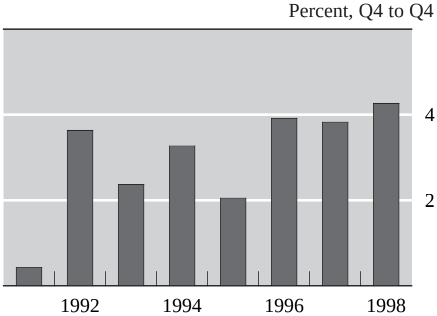
Economic and Financial Developments in 1998

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. Real GDP increased more than 4 percent over the four quarters of the year, according to the Commerce Department's preliminary estimate. The economic difficulties facing many U.S. trading partners, together with 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 about 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.

The increase in the general price level in 1998 was smaller than that of the preceding 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 many imported goods, including oil and other primary commodities. In the domestic economy, the 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.

Change in Real GDP



NOTE. The data are based on chained (1992) dollars and come from the Department of Commerce.

The Household Sector

Personal consumption expenditures increased more than 5 percent in real terms in 1998, the largest gain in a decade and a half. Support for the large spending increase 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, household wealth again rose substantially, bolstered in large part by the continued rise in equity prices. Household net worth at the end of 1998 was up more than 10 percent from the level at the end of 1997. The cumulative gain in household wealth from year-end 1994 to year-end 1998 was 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 increase their saving from current income when they feel that they must increase their wealth to meet their longer-run objectives, but they are willing to reduce their saving from current income when they feel that their wealth is already 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.

Personal consumption expenditures in all three major categories—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 nearly 75 percent in real terms, a gain that reflected both an increase in 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 strike at a major automaker. Spending on most other types of durable goods registered gains well above the average annual increases of the past decade or so. Because durable goods are not consumed all at once—but, rather, add to stocks of such goods that will be yielding services to consumers for a number of years—they represent a form of economic saving that is not captured in the measure of the saving rate in the national income accounts.

The increases in income and net worth that led households to boost their consumption expenditures in 1998 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 over the decade, rose to another new high.

In the single-family sector, sales of new and existing homes surged, the former rising more than 10 percent from the preceding year and the latter about 13 percent. Construction of single-family houses strengthened markedly. The number of units started during the year was the largest since the late 1970s and exceeded the 1997 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.

In contrast to the strength in the single-family sector, the number of multifamily units started in 1998 was up only a little from 1997. After bottoming out at a very low level early in the 1990s, construction of these units had been trending back up fairly briskly. But with vacancy rates for multifamily rental units running a touch higher in 1998, 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 promising projects; 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.

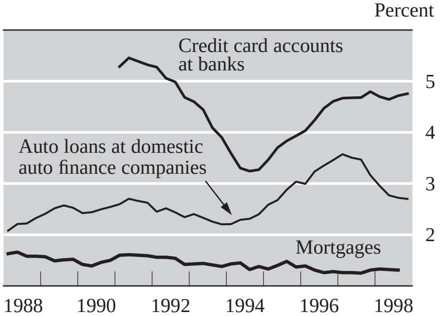
Total outlays for residential investment increased about 12¾ percent in real terms during 1998, according to the Commerce Department's preliminary tally. The large increase reflected not only the construction work on new residential units undertaken during the year but also sizable advances in real outlays 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 of nearly 9 percent, a larger rise than in other recent years. Nonmortgage debt increased 5½ percent, about 1 percentage point above the preceding year's pace but down considerably from the double-digit increases of 1994 and 1995. Home mortgage debt jumped nearly 10 percent, its largest annual advance since 1989, boosted in part by the strong housing market. In addition, with mortgage rates reaching their lowest levels in many years, many households refinanced existing mortgages, and some likely took the opportunity to increase the size of their mortgages, using the extra funds 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 between mid-1996 and mid-1997 in response to a rise in losses on such loans, a smaller and declining fraction of banks tightened consumer lending standards and terms in 1998, 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 in 1998, although some remained at high levels. The delinquency rate for home mortgages has stayed quite low in recent years, and that for auto loans at domestic auto finance companies has trended lower. The delinquency rate for credit card loans at banks fluctuated in a fairly narrow range in 1997 and 1998, but it remained elevated after having risen substantially over the previous two years. Personal bankruptcy filings have followed a broadly similar pattern: Growth ran at about a 3 percent annual rate, on average, from the spring of 1997 to the autumn of 1998, down from annual increases of roughly 25 percent between early 1995 and early 1997. The stability of these measures over the past couple of years is likely due in part to the earlier tightening of standards and

Delinquency Rates on Household Loans



NOTE. The data are quarterly. Data on credit card delinquencies are from bank Call Reports; data on auto loan delinquencies are from the Big Three automakers; data on mortgage delinquencies are from the Mortgage Bankers Association and are through 1998:Q3.

terms on consumer loans. In addition, lower interest rates and longer loan maturities, which resulted from the shift toward mortgage finance, have helped mitigate the effects of increased borrowing on household debt-service burdens.

The Business Sector

Business fixed investment increased about 12¼ percent over 1998, with a 17 percent rise in equipment spending accounting for the entire 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 was likely due in part to the efforts of some businesses to put new computer systems in place before the end of the millennium, in hopes of avoiding difficulties associated with the Y2K problem. Beyond that, investment in computers was 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 in 1998 were especially large because 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 18 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 for this type of equipment began to record sustained large annual increases in 1994, and the advance in 1998 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 4¼ percent after having made 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 unchanged in 1998, according to the preliminary estimate. Sharply divergent trends were evident within nonresidential construction, 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 1998. Although some of the more-speculative construction plans may have been shelved because of a tightening of lending terms and standards, 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, the level of investment remained high enough in 1998 to generate continued moderate growth in the real stock of structures.

Business inventories increased about 4½ percent in real terms in 1998 after having risen more than 5 percent in 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 the year and exceptionally strong demand, which prevented the rebuilding of stocks later in the year. By contrast, year-end inventories appear to have been excessive in a few nonfarm industries that have been hurt by the sluggish world economy. Stocks of farm commodities also appear to have been excessive, having been boosted further during the 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 in 1998. Aggregate debt of the nonfinancial business sector expanded 9¼ 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 in 1998 overwhelmed the high level of both initial and seasoned public equity issues, and net equity retirements exceeded $260 billion.

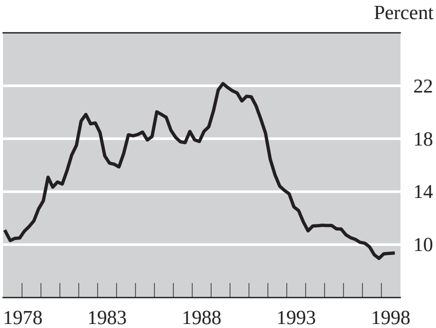
The financial market disruptions in late summer and early fall appear to have had little effect on total business borrowing but prompted a substantial temporary shift in the sources of credit. With investors favoring high credit quality and liquidity, yields on lower-rated corporate bonds rose despite 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 retraced much of the rise by year-end.

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 was extremely heavy in November and remained strong in December. In conjunction with this rebound, commercial paper outstanding fell back in the fourth quarter.

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 financial market turmoil by tightening their standards and terms on new loans and credit lines, especially on 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 at some banks.

Nonfinancial businesses remained strong financially in 1998 despite the rapid growth of debt and the relatively small gain in profits. Interest rates for many businesses fell, on balance, over 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 commercial and industrial loans extended by banks rose a bit from the trough reached in late 1997 but remained quite low, while that for commercial real estate loans fell a bit further, on net, 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, so the debt of those upgraded about equaled the debt of those downgraded. Through November, business failures remained at the low end of the range seen over the past decade.

Net Interest Payments of Nonfinancial Corporations Relative to Cash Flow



NOTE. The data are quarterly and are through 1998:Q3.

The Government Sector

In fiscal year 1998 the federal government recorded a surplus in the unified budget 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 was a result partly of fiscal policies aimed at lowering the deficit and partly 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.

Because of the improvement in the government's saving position, national saving—the combined gross saving of households, businesses, and governments—increased about 3 percentage points as a share of GDP from 1993 to 1998, even though the personal saving rate was down sharply. The increase in national saving over that period helped facilitate the boom in investment spending—in contrast to 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 fiscal year 1997, with much of the gain attributable to personal income tax receipts, 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: Rates for high-income taxpayers were raised by 1993 legislation intended to help reduce the deficit; more taxpayers have moved into higher brackets as their incomes have 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 more than the fiscal 1997 increase and roughly in step with wage and salary growth. Receipts from the taxes on corporate profits, which account for about 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 year 1998 after having risen 2½ percent in fiscal 1997. Net interest payments and nominal expenditures for defense fell slightly, and outlays for income security and Medicare rose only a little; social security expenditures increased moderately but somewhat less than in other recent fiscal 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 fiscal years; however, even the fiscal 1998 rise was not large compared with those in many earlier fiscal years when both medical costs and Medicaid caseloads were increasing rapidly and rates of federal reimbursement to the states were being raised. Emergency legislation that was passed in 1998, in an exception to statutory spending restrictions, will boost federal spending for a variety of functions in fiscal 1999, including defense, embassy security, disaster relief, preparation for Y2K, and aid to agriculture.

Real federal outlays for consumption and investment, the part of federal spending that is counted in GDP, increased about 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 nondefense spending.

With the budget balance shifting from deficit to surplus, the stock of publicly held federal debt declined in 1998 for the first time since 1969. From year-end 1997 to year-end 1998, U.S. government debt fell 1½ percent as the outstanding stock of both bills and coupon securities was reduced. Despite this reduction in debt, the federal government continued substantial gross borrowing to fund the retirement of maturing securities. With the need for funds trimmed substantially, however, 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, increasing 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 in 1998 in an effort to build up that 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 budget 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. The 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 preliminary estimate; the annual gain has been in the range of 2 percent to 2¾ percent in each of the past seven years.

Despite the rising surpluses, state and local government debt increased 7¼ 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 in 1998 reflected new borrowing to fund current and anticipated capital spending on utilities, transportation, educational facilities, and other capital projects. The combination of budget surpluses and relatively heavy borrowing likely reflected several 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 in 1998 may not have been spent. Finally, there was a substantial volume of "advance refunding" in 1998. In an advance refunding, the borrower issues new bonds before existing higher-rate bonds may be called, in anticipation of calling the old bonds when that option becomes available. While this sort of refinancing temporarily boosts total debt, it allows the government entity to lock in a lower rate even if municipal bond yields rise over the period before the call date. The high level of advance-refunding activity in 1998 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 as they downgraded, trimming borrowing costs further for the upgraded entities.

The External Sector

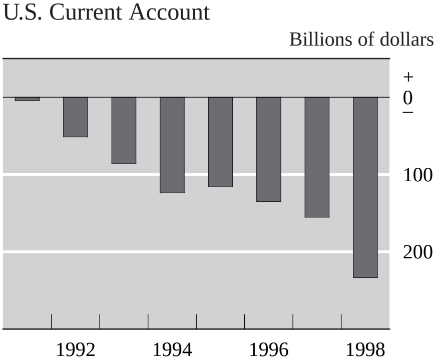
Trade and the Current Account

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 U.S. trading partners. The nominal trade deficit for goods and services was $169 billion, considerably larger than the $110 billion deficit in 1997. At $233 billion, the current account deficit was also 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 in 1998 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 partly 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 reaching a deficit of more than $22 billion in 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 declined in 1998 because slower foreign economic growth lowered U.S. earnings on investment abroad and the appreciation of the dollar reduced the value of those earnings, while healthy U.S. growth supported foreigners' earnings on direct investment in the United States.

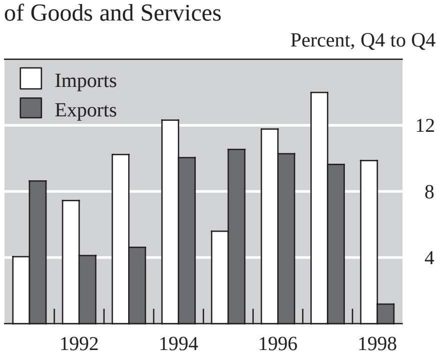
The rise of the trade deficit reflected an increase of about 10 percent in real imports of goods and services during 1998, according to the preliminary estimate from the Commerce Department. The increase was fueled by robust

U.S. Current Account



NOTE. The data are from the Department of Commerce.

Change in Real Imports and Exports of Goods and Services



NOTE. The data are from the Department of Commerce.

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; an increase in supply from Iraq also exerted downward pressure on oil prices.

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 an increase 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. A 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 $22 billion. This decline, which began in the fourth quarter of 1997, was 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 shrank in the first three quarters of 1998, as oil revenues dropped. Foreign official assets in the United States, especially those of industrial countries, generally rebounded in the fourth quarter.

Private capital flows also were affected by the widespread 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 about $35 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. In the final two months of the year, as markets stabilized, U.S. residents resumed net purchases. (In addition, the financing of two large mergers between U.S. firms and European firms resulted in a surge in U.S. residents' holdings of foreign securities in the fourth quarter. When the foreign firms acquired the U.S. entities, U.S. residents received equity in the foreign firms.) Foreign net purchases of U.S. securities, which were substantial in the first half of the year, likewise fell off markedly in the July–October period but experienced 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.

Private foreign purchases of U.S. Treasury securities were only $48 billion in 1998, compared with $147 billion for 1997. Small net sales in the first and third quarters partly offset large net purchases in the second and fourth quarters. Private foreigners' purchases of other U.S. securities shifted away from equities and toward bonds, relative to 1997.

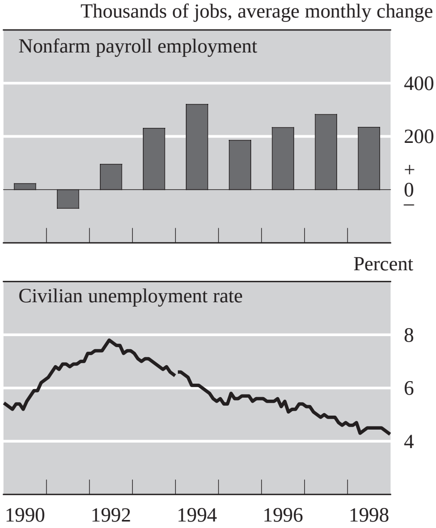
The contraction in private portfolio capital flows, though large, was overshadowed by huge direct investment capital flows, which resulted in part from the above-mentioned and other very large cross-border mergers. With the effects of the mergers, foreign direct investment into the United States totaled more than twice the previous record of $93 billion posted in 1997. Merger activity also buoyed U.S. direct investment abroad, bringing the annual total to $132 billion, surpassing the previous record of $122 billion 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 the demand for labor in other parts of the economy continued to rise rapidly. The construction industry boosted employment about 6 percent over the year, and both the services industry and the finance, insurance, and real estate industry 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.

Output per hour in the nonfarm business sector rose 2¾ percent in 1998 after having increased about 1¾ percent, on average, over the preceding two 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 may have picked up somewhat are becoming more compelling in view of incoming data. The 1998 gain in output per hour was particularly impressive,

Labor Market Conditions



NOTE. The data are from the Department of Labor. The break in the unemployment rate 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.

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 the 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 using 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 may enhance efficiency and bolster profit margins.

The rising demand for labor continued to strain supply in 1998. The civilian labor force rose just a bit 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. The percentage of the working age population that was outside the labor force and was interested in obtaining work but not actively seeking it edged down further in 1998 and was in the lowest range since the collection of these data began in 1970. With the supply of labor so tight, businesses reached further into the pool of individuals who do not have a history of strong attachment to the labor force; persons attempting to move from welfare to work were among the beneficiaries.

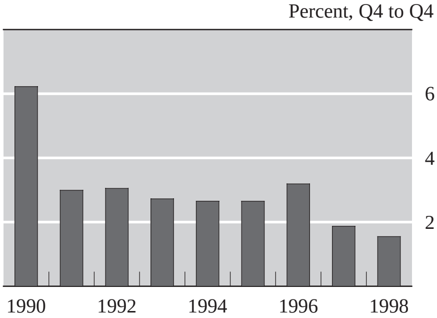
Workers have realized large increases in real wages and real hourly compensation over the past couple of years. The increases have come partly through faster gains in nominal pay than in the mid-1990s but also though reductions in the rate of price increase, which have been enhancing the real purchasing 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 early 1980s; the gain was larger 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—stock options and signing bonuses, for example.

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 1¼ 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

Change in Consumer Prices



NOTE. Consumer price index for all urban consumers. Based on data from the Department of Labor.

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

Developments in the external sector helped 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 exhibit 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. In 1998, however, slack in the goods-producing sector—a reflection of the sizable additions to capacity in this country and excess capacity abroad—seemingly enforced a discipline of competitive price and cost control that affected the economy more generally.

Prices in 1998 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

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 in 1998 would probably have been about half as large as was reported.

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 unusually large hike in tobacco prices that followed the settlement in the fall of states' litigation against 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 for food and energy continued to rise in 1998, but not very rapidly. The CPI measure of these prices—the core CPI—increased about 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, seem 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 increases.

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	.4
Personal consumption expenditures	1.5	.7
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.

U.S. Financial Markets

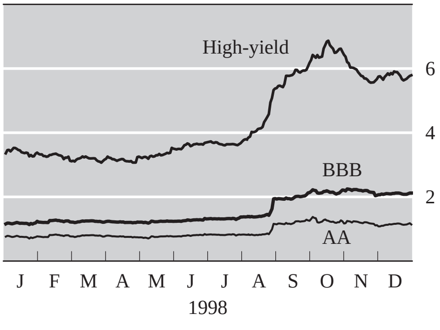
U.S. interest rates fluctuated in fairly narrow ranges over the first half of 1998, and most equity price indexes posted substantial gains. However, after the financial crisis in Russia in August and subsequent difficulties in other emerging market economies, investors appeared to reassess the risks 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, 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 the 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

Spreads of Corporate Bond Yields
over Treasury Security Yields



NOTE. The data are daily. The spread of high-yield bonds compares the yield on the Merrill Lynch Master II index with that on a seven-year Treasury; the other two spreads compare yields on the appropriate Merrill Lynch indexes with that on a ten-year Treasury.

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 the issuance of corporate securities dropped sharply.

Investors' desire 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 through 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 mostly 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.

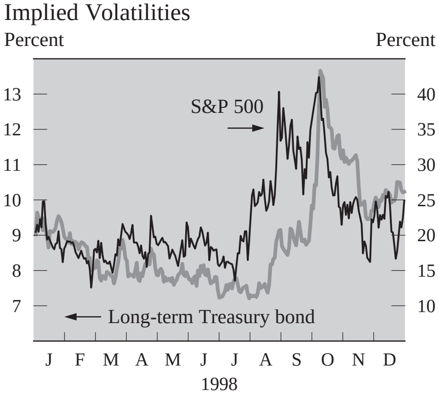
LTCM was quite successful between 1995 and 1997, but the shocks hitting world financial markets in August of 1998 generated substantial losses for the firm. Losses mounted in September, and before new investors could be found, the firm encountered difficulties meeting liquidity demands arising from its 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 compound market difficulties by distorting market prices and imposing potentially 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 that LTCM was able to amass 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 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. Although 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

Implied Volatilities



NOTE. The data are daily. Implied volatilities are calculated from options prices.

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.

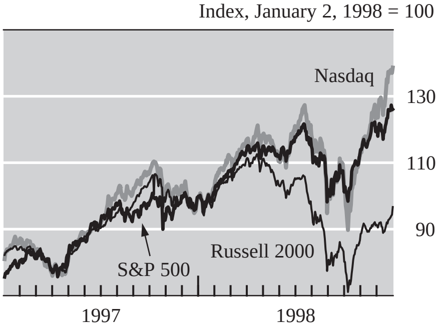
By mid-October, however, market conditions had stopped deteriorating, and they began to improve somewhat in the days and weeks following the cut in the federal funds rate on October 15, between Federal Open Market Committee meetings. Internationally coordinated efforts to help Brazil cope with its financial 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 in regard to 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. The deterioration reflected in part 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.

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 the stocks 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, 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

Major Stock Price Indexes



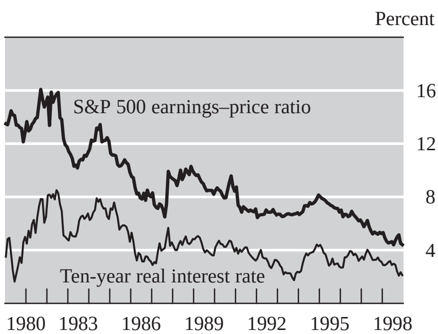
NOTE. The data are daily.

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 dropped 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.

The increase in equity prices in 1998, coupled with the slowing of earnings growth, left many valuation measures beyond their historical ranges. After ticking higher in late summer and early autumn, the ratio of consensus estimates of earnings over the coming twelve months to prices in the S&P 500 fell back, ending the year below its level at the end of 1997. The decline in this measure likely reflected in part 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 late 1998. (The yield on ten-year inflation-indexed Treasury securities actually rose somewhat over 1998. 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.) From mid-1998 on, the real interest rate 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 remained quite small relative to historical norms: Investors may have been

Equity Valuation and Long-Term Real Interest Rate



NOTE. The data are monthly. The earnings–price ratio is based on the I/B/E/S International, Inc., consensus estimate of earnings over the coming twelve months. The real interest rate is the yield on the ten-year Treasury note less the ten-year inflation expectations from the Federal Reserve Bank of Philadelphia Survey of Professional Forecasters.

anticipating rapid long-term earnings growth—consistent with the expectations of securities analysts—and they may still have been 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 6 percent, in the top half of the 3 percent to 7 percent range established by the FOMC 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 8½ percent in 1998, more than 2 percentage points faster than in 1997. By contrast, federal debt declined 1¼ percent, following a rise of ¾ percent over the preceding year.

Credit market instruments on the books of depository institutions rose at a somewhat faster pace than did the debt aggregate, posting a 6½ percent rise in 1998, about one-quarter percentage point higher 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, the 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 in 1998. From the fourth quarter of 1997 to the fourth quarter of 1998, M2 increased 8½ percent, placing it well above the upper bound of the 1 percent to 5 percent range established by the FOMC. However, as the Committee noted in February 1998, 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 in 1998—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).

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

Growth of Money and Debt

Percent

Period	M1	M2	M3	Domestic nonfinancial 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	4.9
1998	1.8	8.5	11.0	6.1
Quarterly (annual rate)[2]				
1998:1	3.2	7.6	10.3	5.8
2	1.0	7.5	10.1	6.0
3	–2.0	6.9	8.6	5.9
4	5.0	11.0	13.3	6.3

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.

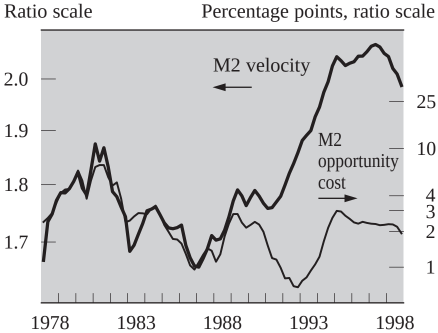
1. From average for fourth quarter of preceding year to average for fourth quarter of year indicated.

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

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; the decline in long-term Treasury yields in 1998, and the consequent flattening of the yield curve, may thereby 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 financial market volatility.

M3 expanded even faster than M2 in 1998, posting an 11 percent rise on a fourth-quarter to fourth-quarter basis. Growth over the year 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

M2 Velocity and M2 Opportunity Cost



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 three-month Treasury bill rate less the weighted average return on assets included in M2.

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 in 1998 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 such funds have increased their share of the corporate cash management business. Because investments in these money 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; thus, their relative attractiveness was temporarily enhanced—and their growth rate boosted—by declines in short-term market interest rates late in 1998.

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 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. This result reflected in part more frequent overnight open market operations by the Federal Reserve to better match the daily demand for and supply of reserves. Banks also likely improved the management of their accounts at the Federal Reserve Banks. Moreover, large banks apparently became more willing 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, however, the federal funds rate was more volatile. The increase may have been due 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, out of concern 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.

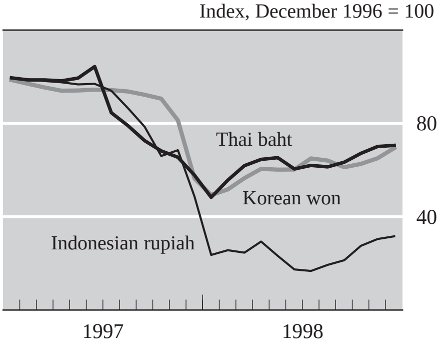
At its November meeting, the FOMC amended the Authorization for Domestic Open Market Operations to extend the permitted maturity of System repurchase agreements from fifteen to sixty days. Over the remainder of 1998, the Domestic Trading Desk made use of this new authority on three occasions, arranging 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 as other Treasury securities in open market operations.

International Developments

Emerging Economies

Developments in international financial markets in 1998 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 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, and as the year progressed, growth in several other major foreign industrial economies slowed as well.

Exchange Value of Selected Asian Currencies versus the Dollar



NOTE. Dollars per unit of foreign currency. The data are monthly.

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. The currencies of the Philippines, Malaysia, Singapore, and Taiwan fluctuated in a narrower range and ended the year 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 both emerging market economies and many industrial countries. The turmoil did not abate until after the central banks of 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 was swift and strong, however, 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), peaking in early September before retracing part of the rise. Latin American equity prices plunged 25 percent or more. Several currencies came under pressure despite sharp increases in short-term interest rates.

Anticipation of an 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. After the IMF approved the package in early December, however, 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 continuing pressure from investors seeking to take funds out of Brazil put the long-term viability of the *real*'s crawling exchange rate peg in doubt. Brazil's central bank defended the peg through the end of the year, drawing down a substantial portion of the $75 billion in foreign exchange reserves it had amassed as of April 1998.[2]

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.

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

2. In mid-January 1999, the *real* was devalued and soon after was allowed to float.

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. Growth remained fairly strong throughout the year despite a dramatic slowdown in the growth of exports. A salutary effect of the crisis may have been the encouragement that it seemed to give authorities in China to move ahead more quickly with various financial sector reforms.

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. These countries experienced a significant improvement in their competitive positions after the substantial depreciations of their currencies in late 1997 and early 1998. In addition, their imports fell sharply with the falloff in domestic demand.

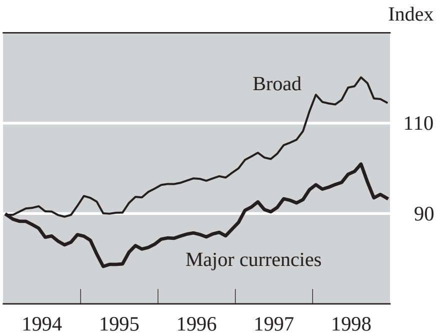
In Russia, economic activity declined in 1998 as interest rates were pushed up in an attempt to fend off pressure on the ruble. After the August debt moratorium and ruble devaluation, output dropped sharply, ending the year down about 10 percent from its year-earlier level. The ruble collapse triggered 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 in 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.

Industrial Economies

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 then

Nominal Dollar Exchange Rate Indexes



NOTE. The data are monthly. Indexes are trade-weighted averages of the exchange value of the dollar in terms of major currencies (March 1973 = 100) and in terms of a broad group of important U.S. trading partners (January 1997 = 100).

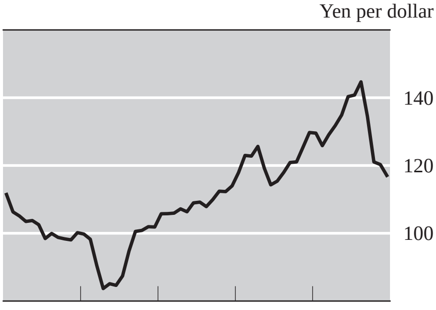
fell, returning by December to a level about 2 percent above that of a year earlier. (When adjusted for changes in U.S. and foreign consumer price levels, the value of the dollar in December 1998 was about 1 percent *below* its level in December 1997.) Before the Russian default, the dollar was supported by the robust pace of U.S. economic activity, which at times generated expectations that monetary policy would be tightened. Healthy U.S. growth also 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 dollar's value, and it fell sharply. The broad index of the dollar's exchange value eased a bit further during the fourth quarter of the year.

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 over 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 over 1997.

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 govern-

U.S. Exchange Rate with Japan



Note. The data are monthly.

ment 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, incentives for investment, and further increases in public expenditures.

Against the German mark, the dollar depreciated about 6 percent, on net, over 1998. Late in the year the dollar moved up against the mark, as evidence of a slowdown of European growth 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.

In the eleven European countries whose currencies were 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 on average 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 lowered official interest rates in the latter part of the year.

The general trend toward easier monetary conditions was reflected in declines in short-term interest rates in almost all the G-10 countries during 1998. 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, at least in part because of market participants' concerns that the demand for bonds would be insufficient to meet the surge in debt issuance associated with the latest fiscal stimulus package.

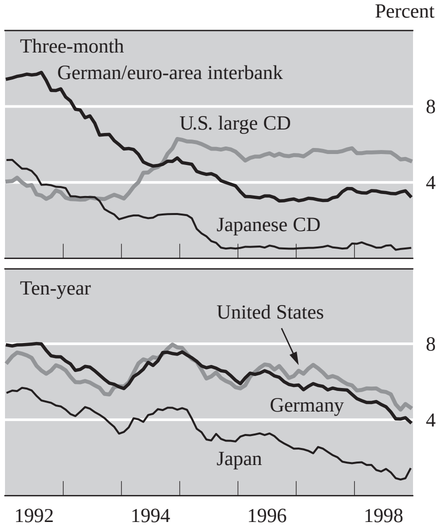
Share prices on European stock exchanges again posted strong advances in 1998, with price indexes rising 8 percent in the United Kingdom, about 15 percent in Germany, nearly 29 percent in France, and 41 percent in Italy. In contrast, Japanese equity prices fell more than 9 percent over the year, and Canadian share prices declined 4 percent. After a considerable run-up earlier in the year, share prices around the globe fell sharply in late summer, but they subsequently rebounded as the Federal Reserve and several other central banks eased monetary policy.

Foreign Exchange Operations

On June 17, the U.S. monetary authorities intervened in foreign exchange markets, selling a total of $833 million for Japanese yen. The sales were split evenly between the Federal Reserve System and the U.S. Treasury. No other foreign exchange intervention operations for the accounts of the System or the Treasury were conducted during the year. Reported net sales of dollars by major central banks were $29 billion in 1998, versus $10 billion in 1997.

At the end of the year, the Federal Reserve held the equivalent of $19,769 million, valued at current exchange rates, in marks and yen.[3] With the dollar's depreciation versus both currencies in 1998, the cumulative gains on System foreign currency holdings increased $1,870 million, to $2,228 million. Absent sales of foreign currencies, the System did not realize any gains or losses.

U.S. and Foreign Interest Rates



NOTE. The data are monthly.

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. ■

3. At the beginning of 1999, the System's holdings of marks were converted to euros.