Monetary Policy and Economic Developments

Monetary Policy and the Economy in 1999

The U.S. economy posted another exceptional performance in 1999. Economic growth was robust, and, aside from the direct effects of higher crude oil prices, inflation remained subdued, in marked contrast to the rising inflation that eventually emerged in many previous economic expansions. The year brought additional evidence of substantial improvement in productivity growth 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 required some adjustments to the settings of monetary policy instruments during the year. In the latter part of 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 had been eased. By the middle of 1999, 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, on the whole, 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, the 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 still 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 implemented three quarter-point increases in the intended federal funds rate over the year, ultimately reversing the easings undertaken during the autumn 1998 financial market turmoil.

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 some early 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

NOTE. The discussion here and in the next chapter is adapted from *Monetary Policy Report to the Congress pursuant to the Full Employment and Balanced Growth Act of 1978* (Board of Governors, February 2000). The data cited in the two chapters are those available as of mid-February 2000.

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.

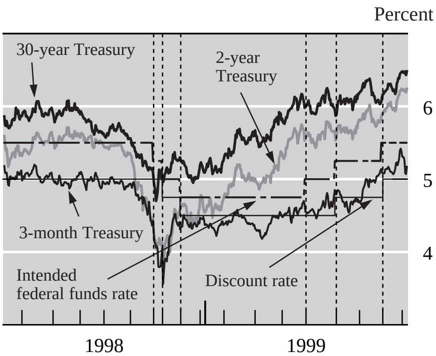
By the May meeting, these recoveries were solidifying, and the pace of domestic spending appeared once again to be outstripping the growth of the economy's potential, even allowing for an appreciable acceleration in productivity. The Committee still expected some slowing in the expansion of aggregate 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 ¼ 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 those 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 ¼ percentage point, to 5¼ 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.

Selected Interest Rates



NOTE. The data are daily. Short ticks indicate days on which the Federal Open Market Committee held a scheduled meeting or a policy action was announced. Vertical lines mark days on which policy actions were announced: September 29, October 15, and November 17, 1998; and June 30, August 24, and November 16, 1999.

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 marketmaking 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 possibly 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 ¼ 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 ¼ 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 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.

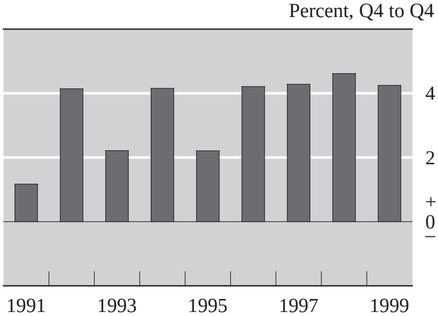
The FOMC also decided on some modifications to its disclosure procedures at the December meeting, at which the working group established at the August meeting transmitted its final report and proposals. These modifications, announced in January 2000, consisted primarily of a plan to issue a statement 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. ■

Economic and Financial Developments in 1999

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. Exports picked up as foreign economies strengthened, but the gain fell short of that for imports by a large margin.

Change in Real GDP

Percent, Q4 to Q4



NOTE. The data are based on chained (1996) dollars and come from the Department of Commerce.

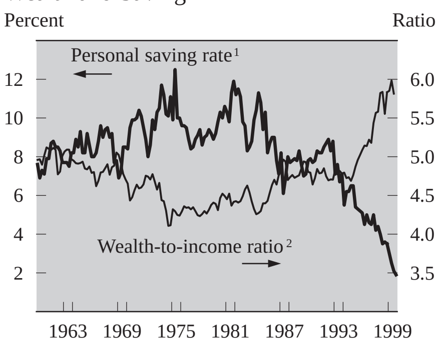
The combination of a strong U.S. economy and improving economic conditions abroad led to firmer prices in some markets in 1999. Industrial commodity prices turned up—sharply in some cases—after having dropped appreciably in 1998. Oil prices, responding both to OPEC production restraint and to the growth 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 practices continued to be influenced by strong competitive forces that limited the scope for boosting prices.

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 the yearly gain in household net worth has 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 in 1999 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. The inflation-adjusted increases for furniture, appliances, electronics 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.

Wealth and Saving



1. The data are from the Department of Commerce.
2. Ratio of net worth of households to disposable personal income. The data extend through 1999:Q3.

Households continued to boost their expenditures on residential structures as well. 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. Sales of new and existing homes reached new peaks in 1999, surpassing the previous highs of 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 financed, in part, 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 extend consumer installment loans and that they remained quite willing to extend 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 through 1997 and remaining elevated in 1998.

The Business Sector

Private nonresidential fixed investment increased 7 percent over 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 businesses 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. Outlays on computers rose nearly 40 percent in real terms, and 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 in both 1998 and 1999 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 year also brought numerous reports of businesses wanting to stand pat with existing systems until the start of 2000. Growth in computer investment in the final quarter of 1999, just before the century rollover, was the smallest in several quarters.

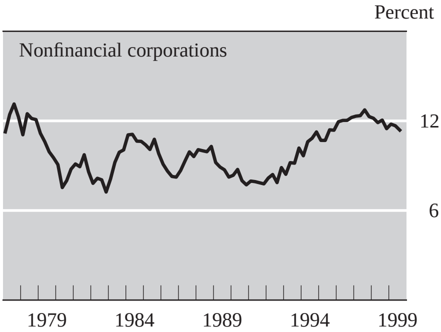
Spending on other types of equipment rose moderately, on balance, in 1999. Outlays for transportation equipment increased substantially, led by advances in business purchases of motor vehicles and aircraft. By contrast, a sharp decline in spending on industrial machinery early in the year held the yearly 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 in 1999, 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. 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 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 in 1999—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 2000 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

Before-Tax Profits as a Share of GDP



NOTE. Profits from domestic operations, with inventory valuation and capital consumption adjustments, divided by gross domestic product of nonfinancial corporate sector. The data extend through 1999:Q3 and are from the Department of Commerce.

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 having averaged 13 percent at a compound annual rate in the previous six years. Nonfinancial corporations boosted volume substantially further from 1997 to 1999, but profits per unit of output dropped back somewhat from their 1997 peak. As of the third quarter of 1999, economic profits of nonfinancial corporations amounted to slightly less than 11½ percent 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 the record pace of 1998. The receptiveness of the capital markets helped firms pay down loans at banks, and growth of these loans—which had been boosted to an 11¾ percent gain in 1998 by the financial market turmoil that year—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 seesawed 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, a measure of debt strain, 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 but remained in a historically low range.

The Government Sector

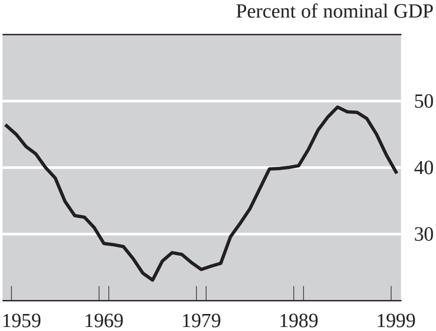
Buoyed by rapid increases in receipts and favorable budget balances, the combined real expenditures of federal, state, and local governments on consumption and investment rose about 4¾ percent from the fourth quarter of 1998 to the fourth quarter of 1999. Annual data, which smooth through some of the quarterly noise that is often evident in government outlays, showed a gain in real spending of more than 3½ percent for the 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 year 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 fiscal 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 in fiscal 1999. 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 2¼ percent of nominal GDP in the first three quarters of 1999, up from 1½ percent in 1998 and ½ 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 18½ percent to 19 percent over the past several quarters.

Federal Government Debt
Held by the Public



Note. The data are annual.

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, market 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. Weekly bill volumes were increased from 1998 levels, however, to help build up cash holdings as a Y2K precaution.

State and local government debt expanded 4¼ percent in 1999, well off the elevated pace of 1998. 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 last year's 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, 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 continued through the second half. The expansion of real imports was fueled by the continued strong growth of U.S. domestic expenditures. The ongoing though waning effects of past dollar appreciation also contributed by helping to push non-oil import prices down through most of the year. All major import categories other than aircraft and oil recorded strong increases. Although 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. Exports were stimulated by a pickup in economic activity abroad, particularly in Canada, Mexico, and the developing economies of Asia. However, this effect was muted by upward pressure on U.S. prices relative to those abroad, a delayed response to past dollar appreciation. 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 accounted for about 45 percent of U.S. goods exports, industrial supplies for 20 percent, and agricultural, automotive, and consumer goods each for roughly 10 percent.

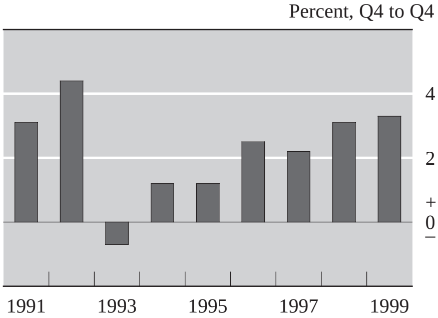
Capital Account

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 mix of foreign securities purchased in 1999 showed a continued shift away from Treasuries that was due partly to a decline in the supply of Treasuries relative to other securities, reflecting the U.S. budget surplus. Another reason might have been greater 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. The net sale of Treasuries was more than offset by a pickup in net foreign purchases of their nearest substitute—government agency bonds—and of 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 set in 1998. As in 1998, inflows in 1999 were elevated by several large mergers, which left their imprint on other parts of the capital account as well. In 1998 and 1999, many of the largest mergers were 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 and net sales of 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 likely totaled 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 among a relatively few countries that experienced unwanted upward pressure on their currencies vis-à-vis the U.S. dollar.

Change in Output per Hour



Note. Nonfarm business sector. The data are from the Department of Labor.

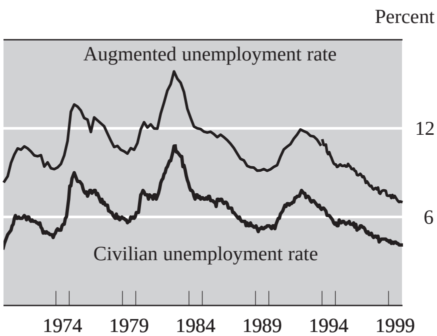
The Labor Market

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 3¼ percent over the four quarters of the year, and historical data were revised to show stronger gains in the years preceding 1999 than previously reported. The average annual rate of rise in output per hour over the past four years was about 2¾ percent—up from an average of 1½ 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 2¼ percent and 2¾ 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, down from an average of 4.4 percent in the same quarter one year earlier. 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. 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.

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.

Although the supply–demand relationship in the labor market tightened further in 1999, the added pressure did not translate into larger 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. An alternative measure of hourly compensation from nonfarm productivity and cost data slowed from a 5¼ percent increase in 1998 to a 4½ percent rise in 1999. Compensation gains in 1999 probably were held down, 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 damped wage increments in 1999. 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 preceding 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, the small size of the increases has been crucial to keeping inflation low.

Alternative Measures of Price Change

Percent

Price measure	1998	1999
Chain-type		
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
Fixed-weight		
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.

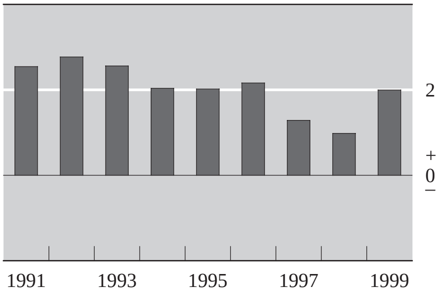
Prices

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 increasing 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. The chain-type price index for imports of goods and services had fallen 5 percent in 1998, but it rose 3 percent in 1999. A big swing in oil prices—

Change in PCE Chain-Type Price Index

Percent, Q4 to Q4



NOTE. The data are from the Department of Commerce.

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, 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 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 margin 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 in 1999, 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 1999; 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, concerns about outsized demands for credit and liquidity over the year-end subsided, causing spreads to narrow, and stock prices surged once again.

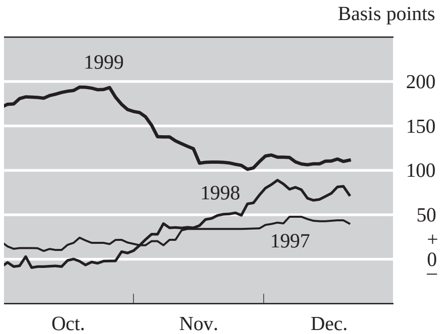
Interest Rates

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 the end of the year, as Y2K fears diminished and incoming economic data indicated surprising vitality.

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 year-end 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

Eurodollar Deposit Forward Premium
Over Year-End



NOTE. The data are daily. For October the forward premiums are one-month forward rates two months ahead less one-month forward rates one month ahead; for November they are one-month forward rates one month ahead less one-month deposit rates; and for December they are three-week forward rates one week ahead less one-week deposit rates. The December forward premiums extend into the third week of December.

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 preceding chapter. 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 relieve a potential scarcity of Treasury collateral over the year-end. 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 rollover, however, none of the RP options were exercised, and borrowing at the discount window turned out to be fairly light.

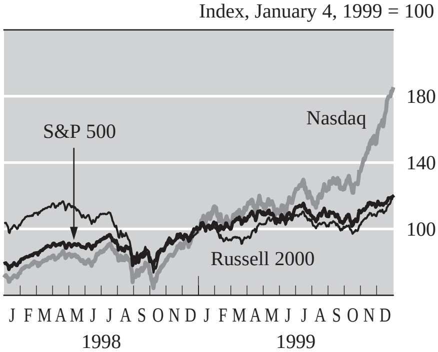
Equity Prices

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, marking 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.

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.

Stock price gains at large firms about kept pace with expected earnings growth in 1999, and the S&P 500 one-year-ahead earnings–price ratio fluctuated 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 were pricing in expectations of tremendous earnings growth at technology firms relative to historical norms.

Major Stock Price Indexes



NOTE. The data are daily.

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. The growth of 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 in 1999, with a considerable portion of the slowdown attributable to an unwinding of the surge in holdings of non-U.S. government securities and business loans that had been built up during the

Growth of Money and Debt

Percent

Period	M1	M2	M3	Domestic nonfinancial debt
Annual[1]				
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
Quarterly (annual rate)[2]				
1999:1	1.9	7.5	8.2	6.7
2	2.2	6.0	6.0	6.9
3	–2.0	5.5	5.1	6.0
4	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.

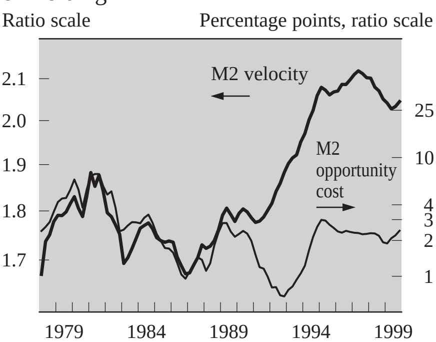
market disruptions in the fall of 1998. Real estate loans constituted one of the few categories of bank credit that accelerated in 1999. By contrast, thrift credit swelled 9 percent, up from a 4½ percent gain in 1998, as rising mortgage interest rates led borrowers to opt more frequently for adjustable-rate 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

The growth of the broad monetary aggregates moderated significantly in 1999. 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 included in M3. U.S. branches and 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 accumulated year-end precautionary liquidity in institution-only money funds, which provided a further boost to M3 late in the year.

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.

M2 Velocity and the Opportunity Cost of Holding M2



NOTE. The data are quarterly. The velocity of M2 is the ratio of nominal gross domestic product to the stock of M2. The opportunity cost of M2 is a two-quarter moving average of the difference between the three-month Treasury bill rate and the weighted average return on assets included in M2.

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 2000 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 during the 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 broad 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 up 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 country 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 a decline in real GDP in 1999. In contrast, real GDP in Mexico rose an estimated 6 percent, aided by strong growth in exports to the United States and higher oil prices. The peso appreciated against the dollar for the year as a whole, despite a Mexican inflation rate about 10 percentage points higher than the U.S. rate.

The recovery of activity 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. This stimulus, along with a shift toward fiscal deficits and an ongoing boost to net exports provided by earlier sharp currency depreciations, laid the foundation for a strong revival in activity in 1999. 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 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 in 1999 and stated their intention of extending it for at least another year. After the onset of the Asian financial crisis, continuance of the Hong Kong currency board's 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.

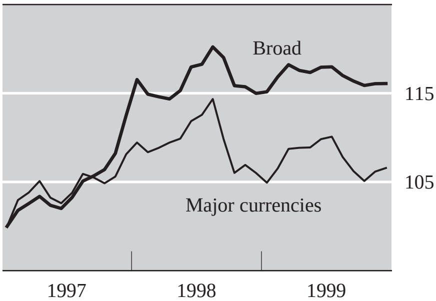
In Russia, economic activity increased in 1999 despite persistent and severe structural problems. Real GDP, which had dropped nearly 10 percent in 1998 as a result of the domestic financial crisis, recovered about half the loss during the year. Net exports rose strongly, boosted by the lagged effect 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.

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 over the 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. 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

Nominal Dollar Exchange Rate Indexes

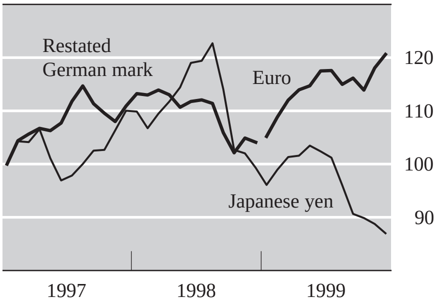
Index, January 1997 = 100



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

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

Index, January 1997 = 100



NOTE. The data are monthly. Restated German mark is the dollar–mark exchange rate rescaled by the official conversion factor between the mark and the euro, 1.95583, through December 1998. Euro exchange rate as of January 1999.

remain sluggish and Japanese monetary authorities reduced short-term interest rates to near zero in an effort to jump-start 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, but with limited success, to weaken the yen on numerous occasions.

Japanese real GDP increased somewhat in 1999 after having declined for two consecutive years. 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 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 recovery. 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. 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 move was reversed later in the year in reaction to accumulating evidence of a pickup in activity. 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, picking up over the course of the year.

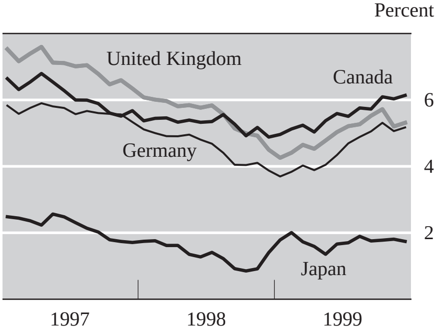
Along with the strengthening of global demand, a key factor stimulating the recovery was a series of official interest rate reductions, totaling 250 basis points, undertaken by the Bank of England over the second half of 1998 and the first half of 1999. Later in 1999 and early in 2000, the policy rate was raised three 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 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. 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. The easing was reversed by 25-basis-point increases near the end of the year and early in 2000 as Canadian inflation moved above the midpoint of its target range, the pace of output growth increased, and U.S. interest rates rose. Over the year, 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 currencies. For the euro, the premium—as measured by the implied forward interest rate for a one-month loan spanning the year-end relative to the rates for neighboring months—started to rise in late summer. However, nearly all of the increase was reversed in late October and early November. The premium moved up more moderately in December. The sharp October–November decline in the 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 take to alleviate potential liquidity problems related to the century date change. For yen funding, the 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 was partly in response to date-change-related illiquidity in the Japanese government bond repo market that emerged in early December and persisted. 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 expec-

Foreign Ten-Year Interest Rates



Note. The data are monthly.

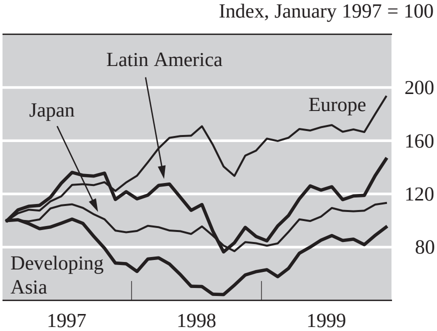
tations of monetary tightening in the United States and, later, in other industrial countries. Over the year, long-term interest rates increased on balance more than 100 basis points in nearly all the major industrial countries. The notable exception was Japan, where long-term rates were little changed.

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. The rebound 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 elsewhere and a somewhat more normal weather pattern than in recent years, 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 in the spring, OPEC consistently held production near targeted levels, in marked contrast to the widespread lack of compliance that characterized earlier agreements.

The price of gold fluctuated substantially in 1999. It declined to about $250 per ounce at midyear—the lowest in twenty years—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 boosted the price; it briefly exceeded $320 per ounce before turning down later in the year.

Foreign Equity Indexes



NOTE. The data are monthly and are from Morgan Stanley Capital International, Inc.

Foreign Exchange Operations

No foreign exchange intervention operations for the accounts of the Federal Reserve System or the U.S. Treasury were conducted during the year. Major foreign central banks reported net purchases of $67 billion in 1999, versus net sales of $29 billion in 1998.

At the end of the year, the Federal Reserve held the equivalent of $16,140 million, valued at current exchange rates, in euros and yen. Taking into account the dollar's appreciation against the euro and depreciation against the yen in 1999, the cumulative valuation gains on System foreign currency holdings decreased $560 million, to $1,668 million.

On March 18, the Federal Reserve exchanged $4.8 billion of euros for $1.4 billion of Japanese yen and $3.4 billion of U.S. dollars from the U.S. Treasury's Exchange Stabilization Fund. The transaction, designed to redress imbalances between the foreign currency holdings of the two monetary authorities, was conducted at prevailing market exchange rates. The sale of euros resulted in a realized profit of $56 million for the System. ■

Monetary Policy Reports to the Congress

The reports in this chapter were submitted to the Congress on February 23 and July 22, 1999, pursuant to the Full Employment and Balanced Growth Act of 1978.

Report on February 23, 1999

Monetary Policy and the Economic Outlook

In 1998, the U.S. economy again performed impressively. Output expanded rapidly, the unemployment rate fell to the lowest level since 1970, and inflation remained subdued. Transitory factors, most recently falling prices for imports and commodities, especially oil, have helped to produce the favorable outcomes of recent years, but technological advances and increased efficiency, likely reflecting in part heightened global competition and changes in business practices, suggest that some of the improvement will be more lasting.

Sound fiscal and monetary policies have contributed importantly to the good economic results: Budgetary restraint at the federal level has bolstered national saving and permitted the Federal Reserve to maintain lower interest rates than would otherwise have been possible. This policy mix and sustained progress toward price stability have fostered clearer price signals, more efficient resource use, robust business investment, and sizable advances in the productivity of labor and in the real wages of workers. The more rapid expansion of productive potential has, in turn, helped to keep inflation low even as aggregate demand has been surging and as labor markets have tightened.

This past year, economic troubles abroad posed a significant threat to the performance of the economy. Foreign economic growth slowed markedly, on average, as conditions in many countries deteriorated. The recession in Japan deepened, and several emerging market economies in Asia, which had started to weaken in the wake of the financial crises of 1997, contracted sharply. A worsening economic situation in Russia last summer led to a devaluation of the ruble and a moratorium by that country on a substantial portion of its debt payments. As the year progressed, conditions in Latin America also weakened. Although some of the troubled foreign economies are showing signs of improvement, others either are not yet in recovery or are still contracting.

The Russian crisis in mid-August precipitated a period of unusual volatility in world financial markets. The losses incurred in Russia and in other emerging market economies heightened investors' and lenders' concerns about other potential problems and led them to become substantially more cautious about taking on risk. The resulting effects on U.S. financial markets included a substantial widening of risk spreads on debt instruments, a jump in measures of market uncertainty and volatility, a drop in equity prices, and a reduction in the liquidity of many markets. To cushion the U.S. economy from the effects of these financial strains, and potentially to help reduce the strains as well, the Federal Reserve eased monetary policy on three occasions in the fall. Global financial market stresses lessened somewhat after mid-autumn, reflecting, in part, these policy steps as well as interest rate cuts in other industrial countries and international efforts to provide support to troubled emerging market economies. Although some U.S. financial flows were disrupted for a time, most firms and households remained able to obtain sufficient credit, and the turbulence did not appear to constrain spending to a significant degree. More recently, some markets were unsettled by the devaluation and subsequent floating of the Brazilian *real* in mid-January, and the problems in Brazil continue to pose risks to global markets. Thus far, however, market reaction outside Brazil to that country's difficulties has been relatively muted.

The foreign exchange value of the dollar rose substantially against the currencies of the major foreign industrial countries over the first eight months of 1998, but subsequently it fell sharply, ending the year down a little on net. The appreciation of the dollar in the first half of the year carried it to an eight-year high against the Japanese yen. In June, this strength against the yen prompted the first U.S. foreign exchange intervention operation in nearly three years, an action that appeared to slow the dollar's rise against the yen over the following days and weeks. Later in the summer, concerns about the possible impact on the U.S. economy of increasing difficulties in Latin America began to weigh on the dollar's exchange value against major foreign currencies. After peaking in mid-August, it fell sharply over the course of several weeks, reversing by mid-October the appreciation that had occurred earlier in the year. The depreciation during this period was particularly sharp against the yen. The reasons for this decline against the yen are not clear, but repayment of yen-denominated loans by international investors and decisions by Japanese investors to repatriate their assets in light of increased volatility in global markets seem to have contributed. The exchange value of the dollar fluctuated moderately against the major currencies over the rest of the year, and after declining somewhat early in 1999, it has rebounded strongly in recent weeks, as incoming data have suggested continued strength of economic activity in the United States. Since the end of 1998, the dollar has appreciated about 7 percent against the yen, partly reflecting further monetary easing in Japan. At the turn of the year, the launch of the third stage of European Economic and Monetary Union fixed the eleven participating countries' conversion rates and created a new common currency, the euro. The dollar has appreciated more than 5 percent against the euro, in part because of signs that growth has slowed recently in some euro-area economies.

With the U.S. economy expanding rapidly, the economies of many U.S. trading partners struggling, and the foreign exchange value of the dollar having risen over 1997 and the first part of 1998, the U.S. trade deficit widened considerably last year. Some domestic industries were especially affected by reductions in foreign demand or by increased competition from imports. For example, a wide range of commodity producers, notably those in agriculture, oil, and metals, experienced sharp price declines. Parts of the manufacturing sector also suffered adverse consequences from the shocks from abroad. Overall, real net exports deteriorated sharply, as exports stagnated and imports continued to surge. The deterioration was particularly marked in the first half of the year;

the second half brought a further, more modest, net widening of the external deficit.

Meanwhile, domestic spending continued to advance rapidly. Household expenditures were bolstered by gains in real income and a further rise in wealth, while a low cost of capital and optimism about future profitability spurred businesses to invest heavily in new capital equipment. Although securities markets were disrupted in late summer and early fall, credit generally remained available from alternative sources. Once the strains on securities markets had eased, businesses and households generally had ready access to credit and other sources of finance on relatively favorable terms, although spreads in some markets remained quite elevated, especially for lower-rated borrowers. All told, household and business outlays rose even more rapidly than in 1997, and that acceleration kept the growth of real GDP strong even as net exports were slumping.

Deteriorating economic conditions abroad, coupled with the strength of the dollar over the first eight months of the year, helped to hold down inflation in the United States by trimming the prices of oil and other imports. These declines reduced both the prices paid by consumers and the costs of production in many lines of business, and the competition from abroad kept businesses from raising prices as much as they might have otherwise. As the result of a reduced rate of price inflation, workers enjoyed a larger rise in real purchasing power even as increases in nominal hourly compensation picked up only slightly on average. Because of increased gains in productivity, corporations in the aggregate were able to absorb the larger real pay increases without suffering a serious diminution of profitability.

Monetary Policy, Financial Markets, and the Economy over 1998 and Early 1999

Monetary policy in 1998 needed to balance two major risks to the economic expansion. On the one hand, with the domestic economy displaying considerable momentum and labor markets tight, the Federal Open Market Committee (FOMC) was concerned about the possible emergence of imbalances that would lead to higher inflation and thereby, eventually, put the sustainability of the expansion at risk. On the other hand, troubles in many foreign economies and resulting financial turmoil both abroad and at home seemed, at times, to raise the risk of an excessive weakening of aggregate demand.

Over the first seven months of the year, neither of these potential tendencies was sufficiently dominant to prompt a policy action by the FOMC. Although the incoming data gave no evidence of a sustained slowing of output growth, the Committee members believed that the pace of expansion likely would moderate as businesses began to slow the rapid rates at which they had been adding to their stocks of inventories and other investment goods, and as households trimmed the large advances in their spending on consumer durables and homes. Relatively firm real interest rates, buoyed by a high real federal funds rate resulting from the decline in the level of expected inflation, were thought likely to help restrain the growth of spending by businesses and households. Another check on growth was expected to come from the effects on imports and exports of the economic difficulties in emerging market economies in Asia and elsewhere. Indeed, production in the manufacturing sector slowed substantially in the first half of the year, and capacity utilization dropped noticeably. Moreover, inflation remained subdued, and a pickup was not expected in the near-to-intermediate term because of declining oil prices, and because of economic weakness abroad and the appreciation of the dollar, which were expected to trim the prices of imported goods and to increase price competition for many U.S. producers. Nonetheless, with labor markets already quite taut and aggregate demand growing rapidly—a combination that often has signaled the impending buildup of inflationary pressures—the Committee, at its meetings from March through July, judged conditions to be such that, if a policy action were to be taken in the period immediately ahead, it more likely would be a tightening than an easing; its directives to the Account Manager of the Domestic Trading Desk at the Federal Reserve Bank of New York noted that asymmetry.

By the time of the August FOMC meeting, however, the situation was changing. Although tight labor markets and rapid output growth continued to pose a risk of higher inflation, the damping influence of foreign economic developments on the U.S. economy seemed likely to increase. The contraction in the emerging market economies in Asia appeared to be deeper than had been anticipated, and the economic situation in Japan had deteriorated. Financial markets in some foreign economies also had experienced greater turmoil, and, the day before the Committee met, Russia was forced to devalue the ruble. These difficulties had been weighing on U.S. asset markets: Stock prices had fallen sharply in late July and into August as investors became concerned about the outlook for profits, and risk spreads in debt markets had widened, albeit from very low levels. Taking account of these circumstances, the Committee again left monetary policy unchanged at the August meeting, but it shifted to a symmetric directive, reflecting its perception that the risks to the economic outlook, at prevailing short-term rates, had become roughly balanced.

Over subsequent weeks, conditions in financial markets and the economic outlook in many foreign countries deteriorated further, increasing the dangers to the U.S. expansion. With investors around the world apparently reevaluating the risks associated with various credits and seemingly becoming less willing or able to bear such risks, asset demands shifted toward safer and more liquid instruments. These shifts caused a sharp fall in yields on Treasury securities. Spreads of yields on private debt securities over those on comparable Treasury instruments widened considerably further, and issuance slowed sharply. Measures of market volatility increased, and liquidity in many financial markets was curtailed. Equity prices continued to slide lower, with most broad indexes falling back by early September to near their levels at the start of the year. Reflecting the weaker and more uncertain economic outlook, some banks boosted interest rate spreads and fees on new loans to businesses and tightened their underwriting standards.

Against this backdrop, at its September meeting the FOMC looked beyond incoming data suggesting that the economy was continuing to expand at a robust pace, and it lowered the intended level of the federal funds rate ¼ percentage point. The Committee noted that the rate cut would cushion the effects on prospective U.S. economic growth of increasing weakness in foreign economies and of less accommodative conditions in domestic financial markets. The directive adopted at the meeting suggested a bias toward further easing over the intermeeting period. In the days following the policy move, disturbances in financial markets worsened. Movements in the prices of securities were exacerbated by a deterioration in market liquidity, as some securities dealers cut back on their market-making activities, and by the expected unwinding of positions by hedge funds and other leveraged investors. In early October, Treasury yields briefly tumbled to their lowest levels in many years, reflecting efforts by investors to exchange other instruments for riskless and liquid Treasury securities.

Although some measures of market turbulence had begun to ease a bit by mid-October, financial markets remained extremely volatile and risk spreads were very wide. On October 15, consistent with the directive from the September meeting, the intended federal funds rate was trimmed another ¼ percentage point, to 5 percent. This policy move, which occurred between FOMC meetings, came at the initiative of Chairman Greenspan and followed a conference call with Committee members. At the same time, the Board of Governors approved a ¼ percentage point reduction in the discount rate. These actions were taken to buffer the domestic economy from the impact of the less accommodative conditions in domestic financial markets, in part by contributing to some stabilization of the global financial situation.

Following the October policy move, strains in domestic financial markets diminished considerably. As safe-haven demands for Treasury securities ebbed, Treasury yields generally trended higher, and measures of financial market volatility and illiquidity eased. Nonetheless, risk spreads remained very wide, and liquidity in many markets continued to be limited. Moreover, although pressures on some emerging market economies had receded a bit, partly reflecting concerted international efforts to provide assistance to Brazil, the foreign economic outlook remained uncertain. With downside risks still substantial, and in light of the cumulative effect since August of the tightening in many sectors of the credit markets and the weakening of economic activity abroad, the FOMC reduced the intended federal funds rate a further ¼ percentage point at its November meeting, bringing the total reduction during the autumn to ¾ percentage point. The Board of Governors also approved a second ¼ percentage point cut in the discount rate. The Committee believed that, with this policy action, financial conditions could reasonably be expected to be consistent with fostering sustained economic expansion while keeping inflationary pressures subdued. The action provided some insurance against an unexpectedly severe weakening of the expansion, and the Committee therefore established a symmetrical directive. By the time of the December meeting, the situation in financial markets had changed little, on balance, and the Committee decided that no further change in rates was desirable and that the directive should remain symmetrical.

Some measures of financial volatility eased further in the new year, although risk spreads on corporate bonds remained at quite high levels. Yields on Treasury securities were about flat, on balance, in January, as the effect of stronger-than-expected economic growth appeared to be about offset by data suggesting that inflation remained quiescent and perhaps also by the effects of some safe-haven flows prompted by the deteriorating situation in Brazil. Over the same period, stock prices surged higher, led by computer and other technology shares, and most stock price indexes posted new highs. By the time of the February 2–3 meeting, financial markets were easily accommodating robust demands for credit, and economic activity seemed to have more momentum than many had anticipated. However, the foreign sector continued to pose a threat to U.S. growth going forward, inflation showed no signs of picking up despite the rapid pace of growth and the very tight labor market, and some slowing of economic growth remained a likely prospect. In these circumstances, the FOMC concluded that it was prudent to wait for further information, and it left policy unchanged.

Economic Projections for 1999

By and large, the members of the Board of Governors and the Federal Reserve Bank presidents, all of whom participate in the deliberations of the FOMC, expect the economy to expand moderately, on average, in 1999. The central tendency of the FOMC participants' forecasts of real GDP growth from the fourth quarter of 1998 to the fourth quarter of 1999 is 2½ percent to 3 percent. The anticipated expansion is expected to create enough new jobs to keep the civilian unemployment rate near its recent average, in a range of 4¼ percent to 4½ percent. With tightness of the labor market expected to persist and oil and import prices unlikely to be as weak in 1999 as they were in 1998, inflation is expected to move up somewhat from the rate of this past year but to remain low by the standards of the past three decades: The central tendency of the FOMC participants' CPI inflation forecasts for 1999 is 2 percent to 2½ percent. The Federal Reserve officials' inflation forecasts are closely aligned with that of the Administration, and their forecasts of real GDP and unemployment depict a somewhat stronger real economy than the Administration is projecting.

Present circumstances suggest that domestic demand could continue to rise briskly for a while longer. Consumer spending continues to be driven by strong gains in employment, increases in real incomes, and rising levels of wealth. Those same factors, together with low mortgage interest rates, are keeping housing activity robust. Businesses are still investing heavily in new capital, especially computers and other high-tech equipment. Households and businesses appear willing to take on more debt in support of spending; although spreads on corporate debt

Economic Projections for 1999

Percent

Indicator	Federal Reserve governors and Reserve Bank presidents		Administration
	Range	Central tendency	
Change, fourth quarter to fourth quarter[1]			
Nominal GDP	3¾–5	4–4½	4.0
Real GDP[2]	2–3½	2½–3	2.0
Consumer price index[3]	1½–2½	2–2½	2.3
Average level, fourth quarter			
Civilian unemployment rate	4¼–4¾	4¼–4½	4.9

1. Change from average for fourth quarter of 1998 to average for fourth quarter of 1999.

2. Chain-weighted.

3. All urban consumers.

remain elevated, rate levels are perceived to be attractive for most borrowers, and restraint on access to finance is not much in evidence.

As the year progresses, however, gains in domestic spending should begin to moderate. Spending increases for housing, consumer durables, and business equipment have been exceptionally large for a while now, substantially raising the rate of growth in the amounts of these goods owned by businesses and households; some moderation in outlays seems likely, lest these holdings become disproportionate to underlying trends in income and output. The outlook for spending continues to be obscured to some degree by uncertainties about the course of equity prices; a failure of these prices to match the outsized gains posted in recent years would contribute to some moderation in spending growth, especially by households. Government spending, which accounts for about one-sixth of domestic demand, seems likely to expand at a moderate pace overall. Along with the numerous other uncertainties that attend the outlook, an additional uncertainty is present this year because of the approach of the year 2000 and the associated Y2K problem.

Growth abroad is expected to remain sluggish, on balance, in 1999, limiting the prospects for exports. At the same time, growth of the U.S. economy probably will continue to generate fairly brisk increases in imports. In total, real net exports of goods and services seem likely to fall further in the coming year, although several factors—the decline in the dollar from its peak of last summer, the expected slowing of income growth in the United States, and the possibility of a slight pickup in economic growth abroad—provide a basis for thinking that this year's drop in net exports might not be as large as that of 1998.

The future course of inflation will depend in part on what happens to the prices of oil and other imports, and restraint from those sources seems unlikely to be as great as it was in 1998. The drop in the price of oil this past year left it toward the lower end of its range of the past couple of decades and has thereby reduced the incentives for exploration, drilling, and production. Futures markets have been showing a gradual rise in the price of oil going forward. Prices of nonoil imports changed little in the fourth quarter of last year after having fallen sharply in previous quarters. Indicators of the pressures on domestic resources provided mixed signals over the past year. In manufacturing, capacity utilization declined considerably, to a level below its long run average, reflecting slower production growth and sizable additions to the stock of capital. However, labor markets remained very taut, and with the economy apparently carrying substantial momentum into this year, data on costs and prices will need to be monitored carefully for signs that a rising inflation pattern might start to take hold. In that regard, the FOMC will continue to rely not only on the CPI but also on a variety of other price measures to gauge the economy's inflation performance in the period ahead.

Money and Debt Ranges for 1999

At its most recent meeting, the FOMC reaffirmed the 1999 monetary growth ranges 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, the FOMC intends these money growth ranges to be benchmarks for growth under conditions of price stability, sustainable real economic growth, and historical velocity relationships rather than ranges that encompass the expected growth of money over the coming year or that 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 would have 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, despite the apparent large shift in velocity behavior in the early 1990s, money growth has some value as an economic indicator. Indeed, some FOMC members have expressed the concern that the unusually rapid growth in the money and debt aggregates in 1998 might have reflected monetary conditions that were too accommodative and would ultimately lead to an increase in inflation pressures. The Committee will continue to monitor the monetary aggregates as well as a wide variety of other economic and financial data to inform its policy deliberations.

Last year, M2 increased 8½ percent, and with nominal GDP rising 5 percent, M2 velocity decreased 3 percent. This drop in velocity was considerably larger than would have been expected on the basis of historical relationships and the modest decline in the opportunity cost of M2 (measured as the difference between the interest rate on Treasury bills and the weighted average rate available on M2 assets). The fall in velocity in part reflected an increased demand for the safe and liquid assets in M2 as investors responded to the heightened volatility in financial markets in the second half of the year. Other factors that may have contributed include lower long-term interest rates and a very flat yield curve, which might have suggested to households that they would be giving up very little in earnings by parking savings in short-term assets in M2. In addition, M2 may have been boosted by a desire on the part of some investors to redirect savings flows away from equities after several years of outsized gains in stock market wealth. With equity wealth still elevated and the yield curve likely to remain flat, M2 velocity could continue to fall this year. However, the pace of decline should slow as some households respond to the easing of concerns about financial market volatility by reversing a portion of the shift toward M2 assets that occurred last fall. Indeed, this effect may already be visible, as M2 growth, while still robust, has slowed considerably early this year. If velocity does fall, given the Committee's expectations for nominal income growth, M2 could again exceed its price-stability benchmark range.

M3 expanded 11 percent last year, and its velocity fell 5¼ percent, the largest drop in many years. The rapid growth in this aggregate owed in large part to a substantial rise in institutional money funds. These funds have been expanding rapidly in recent years as nonfinancial firms increasingly employ them to provide cash management services. Investments in these funds provide businesses with greater liquidity than direct holdings of money market instruments, and by substituting for such direct holdings, they boost M3. M3 was also buoyed last year by a large advance

Ranges for Growth of Monetary and Debt Aggregates

Percent

Aggregate	1997	1998	1999
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.

in the managed liabilities banks used to fund rapid growth in bank credit. In part, the growth in bank credit reflected demand by borrowers shifting from the securities markets, and with these markets again receptive to new issues, bank credit growth this year is expected to slow to a pace more in line with broader debt aggregates However, institutional money funds are likely to continue their robust gains, contributing to a further diminution in M3 velocity and, possibly, to growth of this aggregate above its price-stability range.

Domestic nonfinancial debt grew 6¼ percent in 1998, somewhat above the middle of the 3 percent to 7 percent growth range the Committee established last February. This robust growth reflected large rises in the debt of businesses and households owing to substantial advances in spending as well as debt-financed mergers and acquisitions. However, the increase in private-sector debt was partly offset by the first annual decline in federal debt in almost thirty years. As with the monetary aggregates, the Committee left the range for debt growth unchanged for 1999. After an aberrant period in the 1980s during which debt growth greatly exceeded growth of nominal GDP, debt growth over the past decade has returned to its historical pattern of about matching growth of nominal GDP, and the Committee members expect debt to fall within its range this year.

Economic and Financial Developments in 1998 and Early 1999

The U.S. economy continued to display great vigor in 1998, despite a sharp slowing of growth in foreign economies and an unsettled world financial environment. According to the Commerce Department's advance estimate, real GDP increased a little more than 4 percent over the four quarters of the year. The economic difficulties facing many of our trading partners and the strength of the dollar through much of the year led to sluggishness in real exports of goods and services. However, the drag on the economy from that source was more than offset by exceptional strength in the real expenditures of households and businesses, which were powered by strong real income growth, large gains in the value of household wealth, ready access to finance during most of the year, and widespread optimism regarding the future of the economy. Although turmoil in financial markets seemed to threaten the economy for a time in late summer and early autumn, that threat later receded, in part because of the steps taken by the Federal Reserve to prevent the tightening of credit markets from impairing the expansion of activity. The final quarter of the year brought brisk expansion of employment and income, and the limited indicators of activity in early 1999 have been strong, on balance.

The increase in the general price level this past year was smaller than that in the previous year, which had itself been among the smallest in decades. The chain-type price index for GDP rose slightly less than 1 percent. The further slowing of price increases was in large part a reflection of sluggish conditions in the world economy, which brought declines in the prices of a wide range of imported goods, including oil and other primary commodities. In the domestic economy, nominal hourly compensation of workers picked up only slightly despite the tightness of the labor market, and much of the compensation increase was offset by gains in labor productivity. As a result, unit labor costs, the most important item in total business costs, rose only modestly.

The Household Sector

Personal consumption expenditures increased more than 5 percent in real terms in 1998, the biggest gain in a decade and a half. Support for the large rise in spending came from a combination of circumstances that, on the whole, were exceptionally favorable to households. Strong gains in employment and real hourly pay gave another appreciable boost to the growth of real labor income. At the same time, the wealth of households recorded another year of substantial increase, bolstered in large part by the continued rise in equity prices. Although not all balance sheet data for the end of 1998 are available, household net worth at that point appears to have been up about 10 percent from the level at the end of 1997. The cumulative gain in household wealth since 1994 has amounted to nearly 50 percent.

The rise in net worth probably accounts for much of the decline in the personal saving rate over the past few years, to an annual average of ½ percent in 1998. Households tend to raise their saving from current income when they feel that wealth must be increased to meet longer-run objectives, but they are willing to reduce their saving from current income when they feel that wealth already is at satisfactory levels. The low level of the saving rate in 1998 is not so remarkable when gauged against a wealth-to-income ratio that has been running in a range well above its longer-run historical average.

All of the major categories of personal consumption expenditures—durables, nondurables, and services—recorded gains in 1998 that were the largest of the 1990s. Spending on durable goods rose more than 12 percent over the year. Within that category, expenditures on home computers once again stood out, rising roughly 70 percent in real terms, a gain that reflected both increased nominal outlays and a further substantial decline in computer prices. Consumer outlays on motor vehicles also rose sharply, despite some temporary limitations on supply from a midyear auto strike. Spending on most other types of durable goods registered increases that were well above the averages of the past decade or so. Because goods such as these are not consumed all at once—but, rather, add to stocks of durable goods that will be yielding services to consumers for a number of years—they embody a form of economic saving that is not captured in the normal measure of the saving rate in the national income accounts.

The increases in income and net worth that led households to boost consumption expenditures also led them to invest heavily in additions to the stock of housing. Declines in mortgage interest rates weighed in as well, helping to maintain the affordability of housing even as house prices moved up somewhat faster than overall inflation. These developments brought the objective of owning a home within the reach of a greater number of households, and the home-ownership rate, which has been trending up this decade, rose to another new high in 1998.

In the single-family sector, sales of new and existing homes surged, the former rising more than 10 percent from the previous year's total and the latter more than 13 percent. Construction of single-family houses strengthened markedly. The number of these units started during the year was the largest since the late 1970s, and it exceeded the previous year's total by about 12 percent. In the fourth quarter, unusually mild weather permitted builders to maintain activity later into the season than they normally would have and gave an added kick to housing starts. Starts increased further in January of this year, despite harsher weather in some regions.

In contrast to the strength in the single-family sector, the number of multifamily units started in 1998 was up only a little from the total for 1997. After bottoming out at a very low level early in the 1990s, construction of these units had been trending back up fairly briskly until this past year. But with vacancy rates on multifamily rental units running a touch higher this past year, builders and their creditors may have become concerned about adding too many new units to the stock. Financing appeared generally to be in ample supply for projects that looked promising; during the period of financial turmoil, the flow of credit was supported by substantial purchases of multifamily mortgages and mortgage-backed securities by Freddie Mac and Fannie Mae.

Total outlays for residential investment increased about 12½ percent in real terms during 1998, according to the Commerce Department's initial tally. The large increase reflected not only the construction work undertaken on new residential units during the year but also sizable advances in real outlays for home improvements and in the volume of sales activity being carried on by real estate brokers, which generated substantial gains in commissions.

The robust growth in household expenditures in 1998 was accompanied by an expansion of household debt that likely exceeded 8½ percent, a somewhat larger rise than in other recent years. Nonmortgage debt increased about 6 percent, about 2 percentage points above the previous year's pace but down considerably from the double-digit increases posted in 1994 and 1995. Home mortgage debt is estimated to have jumped more than 9 percent, its largest annual advance since 1990, boosted in part by the robust housing market. In addition, with mortgage rates reaching their lowest levels in many years, many households refinanced existing mortgages, and some households likely took the opportunity presented by refinancing to increase the size of their mortgages, using the extra funds raised to finance current expenditures or to pay down other debts.

The growth in household debt reflected both supply and demand influences. With wealth rising faster than income over the year and with consumer confidence remaining at historically high levels, households were willing to boost their indebtedness to finance increased spending. In addition, lenders generally remained accommodative toward all but the most marginal households, even after the turmoil in many financial markets in the fall. After a more general tightening of loan conditions in response to a rise in losses on such loans between mid-1995 and mid-1997, a smaller and declining fraction of banks tightened consumer lending standards and terms last year, according to Federal Reserve surveys. However, the availability of high loan-to-value and subprime home equity loans likely was reduced in the fall because of difficulties in the market for securities backed by such loans.

Despite the rapid increase in debt, measures of household financial stress were relatively stable last year, although some remained at high levels. The delinquency rate on home mortgages has stayed quite low in recent years, while the delinquency rate on auto loans at domestic auto finance companies has trended lower. The delinquency rate on credit card loans at banks fluctuated in a fairly narrow range in 1997 and 1998, but it remained elevated after having posted a substantial rise over the previous two years. Personal bankruptcy filings have followed a broadly similar pattern: Annual growth has run at about 3 percent over the past year and a half, down from annual increases of roughly 25 percent between mid-1995 and early 1997. The stability of these measures over the past couple of years likely owes in part to the earlier tightening of standards and terms on consumer loans. In addition, lower interest rates and longer loan maturities, which resulted from the shift toward mortgage finance, have helped to mitigate the effects of increased borrowing on household debt-service burdens.

The Business Sector

Business fixed investment increased about 12½ percent during 1998, with a 17½ percent rise in equipment spending more than accounting for the overall advance. The strength of the economy and optimism about its longer-run prospects provided underpinnings for increased investment. Outlays were also bolstered by the efficiencies obtainable with new technologies, by the favorable prices at which many types of capital equipment could be purchased, and, except during the period of financial market turmoil, by the ready availability and low cost of finance, either through borrowing or through the issuance of equity shares.

Real expenditures on office and computing equipment, after having risen at an average rate of roughly 30 percent in real terms from 1991 through 1997, shifted into even higher gear in 1998, climbing about 65 percent. The outsized increase likely owed in part to the efforts of some businesses to put new computer systems in place before the end of the millennium, in hopes of circumventing potential difficulties arising from the Y2K problem. But, beyond that, investment in computers is being driven by the same factors that have been at work throughout the expansion—namely, the introduction of machines that offer greater computing power at increasingly attractive prices and that provide businesses new and more efficient ways of organizing their operations. Price declines this past year were especially large, as the cost reductions associated with technical change were augmented by heightened international competition in the markets for semiconductors and other computer components and by price cutting to work down the stocks of some assembled products.

Investment in communications equipment—another high-tech category that is an increasingly important part of total equipment outlays—rose about 18½ percent in 1998. After having traced out an erratic pattern of ups and downs through the latter part of the 1980s and the early 1990s, real outlays on this type of equipment began to record sustained large annual increases in 1994, and the advance last year was one of the largest. Spending on other types of equipment displayed varying degrees of strength across different sectors but recorded a sizable gain overall. Investment in transportation equipment was strong across the board, spurred by the need to move greater volumes of goods or to carry more passengers in an expanding economy. Spending on industrial machinery advanced about 4½ percent after larger gains in most previous years of the expansion, a pattern that mirrored a slowing of output growth in the industrial sector.

Business investment in nonresidential structures, which accounts for slightly more than 20 percent of total business fixed investment, was down slightly in 1998, according to the advance estimate. Sharply divergent trends were evident within the sector, ranging from considerable strength in the construction of office buildings to marked weakness in the construction of industrial buildings. The waxing and waning of industry-specific construction cycles appears to be the main explanation for the diverse outcomes of this past year. Although some of the more speculative construction plans may have been shelved because of a tightening of the terms and standards on loans, partly in reaction to the financial turmoil, most builders appear to have been able to eventually obtain financing. Despite the sluggishness of spending on structures this past year, the level of investment remained high enough to generate continued moderate growth in the real stock of structures.

Business inventories increased about 4½ percent in real terms this past year after having risen more than 5 percent during 1997. Stocks grew at a 7 percent annual rate in the first quarter, appreciably faster than final sales, but inventory growth over the remainder of the year was considerably slower than in the first quarter. At year-end, stocks in most nonfarm industries were at levels that did not seem likely to cause firms to restrain production going forward. Inventories of vehicles may even have been a little on the lean side, as a result of both a strike that held down assemblies through the middle part of 1998 and exceptionally strong demand, which prevented the rebuilding of stocks later in the year. By contrast, inventories at year-end appear to have been excessive in a few nonfarm industries that have been hurt by the sluggish world economy. Stocks of farm commodities also appeared to be excessive, having been boosted further this past year by large harvests and sluggish export demand.

The economic profits of U.S. corporations—that is, book profits adjusted so that inventories and fixed capital are valued at their current replacement cost—rose further, on net, over the first three quarters of 1998 but at a much slower pace than in most other years of the current expansion. Companies' earnings from operations in the rest of the world fell back a bit, as did the profits of private financial corporations from domestic operations. The profits of nonfinancial corporations from domestic operations increased at an annual rate of about 1¾ percent. Although the volume of output of the nonfinancial companies continued to rise rapidly, profits per unit of output were squeezed a bit by companies' difficulties in raising prices in step with costs in a competitive market environment.

With profits expanding more slowly and investment spending still on the upswing, businesses' external funding needs increased substantially last year. Aggregate borrowing by the nonfinancial business sector is estimated to have expanded 9½ percent from the end of 1997 to the end of 1998, the largest increase in ten years. The rise reflected growth in all major types of business debt. Business borrowing was also boosted by substantial merger and acquisition activity. Indeed, mergers and acquisitions, share repurchases, and foreign purchases of U.S. firms last year overwhelmed the high level of both initial and seasoned public equity issues, and net equity retirements likely exceeded $250 billion.

The disruptions in the financial markets in late summer and early fall appear to have had little effect on total business borrowing but caused a substantial temporary shift in the sources of credit. With investors favoring high credit quality and liquidity, yields on lower-rated corporate bonds rose despite declining Treasury rates; the spread of yields on junk bonds over those on comparable Treasury securities roughly doubled between mid-summer and mid-autumn before falling back somewhat as conditions in financial markets eased. The spread of rates on lower-tier commercial paper over those on higher-quality paper rose substantially during the fall but had retraced the rise by the early part of this year.

Reflecting these adverse market conditions, nonfinancial corporate bond issuance fell sharply in August and remained low through mid-October, with issuance of junk bonds virtually halted for a time. Commercial paper issuance rose sharply in August and September, as some firms apparently decided to delay bond issues, turning temporarily to the commercial paper market instead. Bond issuance picked up again in late October, however, and issuance in November was robust. Reflecting this rebound, commercial paper outstanding fell back in the fourth quarter. More recently, bond issuance has remained healthy, while borrowing in the commercial paper market has picked up.

During the period when financial markets were strained, some borrowers substituted bank loans—in some cases under credit lines priced before the markets became volatile—for other sources of credit, and business loans at banks expanded very rapidly for a time before tailing off late in the year. Federal Reserve surveys indicate that banks responded to the turmoil in financial markets by tightening standards and terms on new loans and credit lines, especially loans to larger customers and those to finance commercial real estate ventures. The tightening reflected the less favorable or more uncertain economic outlook as well as a reduced tolerance for risk on the part of some banks. Bank lending standards and terms appear to have tightened only a little further since the fall, however, and business loans at banks have expanded a bit since the end of December.

Despite the rapid growth in debt and the relatively small gain in profits last year, the financial condition of nonfinancial businesses remained strong. Interest rates for many businesses fell, on balance, over the course of the year, and bond yields for investment-grade firms reached their lowest level in many years. Reflecting these low borrowing costs, the aggregate debt-service burden for nonfinancial corporations, measured as the ratio of net interest payments to cash flow, remained about 9½ percent, near its low of 9 percent in 1997 and less than half the peak level reached in 1989. The delinquency rate for banks' commercial and industrial loans also remained near the trough reached in late 1997, while that for commercial real estate loans fell a bit further from the already very low level posted in 1997. Although Moody's Investors Service downgraded more nonfinancial firms than it upgraded over the second half of the year, the downgraded firms were smaller on average, and so the debt of those upgraded about equaled the debt of those downgraded. Through October, business failures remained at the low end of the range seen over the past decade.

The Government Sector

The federal government recorded a surplus in the unified budget this past fiscal year for the first time in nearly three decades. The surplus, amounting to $69 billion, was equal to about ¾ percent of GDP, a huge turnabout from the deficits of the early 1990s, which in some years were more than 4½ percent of GDP. The swing from deficit to surplus over the past few years is partly the result of fiscal policies aimed at lowering the deficit and partly the result of the strength of the economy and the stock market. Excluding net interest payments—a charge stemming from past deficits—the government recorded a surplus of more than $300 billion in fiscal 1998.

The improvement in the government's saving position has permitted national saving—the combined gross saving of households, businesses, and governments—to move up about 3 percentage points from its low of a few years ago, even though personal saving has fallen sharply. In turn, that increase in national saving has helped facilitate the boom in investment spending—in contrast to the experience of the 1980s and early 1990s, when persistent large budget deficits tended to reduce national saving, boost interest rates higher than they otherwise would have been, and thereby crowd out private capital formation.

Federal receipts in the unified budget in fiscal year 1998 were up 9 percent from the previous fiscal year, with much of the gain coming from personal income taxes, which rose more than 12 percent for a second consecutive year. These receipts have been rising faster than personal income in recent years, for several reasons: Tax rates at the high end of the income scale were raised by legislation that was passed in 1993 to help reduce the deficit; more taxpayers have moved into higher tax brackets as income has increased; and large increases in asset values have raised tax receipts from capital gains. Social insurance tax receipts, the second most important source of federal revenue, increased 6 percent in fiscal 1998, just a touch faster than the increase in fiscal 1997 and roughly in step with the growth of wages and salaries. Receipts from the taxes on corporate profits, which account for just over 10 percent of federal revenues, rose less rapidly than in other recent years, restrained by the slower growth of corporate profits. In the first three months of fiscal 1999, net receipts from corporate taxes dipped below year-earlier levels, but gains in individual income taxes and payroll taxes kept total federal receipts on a rising trajectory.

Unified outlays increased 3¼ percent in fiscal 1998 after having risen 2½ percent in the preceding fiscal year. Net interest payments and nominal expenditures for defense fell slightly in the latest fiscal year, and outlays for income security and Medicare rose only a little. Social security expenditures increased moderately but somewhat less than in other recent years. By contrast, the growth of Medicaid payments picked up to about 6 percent after having increased less than 4 percent in each of the preceding two years; however, even the 1998 rise was not large compared with those of many earlier years when both medical costs and Medicaid caseloads were increasing rapidly and rates of federal reimbursement to the states were being raised. Federal spending in fiscal 1999 will be boosted to some degree by new budget authority for a variety of functions, including defense, embassy security, disaster relief, preparation for Y2K, and aid to agriculture; this authority was created in emergency legislation that provided an exception to statutory spending restrictions.

Real federal outlays for consumption and investment, the part of federal spending that is counted in GDP, increased 1 percent, on net, from the final quarter of calendar year 1997 to the final quarter of 1998. A reduction in real defense outlays over that period was more than offset by a jump in the nondefense category.

With the budget balance shifting from deficit to surplus, the stock of publicly held federal debt declined last year for the first time since 1969 and fell further as a share of GDP. From the end of 1997 to the end of 1998, U.S. government debt fell 1½ percent, as the government reduced the outstanding stock of both bills and coupon securities. Despite the reduction in its debt, the federal government continued substantial gross borrowing to fund the retirement of maturing securities. However, with the need for funds trimmed substantially, the Treasury changed its auction schedules, discontinuing the three-year note auctions and moving to quarterly, rather than monthly, auctions of five-year notes. By reducing the number of coupon security issues, the Treasury is able to boost the size of each, thereby contributing to their liquidity. The decrease in the total volume of coupon securities is intended to boost the size of bill offerings over time, helping liquidity in that market and also allowing, as the Treasury prefers, for balanced issuance across the yield curve. The Treasury also announced in October that all future bill and coupon security auctions would employ the single-price format that had already been adopted for the two-year and five-year note auctions and for auctions of inflation-indexed securities. The Treasury judged that the single-price format had reduced servicing costs and resulted in broader market participation.

The Treasury continued to auction inflation-indexed securities in substantial volume last year in an effort to build up this part of the Treasury market. In April, the Treasury issued its first thirty-year indexed bond, and in September it announced a regular schedule of ten- and thirty-year indexed security auctions. The Treasury also began offering inflation-indexed savings bonds in September.

State and local governments recorded further increases in their budgetary surpluses in 1998, both in absolute terms and as a share of GDP. Revenue from the taxes on individuals' incomes has been growing very rapidly, keeping total receipts on a solid upward course. At the same time, the growth of transfer payments, which had threatened to overwhelm state and local budgets earlier in the decade, has slowed substantially in recent years. Growth of other types of spending has been trending up moderately, on balance. The 1998 rise in real expenditures for consumption and investment amounted to about 2¼ percent, according to the initial estimate; annual gains have been in the range of 2 percent to 2¾ percent in each of the past seven years.

Despite rising surpluses, state and local government debt increased an estimated 7 percent in 1998, a pickup of about 2 percentage points from growth in 1997. Somewhat more than half of the long-term borrowing by state and local governments last year reflected new borrowing to fund current and anticipated capital spending on utilities, transportation, education, and other capital projects. The combination of budget surpluses and relatively heavy borrowing likely reflected a number of factors. First, some of these governments may have spent the newly raised funds on capital projects while at the same time building up surpluses in "rainy day funds" for later use. Second, because state and local governments under some circumstances are allowed to hold funds raised in the markets for as long as five years before spending them, some of the money raised last year may not have been spent. Finally, there was a substantial volume of "advance refunding" last year. In an advance refunding, the borrower issues new bonds before existing higher-rate bonds can be called, in anticipation of calling the old bonds on the date that option becomes available. While this sort of refinancing temporarily boosts total debt, it allows the state or local government to lock in the lower rate even if municipal bond yields subsequently rise over the period before the call date. The high level of advance-refunding activity last year was the result of lower borrowing costs. Although yields on tax-exempt municipal securities did not decline nearly as much as those on comparable Treasury securities, they nonetheless reached their lowest levels in many years. In addition, rating agencies upgraded about five times as many state and local government issues last year as they downgraded, trimming borrowing costs further for the upgraded entities.

The External Sector

Trade and the Current Account

U.S. external balances deteriorated further in 1998, largely because of the disparity between the rapid growth of the U.S. economy and the sluggish growth of the economies of many of our trading partners. The nominal trade deficit for goods and services was $169 billion, considerably larger than the $110 billion deficit in 1997. For the first three quarters of the year, the current account deficit averaged $220 billion at an annual rate, substantially larger than the 1997 deficit of $155 billion. The large current account deficits of recent years have been funded with increased net foreign saving in the United States. As a result, U.S. gross domestic investment has exceeded the level that could have been financed by gross national saving alone, but at the cost of a rise in net U.S. external indebtedness.

The increase in the current account deficit last year was due to a decline in net exports of goods and services as well as a further weakening of net investment income from abroad. Until 1997, net investment income had helped to offset persistent trade deficits. But as the U.S. net external debt has risen in recent years, net investment income has become increasingly negative, moving from a $14 billion surplus in 1996 to a $5 billion deficit in 1997 and a deficit averaging $15 billion at an annual rate over the first three quarters of 1998. Net income from portfolio investment became increasingly negative during that period as the net portfolio liability position of the United States grew larger. In addition, net income from direct investment slowed last year because slower foreign economic growth lowered U.S. earnings on investment abroad, the appreciation of the dollar reduced the value of U.S. earnings, and buoyant U.S. growth boosted foreigners' earnings on direct investment in the United States.

The rise in the trade deficit reflected an increase of about 10 percent in real imports of goods and services during 1998, according to the advance estimates from the Commerce Department. The expansion was fueled by robust growth of U.S. domestic demand and by continued declines in import prices, which stemmed in part from the strength of the dollar through mid-August and in part from the effects of recessions abroad. Of the major trade categories, increases in imports were sharpest for finished goods, especially capital equipment and automotive products. The quantity of imported oil rose appreciably as demand increased in response to the strength of U.S. economic activity and lower oil prices, while domestic production declined slightly. The price of imported oil fell about $6.50 per barrel over the four quarters of the year. World oil prices fell in response to reduced demand associated with the economic slowdown in many foreign nations and with unusually warm weather in the Northern Hemisphere as well as to an increase in supply from Iraq.

Real exports of goods and services grew about 1 percent, on net, in 1998 after posting a 10 percent rise in 1997. Declines during the first three quarters (especially in machinery exports) were offset by a rebound in the fourth quarter, which was led by increases in exports of automotive products. The price competitiveness of U.S. products decreased, reflecting the appreciation of the dollar through mid-August. In addition, economic activity abroad weakened sharply; total average foreign growth (weighted by shares of U.S. exports) plunged from 4 percent in 1997 to an estimated ½ percent in 1998. Moderate expansion of exports to Europe, Canada, and Mexico was about offset by a decline in exports associated with deep recessions in Japan and the emerging Asian economies (particularly in the first half of the year) and in South America (in the second half of the year).

Capital Flows

The financial difficulties in a number of emerging market economies had several noticeable effects on U.S. international capital flows in 1998. Financial turmoil put strains on official reserves in many emerging market economies. Foreign official assets in the United States fell $43 billion in the first three quarters of the year. This decline, which began in the fourth quarter of 1997, has been largest for developing countries, as many of them drew down their foreign exchange reserves in response to exchange rate pressures. OPEC nations' foreign official reserves also shrank in the first three quarters of 1998, as oil revenues dropped. Preliminary data indicate that foreign official assets in the United States, especially those of industrial countries, rebounded in the fourth quarter.

Private capital flows also were affected by the global turmoil. On a global basis, capital flows to emerging market economies fell substantially in the first half of 1998 and then dropped precipitously in late summer and early fall in the wake of the Russian crisis. During the first half of the year, U.S. residents acquired more than $40 billion of foreign securities. Net purchases virtually stopped in July, and in the August–October period U.S. residents, on net, sold about $40 billion worth of foreign securities. Preliminary data indicate a resumption of net U.S. purchases in the final two months of 1998. Foreign net purchases of U.S. securities, which were substantial in the first half of the year, fell off markedly in the July–October period, but preliminary data suggest a significant recovery in November and December. Thus, there is some evidence that the contraction in gross capital flows seen in late summer and early fall waned somewhat in the fourth quarter.

Balance of payments data available through the first three quarters of 1998 show that total private foreign purchases of U.S. securities amounted to $194 billion, somewhat below the level in the first three quarters of 1997. Private foreign purchases of U.S. Treasury securities were only $22 billion in the first three quarters, compared with $147 billion for all of 1997. Private foreigners' purchases of other U.S. securities shifted away from equities and toward bonds, relative to 1997. U.S. purchases of foreign securities slowed markedly from their 1997 pace, totaling only $27 billion for the first three quarters of 1998 compared with $89 billion for all of the preceding year. The contraction in private portfolio capital flows, though large, was overshadowed by huge direct investment capital flows, which resulted in part from a number of very large cross-border mergers. The $72 billion in foreign direct investment into the United States in the first three quarters, together with several large mergers that occurred in the fourth quarter, are certain to bring the total for last year well above the record-high $93 billion posted in 1997. Merger activity also buoyed U.S. direct investment abroad: The pace of such investment in the first three quarters suggests that the annual total will be near the record-high $122 billion recorded in 1997.

The Labor Market

The rapid growth of output in 1998 was associated with both increased hiring and continued healthy growth in labor productivity. The number of jobs on nonfarm payrolls rose about 2¼ percent from the end of 1997 to the end of 1998, a net increase of 2.8 million. Manufacturers reduced employment over the year, but in other parts of the economy the demand for labor continued to rise rapidly. The construction industry boosted employment about 6 percent over the year, and both the services industries and the finance, insurance, and real estate sector posted increases of more than 3½ percent. Stores selling building materials and home furnishings expanded employment rapidly, as did firms involved in computer services, communications, and managerial services. In the first month of 1999, nonfarm payrolls increased an additional 245,000.

Output per hour in the nonfarm business sector rose 2½ percent in 1998 after having increased about 1¾ percent, on average, over the two previous years. By comparison, the average rate of rise during the 1980s and the first half of the 1990s was just over 1 percent per year. Because productivity often picks up to a pace above its long-run trend when economic growth accelerates, the results of the past three years might well be overstating the rate of efficiency gain that can be maintained in coming years. However, reasons for thinking that the trend might have picked up to some degree are becoming more compelling in view of the incoming data. The 1998 gain in output per hour was particularly impressive in this regard, in part because it came at a time when many businesses were diverting resources to correct the Y2K problem, a move that likely imposed a bit of drag on growth of output per hour. Higher rates of capital formation are raising the growth of capital per worker, and workers are likely becoming more skilled in employing the new technologies. Businesses not only are increasing their capital inputs but also are continuing to implement changes to their organizational structures and operating procedures that might enhance efficiency and bolster profit margins.

The rising demand for labor continued to strain supply in 1998. The civilian labor force rose just a touch more than 1 percent from the fourth quarter of 1997 to the fourth quarter of 1998, and with the number of persons holding jobs rising somewhat faster than the labor force, the civilian unemployment rate fell still further. The unemployment rate was 4.3 percent at the end of 1998; the average for the full year—4.5 percent—was the lowest of any year in almost three decades. In January of this year, the size of the labor force rose rapidly, but so did employment, and the unemployment rate remained at 4.3 percent. The percentage of the working age population that is outside the labor force and is interested in obtaining work but not actively seeking it edged down further this past year and has been in the lowest range since the collection of these data began in 1970. With the supply of labor as tight as it is, businesses are reaching further into the pool of individuals who do not have a history of strong attachment to the labor force; persons who are attempting to move from welfare to work are among the beneficiaries.

Workers have realized large increases in real wages and real hourly compensation over the past couple of years. The increases have come partly through faster gains in nominal pay than in the mid-1990s but also though reductions in the rate of price increase, which have been enhancing the real purchasing power of nominal earnings, perhaps to a greater degree than workers might have anticipated. According to the Labor Department's employment cost index, the hourly compensation of workers in private nonfarm industries rose 3½ percent in nominal terms during 1998, a touch more than in 1997 and ½ percentage point more than in 1996. Taking the consumer price index as the measure of price change, this increase in nominal hourly compensation translated into a 2 percent increase in real hourly pay, one of the largest on record in a series that goes back to the start of the 1980s; the gain was bigger still if the chain-type price index for personal consumption expenditures is used as the measure of consumer prices. Moreover, the employment cost index does not capture some of the forms of compensation that employers have been using to attract and retain workers—for example, stock options and signing bonuses.

Because of the rapid growth in labor productivity, unit labor costs have been rising much less rapidly than hourly compensation in recent years. The increase in unit labor costs in the nonfarm business sector was only 1½ percent in 1998. Businesses were unable to raise prices sufficiently to recoup even this small increase in costs, however. Labor gained a greater share of the income generated from production, and the profit share, though still high, fell back a little from its 1997 peak.

Prices

The broader measures of aggregate price change showed inflation continuing to slow in 1998. The consumer price index moved up 1½ percent over the four quarters of the year after having increased nearly 2 percent in 1997. A steep decline in energy prices in the CPI more than offset a small acceleration in the prices of other goods and services. Only part of the deceleration in the total CPI was attributable to technical changes in data collection and aggregation.[1]

Measures of aggregate price change from the national income and product accounts, which draw heavily on data from the CPI but also use data from other sources, showed a somewhat more pronounced deceleration of prices in 1998. The chain-type price index for personal consumption expenditures, the measure of consumer prices in the national accounts, rose ¾ percent after increasing 1½ percent in 1997. The chain-type price index for gross domestic purchases—the broadest measure of

1. Since the end of 1994, the Bureau of Labor Statistics has taken a number of steps to make the consumer price index a more accurate price measure. The agency also introduced new weights into the CPI at the start of 1998. In total, these changes probably reduced the 1998 rise in the CPI by slightly less than ½ percentage point, relative to the increase that would have been reported using the methodologies and weights in existence at the end of 1994. Without the changes that took effect in 1998, the deceleration in the CPI last year probably would have been about half as large as was reported.

prices paid by U.S. households, businesses, and governments—increased only ½ percent in 1998 after moving up 1¼ percent over the previous year. The rise in the chain-type price index for gross domestic product of slightly less than 1 percent was down from an increase of 1¾ percent in 1997.

Developments in the external sector helped to bring about the favorable inflation outcome of 1998. Consumers benefited directly from lower prices of finished goods purchased from abroad. Lower prices for imports probably also held down the prices charged by domestic producers, not only because businesses were concerned about losing market share to foreign competitors but also because declines in commodity prices in sluggish world markets helped reduce domestic production costs to some degree.

In manufacturing, one of the sectors most heavily affected by the softness in demand from abroad, the rate of plant capacity utilization fell noticeably over the year—even as the unemployment rate continued to decline. The divergence of these two key measures of resource use—the capacity utilization rate and the unemployment rate—is unusual: They typically have exhibited similar patterns of change over the course of the business cycle. Because the unemployment rate applies to the entire economy, it presumably should be a better indicator of the degree of pressure on resources in general. At present, however, slack in the goods-producing sector—a reflection of the sizable additions to capacity in this country and excess capacity abroad—seemingly has enforced a discipline of competitive price and cost control that has affected the economy more generally.

Prices this past year tended to be weakest in the sectors most closely linked to the external economy. The price of oil fell almost 40 percent from December 1997 to December 1998. This drop triggered steep declines in the prices of petroleum products purchased directly by households. The retail price of motor fuel fell about 15 percent over the four quarters of the year, and the price of home heating fuel also plunged. With the prices of natural gas and electricity also falling, the CPI for energy was down about 9 percent over the year after having slipped 1 percent in 1997.

Large declines in the prices of internationally traded commodities other than oil pulled down the prices of many domestically produced primary inputs. The producer price index for crude materials other than energy, which reflects the prices charged by domestic producers of these goods, fell more than 10 percent over the year. However, because these non-oil commodities account for a small share of total production costs, the effect of their decline on inflation was much less visible further down the chain of production. Intermediate materials prices excluding food and energy fell about 1½ percent over the four quarters of the year, and the prices of finished goods excluding food and energy rose about 1½ percent. The latter index was boosted, in part, by an

Alternative Measures of Price Change

Percent

Price measure	1997	1998
Fixed-weight		
Consumer price index	1.9	1.5
Excluding food and energy	2.2	2.4
Chain-type		
Gross domestic product	1.7	.9
Gross domestic purchases	1.3	.5
Personal consumption expenditures	1.5	.8
Excluding food and energy	1.6	1.2

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

unusually large hike in tobacco prices that followed the settlement last fall of states' litigation against the tobacco companies. In the food sector as well, the effects of declining commodity prices became less visible further down the production chain; the PPI for finished foods was about unchanged, on net, over the year, and price increases at the retail level, though small, were somewhat larger than those of the preceding year.

Consumer prices excluding those of food and energy—the core CPI—continued to rise in 1998, but not very rapidly. As measured by the CPI, these prices increased nearly 2½ percent from the final quarter of 1997 to the final quarter of 1998, a shade more than in 1997. The chain-type price index for personal consumption expenditures excluding food and energy—the core PCE price index—decelerated a bit further, rising at roughly half the pace of the core CPI. Methodological differences between the two measures are numerous; some of the technical problems that have plagued the CPI are less pronounced in the PCE price measure, but the latter also depends partly on imputations of prices for which observations are not available. Both measures, however, seemed to suggest that the underlying trend of consumer price inflation remained low. A similar message came from surveys of consumers, which showed expectations of future price increases easing a bit further in 1998—although, as in other recent years, the expected increases remained somewhat higher than actual price increases.

U.S. Financial Markets

U.S. interest rates fluctuated in fairly narrow ranges over the first half of 1998, and most equity price indexes posted substantial gains. However, after the devaluation of the Russian ruble in August and subsequent difficulties in other emerging market economies, investors appeared to reassess the risks and uncertainties facing the U.S. economy and concluded that more cautious postures were in order. That sentiment was reinforced by the prospect of an unwinding of positions by some highly leveraged investors. The resulting shift toward safe, liquid investments led to a substantial widening of risk spreads on debt instruments and to volatile changes in the prices of many assets. Financial market volatility and many risk spreads returned to more normal levels later in the year and early this year, as lower interest rates and robust economic data seemed to reassure market participants that the economy would remain sound, even in the face of additional adverse shocks from abroad. However, lenders remained more cautious than they had been in the first part of last year, especially in the case of riskier credits.

Interest Rates

Over the first half of 1998, short-term Treasury rates moved in a narrow range, anchored by unchanged monetary policy, while yields on intermediate- and long-term Treasury securities varied in response to the market's shifting assessment of the likely impact of foreign economic difficulties on the U.S. economy. In late 1997 and into 1998, spreading financial crises in Asia were associated with declines in U.S. interest rates, as investors anticipated that weakness abroad would constrain U.S. economic growth and cushion the impact of tight U.S. labor markets on inflation. However, interest rates moved back up later in the first quarter of 1998, as the U.S. economy continued to expand at a healthy pace, fueled by hefty gains in domestic demand. After a couple of months of small changes, Treasury rates fell in May and June, when concerns about foreign economies, particularly in Asia, once again led some observers to expect weaker growth in the United States and may also have boosted the demand for safe Treasury securities relative to other instruments.

Treasury rates changed little, on net, in the early summer, but they slipped lower in August, reflecting increased concern about the Japanese economy and financial problems in Russia. The default by Russia on some government debt obligations and the devaluation of the ruble in mid-August not only resulted in sizable losses for some investors but also undermined confidence in other emerging market economies. The currencies of many of these economies came under substantial pressure, and the market value of the international debt obligations of some countries declined sharply. U.S. investors shared in the resulting losses, and U.S. economic growth and the profits of U.S. companies were perceived to be vulnerable. In these circumstances, many investors, both here and abroad, appeared to reassess the riskiness of various counterparties and investments and to become less willing to bear risk. The resulting shift of demand toward safety and liquidity led to declines of 40 to 75 basis points in Treasury coupon yields between mid-August and mid-September. In contrast, yields on higher-quality private securities fell much less, and those on issues of lower-rated firms increased sharply. As a result, spreads of private rates over Treasury rates rose substantially, reaching levels not seen for many years, and issuance of corporate securities dropped sharply.

The desire of investors to limit risk-taking as markets became troubled in the late summer showed up clearly in mutual fund flows. High-yield bond funds, which had posted net inflows of more than $1 billion each month from May to July, saw a $3.4 billion outflow in August and inflows of less than $400 million in September and October before rebounding sharply in November. By contrast, inflows to government bond funds jumped from less than $1 billion in July to more than $2 billion a month in August and September. Equity mutual funds posted net outflows totaling nearly $12 billion in August, the first monthly outflow since 1990, and inflows over the rest of the year were well below those earlier in the year.

In part, the foreign difficulties were transmitted to U.S. markets by losses incurred by leveraged investors—including banks, brokerage houses, and hedge funds—as the prospects for distress sales of riskier assets by such investors weighed on market sentiment, depressing prices. Many of these entities did reduce the scale of their operations and trim their risk exposures, responding to pressures from more cautious counterparties. As a result, liquidity in many markets declined sharply, with bid–asked spreads widening and large transactions becoming more difficult to complete. Even in the market for Treasury securities, investors showed an increased preference for the liquidity offered by the most recent issues at each maturity, and the yields on these more actively traded "on-the-run" securities fell noticeably relative to those available on "off-the-run" issues, the ones that had been outstanding longer.

Conditions in U.S. financial markets deteriorated further following revelations in mid-September of the magnitude of the positions and the extent of the losses of a major hedge fund, Long-Term Capital Management. LTCM indicated that it sought high rates of return primarily by identifying small discrepancies in the prices of different instruments relative to historical norms and then taking highly leveraged positions in those instruments in the expectation that market prices would revert to such norms over time. In pursuing its strategy, LTCM took very large positions, some of which were in relatively small and illiquid markets.

LTCM was quite successful between 1995 and 1997, but the shocks hitting world financial markets last August generated substantial losses for the firm. Losses mounted in September, and before new investors could be found, the firm encountered difficulties meeting liquidity demands arising from its collateral agreements with its creditors and counterparties. With world financial markets already suffering from heightened risk aversion and illiquidity, officials of the Federal Reserve Bank of New York judged that the precipitous unwinding of LTCM's portfolio that would follow the firm's default would significantly add to market problems, would distort market prices, and could impose large losses, not just on LTCM's creditors and counterparties, but also on other market participants not directly involved with LTCM.

In an effort to avoid these difficulties, the Federal Reserve Bank of New York contacted the major creditors and counterparties of LTCM to see if an alternative to forcing LTCM into bankruptcy could be found. At the same time, Reserve Bank officials informed some of their colleagues at the Federal Reserve Board, the Treasury, and other financial regulators of their activities. Subsequent discussions among LTCM's creditors and counterparties led to an agreement by the private-sector parties to provide an additional $3½ billion of capital to LTCM in return for a 90 percent equity stake in the firm.

Because of the potential for firms such as LTCM to have a large influence on U.S. financial markets, Treasury Secretary Robert Rubin asked the President's Working Group on Financial Markets to study the economic and regulatory implications of the operations of firms like LTCM and their relationships with their creditors. In addition, the extraordinary degree of leverage with which LTCM was able to operate has led the federal agencies responsible for the prudential oversight of the fund's creditors and counterparties to undertake reviews of the practices those firms employed in managing their risks. These reviews have suggested significant weaknesses in the risk-management practices of many firms in their dealings with LTCM and—albeit to a lesser degree—in their dealings with other highly leveraged entities. Few counterparties seem to have had a complete understanding of LTCM's risk profile, and their credit decisions were heavily influenced by the firm's reputation and strong past performance. Moreover, LTCM's counterparties did not impose sufficiently tight limits on their exposures to LTCM, in part because they relied on collateral agreements requiring frequent marking to market to limit the risk of their exposures. While these agreements generally provided for collateral with a value sufficient to cover current credit exposures, they did not deal adequately with the potential for future increases in exposures from changes in market values. This shortcoming was especially important in dealings with a firm like LTCM, which had such large positions in illiquid markets that its liquidation would likely have moved prices sharply against its creditors. In such cases, creditors need to take further steps to limit their potential future exposures, which might include requiring additional collateral or simply scaling back their activity with such firms.

The private-sector agreement to recapitalize LTCM allowed its positions to be reduced in an orderly manner over time, rather than in an abrupt fire sale. Nonetheless, the actual and anticipated unwinding of LTCM's portfolio, as well as actual and anticipated sales by other similarly placed leveraged investors, likely contributed materially to the tremendous volatility of financial markets in early October. Market expectations of asset price volatility going forward, as reflected in options prices, rose sharply, as bid–asked spreads and the premium for on-the-run securities widened. Long-term Treasury yields briefly dipped to their lowest levels in more than thirty years, in part because of large demand shifts resulting from concerns about the safety and liquidity of private and emerging market securities. Spreads of rates on corporate bonds over those on comparable Treasury securities rose considerably, and issuance of corporate bonds, especially by lower-rated firms, remained very low.

By mid-October, however, market conditions had stopped deteriorating, and they began to improve somewhat in the days and weeks following the cut in the federal funds rate on October 15, between Federal Open Market Committee meetings. Internationally coordinated efforts to help Brazil cope with its financial difficulties, culminating in the announcement of an IMF-led support package in mid-November, contributed to the easing of market strains. In the Treasury market, bid–asked spreads narrowed a bit and the premium for on-the-run issues declined. With the earlier flight to quality and liquidity unwinding, Treasury rates backed up considerably. Corporate bond spreads reversed a part of their earlier rise, and investment-grade bond issuance rebounded sharply. In the high-yield bond market, investors appeared to be more hesitant, especially for all but the best-known issuers, and the volume of junk bond issuance picked up less. In the commercial paper market, yields on higher-quality paper declined; yields on lower-quality paper remained elevated, however, and some lower-tier firms reportedly drew on their bank lines for funding, giving a further boost to bank business lending, which had begun to pick up during the summer.

Market conditions improved a bit further immediately after the Federal Reserve's November rate cut, but some measures of market stress rose again in late November and in December. In part, this deterioration reflected widespread warnings of lower-than-expected corporate profits, a weakening economic outlook for Europe, and renewed concerns about the situation in Brazil. In addition, with risk a greater-than-usual concern, some market participants were likely less willing to hold lower-rated securities over year-end, when they would have to be reported in annual financial statements. As a result, liquidity in some markets appeared to be curtailed, and price movements were exaggerated. These effects were particularly noticeable in the commercial paper market: The spread between rates on top-tier and lower-tier thirty-day paper jumped almost 40 basis points on December 2, when that maturity crossed year-end, and then reversed the rise late in the month.

By shortly after year-end, some measures of market stress had eased considerably from their levels in the fall, although markets remained somewhat illiquid relative to historical norms, and risk spreads on corporate bonds stayed quite elevated. Nonetheless, with Treasury yields very low, corporate bond rates were apparently perceived as advantageous, and—following a lull around year-end—many corporate borrowers brought new issues to market. The devaluation and subsequent floating of the Brazilian *real* in mid-January had a relatively small effect on U.S. financial markets. More recently, intermediate- and long-term Treasury rates have increased, as incoming data have continued to show the economy expanding briskly, and investors have come to believe that no further easing of Federal Reserve policy is likely.

Equity Prices

Most equity indexes rose strongly, on balance, in 1998, with the Nasdaq Composite Index up nearly 40 percent, the S&P 500 Composite Index rising more than 25 percent, and the Dow Jones Industrial Average and the NYSE Composite Index advancing more than 15 percent. Small capitalization stocks underperformed those of larger firms, with the Russell 2000 Index off 3 percent over the year. The variation in stock prices over the course of the year was extremely wide. Prices increased substantially over the first few months of 1998, as concerns eased that Asian economic problems could lead to a slowdown in the United States and to a consequent decline in profits. The major indexes declined, on balance, over the following couple of months before rising sharply, in some cases to new records, in late June and early July, on increasing confidence about the outlook for earnings. The main exception was the Russell 2000; small capitalization stocks fell more substantially in the spring, and their rise in July was relatively muted.

Rising concerns about the outlook for Japan and other Asian economies, as well as the deepening financial problems in Russia, caused stock prices to retrace their July gains by early August. After Russia devalued the ruble and defaulted on some debts in mid-August, prices fell further, reflecting the general turbulence in global financial markets. By the end of the month, most equity indexes had fallen back to roughly their levels at the start of the year. Commercial bank and investment bank stocks fell particularly sharply, as investors became concerned about the effect on these institutions' profits of emerging market difficulties and of substantial declines in the values of some assets. Equity prices rose for a time in September but then fell back by early October before rebounding as market dislocations eased and interest rates on many private obligations fell. By December, most major indexes were back near their July highs, although the Russell 2000 remained below its earlier peak.

In late December, and into the new year, stock prices continued to advance, with several indexes reaching new highs in January. The devaluation of the Brazilian *real* caused some firms' shares to drop as investors reevaluated prospective earnings from Latin American operations, but all the major stock indexes posted gains in January; the Nasdaq advanced nearly 15 percent over the month, driven by large advances in the stock prices of high-technology firms, especially those related to the Internet. More recently, however, stock prices fell back, as interest rates rose and some investors apparently concluded that prices had risen too far, given the outlook for earnings.

The increase in equity prices last year and early this year, coupled with the slowing of earnings growth, left many valuation measures beyond their historical ranges. After ticking higher in the late summer and early autumn, the ratio of consensus estimates of earnings over the coming twelve months to prices in the S&P 500 later fell back, dropping to a new low in January. In part, the decline in this measure over the past year likely reflected lower real long-term bond yields. For example, as measured by the difference between the ten-year nominal Treasury yield and inflation expectations reported in the Philadelphia Federal Reserve Bank's survey of professional forecasters, real yields fell appreciably between late 1997 and early 1999. (The yield on ten-year inflation-indexed Treasury securities actually rose somewhat last year. However, the increase may have reflected the securities' lack of liquidity and the substantial rise in the premium investors were willing to pay for liquidity.) Since mid-1998, the real interest rate has declined somewhat more than the forward earnings yield on stocks, and the spread between the two consequently increased a bit, perhaps reflecting the greater sense of risk in financial markets. Nonetheless, the spread has remained quite small relative to historical norms: Investors may be anticipating rapid long-term earnings growth—consistent with the expectations of securities analysts—and they may still be satisfied with a lower risk premium for holding stocks than they have demanded historically.

Debt and the Monetary Aggregates

Debt and Depository Intermediation

From the fourth quarter of 1997 to the fourth quarter of 1998, the total debt of the U.S. household, government, and nonfinancial business sectors increased about 6¼ percent, in the top half of its 3 percent to 7 percent range and considerably faster than nominal GDP. Buoyed by strong spending on durable goods, housing, and business investment, as well as by merger and acquisition activity that substituted debt for equity, nonfederal debt expanded about 9 percent last year, more than 2 percentage points faster than in 1997. By contrast, federal debt declined 1¼ percent, following a rise of ¾ percent the previous year.

Credit market instruments on the books of depository institutions rose at a somewhat slower pace than did the debt aggregate, posting a 5¾ percent rise in 1998, about half a percentage point less than in 1997. Growth in depository credit picked up in the second half of the year, as the turbulence in financial markets apparently led many firms to substitute bank loans for funds raised in the markets. Banks also added considerably to their holdings of securities in the third and fourth quarters, in part reflecting the attractive spreads available on non-Treasury debt instruments.

Financial firms also appeared to turn to banks for funding when the financial markets were volatile, and U.S. banks substantially expanded their lending to financial firms through repurchase agreements and loans to purchase and carry securities. As a result, growth of total bank credit, adjusted to remove the effects of mark-to-market accounting rules, accelerated to 10½ percent on a fourth-quarter to fourth-quarter basis, the largest annual increase in more than a decade.

The Monetary Aggregates

The broad monetary aggregates expanded very rapidly last year. From the fourth quarter of 1997 to the fourth quarter of 1998, M2 increased 8½ percent, placing it well above the upper bound of its 1 percent to 5 percent range. However, as the FOMC noted last February, this range was intended as a benchmark for money growth under conditions of stable prices, real economic growth near trend, and historical velocity relationships. Part of the excess of M2 above its range was the result of faster growth in nominal spending than would likely be consistent with sustained price stability. In addition, the velocity of M2 (defined as the ratio of nominal GDP to M2) fell 3 percent. Some of the decline resulted from the decrease in short-term market interest rates last year—as usual, rates on deposits fell more slowly than market rates, reducing the opportunity cost of holding M2 (defined as the difference between the rate on Treasury bills and the average return on M2 assets).

Growth of Money and Debt

Percent

Period	M1	M2	M3	Domestic non-financial debt
Annual[1]				
1988	4.2	5.6	6.4	9.1
1989	.6	5.2	4.1	7.5
1990	4.2	4.2	1.9	6.7
1991	8.0	3.1	1.2	4.5
1992	14.3	1.8	.6	4.5
1993	10.6	1.3	1.0	4.9
1994	2.5	.6	1.7	4.9
1995	–1.6	3.9	6.1	5.4
1996	–4.5	4.6	6.8	5.3
1997	–1.2	5.8	8.8	5.0
1998	1.8	8.5	11.0	6.3
Quarterly (annual rate)[2]				
1998:Q1	3.2	7.6	10.3	6.2
Q2	1.0	7.5	10.1	6.1
Q3	–2.0	6.9	8.6	6.0
Q4	5.0	11.0	13.2	6.4

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.

However, the bulk of the decline cannot be explained on the basis of the historical relationship between the velocity of M2 and this measure of its opportunity cost. Three factors not captured in that relationship likely contributed to the drop in velocity. First, households seem to have allocated an increased share of savings flows to monetary assets rather than equities following several years of outsized gains in stock market wealth. Second, some evidence suggests that in the 1990s the demand for M2 assets has become more sensitive to longer-term interest rates and to the slope of the yield curve, and so the decline in long-term Treasury yields last year, and the consequent flattening of the yield curve, may have increased the relative attractiveness of M2 assets. Finally, a critical source of the especially rapid M2 expansion in the fourth quarter likely was an increased demand for safe, liquid assets as investors responded to the heightened volatility in financial markets. With some of these safe-haven flows likely being reversed, growth in the broad monetary aggregates, while still brisk, has slowed appreciably early this year.

M3 expanded even faster than M2 in 1998, posting an 11 percent rise on a fourth-quarter to fourth-quarter basis. Last year's growth was the fastest since 1981 and left the aggregate well above the top end of its 2 percent to 6 percent growth range. As with M2, however, the FOMC established the M3 range as a benchmark for growth under conditions of stable prices, sustainable output growth, and the historical behavior of velocity. The rapid growth of M3 in part simply reflected the rise in M2. In addition, the non-M2 components of M3 increased 18½ percent over the year, following an even larger advance in 1997. The substantial rise in these components last year was partly the result of the funding of the robust growth in bank credit with managed liabilities, many of which are in M3. However, M3 growth was boosted to an even greater extent by flows into institution-only money funds, which have been expanding rapidly in recent years as they have increased their share of the corporate cash management business. Because investments in these funds substitute for business holdings of short-term assets that are not in M3, their rise has generated an increase in M3 growth. In addition, institution-only funds pay rates that tend to lag movements in market rates, and so their relative attractiveness was temporarily enhanced—and their growth rate boosted—by declines in short-term market interest rates late last year.

M1 increased 1¾ percent over the four quarters of 1998, its first annual increase since 1994. Currency expanded at an 8¼ percent pace, its largest rise since 1994. The increase apparently reflected continued strong foreign shipments, though at a slower pace than in 1997, and a sharp acceleration in domestic demand. Deposits in M1 declined further in 1998, reflecting the continued introduction of retail "sweep" programs. Growth of M1 deposits has been depressed for a number of years by these programs, which shift—or "sweep"—balances from household transactions accounts, which are subject to reserve requirements, into savings accounts, which are not. Because the funds are shifted back to transactions accounts when needed, depositors' access to their funds is not affected by these programs. However, banks benefit from the reduction in holdings of required reserves, which do not pay interest. Over 1998, sweep programs for demand deposit accounts became more popular, contributing to a 4¼ percent decline in such balances. By contrast, new sweep programs for other checkable deposits, which had driven double-digit declines in such deposits over the previous three years, were less important in 1998, and, with nominal spending strong and interest rates lower, other checkable deposits were about unchanged on the year.

As a result of the introduction of retail sweep accounts, the average level of required reserve balances (balances that must be held at Reserve Banks to meet reserve requirements) has trended lower over the past few years. The decline has been associated with an increase in banks' required clearing balances, which are balances that banks agree in advance to hold at their Federal Reserve Bank in order to facilitate the clearing of their payments. Unlike required reserve balances, banks earn credits on their required clearing balances that can be applied to the use of Federal Reserve priced services. Despite the increase in required clearing balances, required operating balances, which are the sum of required reserve balances and required clearing balances, have declined over the past few years and in late 1998 reached their lowest level in several decades.

The decline in required operating balances has generated concerns about a possible increase in the volatility of the federal funds rate. Because a bank's required level of operating balances must be met only on average over a two-week maintenance period, banks are free to allocate their reserve holdings across the days of a maintenance period in order to minimize their reserve costs. However, banks must also manage their reserves in order to avoid overdrafts, which the Federal Reserve discourages through administrative measures and financial penalties. Thus, as required operating balances decline toward the minimum level needed to clear banks' transactions, banks are less and less able to respond to fluctuations in the federal funds rate by lending funds when the rate is high and borrowing when the rate is low. As a result, when required operating balances are low, the federal funds rate is likely to rise further than it otherwise would when demands for reserves are unexpectedly strong or supplies weak; conversely, the federal funds rate is likely to fall more in the event of weaker-than-expected demand or stronger-than-expected supply. One way to ease this difficulty would be to pay interest on required reserve balances, which would reduce banks' incentives to expend resources on sweeps and other efforts to minimize these balances.

Despite the low level of required operating balances, the federal funds rate did not become noticeably more volatile over the spring and summer of 1998. In part, this result reflected more frequent overnight open market operations by the Federal Reserve to better match the daily demand for and supply of reserves. Also, banks likely improved the management of their accounts at the Federal Reserve Banks. Moreover, large banks apparently increased their willingness to borrow at the discount window. The Federal Reserve's decision to return to lagged reserve accounting at the end of July also likely contributed to reduced volatility in the federal funds market by enhancing somewhat the ability of both banks and the Federal Reserve to forecast reserve demand.

In the latter part of 1998 and into 1999, however, the federal funds rate was more volatile. The increase may have owed partly to further reductions in required operating balances resulting from new sweep programs, but other factors were probably more important, at least for a time. Market participants were scrutinizing borrowing banks more closely, and in some cases lenders pared or more tightly administered their counterparty credit limits, or shifted more of their placements from term to overnight maturities. The heightened attention to credit quality also made banks less willing to borrow at the discount window, because they were concerned that other market participants might detect their borrowing and interpret it as a sign of financial weakness. As a result, many banks that were net takers of funds in short-term markets attempted to lock in their funding earlier in the morning. On net, these forces boosted the demand for reserves and put upward pressure on the federal funds rate early in the day. To buffer the effect of these changes on volatility in the federal funds market, the Federal Reserve increased the supply of reserves and, at times, responded to the level of the federal funds rate early in the day when deciding on the need for market operations. Because demand had shifted to earlier in the day, however, the federal funds rate often fell appreciably below its target level by the end of the day.

At its November meeting, the FOMC amended the Authorization for Domestic Open Market Operations to extend the permitted maturity of System repurchase agreements from fifteen to sixty days. Over the remainder of 1998, the Domestic Trading Desk made use of this new authority on three occasions, arranging System repurchase agreements with maturities of thirty to forty-five days to meet anticipated seasonal reserve demands over year-end. While the Desk had in the past purchased inflation-indexed securities when rolling over holdings of maturing nominal securities, it undertook its first outright open market purchase devoted solely to inflation-indexed Treasury securities in 1998, thereby according those securities the same status in open market operations as other Treasury securities.

International Developments

In 1998, developments in international financial markets continued to be dominated by the unfolding crises in emerging markets that had begun in Thailand in 1997. Financial market turbulence spread to other emerging markets around the globe, spilling over from Korea, Indonesia, Malaysia, Singapore, the Philippines, and Hong Kong in late 1997 and in the first part of 1998 to Russia in the summer, and to Latin America, particularly Brazil, shortly thereafter. The Asian crisis contributed to a deepening recession in Japan last year, and as the year progressed, growth in several other major foreign industrial economies slowed as well.

At the beginning of 1998, many Asian currencies were declining or were under pressure. The Indonesian rupiah dropped sharply in January, amid widespread rioting and talk of a coup, and fell again in May and June, as the deepening recession prompted more social unrest and ultimately the ouster of President Suharto. Some of the rupiah's losses were reversed in the second half of the year, following the relatively orderly transition of power to President Habibie. Tighter Indonesian monetary policy, which pushed short-term interest rates as high as 70 percent by July, contributed to the rupiah's recovery. On balance, between December 1997 and December 1998, the rupiah depreciated more than 35 percent against the dollar.

In contrast, the Thai baht and Korean won, which had declined sharply in 1997, gained more than 20 percent against the dollar over the course of 1998. Policy reforms and stable political environments helped boost these currencies. Between these extremes, the currencies of the Philippines, Malaysia, Singapore, and Taiwan fluctuated in a narrower range and ended the period little changed against the dollar. In September, Malaysia imposed capital and exchange controls, fixing the ringgit's exchange rate against the dollar. The Hong Kong dollar came under pressure at times during the year, but its peg to the U.S. dollar remained intact, although at the cost of interest rates that were at times considerably elevated. Short-term interest rates in Asian economies other than Indonesia declined in 1998, and as some stability returned to Indonesian markets near the end of the year, short-term rates in that nation began to retreat from their highs.

As the year progressed, the financial storm moved from Asia to Russia. At first the Russian central bank was able to defend the ruble's peg to the dollar with interest rate increases and sporadic intervention. By midyear, however, the government's failure to reach a new assistance agreement with the International Monetary Fund, reported shortfalls in tax revenues, and the disruption of rail travel by striking coal miners protesting late wage payments brought to the fore the deep structural and political problems faced by Russia. In addition, declining oil prices were lowering government revenues and worsening the current account. As a result of these difficulties, the ruble came under renewed pressure, forcing Russian interest rates sharply higher, and Russian equity prices fell abruptly. A disbursement of $4.8 billion from the IMF in July was quickly spent to keep the currency near its level of 6.2 rubles per dollar, but the lack of progress on fiscal reform put the next IMF tranche in doubt.

On August 17, Russia announced a devaluation of the ruble and a moratorium on servicing official short-term debt. Subsequently, the ruble depreciated more than 70 percent against the dollar, the government imposed conditions on most of its foreign and domestic debt that implied substantial losses for creditors, and many Russian financial institutions became insolvent. The events in Russia precipitated a global increase in financial market turbulence, including a pullback of credit to highly leveraged investors and a widening of credit spreads in emerging market economies and in many industrial countries, which did not abate until after central banks in a number of industrial countries eased policy in the fall.

Latin American financial markets were only moderately disrupted by the Asian and Russian problems during the first half of 1998. The reaction to the Russian default, however, was swift and strong, and the prices of Latin American assets fell precipitously. The spreads between yields on Latin American Brady bonds and comparable U.S. Treasuries widened considerably (with increases ranging from 900 basis points in Argentina to 1500 basis points in Brazil) and peaked in early September before retracing part of the rise. Latin American equity prices plunged, ending the year down 25 percent or more. Several currencies came under pressure, despite sharp increases in short-term interest rates. The Mexican peso, which was also weakened by the effects of falling oil prices, depreciated 18 percent against the dollar over the year. The Colombian peso and the Ecuadorian sucre were devalued, but Argentina's currency board arrangement survived.

Brazil's central bank defended the *real*'s crawling peg until mid-January 1999 but is estimated to have used more than half of the $75 billion in foreign exchange reserves it had amassed as of last April. Anticipation of the IMF-led financial assistance package for Brazil helped spur a partial recovery in Latin American asset markets in late September and October. The details of the $41.5 billion loan package were announced in November, but after the package was approved by the IMF in early December, Brazil's Congress rejected a part of the government's fiscal austerity plan, sparking renewed financial turmoil. In mid-December, $9.3 billion of the loan package was disbursed, but as the year ended, the continuing pressure from investors seeking to take funds out of Brazil put the long-run viability of the crawling exchange rate peg in doubt. The *real* came under pressure again in early January after the state of Minas Gerais threatened not to pay its debt to the federal government. On January 13, the *real* was devalued 8 percent, and two days later it was allowed to float. Since the end of 1998, the *real* has depreciated nearly 38 percent against the dollar, and capital flight from Brazil has likely persisted. The collapse of the *real* exerted some downward pressure on the currencies of other Latin American countries. Thus far, however, contagion has been more limited than it was after the Russian devaluation; unlike Russia, Brazil has continued to meet debt service obligations, and investors apparently had an opportunity to adjust positions in advance of the devaluation and have drawn a distinction between Brazil's problems and those of other economies.

The fallout from the financial crises that hit several Asian emerging market economies in late 1997 triggered a further decline in output in the region in early 1998. In the countries most heavily affected—Thailand, Korea, Malaysia, and Indonesia—output dropped at double-digit annual rates in the first half of the year, as credit disruptions, widespread failures in the financial and corporate sectors, and a resulting high degree of economic uncertainty depressed activity severely. Output in Hong Kong also dropped in early 1998, as interest rates rose sharply amid pressure on its currency peg. Later in the year, with financial conditions in most of the Asian crisis countries stabilizing somewhat, output started to bottom out.

The Asian crisis had a relatively moderate effect on China, although it may have encouraged authorities in that country to move ahead more quickly with various financial sector reforms. Financial tensions mounted early this year as foreign investors have reacted with concern to the failure of the Guangdong International Trust and Investment Corporation. Chinese growth remained fairly strong throughout 1998, despite a dramatic slowdown in the growth of exports.

Inflation in the Asian developing economies rose only moderately on average in 1998, as the inflationary effects of currency depreciations in the region were largely offset by the deflationary influence of very weak domestic activity. The current account balances of the Asian crisis countries swung into substantial surplus last year, reflecting a sharp drop in imports resulting from the falloff in domestic demand as well as improvement in the countries' competitive positions associated with the substantial depreciations of their currencies in late 1997 and early 1998.

In Russia, economic activity declined last year as interest rates were pushed up in an attempt to fend off pressure on the ruble. After the August debt moratorium and ruble devaluation, output dropped sharply, ending the year down about 10 percent from its year-earlier level. The ruble collapse triggered a surge in inflation to a triple-digit annual rate during the latter part of the year.

In Latin America, the pace of economic activity slowed only moderately in the first half of 1998, as the spillover from the Asian financial turbulence was limited. The Russian financial crisis in August, in contrast, had a strong impact on real activity in Latin America, particularly Brazil and Argentina, where interest rates moved sharply higher in response to exchange rate pressures. Output in both countries is estimated to have declined in the second half of the year at annual rates of about 5 percent. Activity in Mexico and Venezuela was also depressed by lower oil export revenues. Inflation rates in Latin American countries were little changed in 1998 and ranged from 1 percent in Argentina and 3 percent in Brazil to 31 percent in Venezuela.

The dollar's value, measured on a trade-weighted basis against the currencies of a broad group of important U.S. trading partners, rose almost 7 percent during the first eight months of 1998, but it then fell, by December reaching a level about 2 percent above its year-earlier level. (When adjusted for changes in U.S. and foreign consumer price levels, the real value of the dollar in December 1998 was about 1 percent below its level in December 1997.) Before the Russian default, the dollar was supported by the robust pace of U.S. economic activity, which at times generated expectations that monetary policy would be tightened and which contrasted with weakening economic activity abroad, especially in Japan. Occasionally, however, the positive influence of the strong economy was countered by worries about growing U.S. external deficits. From August through October, in the aftermath of the Russian financial meltdown, concerns that increased difficulties in Latin America might affect the U.S. economy disproportionately, as well as expectations of lower U.S. interest rates, weighed on the value of the dollar, and it fell sharply. The broad index of the dollar's exchange value eased a bit further during the fourth quarter of the year. So far in 1999, the dollar has gained nearly 3 percent in terms of the broad index.

Against the currencies of the major foreign industrial countries, the dollar declined 2 percent in nominal terms over 1998, on balance, reversing some of its 10 percent appreciation the preceding year. Among these currencies, the dollar's value fluctuated most widely against the Japanese yen. The dollar rose against the yen during the first half of the year as a result of concerns about the effects of the Asian crisis on the already-weak Japanese economy and further signs of deepening recession and persistent banking system problems in that country. It reached a level of almost 147 yen per dollar in mid-June, prompting coordinated intervention by U.S. and Japanese authorities in foreign exchange markets that helped to contain further downward pressure on the yen. The dollar resumed its appreciation against the yen, albeit at a slower pace, in July and early August.

The turning point in the dollar–yen rate came after the Russian collapse, amid the global flight from risk that caused liquidity to dry up in the markets for many assets. During the first week of October, the dollar dropped nearly 14 percent against the yen in extremely illiquid trading conditions. Although fundamental factors in Japan, such as progress on bank reform, fiscal stimulus, and the widening trade surplus may have helped boost the yen against the dollar, market commentary at the time focused on reports that some international investors were buying large amounts of yen. These large purchases reportedly were needed to unwind positions in which investors had used yen loans to finance a variety of speculative investments. On balance, the dollar depreciated almost 10 percent against the yen in 1998, reversing most of its net gain during 1997. It depreciated further against the yen in early 1999, hitting a two-year low on January 11, but it then rebounded somewhat amid reports of intervention purchases of dollars by the Bank of Japan. More recently, the Bank of Japan has eased monetary policy further, and the dollar has strengthened against the yen. So far this year, the dollar has gained about 7 percent against the yen.

Japanese economic activity contracted in 1998, as the country remained in its most protracted recession of the postwar era. Business and residential investment plunged, and private consumption stagnated, more than offsetting positive contributions from government spending and net exports. Core consumer prices declined slightly, while wholesale prices fell almost 4½ percent. In April, the Japanese government announced a large fiscal stimulus package. During the final two months of the year, the government announced another set of fiscal measures slated for implementation during 1999, which included permanent personal and corporate income tax cuts, various incentives for investment, and further increases in public expenditures.

Against the German mark, the dollar depreciated about 6 percent, on net, during 1998. Late in the year the dollar moved up against the mark, as evidence of a European growth slowdown raised expectations of easier monetary conditions in Europe. In the event, monetary policy was eased sooner than market participants had expected, with a coordinated European interest rate cut coming in early December.

A major event at the turn of the year was the birth of the euro, which marked the beginning of Stage Three of European Economic and Monetary Union (EMU). On December 31, the rates locking the euro with the eleven legacy currencies were determined; based on these rates, the value of the euro at the moment of its creation was $1.16675. Trading in the euro opened on January 4, with the first trades reflecting a significant premium for the euro over its initial value. As the first week of trading progressed, however, the initial euphoria wore off, and so far this year the dollar has strengthened more than 5 percent against the euro, partly reflecting better-than-expected economic data in the United States, contrasted with weaker-than-expected data in the euro area.

In the eleven European countries whose currencies are now fixed against the euro, output growth slowed moderately over the course of 1998, as net exports weakened and business sentiment worsened. Unemployment rates came down slightly, but the average of these rates remained in the double-digit range. Consumer price inflation continued to slow, helped by lower oil prices. In December, the harmonized CPI for the eleven countries stood ¾ percent above its year-earlier level, meeting the European Central Bank's primary objective of inflation below 2 percent.

Between December 1997 and December 1998, the average value of the dollar changed little against the British pound but rose 8 percent against the Canadian dollar. Weakness in primary commodity prices, including oil, likely depressed the value of the Canadian dollar. The Bank of Canada raised official rates in January 1998 and again in August, in response to currency market pressures. The Bank of England raised official rates in June 1998 to counter inflation pressures. Tighter monetary conditions in both countries, as well as a decline in net exports associated with global difficulties, contributed to a slowing of output growth in the second half of the year. The deceleration was sharper in the United Kingdom than in Canada. U.K. inflation eased slightly to near its target rate, while Canadian inflation remained near the bottom of its target range. In response to weaker economic activity as well as to the expected effects of the global financial turmoil, both the Bank of Canada and the Bank of England have lowered official interest rates since September.

The general trend toward easier monetary conditions was reflected in declines in short-term interest rates in almost all the G-10 countries during the year. Interest rates in the euro area converged to relatively low German levels in anticipation of the launch of the third stage of EMU. Yields on ten-year government bonds in the major foreign industrial countries declined significantly over the course of the year, as economic activity slowed, inflation continued to moderate, and investors sought safer assets. Between December 1997 and December 1998, ten-year interest rates fell 180 basis points in the United Kingdom and 150 basis points in Germany. The ten-year rate fell only 30 basis points in Japan, on balance, declining about 90 basis points over the first ten months of the year but backing up in November and December. Market participants attributed the increase to concerns that the demand for bonds would be insufficient to meet the surge in debt issuance associated with the latest fiscal stimulus package.

Share prices on European stock exchanges posted another round of strong advances last year, with price indexes rising 8 percent in the United Kingdom, about 15 percent in Germany, nearly 29 percent in France, and 41 percent in Italy. In contrast, Japanese equity prices fell more than 9 percent in 1998, and Canadian share prices decreased 4 percent. After a considerable run-up earlier in the year, share prices around the globe fell sharply in August and September, but they rebounded in subsequent months as the Federal Reserve and central banks in many other industrial countries eased monetary policy.

On November 17, the FOMC voted unanimously to reauthorize Federal Reserve participation in the North American Framework Agreement (NAFA), established in 1994, and in the associated bilateral reciprocal currency swap arrangements with the Bank of Canada and the Bank of Mexico. On December 7, the Secretary of the Treasury authorized renewal of the Treasury's participation in the NAFA and of the associated Exchange Stabilization Agreement with Mexico. Other bilateral swap arrangements with the Federal Reserve—those with the Bank for International Settlements, the Bank of Japan, and many European central banks—were allowed to lapse in light of their disuse over the past fifteen years and in the presence of other well-established arrangements for international monetary cooperation. The swap arrangement between the Treasury's Exchange Stabilization Fund and the German Bundesbank was also allowed to lapse.

Report on July 22, 1999

Monetary Policy and the Economic Outlook

The U.S. economy has continued to perform well in 1999. The ongoing economic expansion has moved into a near-record ninth year, with real output expanding vigorously, the unemployment rate hovering around lows last seen in 1970, and underlying trends in inflation remaining subdued. Responding to the availability of new technologies at increasingly attractive prices, firms have been investing heavily in new capital equipment; this investment has boosted productivity and living standards while holding down the rise in costs and prices.

Two of the major threats faced by the economy in late 1998—economic downturns in many foreign nations and turmoil in financial markets around the world—receded over the first half of this year. Economic conditions overseas improved on a broad front. In Asia, activity picked up in the emerging-market economies that had been battered by the financial crises of 1997. The Brazilian economy—Latin America's largest—exhibited a great deal of resilience with support from the international community, in the wake of the devaluation and subsequent floating of the *real* in January. These developments, along with the considerable easing of monetary policy in late 1998 and early 1999 in a number of regions, including Europe, Japan, and the United States, fostered a markedly better tone in the world's financial markets. On balance, U.S. equity prices rose substantially, and in credit markets, risk spreads receded toward more typical levels. Issuance of private debt securities ballooned in late 1998 and early 1999, in part making up for borrowing that was postponed when markets were disrupted.

As these potentially contractionary forces dissipated, the risk of higher inflation in the United States resurfaced as the greatest concern for monetary policy. Although underlying inflation trends generally remained quiescent, oil prices rose sharply, other commodity prices trended up, and prices of non-oil imports fell less rapidly, raising overall inflation rates. Despite improvements in technology and business processes that have yielded striking gains in efficiency, the robust growth of aggregate demand, fueled by rising equity wealth and readily available credit, produced even tighter labor markets in the first half of 1999 than in the second half of 1998. If this trend were to continue, labor compensation would begin climbing increasingly faster than warranted by productivity growth and put upward pressure on prices. Moreover, the Federal Open Market Committee (FOMC) was concerned that as economic activity abroad strengthened, the firming of commodity and other prices might also foster a less favorable inflation environment. To gain some greater assurance that the good inflation performance of the economy would continue, the Committee decided at its June meeting to reverse a portion of the easing undertaken last fall when global financial markets were disrupted; the Committee's target for the overnight federal funds rate, a key indicator of money market conditions, was raised from 4¾ percent to 5 percent.

Monetary Policy, Financial Markets, and the Economy over the First Half of 1999

The FOMC met in February and March against the backdrop of continued rapid expansion of the U.S. economy. Demand was strong, employment growth was brisk, and labor markets were tight. Nonetheless, price inflation was still low, held in check by a substantial gain in productivity, ample manufacturing capacity, and low inflation expectations.

Activity was supported by a further settling down of financial markets in the first quarter after a period of considerable turmoil in the late summer and fall of 1998. In that earlier period, which followed Russia's moratorium on a substantial portion of its debt payments in mid-August, the normal functioning of U.S. financial markets had been impaired as investors cut back sharply their credit risk exposures and market liquidity dried up. The Federal Reserve responded to these developments by trimming its target for the overnight federal funds rate by 75 basis points in three steps. In early 1999, the devaluation and subsequent floating of the Brazilian *real* in mid-January heightened concerns for a while, but market conditions overall improved considerably.

At its February and March meetings, the FOMC left the stance of monetary policy unchanged. The Committee expected that the growth of output might well slow sufficiently to bring production into close enough alignment with the economy's enhanced potential to forestall the emergence of a trend of rising inflation. Although domestic demand was still increasing rapidly, it was anticipated to moderate over time in response to the buildup of large stocks of business equipment, housing units, and durable goods and more restrained expansion in wealth in the absence of appreciable further increases in equity prices. Furthermore, the FOMC, after taking account of the near-term effects of the rise in crude oil prices, saw few signs that cost and price inflation was in the process of picking up. The unusual combination of very high labor resource utilization and sustained low inflation suggested considerable uncertainty about the relationship between output and prices. In this environment, the Committee concluded that it could wait for additional information about the balance of risks to the economic expansion.

By the time of the May FOMC meeting, demand was still showing considerable forward momentum, and growth in economic activity still appeared to be running in excess of the rate of increase of the economy's long-run capacity to expand output. Borrowers' heavy demands for credit were being met on relatively favorable terms, and wealth was further boosted by rapidly rising equity prices. Also, the economic and financial outlook for many emerging-market countries was brighter. Trends in inflation were still subdued, although consumer prices—even apart from a big jump in energy prices—were reported to have registered a sizable rise in April.

At its May meeting, the FOMC believed that these developments tilted the risks toward further robust growth that would exert additional pressure on already taut labor markets and ultimately show through to inflation. Moreover, a turnaround in oil and other commodity markets meant that prices of these goods would no longer be holding down inflation, as they had over the past year. Yet, the economy to date had shown a remarkable ability to accommodate increases in demand without generating greater underlying inflation trends, as the continued growth of labor productivity had helped to contain cost pressures. The uncertainty about the prospects for prices, demand pressures, and productivity was large, and the Committee decided to defer any policy action. However, in light of its increased concern about the outlook for inflation, the Committee adopted an asymmetric directive tilted toward a possible firming of policy. The Committee also wanted to inform the public of this significant revision in its view, and it announced a change in the directive immediately after the meeting. The announcement was the first under the Committee's policy of announcing changes in the tilt of the domestic directive when it wants to communicate a major shift in its view about the balance of risks to the economy or the likely direction of its future actions.

In the time leading up to the FOMC's June meeting, economic activity in the United States continued to move forward at a brisk pace, and prospects in a number of foreign economies showed additional improvement. Labor markets tightened slightly further. The federal funds rate, however, remained at the lower level established in November 1998, when the Committee took its last of three steps to counter severe financial market strains. With those strains largely gone, the Committee believed that the time had come to reverse some of that accommodation, and it raised the targeted overnight federal funds rate 25 basis points, to 5 percent. Looking ahead, the Committee expected demand to remain strong, but it also noted the possibility that a further pickup in productivity could allow the economy to accommodate this demand for some time without added inflationary pressure. In light of these conflicting forces in the economy, the FOMC returned to a symmetric directive. Nonetheless, with labor markets already tight, the Committee recognized that it needed to stay especially alert to signs that inflationary forces were emerging that could prove inimical to the economic expansion.

Economic Projections for 1999 and 2000

The members of the Board of Governors and the Federal Reserve Bank presidents see good prospects for sustained, solid economic expansion through next year. For this year, the central tendency of their forecasts of growth of real gross domestic product is 3½ percent to 3¾ percent, measured as the change between the fourth quarters of 1998 and 1999. For 2000, the forecasts of real GDP are mainly in the 2½ percent to 3 percent range. With this pace of expansion, the civilian unemployment rate is expected to remain close to the recent 4¼ percent level over the next six quarters.

The increases in income and wealth that have bolstered consumer demand over the first half of this year and the desire to invest in new high-technology equipment that has boosted business demand during the same period should continue to stimulate spending over the quarters ahead. However, several factors are expected to exert some restraint on the economy's momentum by next year. With purchases of durable goods by both consumers and businesses having risen still further and running at high levels, the stocks of such goods probably are rising more rapidly than is likely to be desired in the longer run, and the growth of spending should moderate. The increase in market interest rates should help to damp spending as well. And unless the extraordinary gains in equity prices of the past few years are extended, the impetus to spending from increases in wealth will diminish.

Federal Reserve policymakers believe that this year's rise in the consumer price index (CPI) will be larger than that in 1998, largely because of the rebound in retail energy prices that has already occurred. Crude oil prices have moved up sharply, reversing the decline posted in 1998 and leading to a jump in the CPI this spring. For next year, the FOMC participants expect the increase in the CPI to remain around this year's pace, with a central tendency of 2 percent to 2½ percent. Futures market quotes suggest that the prevailing expectation is that the rebound in oil prices has run its course now, and ample industrial capac-

Economic Projections for 1999 and 2000

Percent

Indicator	Federal Reserve governors and Reserve Bank presidents		Administration[1]
	Range	Central tendency	
	1999		
Change, fourth quarter to fourth quarter[2]			
Nominal GDP	4¾–5½	5–5½	4.8
Real GDP	3¼–4	3½–3¾	3.2
Consumer price index[3]	1¾–2½	2¼–2½	2.4
Average level fourth quarter			
Civilian unemployment rate	4–4½	4–4¼	4.3
	2000		
Change, fourth quarter to fourth quarter[2]			
Nominal GDP	4–5¼	4–5	4.2
Real GDP	2–3½	2½–3	2.1
Consumer price index[3]	1½–2¾	2–2½	2.4
Average level, fourth quarter			
Civilian unemployment rate	4–4½	4¼–4½	4.7

1. From the Mid-Session Review of the budget.
2. Change from average for fourth quarter of previous year to average for fourth quarter of year indicated.
3. All urban consumers.

ity and productivity gains may help limit inflationary pressures in coming months as well. With labor utilization very high, though, and demand still strong, significant risks remain even after the recent policy firming that economic and financial conditions may turn out to be inconsistent with keeping costs and prices from escalating.

Although interest rates currently are a bit higher than anticipated in the economic assumptions underlying the budget projections in the Administration's Mid-Session Review, there is no apparent tension between the Administration's plans and the Federal Reserve policymakers' views. In fact, Federal Reserve officials project somewhat faster growth in real GDP and slightly lower unemployment rates into 2000 than the Administration does, while the Administration's projections for inflation are within the Federal Reserve's central tendencies.

Money and Debt Ranges for 1999 and 2000

At its meeting in late June, the FOMC reaffirmed the ranges for 1999 growth of money and debt that it had established in February: 1 percent to 5 percent for M2, 2 percent to 6 percent for M3, and 3 percent to 7 percent for debt of the domestic nonfinancial sectors. The FOMC set the same ranges for 2000 on a provisional basis.

As has been the case since the mid-1990s, the FOMC views the ranges for money growth as benchmarks for growth under conditions of price stability and the historically typical relationship between money and nominal income. The disruption of the historically typical pattern of the velocities of M2 and M3 (the ratio of nominal GDP to the aggregates) during the 1990s implies that the Committee cannot establish, with any confidence, specific target ranges for expected money growth for a given year that will be consistent with the economic performance that it desires. However, persistently fast or slow money growth can accompany, or even precede, deviations from desirable economic outcomes. Thus, the behavior of the monetary aggregates, evaluated in the context of other financial and nonfinancial indicators, will continue to be of interest to Committee members in their policy deliberations.

The velocities of M2 and M3 declined again in the first half of this year, albeit more slowly than in 1998. The Committee's easing of monetary policy in the fall of 1998 contributed to the decline, but only to a modest extent. It is not clear what other factors led to the drop, although the considerable increase in wealth relative to income resulting from the substantial gains in equity prices over the past few years may have played a role. Investors could be rebalancing their portfolios, which have become skewed toward equities, by reallocating some wealth to other assets, including those in M2.

Even if the velocities of M2 and M3 were to return to their historically typical patterns over the balance of 1999 and in 2000, M2 and M3 likely would be at the upper bounds of, or above,

Ranges for Growth of Monetary and Debt Aggregates

Percent

Aggregate	1998	1999	Provisional for 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.

their longer-term price-stability ranges in both years, given the Committee's projections of nominal GDP growth. This relatively rapid expansion in nominal income reflects faster expected growth in productivity than when the price-stability ranges were established in the mid-1990s and inflation that is still in excess of price stability. The more rapid increase in productivity, if it persists for a while and is sufficiently large, might in the future suggest an upward adjustment to the money ranges consistent with price stability. However, considerable uncertainty attends the trend in productivity, and the Committee chose not to adjust the ranges at its most recent meeting.

Debt of the nonfinancial sectors has expanded at roughly the same pace as nominal income this year—its typical pattern. Given the stability of this relationship, the Committee selected a growth range for the debt aggregate that encompasses its expectations for debt growth in both years. The Committee expects growth in nominal income to slow in 2000, and with it, debt growth. Nonetheless, growth of this aggregate is projected to remain within the range of 3 percent to 7 percent.

Economic and Financial Developments in 1999

The economy has continued to grow rapidly so far this year. Real gross domestic product rose more than 4 percent at an annual rate in the first quarter of 1999, and available data point to another significant gain in the second quarter.[2] The rise in activity has been brisk enough to produce further substantial growth of employment and a reduction in the unemployment rate to 4¼ percent. Growth in output has been driven by strong domestic demand, which in turn has been supported by further increases in equity prices, by the continuing salutary effects of government saving and inflows of foreign investment on the cost of capital, and by more smoothly functioning financial markets as the turbulence that marked the latter part of 1998 subsided. Against the background of the easing of monetary policy last fall and continuing robust economic activity, investors became more willing to advance funds to businesses; risk spreads have receded and corporate debt issuance has been brisk.

Inflation developments were mixed over the first half of the year. The consumer price index increased more rapidly owing to a sharp rebound in energy prices. Nevertheless, price inflation outside of the energy area generally remained subdued despite the slight further tightening of labor markets, as sizable gains in labor productivity and ample industrial capacity held down price increases.

2. All figures from the national income and product accounts cited here are subject to change in the quinquennial benchmark revisions slated for this fall.

The Household Sector

Consumer Spending

Real personal consumption expenditures surged 6¾ percent at an annual rate in the first quarter, and more recent data point to a sizable further advance in the second quarter. The underlying fundamentals for the household sector have remained extremely favorable. Real incomes have continued to rise briskly with strong growth of employment and real wages, and consumers have benefited from substantial gains in wealth. Not surprisingly, consumer confidence—as measured, for example, by the University of Michigan Survey Research Center (SRC) and Conference Board surveys—has remained quite upbeat in this environment.

Growth of consumer spending in the first quarter was strong in all expenditure categories. Outlays for durable goods rose sharply, reflecting sizable increases in spending on electronic equipment (especially computers) and on a wide range of other goods, including household furnishings. Purchases of cars and light trucks remained at a high level, supported by declining relative prices as well as by the fundamentals that have buoyed consumer spending more generally. Outlays for nondurable goods were also robust, reflecting in part a sharp increase in expenditures for apparel. Finally, spending on services climbed steeply as well early this year, paced by sizable increases in spending on recreation and brokerage services. In the second quarter, consumers apparently boosted their purchases of motor vehicles further. In all, real personal consumption expenditures rose at more than a 4 percent annual rate in April and May, an increase that is below the first-quarter pace but is still quite rapid by historical standards.

Real disposable income increased at an annual rate of 3½ percent in the first quarter, with the strong labor market generating marked increases in wages and salaries. Even so, income grew less rapidly than expenditures, and the personal saving rate declined further; indeed, by May the saving rate had moved below negative 1 percent. Much of the decline in the saving rate in recent years can be explained by the sharp rise in household net worth relative to disposable income that is associated with the appreciation of households' stock market assets since 1995. This rise in wealth has given households the wherewithal to spend at levels beyond what current incomes would otherwise allow. As share values moved up further in the first half of this year, the wealth-to-income ratio continued to edge higher despite the absence of saving out of disposable income.

Residential Investment

Housing activity remained robust in the first half of this year. In the single-family sector, positive fundamentals and unseasonably good weather helped boost starts to a pace of 1.39 million units in the first quarter—the highest level of activity in twenty years. This extremely strong level of building activity strained the availability of labor and some materials; as a result, builders had trouble achieving the usual seasonal increase in the second quarter, and starts edged off to a still-high pace of 1.31 million units. Home sales moderated in the spring: Sales of both new and existing homes were off some in May from their earlier peaks, and consumers' perceptions of homebuying conditions as measured by the Michigan SRC survey have declined from the very high marks recorded in late 1998 and early this year. Nonetheless, demand has remained quite robust, even in the face of a backup in mortgage interest rates: Builders' evaluations of new home sales remained very high at midyear, and mortgage applications for home purchases showed strength into July.

With strong demand pushing up against limited capacity, home prices have risen substantially, although evidence is mixed as to whether the rate of increase is picking up. The quality-adjusted price of new homes rose 5 percent over the four quarters ended in the first quarter of 1999, up from 3¼ percent over the preceding four-quarter period. The repeat sales index of existing home prices also rose about 5 percent between the first quarter of 1998 and the first quarter of 1999, but this series posted even larger increases in the year-earlier period. On the cost side, tight supplies have led to rising prices for some building materials; prices of plywood, lumber, gypsum wallboard, and insulation have all moved up sharply over the past twelve months. In addition, hourly compensation costs have been rising relatively rapidly in the construction sector.

Starts of multifamily units surged to 384,000 at an annual rate in the first quarter and ran at a pace a bit under 300,000 units in the second quarter. As in the single-family sector, demand has been supported by strong fundamentals, builders have been faced with tight supplies of some materials, and prices have been rising briskly: Indeed, apartment property values have been increasing at around a 10 percent annual rate for three years now.

Household Finance

In addition to rising wealth and rapid income growth, the strong expenditures of households on housing and consumer goods over the first half of 1999 were encouraged by the decline in interest rates in the latter part of 1998. Households borrowed heavily to finance spending. Their debt expanded at a 9½ percent annual rate in the first quarter, up from the 8¾ percent pace over 1998, and preliminary data for the second quarter indicate continued robust growth. Mortgage borrowing, fueled by the vigorous housing market and favorable mortgage interest rates, was particularly brisk in the first quarter, with mortgage debt rising at an annual rate of 10 percent. In the second quarter, mortgage rates moved up considerably, but preliminary data indicate that borrowing was still substantial.

Consumer credit growth accelerated in the first half of 1999. It expanded at about an 8 percent annual rate compared with 5½ percent for all of 1998. The growth of nonrevolving credit picked up, reflecting brisk sales and attractive financing rates for automobiles and other consumer durable goods. The expansion of revolving credit, which includes credit card loans, slowed a bit from its pace in 1998.

Households apparently have not encountered added difficulties meeting the payments associated with their greater indebtedness, as measures of household financial stress improved a bit on balance in the first quarter. Personal bankruptcies dropped off considerably, although part of the decline may reflect the aftermath of a surge in filings in late 1998 that occurred in response to pending legislation that would limit the ability of certain debtors to obtain forgiveness of their obligations. Delinquency rates on several types of household loans edged lower. Delinquency and charge-off rates on credit card debt moved down from their 1997 peaks but remained at historically high rates. A number of banks continued to tighten credit card lending standards this year, as indicated by banks' responses to Federal Reserve surveys.

The Business Sector

Fixed Investment

Real business fixed investment appears to have posted another huge increase over the first half of 1999. Investment spending continued to be driven by buoyant expectations of sales prospects as well as by rapidly declining prices of computers and other high-tech equipment. In recent quarters, spending also may have been boosted by the desire to upgrade computer equipment in advance of the rollover to the year 2000. Real investment has been rising rapidly for several years now; indeed, the average increase of 10 percent annually over the past five years represents the most rapid sustained expansion of investment in more than thirty years. Although a growing portion of this investment has gone to cover depreciation on purchases of short-lived equipment, the investment boom has led to a notable upgrading and expansion of the capital stock and in many cases has embodied new technologies. These factors likely have been important in the nation's improved productivity performance over the past few years.

Real outlays for producers' durable equipment increased at an annual rate of 9½ percent in the first quarter of the year, after having surged nearly 17 percent last year, and may well have re-accelerated in the second quarter. Outlays on communications equipment were especially robust in the first quarter, driven by the ongoing effort by telecommunications companies to upgrade their networks to provide a full range of voice and data transmission services. Purchases of computers and other information processing equipment were also up notably in the first quarter, albeit below last year's phenomenal spending pace, and shipments of computers surged again in April and May. Shipments of aircraft to domestic carriers apparently soared in the second quarter, and business spending on motor vehicles, including medium and heavy trucks as well as light vehicles, has remained extremely strong as well.

Real business spending for nonresidential structures has been much less robust than for equipment, and spending trends have varied greatly across sectors of the market. Real spending on office buildings and lodging facilities has been increasing impressively, while spending on institutional and industrial structures has been declining—the last reflecting ample capacity in the manufacturing sector. In the first quarter of this year, overall spending on structures was reported in the national income and product accounts to have moved up at a solid 5¾ percent annual rate, reflecting a further sharp increase in spending on office buildings and lodging facilities. However, revised source data indicate a somewhat smaller first-quarter increase in nonresidential construction and also point to a slowing in activity in April and May from the first-quarter pace.

Inventory Investment

Inventory–sales ratios in many industries dropped considerably early this year, as the pace of stockbuilding by nonfarm businesses, which had slowed notably over 1998, remained well below the surge of consumer and business spending in the first quarter. Although production picked up some in the spring, final demand remained quite strong, and available monthly data suggest that businesses accumulated inventories in April and May at a rate not much different from the modest first-quarter pace.

In the motor vehicle sector, makers geared up production in the latter part of 1998 to boost inventories from their low levels after last summer's strikes. Nevertheless, as with the business sector overall, motor vehicle inventories remained on the lean side by historical standards in the early part of this year as a result of surprisingly strong vehicle sales. As a consequence, manufacturers boosted the pace of assemblies in the second quarter to the highest level in twenty years. With no noticeable signs of a slowing in demand, producers have scheduled third-quarter output to remain at the lofty heights of the second quarter.

Corporate Profits and Business Finance

The economic profits of nonfinancial U.S. corporations rose considerably in the first quarter, even after allowing for the depressing effect in the fourth quarter of payments associated with the settlement between the tobacco companies and the states. Despite the growth of profits, capital expenditures by nonfinancial businesses continued to outstrip internal cash flow. Moreover, borrowing requirements were enlarged by the net reduction in equity outstanding, as the substantial volume of retirements from merger activity and share repurchase programs exceeded the considerable volume of gross issuance of both initial and seasoned public equities. As a result, businesses continued to borrow at a brisk pace: Aggregate debt of the nonfinancial business sector expanded at a 9½ percent annual rate in the first quarter. As financial market conditions improved after the turmoil of the fall, businesses returned to the corporate bond and commercial paper markets for funding, and corporate bond issuance reached a record high in March. Some of the proceeds were used to pay off bank loans, which had soared in the fall, and these repayments curbed the expansion of business loans at banks. Partial data for the second quarter indicate that borrowing by nonfinancial businesses slowed somewhat.

Risk spreads have receded on balance this year from their elevated levels in the latter part of 1998. From the end of December 1998 through mid-July, investment-grade corporate bond yields moved up from historically low levels, but by less than yields on comparable Treasury securities, and the spread between these yields narrowed to a level somewhat above that prevailing before the Russian crisis. The rise in investment-grade corporate bond yields was restrained by investors' apparently increased willingness to hold such debt, as growing optimism about the economy and favorable earnings reports gave investors more confidence about the prospective financial health of private borrowers. Yield spreads on below-investment-grade corporate debt over comparable Treasury securities, which had risen considerably in the latter part of 1998, also retreated. But in mid-July, these spreads were still well above the thin levels prevailing before the period of financial turmoil but in line with their historical averages.

In contrast to securities market participants, banks' attitudes toward business lending apparently became somewhat more cautious over the first half of the year, according to Federal Reserve surveys. The average spread of bank lending rates over the FOMC's target federal funds rate remained elevated. On net, banks continued to tighten lending terms and standards this year, although the percentage that reported tightening was much smaller than in the fall.

The overall financial condition of nonfinancial businesses was strong over the first half of the year, although a few indicators suggested a slight deterioration. In the first quarter, the ratio of net interest payments to corporate cash flow remained close to the modest levels of 1998, as low interest rates continued to hold down interest payments. Delinquency rates for commercial and industrial loans from banks ticked up, but they were still modest by historical standards. Similarly, over the first half of the year, business failures—measured as the ratio of liabilities of failed businesses to total liabilities—stepped up from the record low in 1998. The default rate on below-investment-grade bonds rose to its highest level in several years, an increase stemming in part from defaults by companies whose earnings were impaired by the drop in oil and other commodity prices last year. The total volume of business debt that was downgraded exceeded slightly the volume of debt that was upgraded.

The Government Sector

Federal Government

The incoming news on the federal budget continues to be quite favorable. Over the first eight months of fiscal year 1999—the period from October through May—the unified budget registered a surplus of about $41 billion, compared with $16 billion during the comparable period of fiscal 1998. If the latest projections from the Office of Management and Budget and the Congressional Budget Office are realized, the unified budget for fiscal 1999 as a whole will show a surplus of around $100 billion to $120 billion, or more than 1 percent of GDP—a striking turnaround from the outsized budget deficits of previous years, which approached 5 percent of GDP in the early 1990s.

As a result of this turnaround, the federal government is now contributing positively to the pool of national saving. In fact, despite the recent drop in the personal saving rate, gross saving by households, businesses, and governments has remained above 17 percent of GDP in recent quarters—up from the 14 percent range that prevailed in the early 1990s. This well-maintained pool of national savings, together with the continued willingness of foreigners to finance our current account deficits, has helped hold down the cost of capital, thus contributing to our nation's investment boom.

This year's increase in the federal surplus has reflected continued rapid growth of receipts in combination with a modest increase in outlays. Federal receipts were 5 percent higher in the first eight months of fiscal 1999 than in the year-earlier period. With profits leveling off from last year, receipts of corporate taxes have stagnated so far this fiscal year. However, individual income tax payments are up appreciably, reflecting the solid gains in household incomes and perhaps also a rise in capital gains realizations large enough to offset last year's reduction in capital gains tax rates. At the same time, federal outlays increased only 2½ percent in nominal terms and barely at all in real terms during the first eight months of the fiscal year, relative to the comparable year-earlier period. Spending growth has been restrained in major portions of both the discretionary (notably, defense) and nondiscretionary (notably, net interest, social security, and Medicare) categories—although this year's emergency supplemental spending bill, at about $14 billion, was somewhat larger than similar bills in recent years.

As for the part of federal spending that is counted in GDP, real federal outlays for consumption and gross investment, which had changed little over the past few years, declined at a 2 percent annual rate in the first quarter of 1999. A drop in real defense outlays more than offset a rise in nondefense expenditures in the first quarter. And despite the military action in the Balkans and the recent emergency spending bill, defense spending appears to have declined in the second quarter as well.

The budget surpluses of the past two years have led to a notable decline in the stock of federal debt held by private investors as a share of GDP. Since its peak in March 1997, the total volume of Treasury debt held by private investors has fallen by nearly $130 billion. The Treasury has reduced its issuance of interest-bearing marketable debt in fiscal 1999. The decrease has been concentrated in nominal coupon issues; in 1998, by contrast, the Treasury retired both bill and coupon issues in roughly equal measure. Offerings of inflation-indexed securities have remained an important part of the Treasury's overall borrowing program: Since the beginning of fiscal 1999, the Treasury has sold nearly $31 billion of such securities.

State and Local Governments

The fiscal condition of state and local governments has remained quite positive as well. Revenues have been boosted by increases in tax collections due to strong growth of private-sector incomes and expenditures—increases that were enough to offset an ongoing trend of tax cuts. Meanwhile, outlays have continued to be restrained. In all, at the state level, fiscal 1999 looks to have been the seventh consecutive year of improving fiscal positions; of the forty-six states whose fiscal years ended on June 30, all appear to have run surpluses in their general funds.

Real expenditures for consumption and gross investment by states and localities, which had been rising only moderately through most of 1998, jumped at a 7¾ percent annual rate in the first quarter of this year. This increase was driven by a surge in construction expenditures that was helped along by unseasonably favorable weather, and spending data for April and May suggest that much of this rise in construction spending was offset in the second quarter. As for employment, state and local governments added jobs over the first half of the year at about the same pace as they did last year.

Debt of state and local governments expanded at a 5½ percent rate in the first quarter. The low interest rate environment and strong economy encouraged the financing of new projects and the refunding of outstanding higher-rate debt. Borrowing slowed to a more modest pace in the second quarter, as yields on long-dated municipal bonds moved up, but by less than those on comparable Treasury securities. The credit quality of municipal securities improved further over the first half of the year, with more issues being upgraded than downgraded.

External Sector

Trade and the Current Account

The current account deficit reached $274 billion at an annual rate in the first quarter of 1999, a bit more than 3 percent of GDP, compared with $221 billion and 2½ percent of GDP for 1998. A widening of the deficit on trade in goods and services, to $215 billion at an annual rate in the first quarter from $173 billion in the fourth quarter of 1998, accounted for the deterioration in the current account balance. Data for April and May indicate that the trade deficit increased further in the second quarter.

The quantity of imports of goods and services again grew vigorously in the first quarter. The annual rate of growth of imports, at 13½ percent, continued the rapid pace seen over 1998 and reflected the strength of U.S. domestic demand and the effects of past dollar appreciation. Imports of consumer goods, automotive products, computers, and semiconductors were particularly robust. Preliminary data for April and May suggest that real import growth remained strong, as nominal imports rose steadily and non-oil import prices posted a moderate decline.

The volume of exports of goods and services declined at an annual rate of 5 percent in the first quarter. The decline partially reversed the strong increase in the fourth quarter of last year. The weakness of economic activity in a number of U.S. trading partners and the strength of the dollar damped demand for U.S. exports. Declines were registered in aircraft, machinery, industrial supplies, and agricultural products. Exports to Asia generally turned down in the first quarter from the elevated levels recorded in the fourth quarter, when they were boosted by record deliveries of aircraft to the region. Preliminary data for April and May suggest that real exports advanced slightly.

Capital Account

Foreign direct investment in the United States and U.S. direct investment abroad remained robust in the first quarter, reflecting brisk cross-border merger and acquisition activity. On balance, net capital flows through direct investment registered a modest outflow in the first quarter compared with a huge net inflow in the fourth quarter. Fourth-quarter inflows were swollen by several large mergers. Net foreign purchases of U.S. securities also continued to be quite sizable but again were well below the extraordinary pace of the fourth quarter. Most of the slowdown in the first quarter is attributable to a reduced demand for Treasury securities on the part of private investors abroad. But capital inflows from foreign official sources also slowed in the first quarter. U.S. residents on net sold foreign securities in the first quarter, but at a slower rate than in the previous quarter.

The Labor Market

Employment and Labor Supply

Labor demand remained very strong during the first half of 1999. Payroll employment increased about 200,000 per month on average, which, although less rapid than the 244,000 pace registered over 1998, is faster than the growth of the working-age population. With the labor force participation rate remaining about flat at just over 67 percent, the unemployment rate edged down further from an average of 4½ percent in 1998 to 4¼ percent in the first half of this year—the lowest unemployment rate seen in the United States in almost thirty years. Furthermore, the pool of potential workers, including not just the unemployed but also individuals who are out of the labor force but report that they want a job, declined late last year to the lowest share of the labor force since collection of these data began in 1970—and it has remained near that low this year. Not surprisingly, businesses in many parts of the country have perceived workers to be in very short supply, as evidenced by high levels of help-wanted advertising and surveys showing substantial difficulties in filling job openings.

Employment gains in the private service-producing sector remained sizable in the first six months of the year and more than accounted for the rise in nonfarm payrolls over this period. Payrolls continued to rise briskly in the services industry, with firms providing business services (such as help supply services and computer services) adding jobs especially rapidly. Job gains were quite sizable in retail trade as well. Within the service-producing sector, only the finance, insurance, and real estate industry has slowed the pace of net hiring from last year's rate, reflecting, in part, a slower rate of job gains in the mortgage banking industry as the refinancing wave has ebbed.

Within the goods-producing sector, the boom in construction activity pushed payrolls in that industry higher in the first six months of this year. But in manufacturing, where employment began declining more than a year ago in the wake of a drop in export demand, payrolls continued to fall in the first half of 1999; in all, nearly half a million factory jobs have been shed since March 1998. Despite these job losses, manufacturing output continued to rise in the first half of this year, reflecting large gains in labor productivity.

Labor Costs and Productivity

Growth in hourly compensation, which had been on an upward trend since 1995, appears to have leveled off and, by some measures, has slowed in the past year. According to the employment cost index (ECI), hourly compensation costs increased 3 percent over the twelve months ended in March, down from 3½ percent over the preceding twelve-month period. Part of both the earlier acceleration and more recent deceleration in the ECI apparently reflected swings in commissions, bonuses, and other types of ''variable'' compensation, especially in the finance, insurance, and real estate industry. But in addition, part of the recent deceleration probably reflects the influence of restrained price inflation in tempering nominal wage increases. Although down from earlier increases, the 3 percent rise in the ECI over the twelve months ended in March was well above the rise in prices over this period and therefore was enough to generate solid gains in workers' real pay.

The deceleration in the ECI through March has been most pronounced in the wages and salaries component, whose twelve-month change slowed ¾ percentage point from a year earlier. More recently, data on average hourly earnings of production or nonsupervisory workers may point to a leveling off, but no further slowing, of wage growth: This series was up at about a 4 percent annual rate over the first six months of this year, about the same as the increase over 1998. Growth in the benefits component of the ECI slowed somewhat as well in the year ended in March, to a 2¼ percent increase. However, employers' costs for health insurance are one component of benefits that has been rising more rapidly of late. After showing essentially no change from 1994 through 1996, the ECI for health insurance accelerated to a 3¾ percent pace over the twelve months ended in March.

A second measure of hourly compensation—the Bureau of Labor Statistics' measure of compensation per hour in the nonfarm business sector, which is derived from compensation information from the national accounts—has been rising more rapidly than the ECI in the past few years and has also decelerated less so far this year. Nonfarm compensation per hour increased 4 percent over the four quarters ended in the first quarter of 1999, 1 percentage point more than the rise in the ECI over this period. One reason these two compensation measures may diverge is that the ECI does not capture certain forms of compensation, such as stock options and hiring, retention, and referral bonuses, whereas nonfarm compensation per hour does measure these payments.[3] Although the two compensation measures differ in numerous other respects as well, the series' divergence may lend support to anecdotal evidence that these alternative forms of compensation have been increasing especially rapidly in recent years. However,

3. However, nonfarm compensation per hour captures the gains from the actual *exercise* of stock options, whereas for analyzing compensation trends, one might prefer to measure the value of the options at the time they are *granted*.

because nonfarm compensation per hour can be revised substantially, one must be cautious in putting much weight on the most recent quarterly figures from this series.

Rapid productivity growth has made it possible to sustain these increases in workers' compensation without placing great pressure on businesses' costs. Labor productivity in the nonfarm business sector posted another sizable gain in the first quarter of 1999, and the increase over the four quarters ended in the first quarter of 1999 was 2½ percent. Indeed, productivity has increased at a 2 percent pace since 1995—well above the trend of roughly 1 percent per year that had prevailed over the preceding two decades.[4] This recent productivity performance is all the more impressive given that businesses are reported to have had to divert considerable resources toward avoiding computer problems associated with the century date change, and given as well that businesses may have had to hire less-skilled workers than were available earlier in the expansion when the pool of potential workers was not so shallow. Part of the strength in productivity growth over the past few years may have been a cyclical response to the rapid growth of output over this period. But productivity may also be reaping a more persistent payoff from the boom in business investment and the accompanying introduction of newer technologies that have occurred over the past several years.

Even these impressive gains in labor productivity may not have kept up fully with increases in firms' real compensation costs of late. Over the past two years, real compensation, measured by the ECI relative to the price of nonfarm business output, has increased the same hefty 2½ percent per year as labor productivity; however, measured instead using nonfarm compensation per hour, real compensation has increased somewhat more than productivity over this period, implying a rising share of compensation in total national income. A persistent period of real compensation increases in excess of productivity growth would reduce firms' capacity to absorb further wage gains without putting upward pressure on prices.

Prices

Price inflation moved up in early 1999 from a level in 1998 that was depressed by a transitory drop in energy and other commodity prices. After increasing only about 1½ percent over 1998, the consumer price index rose at a 2¼ percent annual rate over the first six months of this year, driven by a sharp turnaround in prices of gasoline and heating oil. However, the so-called "core" CPI, which excludes food and energy items, rose at an annual rate of only 1.6 percent over this period—a somewhat smaller increase than that registered over 1998 once adjustment is made for the effects of changes in CPI methodology: According to a new research series from the Bureau of Labor Statistics (BLS), the core CPI would have increased 2.2 percent over 1998

4. About ¼ percentage point of the improvement in productivity growth since 1995 can be attributed to changes in price measurement. The measure of real output underlying the productivity figures since 1995 is deflated using CPI components that have been constructed using a geometric-means formula; these components tend to rise less rapidly than the CPI components that had been used in the output and productivity data before 1995. These smaller CPI increases translate into more rapid growth of output and productivity in the later period.

had 1999 methods been in place in that year.[5]

The moderation of the core CPI in recent years has reflected a variety of factors that have helped hold inflation in check despite what has been by all accounts a very tight labor market. Price increases have been damped by substantial growth in manufacturing capacity, which has held plant utilization rates in most industries at moderate (and in some cases subpar) levels, thereby reinforcing competitive pressures in product markets. Furthermore, rapid productivity growth helped hold increases in unit labor costs to low levels even as compensation growth was picking up last year. The rise in compensation itself has been constrained by moderate expectations of inflation, which have been relatively stable. According to the Michigan SRC survey, the median of one year-ahead inflation expectations, which was about 2½ percent late last year, averaged 2¾ percent in the first half of this year.

The quiescence of inflation expectations, at least through the early part of this year, in turn may have come in part from the downward movement in overall inflation last year resulting from declines in prices of imports and of oil and other commodities. These price declines have not been repeated more recently. This year's rise in energy prices is the clearest example, but commodity prices more generally have been turning up of late. The Journal of Commerce industrial price index has moved up about 6 percent so far this year after having declined about 10 percent last year, with especially large increases posted for prices of lumber, plywood, and steel. These price movements are starting to be seen at later stages of processing as well: The producer price index for intermediate materials excluding food and energy, which gradually declined about 2 percent over the fifteen months through February 1999, retraced about half of that decrease by June. Furthermore, non-oil import prices,

5. The most important change this year was the introduction of the geometric-means formula to aggregate price quotes within most of the detailed item categories. (The Laspeyres formula continues to be used in constructing higher-level aggregates.) Although these geometric-means CPIs were introduced into the official CPI only in January of this year, the BLS generated the series on an experimental basis going back several years, allowing them to be built into the national income and product accounts back to 1995.

Alternative Measures of Price Change

Percent, annual rate

Price measure	1996:Q4 to 1997:Q4	1997:Q4 to 1998:Q4	1998:Q4 to 1999:Q1
Fixed-weight			
Consumer price index	1.9	1.5	1.5
Excluding food and energy	2.2	2.4	1.6
Chain-type			
Gross domestic product	1.7	.9	1.6
Gross domestic purchases	1.3	.4	1.2
Personal consumption expenditures	1.5	.7	1.2
Excluding food and energy	1.6	1.2	1.3

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

although continuing to fall this year, have moved down at a slower rate than that of the past couple of years when the dollar was rising sharply in foreign exchange markets. Non-oil import prices declined at a 1¼ percent annual rate over the first half of 1999, after having fallen at a 3 percent rate, on average, over 1997 and 1998.

Some other broad measures of prices also showed evidence of acceleration early this year. The chain-type price index for GDP—which covers prices of all goods and services produced in the United States—rose at about a 1½ percent annual rate in the first quarter, up from an increase of about 1 percent last year. A portion of this acceleration reflected movements in the chain-type price index for personal consumption expenditures (PCE) that differed from movements in the CPI.

Although the components of the CPI are key inputs into the PCE price index, the two price measures differ in a variety of respects: They use different aggregation formulas; the weights are derived from different sources; the PCE measure does not utilize all components of the CPI; and the PCE measure is broader in scope, including not just the out-of-pocket expenditures by households that are captured by the CPI, but also the portion of expenditures on items such as medical care and education that are paid by insurers or governments, consumption of items such as banks' checking services that are provided without explicit charge, and expenditures made by nonprofit institutions. Although PCE prices typically rise a bit less rapidly than the CPI, the PCE price measure was unusually restrained relative to the CPI in the few years through 1998, reflecting a combination of the above factors.

Last year's sharp drop in retail energy prices and the subsequent rebound this spring reflected movements in the price of crude oil. The spot price of West Texas intermediate (WTI) crude oil, which had stood at about $20 per barrel through most of 1997, dropped sharply over 1998 and reached $11 per barrel by the end of the year, reflecting in part a weakening in demand for oil from the distressed Asian nations and increases in supply from Iraq and other countries. But oil prices jumped this year as the OPEC nations agreed on production restraints aimed at firming prices, and the WTI spot price reached $18 per barrel in April and has moved still higher more recently. As a result, gasoline prices, which dropped 15 percent over 1998, reversed almost all of that decline over the first six months of this year. Prices of heating fuel also rebounded after dropping in 1998. In all, the CPI for energy rose at a 10 percent annual rate over the December-to-June period.

Consumer food prices increased moderately over the first six months of the year, rising at a 1¾ percent annual rate. Despite the upturn in commodity prices generally, farm prices have remained quite low and have helped to hold down food price increases. Spot prices of wheat, soybeans, and sugar have moved down further this year from already depressed levels at the end of 1998, and prices of corn and coffee have remained low as well.

The CPI for goods other than food and energy declined at about a ½ percent annual rate over the first six months of 1999, after having risen 1¼ percent over 1998. The 1998 increase reflected a sharp rise in tobacco prices in December associated with the settlement of litigation between the tobacco companies and the states; excluding tobacco, the CPI for core goods was about flat last year. The decline in the first half of this year was concentrated in durable goods, where prices softened for a wide range of items, including motor vehicles. The CPI for non-energy services increased about 2½ percent at an annual rate in the first half, down a little from the increase over 1998. Increases in the CPI for rent of shelter have slowed thus far in 1999, rising at a 2½ percent annual rate versus a 3¼ percent rise last year. However, airfares and prices of medical services have been rising more rapidly so far this year.

Debt and the Monetary Aggregates

Debt and Depository Intermediation

The total debt of the U.S. household, government, and nonfinancial business sectors increased at about a 6 percent annual rate from the fourth quarter of 1998 through May, a little above the midpoint of its growth range of 3 percent to 7 percent. Nonfederal debt expanded briskly at about a 9 percent annual pace, in association with continued strong private domestic spending on consumer durable goods, housing, and business investment. By contrast, federal debt contracted at a 3 percent annual rate, as budget surpluses reined in federal government financing needs.

Credit extended by depository institutions slumped over the first half of 1999, after having expanded quite briskly in 1998. A fair-sized portion of the expansion in 1998 came in the fourth quarter and stemmed from the turmoil in financial markets. In that turbulent environment, depository institutions postponed securitization of mortgages, and businesses shifted their funding demand from securities markets to depository institutions, where borrowing costs in some cases were governed by pre-existing lending commitments. Depository institutions also acquired mortgage-backed securities and other private debt instruments in volume, as their yields evidently rose relative to depository funding costs. As financial stresses unwound, securitization resumed, business borrowers returned to securities markets, and net purchases of securities slowed. From the fourth quarter of 1998 through June, bank credit rose at a 3 percent annualized pace, after adjusting for the estimated effects of mark-to-market accounting rules.

Monetary Aggregates

The growth of M3, the broadest monetary aggregate, slowed appreciably over the first half of 1999. M3 expanded at a 6 percent annual pace from the fourth quarter of 1998 through June of this year, placing this aggregate at the top of the 2 percent to 6 percent price-stability growth range set by the FOMC at its February meeting. With depository credit growing modestly, depository institutions trimmed the managed liabilities included in M3, such as large time deposits. Growth of institutional money market mutual funds also moderated from its rapid pace in 1998. Rates on money market funds tend to lag the movements in market rates because the average rate of return on the portfolio of securities held by the fund changes more slowly than market rates. In the fall, rates on institutional money market funds did not decline as fast as market rates after the Federal Reserve eased monetary policy, and the growth of these funds soared. As rates on these funds moved back into alignment with market rates this year, growth of these funds ebbed.

M2 advanced at a 6¼ percent annual rate from the fourth quarter of 1998 through June. M2 growth had been elevated in late 1998 by unsettled financial conditions, which raised the demand

Growth of Money and Debt

Percent

Period	M1	M2	M3	Domestic non-financial debt
Annual [1]				
1989	.6	5.2	4.1	7.5
1990	4.2	4.2	1.9	6.7
1991	8.0	3.1	1.2	4.5
1992	14.3	1.8	.6	4.5
1993	10.6	1.3	1.0	4.9
1994	2.5	.6	1.7	4.9
1995	–1.6	3.9	6.1	5.4
1996	–4.5	4.6	6.8	5.1
1997	–1.2	5.8	8.8	4.8
1998	1.8	8.5	10.9	6.1
Quarterly (annual rate) [2]				
1999:Q1	2.8	7.2	7.3	5.9
Q2	3.4	5.7	5.0	n.a.
Year-to-date [3]				
1999	2.0	6.2	6.0	6.1

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.

3. From average for fourth quarter of 1998 to average for June (May in the case of domestic nonfinancial debt).

n.a. Not available.

for liquid money balances, and by the easing of monetary policy, which reduced the opportunity costs of holding the assets included in the monetary aggregates. M2 growth moderated over the first half of 1999, as the heightened demand for money waned; in June this aggregate was above its 1 percent to 5 percent price-stability growth range. The growth in M2 over the first half of the year again outpaced that of nominal income, although the decline in M2 velocity—the ratio of nominal income to M2—was at a slower rate than in 1998. The decline this year reflected in part a continuing lagged response to the policy easing in the fall; however, the drop in M2 velocity was again larger than predicted on the basis of the historical relationship between the velocity of M2 and the opportunity costs of holding M2—measured as the difference between the rate on three-month Treasury bills and the average return on M2 assets. The reasons for the decline of M2 velocity this year are not clear; the drop extends a trend in velocity evident since mid-1997 and may in part owe to households' efforts to allocate some wealth to the assets included in M2, such as deposits and money market mutual fund shares, after several years of substantial gains in equity prices that greatly raised the share of wealth held in equities.

M1 increased at a 2 percent annualized pace from the fourth quarter of 1998 through June, in line with its advance in 1998. The currency component of M1 expanded quite rapidly. The strength appeared to stem from domestic, rather than foreign, demand, perhaps reflecting vigorous consumer spending, although currency growth was more robust than might be expected for the rise in spending. The deposits in M1—demand deposits and other checkable deposits—contracted further, as retail sweep programs continued to be introduced. These programs, which first began in 1994, shift funds from a depositor's checking account, which is subject to reserve requirements, to a special-purpose money market deposit account, which is not. Funds are then shifted back to the checking account when the depositor's account balance falls below a given level. The depository institution benefits from a retail sweep program because the program cuts its reserve requirement and thus the amount of non-interest-bearing reserve balances that it must hold at its Federal Reserve Bank. New sweep programs depressed the growth of M1 by about 5¼ percentage points over the first half of 1999, somewhat less than in previous years because most of the depository institutions that would benefit from such programs had already implemented them.

As a consequence of retail sweep programs, the balances that depository institutions are required to hold at the Federal Reserve have fallen about 60 percent since 1994. This development has the potential to complicate reserve management by the Federal Reserve and depository institutions and thus raise the volatility of the federal funds rate. It would do so by making the demand for balances at the Federal Reserve more variable and less predictable. Before the introduction of sweeps, the demand for balances was high and stable because reserve balance requirements were large, and the requirements were satisfied by the average of daily balances held over a maintenance period. With sweep programs reducing required balances to low levels, depository institutions have found that they target balances in excess of their required balances in order to gain sufficient protection against unanticipated debits that could leave their accounts overdrawn at the end of the day. This payment-related demand for balances varies more from day to day than the requirement-related demand. Thus far, the greater variation in the demand for balances has not made the federal funds rate appreciably more volatile, in part reflecting the successful efforts of depository institutions and the Federal Reserve to adapt to lower balances. For its part, the Federal Reserve has conducted more open market operations that mature the next business day to better align daily supply with demand. Nonetheless, required balances at the Federal Reserve could drop to levels at which the volatility of the funds rate becomes pronounced. One way to address the problem of declining required balances would be to permit the Federal Reserve to pay interest on the reserve balances that depository institutions hold. Paying interest on reserve balances would reduce considerably the incentives of depository institutions to develop reserve-avoidance practices that may complicate the implementation of monetary policy.

U.S. Financial Markets

Yields on Treasury securities have risen this year in response to the ebbing of the financial market strains of late 1998, surprisingly strong economic activity, concerns about the potential for increasing inflation, and the consequent anticipation of tighter monetary policy. In January, yields on Treasury securities moved in a narrow range, as lingering safe-haven demands for dollar-denominated assets, owing in part to the devaluation and subsequent floating of the Brazilian *real*, about offset the effect on yields of stronger-than-expected economic data. Over subsequent months, however, yields on Treasury securities, especially at intermediate and long maturities, moved up substantially. The demand for the safest and most liquid assets, which had pulled down Treasury yields in the fall, abated as the strength in economic activity and favorable earnings reports engendered optimism about the financial condition of private borrowers and encouraged investors to buy private securities. In addition, rising commodity prices, tight labor markets, and robust economic activity led market participants to conclude that monetary policy would need to be tightened, perhaps in a series of steps. This view, accentuated by the FOMC's announcement after its May meeting that it had adopted a directive tilted toward tightening policy, also boosted yields. Between the end of 1998 and mid-July, Treasury yields added about 80 basis points to 110 basis points, on balance, with the larger increases in the intermediate maturities. The rise in Treasury bill rates, anchored by the modest upward move in the FOMC's target federal funds rate, was much less, about 10 basis points to 40 basis points.

The recovery in fixed-income markets over the first half of the year was evident in a number of indicators of market conditions. Market liquidity was generally better, and volatility was lower. The relative demand for the most liquid Treasury securities—the most recently auctioned security at each maturity—was not so acute, and yields on these securities were in somewhat closer alignment with yields on issues that had been outstanding longer. Dealers were more willing to put capital at risk to make markets, and bid–asked spreads in Treasury securities narrowed somewhat, though, in June they were still a bit wider than had been typical. Market expectations of asset price volatility, as reflected in prices on Treasury bond options contracts, receded on balance. The implied volatility of bond prices dropped off until April and then turned back up, as uncertainty about the timing and extent of a possible tightening of monetary policy increased.

Yields on inflation-indexed Treasury securities have only edged up this year, and the spreads between yields on nominal Treasury securities and those on comparable inflation-indexed securities have widened considerably. Yields on inflation-indexed securities did not decline in late 1998 like those of their nominal counterparts, in part because these securities were not perceived as being as liquid as nominal Treasury securities. Thus, as the safe-haven demand for nominal Treasury securities unwound and nominal yields rose, yields on inflation-indexed securities did not move up concomitantly. Moreover, these yields were held down by some improvement in the liquidity of the market for inflation-indexed securities, as suggested by reports of narrower bid–asked spreads, which provided additional impetus for investors to acquire these securities. Because of such considerations, the value of the yield spread between nominal and inflation-indexed Treasury securities as an indicator of inflation expectations is limited. Nonetheless, the widening of the spread this year may have reflected some rise in inflation expectations.

Equity prices have climbed this year. Major equity price indexes posted gains of 10 percent to 31 percent, on balance, between the end of 1998 and July 16, when most of them established record highs. The lift to prices from stronger-than-anticipated economic activity and corporate profits apparently has offset the damping effect of rising bond yields. Prices of technology issues, especially Internet stocks, have risen considerably on net, despite some wide swings in sentiment. Share prices of firms producing primary commodities, which tumbled in the fall, rebounded to post large price gains, perhaps because of the firming of commodity prices amid perceptions that Asian economies were improving. Consensus estimates of earnings over the coming twelve months have strengthened, but in June the ratio of these estimates to prices, as measured by the S&P 500 index, was near the record low established in May. Meanwhile, real interest rates, measured as the difference between the yield on the nominal ten-year Treasury note and a survey-based measure of inflation expectations, moved up. Consequently, the risk premium for holding equities remained quite small by historical standards.

Year 2000 Preparedness

The Federal Reserve and the banking system have largely completed preparing technical systems to ensure that they will function at the century date change and are taking steps to deal with potential contingencies. The Federal Reserve successfully completed testing all of its mission-critical computer systems for year 2000 compliance, including its securities and funds transfer systems. As a precaution to assure the public that sufficient cash will be available in the event that demand for U.S. currency rises in advance of the century date change, the Federal Reserve will increase considerably its inventory of currency by late 1999. In addition, the Federal Reserve established a Century Date Change Special Liquidity Facility to supply collateralized credit freely to depository institutions at a modest penalty to market interest rates in the months surrounding the rollover. This funding should help financially sound depository institutions commit more confidently to supplying loans to other financial institutions and businesses in the closing months of 1999 and early months of 2000.

All depository institutions have been subject to special year 2000 examinations by their banking supervisors to ensure their readiness. Banks, in turn, have worked with their customers to encourage year 2000 preparedness by including a review of a customer's year 2000 preparedness in their underwriting or loan-review standards and documentation. According to the Federal Reserve's May 1999 Senior Loan Officer Opinion Survey, a substantial majority of the respondent banks have largely completed year 2000 preparedness reviews of their material customers. Most banks reported that only a small portion of their customers have not made satisfactory progress.

Banks in the Federal Reserve's survey reported little demand from their clients for special contingency lines of credit related to the century date change, although many expect demand for such lines to increase somewhat as the year progresses. Almost all domestic respondents reported that they are willing to extend such credit lines, although in some cases with tighter standards or terms.

International Developments

Global economic prospects look considerably brighter than they did only a few months ago. To an important degree, this improvement owes to the rebound in the Brazilian economy from the turmoil experienced in January and February and to the fact that the fallout from Brazil on other countries was much less than it might have been. The fear was that the collapse of the Brazilian *real* last January would unleash a spiral of inflation and further devaluation and lead to a default on government domestic debt, destabilizing financial markets and triggering an intensified flight of capital from Brazil. In light of events following the Russian debt moratorium and collapse of the ruble last year, concern existed that a collapse of the *real* could also have negative repercussions in Latin America more broadly, and possibly even in global financial markets.

Developments in Brazil turned out better than expected over the weeks after the floating of the *real* in January. Between mid-January and early March, the *real* lost 45 percent of its value against the dollar, reaching a low of 2.2 per dollar, but then started to recover after the Brazilian central bank raised the overnight interest rate from 39 percent to 45 percent and made clear that it gave a high priority to fighting inflation. By mid-May, the *real* had strengthened to 1.65 per dollar, even while the overnight rate had been cut, in steps, from its March high. The overnight rate was reduced further, to 21 percent by the end of June, but the *real* fell back only modestly and stood at about 1.80 per dollar in mid-July. Brazil's stock market also rose sharply and was up by about 65 percent in the year to date.

Several favorable developments have worked to support the *real* and equity prices over the past few months. Inflation has been lower than expected, with consumer price inflation at an annual rate of around 8 percent for the first half of the year. Greater-than-expected real GDP growth in the first quarter, though attributable in part to temporary factors, provided some evidence of a bottoming out, and possible recovery, in economic activity over the first part of this year. And in the fiscal arena, the government posted a primary surplus of more than 4 percent of GDP in the first quarter—well above the goal in the International Monetary Fund program. The positive turn of events has facilitated a return of the Brazilian government and private-sector borrowers to international bond markets, albeit on more restrictive terms than those of a year ago.

Since the middle of May, however, the road to recovery in Brazil has become bumpier. The central government posted a fiscal deficit in May that was bigger than had been expected. In addition, court challenges have called into question fiscal reforms enacted earlier this year that were expected to improve the government's fiscal balance by about 1 percent of GDP. In May, the rise in U.S. interest rates associated with the anticipated tightening in the stance of U.S. monetary policy helped push Brady bond yield spreads up more than 200 basis points. Although they narrowed some in June, they widened recently on concerns about Argentina's economic situation.

The Brazilian crisis did trigger renewed financial stress throughout Latin America, as domestic interest rates and Brady bond yield spreads increased sharply in January from levels that had already been elevated by the Russian crisis. Nonetheless, these increases were generally smaller than those that had followed the Russian crisis, and as developments in Brazil proved more positive than expected, financial conditions in the rest of the region stabilized rapidly. Even so, the combination of elevated risk premiums and diminished access to international credit markets, as well as sharp declines in the prices of commodity exports, had significant consequences for GDP growth, which began to slow or turn negative throughout the region in late 1998 and early 1999.

Mexico appears to have experienced the least diminution in economic growth, likely because of its strong trade links with the United States, where growth has been robust. A flattening in Mexican GDP in the final quarter of 1998 has given way to renewed, but moderate, growth more recently, and the Mexican peso has appreciated by about 5½ percent relative to the dollar since the start of the year. By contrast, economic activity in Argentina declined sharply in the first quarter, in part because of the devaluation and relatively weak economic activity in Brazil, Argentina's major trading partner. More recently the earlier recovery in

Argentina's financial markets appears to have backtracked as concern has increased about the medium- to long-run viability of the currency peg to the dollar. Several countries in the region, including Venezuela, Chile, and Colombia, also experienced sharp declines in output in the first quarter, stemming in part from earlier declines in oil and other commodity prices.

In emerging Asia, signs of recovery in financial markets and in real activity are visible in most of the countries that experienced financial crises in late 1997. However, the pace and extent of recovery is uneven across countries. The strongest recovery has been in Korea. In 1998, the Korean won reversed nearly half of its sharp depreciation of late 1997. It has been little changed on balance this year, as Korean monetary authorities have intervened to moderate its further appreciation. Korean stock prices have also staged an impressive recovery—moving up about 75 percent so far in 1999. In the wake of its financial crisis, output in Korea fell sharply, with industrial production down about 15 percent by the middle of last year. Since then, however, production has bounced back. With the pace of the recovery accelerating this year, all of the post-crisis drop in production has been reversed. This turnaround reflects both the improvement in Korea's external position, as the trade balance has swung into substantial surplus, and the government's progress in addressing the structural problems in the financial and corporate sectors that contributed to the crisis.

Financial markets in the Southeast Asian countries that experienced crises in 1997 (Thailand, Singapore, Malaysia, Indonesia, and the Philippines) apparently were little affected by spillover from Brazil's troubles earlier this year and have recovered on balance over the past year, with exchange rates stabilizing and stock prices moving higher. Financial conditions have been weakest in Indonesia, in large part a result of political uncertainty; but even so, domestic interest rates have dropped sharply, and the stock market has staged an impressive rebound since April. The recovery of economic activity in these countries has been slower and less robust than in Korea, possibly reflecting slower progress in addressing structural weaknesses in the financial and corporate sectors. However, activity appears to have bottomed out and has recently shown signs of starting to move up in these countries.

Financial markets in China and Hong Kong experienced some turbulence at the start of the year when Chinese authorities put the Guangdong International Trust and Investment Corporation (GITIC) into bankruptcy, leading to rating downgrades for some Chinese financial institutions, including the major state commercial banks. The GITIC bankruptcy also raised concerns about Hong Kong financial institutions, which are heavy creditors to Chinese entities. These concerns contributed to a substantial increase in yield spreads between Hong Kong government debt and U.S. Treasury securities and to a fall in the Hong Kong stock market of about 15 percent. Spreads have narrowed since, falling from about 330 basis points on one-year debt in late January to about 80 basis points by mid-May, and have remained relatively stable since then. Equity prices also rebounded sharply, rising nearly 50 percent between mid-February and early May. Despite sizable volatility in May and June, they are now roughly unchanged from early May levels.

In Japan, a few indicators suggest that recovery from a prolonged recession may be occurring. Principally, first-quarter GDP growth at an annual rate of 7.9 percent was recorded—the first positive growth in six quarters. This improvement reflects in part a shift toward more stimulative fiscal and monetary policies. On the fiscal front, the government announced a set of measures at the end of last year that were slated for implementation during 1999 and included permanent cuts in personal and corporate income taxes, various investment incentives, and increases in public expenditures. The large-scale fiscal expansion and concern about increases in the supply of government bonds caused bond yields to more than double late last year and early this year, to a level of about 2 percent on the ten-year bond.

In mid-February, primarily because of concern about the prolonged weakness in economic activity and pronounced deflationary pressures but also in response to the rising bond yields, the Bank of Japan announced a reduction in the target for the overnight call-money rate and subsequently guided the rate to its present level of 3 basis points by early March. This easing of monetary policy had a stimulative effect on Japanese financial markets, with the yield on the ten-year government bond falling more than 75 basis points, to 1.25 percent by mid-May. More recently, the yield has risen to about 1.8 percent, partially in response to the release of unexpectedly strong first-quarter GDP growth. Supportive monetary conditions, coupled with restructuring announcements from a number of large Japanese firms and growing optimism about the economic outlook, have fueled a rise in the Nikkei from around 14,400 over the first two months of the year to over 18,500 in mid-July.

The improved economic performance in Japan also reflects some progress on addressing persistent problems in the financial sector. In March the authorities injected 7½ trillion yen of public funds into large financial institutions and began to require increased provisioning against bad loans as well as improved financial disclosure. Although much remains to be done, these actions appear to have stabilized conditions, at least temporarily, in the banking system, and the premium on borrowing rates paid by leading Japanese banks declined to zero by March.

The yen strengthened in early January, supported by the runup in long-term Japanese interest rates, reaching about 110 per dollar—its highest level in more than two years. However, amid apparent intervention by the Japanese authorities, the yen retreated to a level above 116 per dollar, and it remained near that level until the mid-February easing of monetary policy and the subsequent decline of interest rates when it depreciated to about 120 per dollar. In mid-June, the Japanese authorities intervened in the foreign exchange market in an effort to limit appreciation of the yen after the surprisingly strong first-quarter GDP release increased market enthusiasm for that currency. The authorities noted that a premature strengthening of the yen was undesirable and would weigh adversely on economic recovery.

In the other major industrial countries, the pace of economic growth this year has been mixed. Economic developments in Canada have been quite favorable. GDP rose 4¼ percent at an annual rate in the first quarter after a fourth-quarter gain of 4¾ percent, with production fueled by strong demand for Canadian products from the United States. Core inflation remains low, near the lower end of the Bank of Canada's target range of 1 percent to 3 percent, although overall inflation rose some in April and May. Oil prices and other commodity prices have risen, and the current account deficit has narrowed considerably. These factors have helped the Canadian dollar appreciate relative to the U.S. dollar by about 4 percent this year and have facilitated a cut in short-term interest rates of 50 basis points by the Bank of Canada. Along with rising long-term interest rates elsewhere, long rates have increased in Canada by about 30 basis points over the course of this year. Even so, equity prices have risen about 12 percent since the start of the year, although the rise in long-term rates has undercut some of the momentum in the stock market.

In the United Kingdom, output was flat in the first quarter, coming off a year in which GDP growth had already slowed markedly. However, the effects of aggressive interest rate reductions undertaken by the Bank of England in late 1998 and earlier this year appear to have emerged in the second quarter, with gains in industrial production, retail sales volume, and business confidence. Inflationary pressures have been well contained, benefiting in part from the continued strength in sterling; the Bank of England cut interest rates, most recently in June, to reduce the likelihood of inflation undershooting its target of 2½ percent. Consistent with expectations of an upturn in growth, equity prices have risen more than 15 percent, and long-term bond yields have climbed nearly 80 basis points since the end of last year.

First-quarter growth in the European countries that have adopted a common currency (euro area) regained some momentum from its slow pace in late 1998 but was nevertheless below potential, as production continued to react to the decline in export orders registered over the course of 1998 and in early 1999. Still, the drag on overall production from weak export demand from Asia and eastern Europe appears to have lifted a bit in the past few months, although the signs of a pickup in growth were both tentative and uneven across the euro area. In Germany, industrial production was higher in April and May than in the preceding two months, and export orders were markedly higher in those months than they had been at any time since the spring of 1998. But in France, which had been the strongest of the three largest euro-area economies in 1998, GDP growth was a meager 1¼ percent at an annual rate in the first quarter, and industrial production slipped in April.

On average in the euro area, inflation has remained quite tame, even as rising oil prices, a declining euro, and, at least in Germany, an acceleration in wage rates have raised inflationary pressures this year. The low average rate of inflation as well as the still sluggish pace of real activity in some of the euro-area countries led the European Central Bank to lower the overnight policy rate by 50 basis points in April, on top of cuts in short-term policy rates made by the national central banks late last year that, on average, were worth about 60 basis points.

Notwithstanding the easing of the policy stance, long-term government bond yields have risen substantially from their January lows in the largest economies of the euro area. Ten-year rates spiked in early March along with U.S. rates, fell back some through mid-May, and then resumed an upward course around the time the FOMC adopted a tightening bias in mid-May. Since the middle of June, a relatively sharp increase in yields has pushed them to about 100 basis points above their values at the start of the year and has narrowed what had been a growing interest rate differential between U.S. and European bonds. In addition to the pressure provided by the increase in U.S. rates, the runup in European yields likely reflects the belief that short-term rates have troughed, as the incipient recovery in Asia not only reduces the drag on European exports but also attenuates deflationary pressures on European import prices. Concern about the fall in the exchange value of the euro may also have contributed to an assessment that the next move in short-term rates would be up. Gains in equity prices so far this year—averaging about 12½ percent—are also suggestive of the belief that economic activity may be picking up, although the range in share price movements is fairly broad, even considering only the largest economies: French equity prices have risen about 20 percent, German prices are up 13 percent, and Italian prices are up only 5 percent.

The new European currency, the euro, came into operation at the start of the year, 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 euro were set on December 31; based on these rates, the value of the euro at the moment of its creation was $1.16675. Trading in the euro opened on January 4, and after jumping on the first trading day, its value has declined relative to the dollar almost steadily and is now about 13 percent below its initial value. The course of the euro–dollar exchange rate likely has reflected in part the growing divergence in both the cyclical positions and, until recently, long-term bond yields of the euro-area economies and the United States. Concerns about fiscal discipline in Italy—the government raised its 1999 deficit-to-GDP target from 2.0 percent to 2.4 percent—and about progress on structural reforms in Germany and France have also been cited as contributing to weakness in the euro, with the European Central Bank recently characterizing national governments' fiscal policy plans as "unambitious."

On balance the dollar has appreciated more than 4½ percent against an index of the major currencies since the end of last year, owing mainly to its strengthening relative to the euro. Nevertheless, it remains below its recent peak in August of last year when the Russian debt moratorium and subsequent financial market turmoil sent the dollar on a two-month downward slide. ■