prices. At that time, measures of market risk for some emerging-market countries widened, but they later retraced most of these increases. The performances of broad stock market indexes in the industrial countries were mixed, but they generally tended to reflect their respective cyclical positions. Stocks in Canada, France, and Italy, for example,

continued to make good gains, German stocks did less well, and U.K. stocks slipped. Japanese shares also were down substantially, even though the domestic economy showed some signs of firmer activity. In general, price volatility of foreign high-tech stocks or stock indexes weighted toward technology-intensive sectors was quite high and exceeded that of corresponding broader indexes.

The dollar continued to strengthen during most of the first half of the year. It appeared to be supported mainly by continuing positive news on the performance of the U.S. economy, higher U.S. short-term interest rates, and for much of the first half, expectations of further tightening of monetary policy. Early in the year, the attraction of high rates of return on U.S. equities may have been an additional supporting factor, but the dollar maintained its upward trend even after U.S. stock prices leveled off near the end of the first quarter and then declined for a while. In June, the dollar eased back a bit against the currencies of some industrial countries amid signs that U.S. growth was slowing. Nevertheless, for the year so far, the dollar is up on balance about 5¾ percent against the major currencies; against a broader index of trading-partner currencies, the dollar has appreciated about 3¾ percent on balance.

The dollar has experienced a particularly large swing against the euro. The euro started this year already down more than 13 percent from its value against the dollar at the time when the new European currency was introduced in January 1999, and it continued to depreciate during most of the first half of 2000, reaching a record low in May. During this period, the euro seemed to be especially sensitive to news and public commentary by officials about the strength of the expansion in the

euro area, the pace of economic reform, and the appropriate macroeconomic policy mix. Despite a modest recovery in recent weeks, the euro still is down against the dollar almost 7 percent on balance for the year so far and about 3¾ percent on a trade-weighted basis.

The euro's persistent weakness posed a challenge for authorities at the European Central Bank as they sought to implement a policy stance consistent with their official inflation objective (2 percent or less for harmonized consumer prices) without threatening the euro area's economic expansion. Supported in part by euro depreciation, economic growth in the euro area in the first half of 2000 was somewhat stronger than the brisk 3 percent pace recorded last year. Investment was robust, and indexes of both business and consumer sentiment registered record highs. The average unemployment rate in the area continued to move down to nearly 9 percent, almost a full percentage point lower than a year earlier. At the end of the first half, the euro-area broad measure of inflation, partly affected by higher oil prices, was above 2 percent, while core inflation had edged up to 1¼ percent. Variations in the pace of economic expansion and the intensity of inflation pressures across the region added to the complexity of the situation confronting ECB policymakers even though Germany and Italy, two countries that had lagged the euro-area average expansion of activity in recent years, showed signs that they were beginning to move ahead more rapidly. After having raised its refinancing rate 50 basis points in November 1999, the ECB followed with three 25-point increases in the first quarter and another 50-point increase in June. The ECB pointed to price pressures and rapid expansion of monetary aggregates as important considerations behind the moves.

Compared with its fluctuations against the euro, the dollar's value was more stable against the Japanese yen during the first half of 2000. In late 1999, private domestic demand in Japan slumped badly, even though the Bank of Japan continued to hold its key policy rate at essentially zero. Several times during the first half of this year, the yen experienced strong upward pressure, often associated with market perceptions that activity was reviving and with speculation that the Bank of Japan soon might abandon its zero-interest-rate policy. This upward pressure was resisted vigorously by Japanese authorities on several occasions with sales of yen in foreign exchange markets. The Bank of Japan continued to hold overnight interest rates near zero through the first half of 2000.

The Japanese economy, in fact, did show signs of stronger performance in the first half. GDP rose at an annual rate of 10 percent in the first quarter, with particular strength in private consumption and investment. Industrial production, which had made solid gains last year, continued to expand at a healthy pace, and surveys indicated that business confidence had picked up. Demand from the household sector was less robust, however, as consumer confidence was held back by historically high unemployment. A large and growing outstanding stock of public debt (estimated at more than 110 percent of GDP) cast increasing doubt about the extent to which authorities might be willing to use additional fiscal stimulus to boost demand. Even though some additional government expenditure for coming quarters was approved in late 1999, government spending did not supply stimulus in the first quarter. With core consumer prices moving down at an annual rate that reached almost 1 per-

cent at midyear, deflation also remained a concern.

Economic activity in Canada so far this year slowed a bit from its very strong performance in the second half of 1999, but it still was quite robust, generating strong gains in employment and reducing the remaining slack in the economy. The expansion was supported by both domestic demand and spillovers from the U.S. economy. Higher energy prices pushed headline inflation to near the top of the Bank of Canada's 1 percent to 3 percent target range; core inflation remained just below 1½ percent. The Canadian dollar weakened somewhat against the U.S. dollar in the first half of the year even though the Bank of Canada raised policy interest rates 100 basis points, matching increases in U.S. rates. In the United Kingdom, the Bank of England continued a round of tightening that started in mid-1999 by raising official rates 25 basis points twice in the first quarter. After March, indications that the economy was slowing and that inflation pressures might be ebbing under the effect of the tighter monetary stance and strength of sterling—especially against the euro—allowed the Bank to hold rates constant. In recent months, sterling has depreciated on balance as official interest rates have been raised in other major industrial countries.

In developing countries, the strong recovery of economic activity last year in both developing Asia and Latin America generally continued into the first half of 2000. However, after a fairly placid period that extended into the first few months of this year, financial market conditions in some developing countries became more unsettled in the April–May period. In some countries, exchange rates and equity prices weakened and risk spreads widened, as increased political uncertainty interacted

with heightened financial market volatility and rising interest rates in the industrial countries. In general, financial markets now appear to be identifying and distinguishing those emerging-market countries with problems more effectively than they did several years ago.

In emerging Asia, the strong bounce-back of activity last year from the crisis-related declines of 1998 continued into the first half of this year. Korea, which recorded the strongest recovery in the region last year with real GDP rising at double-digit rates in every quarter, has seen some moderation so far in 2000. However, with inventories still being rebuilt, unemployment declining rapidly, and inflation showing no signs of accelerating, macroeconomic conditions remained generally favorable, and the won came under upward pressure periodically in the first half of this year. Nonetheless, the acute financial difficulties of Hyundai, Korea's largest industrial conglomerate, highlighted the lingering effect on the corporate and financial sectors of the earlier crisis and the need for further restructuring. Economic activity in other Asian developing countries that experienced difficulties in 1997 and 1998 (Thailand, Indonesia, Malaysia, Singapore, and the Philippines) also continued to firm this year, but at varying rates. Nonetheless, financial market conditions have deteriorated in recent months for some countries in the region. In Indonesia and the Philippines, declines in equity prices and weakness in exchange rates appear to have stemmed from heightened market concerns over political instability and prospects for economic reform. Output in China increased at near double-digit annual rates in the second half of last year and remained strong in the first half of this year, boosted mainly by surging exports. In Hong Kong, real

GDP rose at an annual rate of more than 20 percent in the first quarter of this year after a strong second half in 1999. Higher consumer confidence appears to have boosted private consumption, and trade flows through Hong Kong, especially to and from China, have increased.

The general recovery seen last year in Latin America from effects of the emerging-market financial crisis extended into the first part of this year. In Brazil, inflation was remarkably well contained, and interest rates were lowered, but unemployment has remained high. An improved financial situation allowed the Brazilian government to repay most of the funds obtained under its December 1998 international support package. However, Brazilian financial markets showed continued volatility this year, especially at times of heightened market concerns over the status of fiscal reforms, and risk premiums widened in the first half of 2000 on balance. In Mexico, activity has been strong so far this year. In the first quarter, real GDP surged at an annual rate of 11 per-

cent, boosted by strong exports to the United States, soaring private investment, and increased consumer spending. Mexican equity prices and the peso encountered some downward pressure in the approach of the July 2 national election, but once the election was perceived to be fair and the transition of power was under way, both recovered substantially. In Argentina, the pace of recovery appears to have slackened in the early part of this year, as the government's fiscal position and, in particular, its ability to meet the targets of its International Monetary Fund program remained a focus of market concern. Heightened political uncertainty in Venezuela, Peru, Colombia, and Ecuador sparked financial market pressures in recent months in those countries, too. In January, authorities in Ecuador announced a program of "dollarization," in which the domestic currency would be entirely replaced by U.S. dollars. The program, now in the process of implementation, appears to have helped stabilize financial conditions there. ■