

The Economy in Perspective

Thinking productively about monetary policy... Some of the talk about the “new economy” and the “old economy” has been highly productive, spotlighting the dramatic transformation of the U.S. capital stock and the way its growth drives domestic economic activity. Not surprisingly, capital markets reward “new economy” companies, which offer the prospect of explosive growth as they propagate their products and services in the larger, older economy. One need not think that “new economy” firms are valued correctly to understand why spending on their products has risen so dramatically and why investors expect them to generate significant future earnings.

Another positive aspect of the discussion is its focus on the role of legal systems and business practices in channeling capital to its highest uses around the world. Just as economic development specialists came to understand that nations rich in natural resources did not inevitably unlock their wealth, the current experts realize that wealth creation depends on an ability to organize the means of production into value-creating enterprises. Legal systems, contract enforcement, accounting standards, financial infrastructures, labor laws, and trade policies are all factors in determining the value of resources in a particular location. Nations compete not so much with what they have, but what they can do with what they can get.

It has been fashionable to assert that the United States is benefiting from a virtuous cycle of events, initially set in motion by new technologies. As the new capital stock is built, economic output accelerates and wages expand along with faster productivity growth. Everyone has the potential for becoming wealthier, although those closest to technology’s epicenter are likely to benefit most. Since people’s lifetime wealth has increased, it is natural for them to spend more on themselves. As a nation, we need not choose between new fiber-optic cable communications backbones and sport-utility vehicles because U.S. firms have been able to borrow readily from foreign savers, even as this nation’s household saving dwindles.

In this virtuous cycle, accelerating productivity growth naturally puts downward pressure on the inflation rate, and the U.S. dollar—bolstered by capital inflows—lowers import prices. The net result has been a record-setting U.S. economic expansion with no adverse inflation impacts.

With conditions so good, is it any wonder so many pundits are already lamenting the unwinding of this virtuous cycle? It is true that unsustainable forces have a habit of ending, and the U.S. investment boom will eventually fade. What are some of the plausible consequences when it does? One is that the U.S. economy could emerge with a faster rate of trend productivity growth than before the boom, accompanied by a stronger

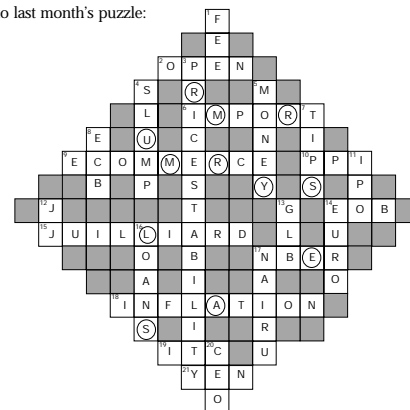
trend rate of real GDP growth. Per capita real earnings could be higher and faster growing than before, reflecting the better productivity picture. But as the transition to this improved situation nears completion, investment activity could slow dramatically for a time, just as real GDP growth will recede from its boom-induced pace. At the same time, we should expect to see some increase in the household saving rate, attenuating the need for foreign capital. Import growth would slow, and the current account surplus would move toward balance.

The challenge for monetary policy in this transition is often misunderstood. During the boom phase, the monetary authority should expect the demand for money to increase, along with the equilibrium real interest rate. If the central bank desires to hold the inflation rate steady, it most likely will need to allow money growth to accelerate and its interbank interest rate to increase. Keeping the interbank rate steady could result in accelerating inflation. If the central bank wants to glide on the disinflationary air currents of the productivity boom, it will not permit money growth to expand commensurately with output.

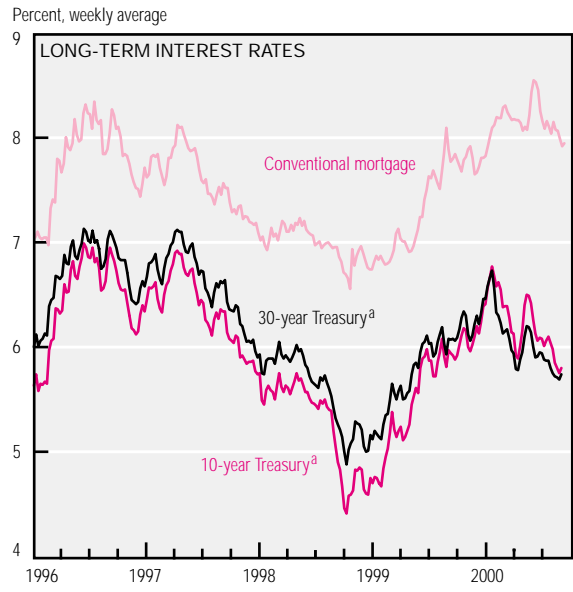
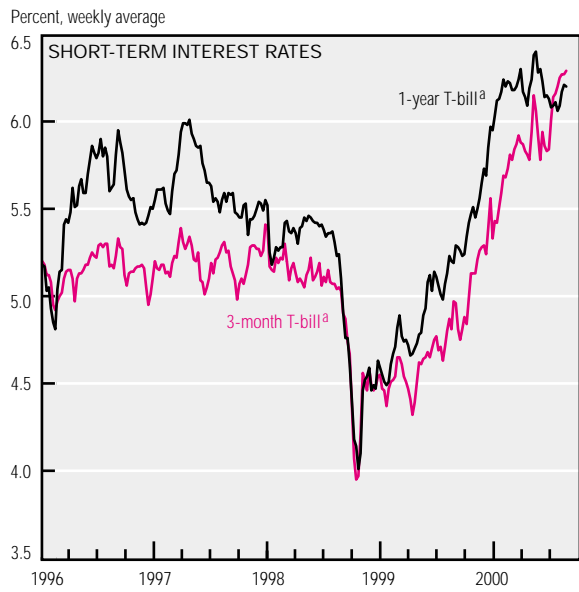
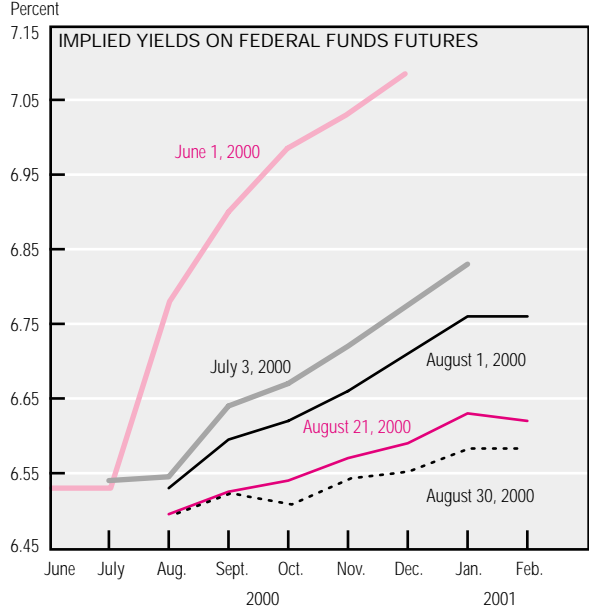
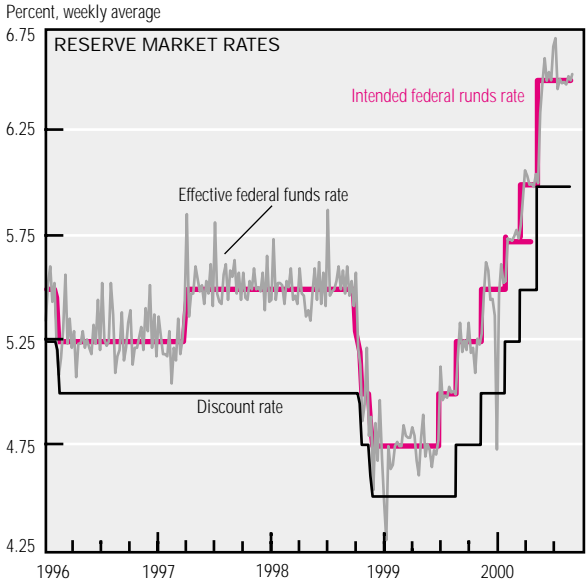
As the boom fades, the monetary authority must anticipate that money growth will necessarily slow and the equilibrium real interest rate will decline. If the economy emerges from the boom at its target inflation rate, the central bank will need to reduce its interbank rate in pace with the decline in money demand. If the economy shows undesirably high inflation, the central bank could reduce its interbank interest rate more slowly, so as to exert disinflationary pressure.

It should be clear that productivity, investment, trade, and labor markets all shape the terrain on which monetary policy decisions are made. The productivity boom—and its eventual demise—have implications for inflation, but only insofar as they complicate policymakers’ ability to understand the dynamic evolution of the economy. As the “new economy” becomes old, let us hope that it ages gracefully.

Solution to last month’s puzzle:



Monetary Policy



a. Constant maturity.
 SOURCES: Board of Governors of the Federal Reserve System; and Chicago Board of Trade.

At its August 22 meeting, the Federal Open Market Committee (FOMC) left the intended federal funds rate unchanged at 6.5%. Citing “rapid advances in productivity” and signs of moderating demand, the FOMC has maintained the stance of monetary policy at its two most recent meetings. Previously, the Committee had increased the target rate 150 basis points (bp) in a series of five movements (75 bp of which arguably can be described as “taking back” cuts associated with the Russian default); the series

culminated in a 50 bp increase at the May meeting.

Economists often turn to the federal funds futures market to approximate expectations for the future path of monetary policy. This measure reveals that the FOMC’s decision was not unanticipated; in fact, market participants had assigned a low probability to an August increase in early July. Further, the implied yield curve on fed funds futures drifted down and flattened out in August, suggesting at month’s end that most market

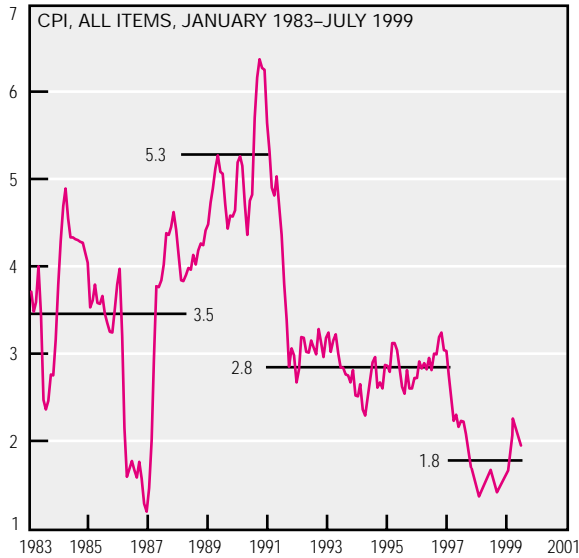
participants do not anticipate rate increases at any of this year’s three remaining FOMC meetings.

Yield curve inversions, which occur when securities of longer maturity yield less than similar short-term securities, persist at both the short and the long end of the U.S. Treasury yield curve. As of September 1, the 1-year T-bill yield (6.23%) was 8 bp less than the 3-month T-bill (6.31%). Similarly, the 30-year Treasury bond (5.71%) yielded 5 bp less than the 10-year Treasury (5.76%).

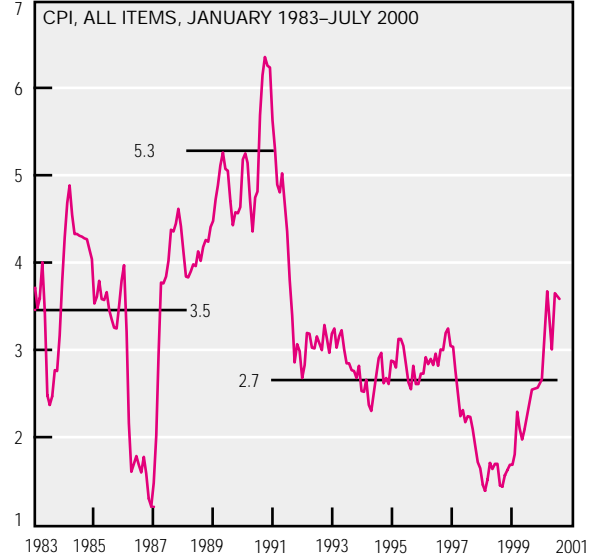
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Monetary Policy (cont.)

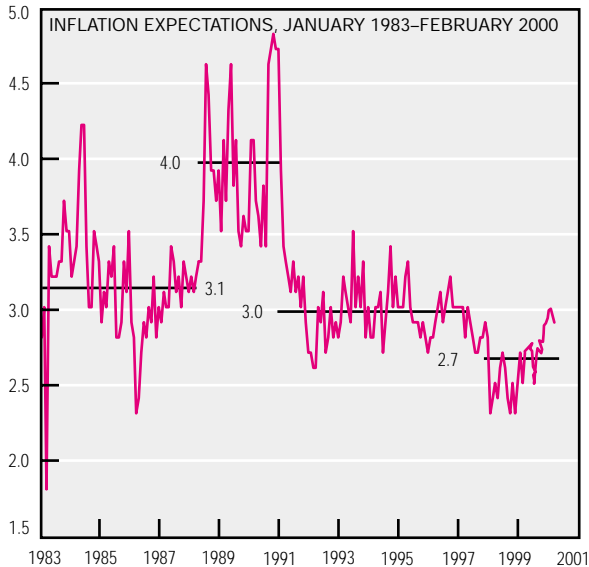
Percent change, year over year



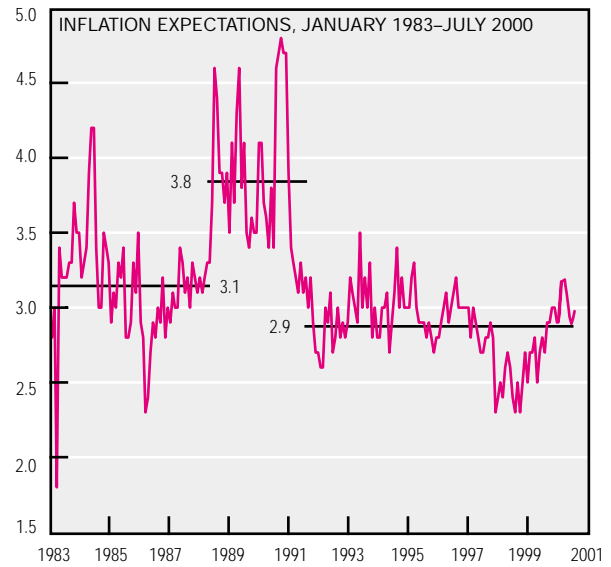
Percent change, year over year



Percent change, year over year



Percent change, year over year



a. Median expected change in consumer prices one year ahead as measured by the University of Michigan's *Survey of Consumers*.

NOTE: Horizontal lines indicate statistically different trends (significant at the 5% level), estimated using an algorithm developed by Bai and Perron.

SOURCES: U.S. Department of Labor, Bureau of Labor Statistics; University of Michigan; Jushan Bai and Pierre Perron, "Estimating and Testing Linear Models with Multiple Structural Changes," *Econometrica*, vol. 66, no. 1 (January 1998), pp. 47–78; and Jushan Bai and Pierre Perron, "Computation and Analysis of Multiple Structural Change Models," unpublished, Boston University, 2000.

Inflation experience in the 1990s was favorable in comparison with the previous decade. The inflation rate—as measured by the CPI—was both lower and less variable than in the 1980s. With the outcome of the Gulf War decided in early 1991, concerns about the stability of the oil supply abated; both inflation and expectations of future inflation dropped precipitously. Some analysts at that time identified the disinflation as evidence that a deliberative, credible monetary policy had successfully avoided repeating mistakes made in the 1970s, when

unfavorable surges in oil prices resulted in permanent increases in inflation. In the parlance of monetary policy, the FOMC did not accommodate such a rise in inflation in the latter period.

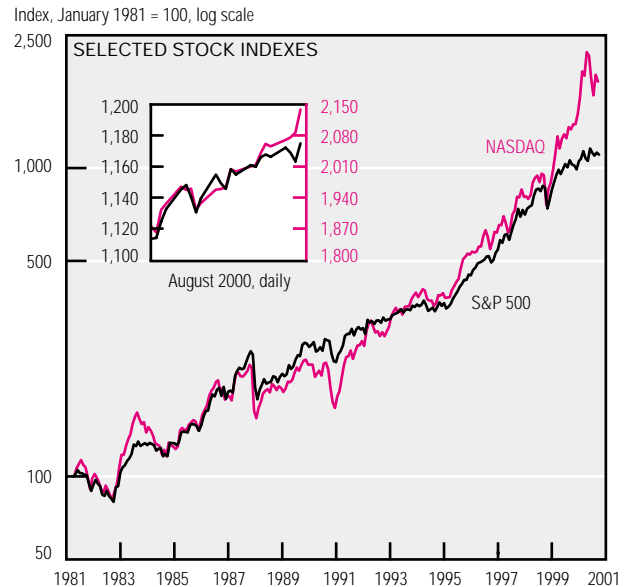
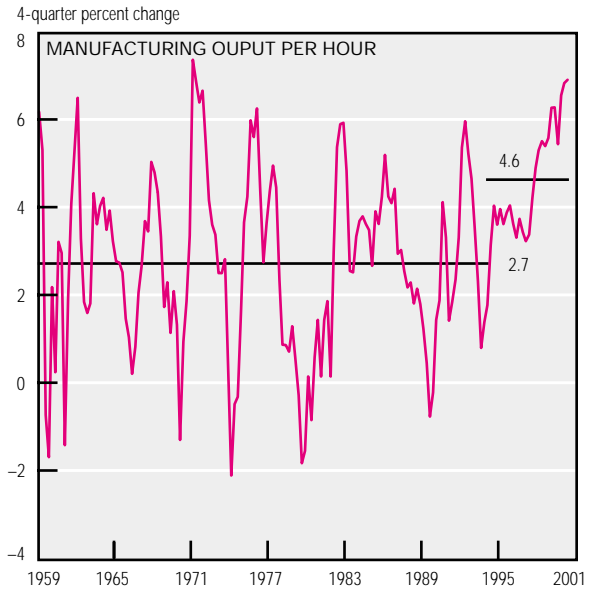
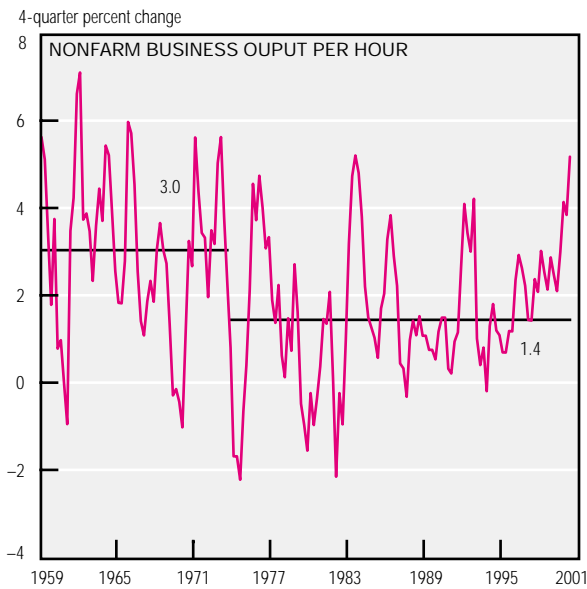
Nor did monetary policy accommodate temporarily low oil prices. In the 1980s, oil prices dropped substantially and stayed low for more than a year before rebounding sharply. The transitory fall in CPI inflation in 1986 reflected favorable oil prices around that time. Similarly, CPI inflation dipped in the late 1990s. Formal breakpoint-test analy-

sis reveals that unlike the transitory dip in oil prices in the 1980s, the recent one was associated with a "permanent" downward break in CPI inflation, first perceived in late 1998 and persisting until July of last year. Moreover, a similar downward break was found in inflation expectations, which also appeared evident until recently, when additional data failed to confirm a continuing break.

Although the recent dip was related to a transitory decline in oil prices, other factors were also important. The Asian crises in 1997 and the Russian default in 1998

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Monetary Policy (cont.)



NOTE: Horizontal lines for nonfarm business and manufacturing output per hour indicate statistically different trends (significant at the 5% level), estimated using an algorithm developed by Bai and Perron. Horizontal lines for the S&P price-to-earnings ratio are averages calculated over the same periods for which statistically significant trends were found in manufacturing output per hour.

SOURCES: U.S. Department of Labor, Bureau of Labor Statistics; Haver Analytics; Bloomberg Financial Information Services; Jushan Bai and Pierre Perron, "Estimating and Testing Linear Models with Multiple Structural Changes," *Econometrica*, vol. 66, no. 1 (January 1998), pp. 47-78; and Jushan Bai and Pierre Perron, "Computation and Analysis of Multiple Structural Change Models," unpublished, Boston University, 2000.

enhanced the attractiveness of dollar-denominated assets relative to those of the rest of the world. The consequent capital flows strengthened the dollar's value, reducing import prices and putting downward pressure on domestic inflation. Capital flows into the U.S. also supported an investment boom, especially in high-tech equipment, which in turn contributed to acceleration in labor productivity. Higher productivity continues to dampen inflationary pressures, containing

inflation's rebound despite the recent doubling of oil prices.

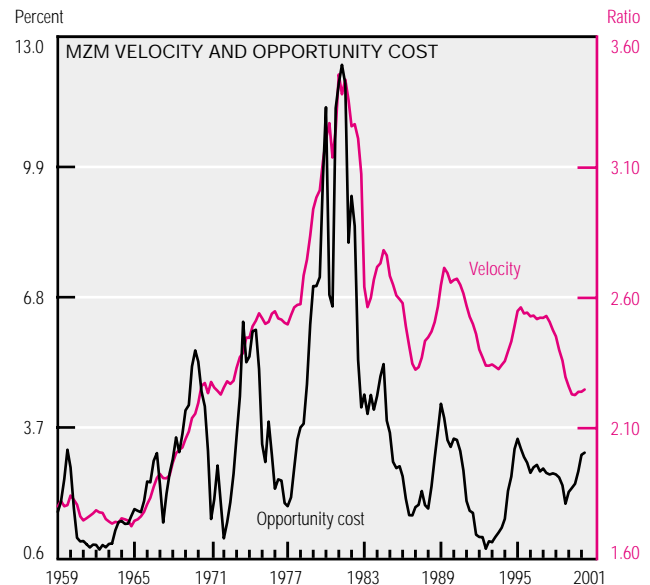
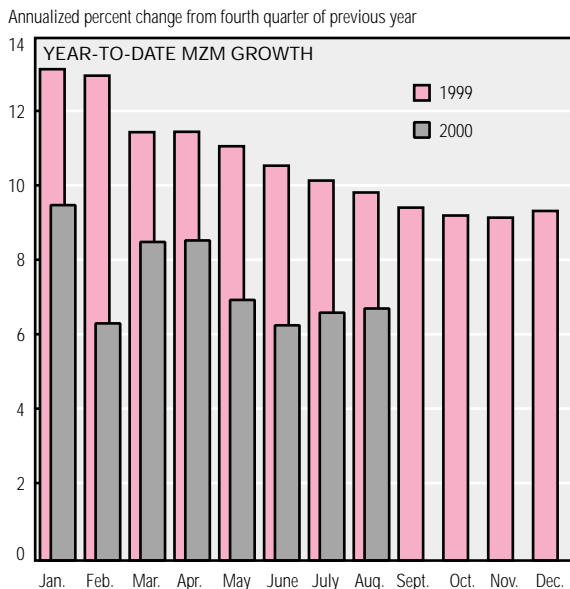
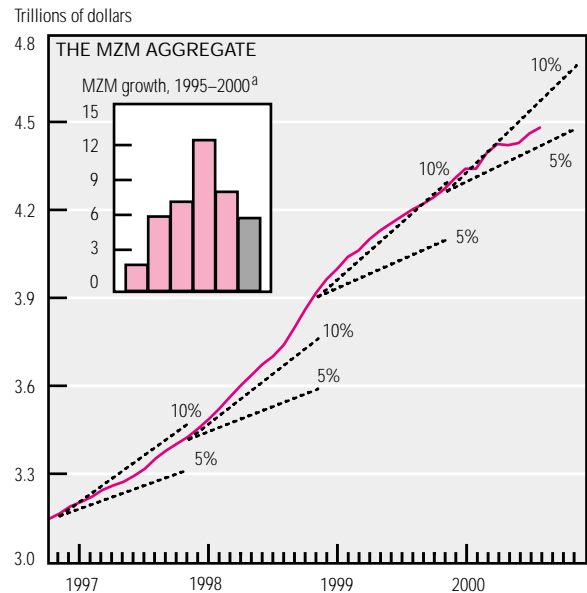
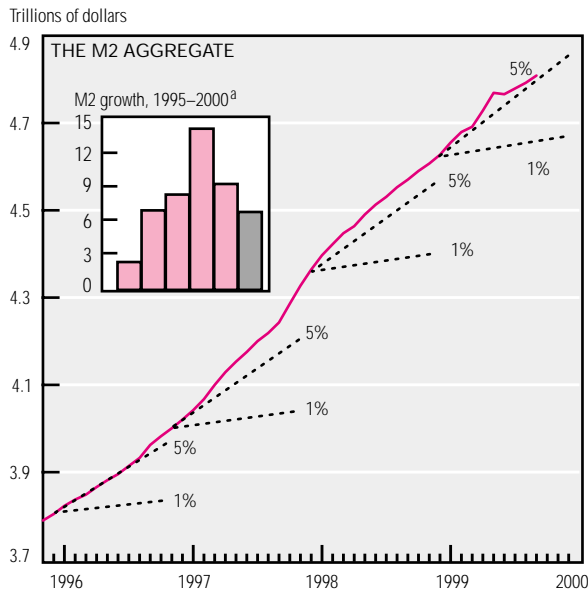
Labor productivity growth was consistently higher in the late 1990s, but some formal breakpoint tests fail to confirm a permanent upward break in the nonfarm business sector. The same tests do identify the widely known downward break around 1973. More significantly, however, a clear upward break is found in the manufacturing sector's productivity. It is generally recognized that manufacturing productivity is more

accurately measured than that of the broader nonfarm business sector, which includes the hard-to-measure service sector. Moreover, as Federal Reserve Chairman Alan Greenspan recently indicated, the manufacturing sector measure provides little evidence that productivity has stopped accelerating.

The value of a stock market index depends critically on publicly traded firms' potential for future earnings growth. In the aggregate, earnings growth is directly related

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Monetary Policy (cont.)



a. Growth rates are percentage rates calculated on a fourth-quarter over fourth-quarter basis. The 2000 growth rates for M2 and MZM are calculated on an estimated August over 1999:IVQ basis.

NOTE: Data are seasonally adjusted. Last plots for M2 and MZM are estimated for August 2000. Dotted lines for M2 are FOMC-determined provisional ranges. All other dotted lines represent growth rates and are for reference only.

SOURCE: Board of Governors of the Federal Reserve System.

to the productive potential of the economy. The 1990s' acceleration in equity prices was concurrent with higher manufacturing productivity growth. The current year's lull in stock prices could portend flattening productivity growth. On the other hand, the market may have gotten ahead of itself.

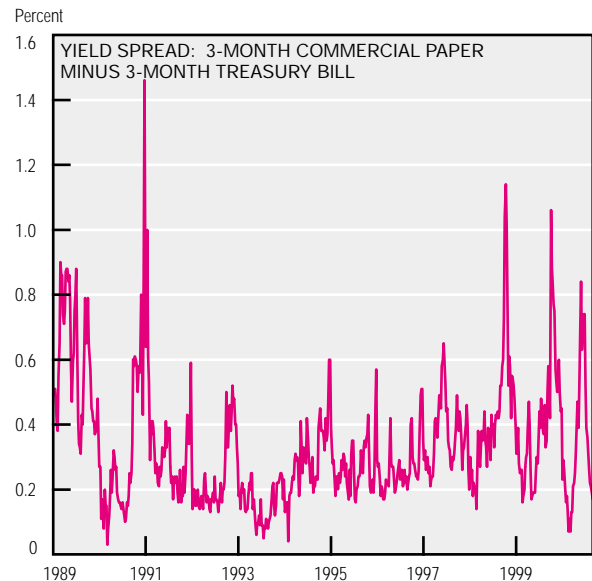
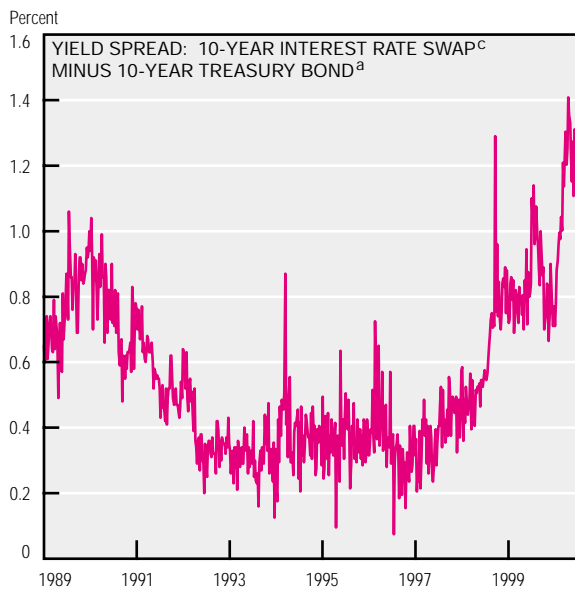
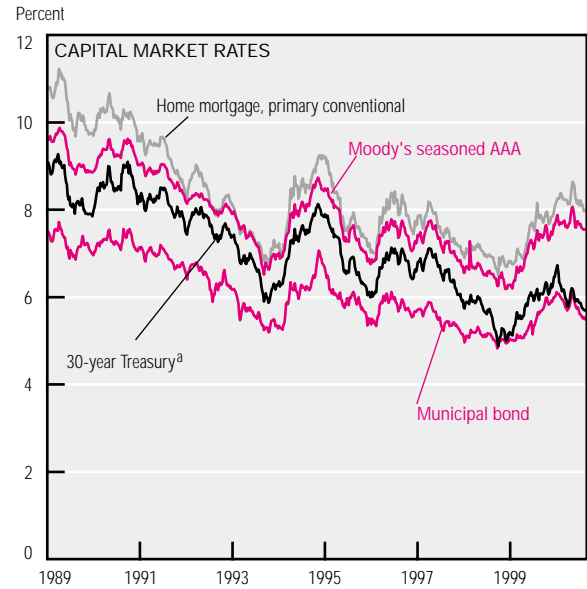
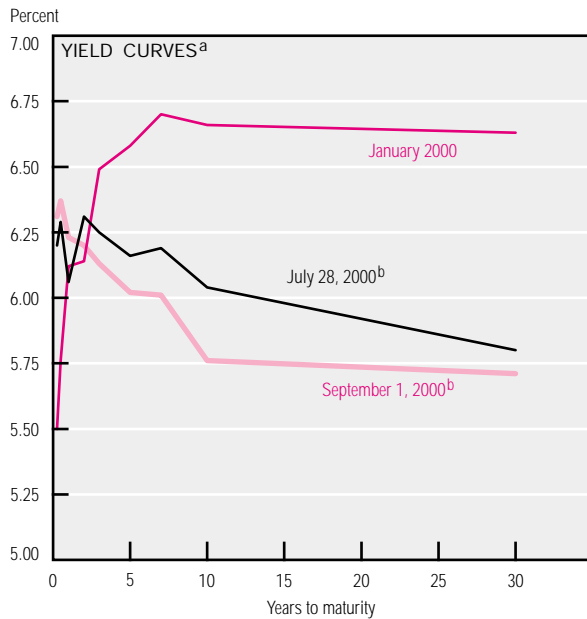
Analysts concerned about inflationary pressures may find additional comfort in money growth, which is slower this year than in 1999 virtually

across the board, M3 being the notable exception. Estimated through August, year-to-date M2 growth (5.3%) is nearly a full percentage point below the 12 months ending in December 1999 (6.2%). More striking is MZM, which has grown 2.6 percentage points slower this year (6.7% for the year to date estimated through August versus 9.3% through December 1999).

The slowdown in money growth is consistent with rising interest

rates, which usually implies that the opportunity cost of money—the cost of holding it—has increased. MZM opportunity cost is measured as the difference between the 3-month T-bill yield and a share-weighted average of yields on MZM components. Over time, MZM velocity (the level of MZM relative to economic activity) tends to vary directly with its opportunity cost, but with a lag—suggesting that MZM velocity may rise further in the near term.

Interest Rates



a. All yields are from constant-maturity series.

b. Average for the week ending on this date.

c. Quote for semiannually fixed rate versus 3-month U.S. \$LIBOR.

SOURCES: Board of Governors of the Federal Reserve System, "Selected Interest Rates," *Federal Reserve Statistical Releases*, H.15; and Bloomberg Financial Information Services.

The yield curve has inverted further since last month, with yields on maturities of two years and above falling, and those below two years rising. The entire curve is inverted, except for 3- and 6-month bills.

The Treasury yield curve gets most of the attention because it acts as a risk-free benchmark for the financial market, but information abounds in the yields of risky maturities as well. Thus, among longer-term rates, the drop in yields since January has been much less pronounced than for 30-year Treasuries. Treasury rates

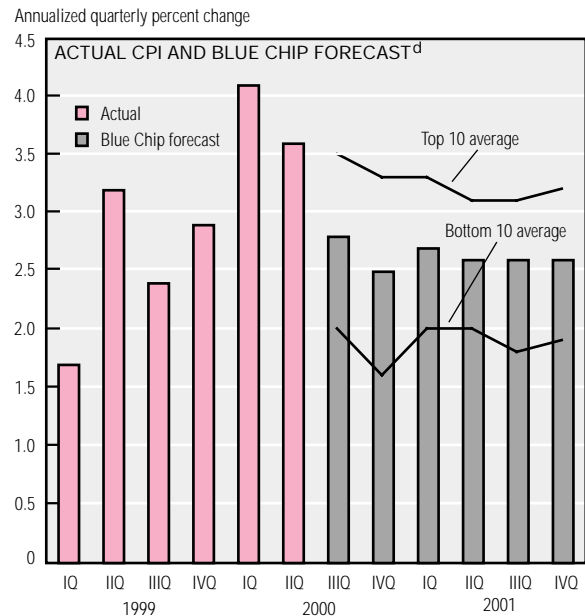
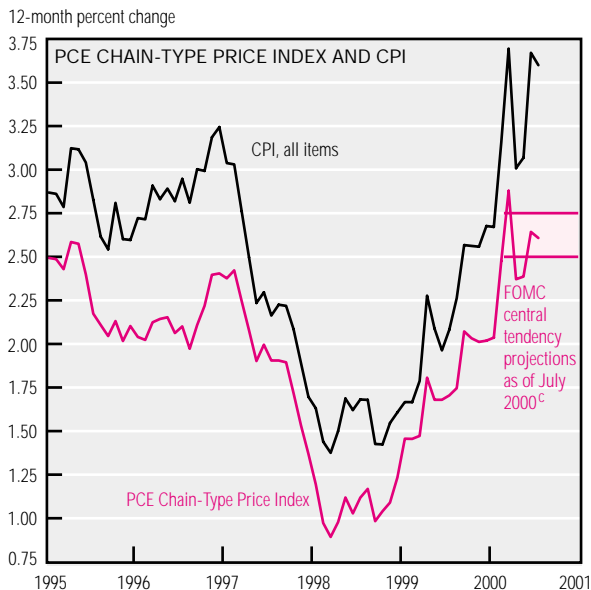
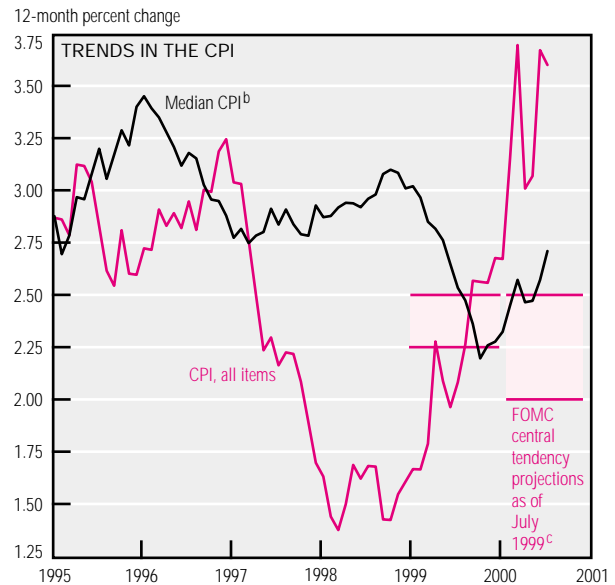
apparently are having less impact on mortgage rates than in the past. Similarly, the yield spread between Moody's AAA bonds and long bonds has increased from 114 basis points (bp) in January to 184 bp now.

The increased spread also shows up at the 10-year maturity, between interest rate swaps and Treasuries. This number is alarming if it retains its traditional significance as a measure of risk in the financial markets, reaching levels not seen since the Russian default and the collapse of Long Term Capital Management.

Is the market really so fearful? Two considerations argue that it is not: First, lower long-term Treasury yields may be heavily influenced by supply reductions. If this, rather than a flight to quality, explains why safe rates have dropped while risky rates have remained steady, then there is less cause for concern. Second, shorter maturities, such as three months, where supply considerations have less impact, show risk spreads at a low level.

Inflation and Prices

July Price Statistics	Percent change, last:				1999 avg.
	1 mo. ^a	3 mo. ^a	12 mo.	5 yr. ^a	
Consumer prices					
All items	2.8	3.6	3.6	2.5	2.7
Less food and energy	2.7	2.2	2.4	2.4	1.9
Median ^b	3.5	3.0	2.7	2.8	2.3
Producer prices					
Finished goods	0.0	2.4	4.1	1.5	2.9
Less food and energy	1.6	0.8	1.5	1.1	0.8



a. Annualized.

b. Calculated by the Federal Reserve Bank of Cleveland.

c. Upper and lower bounds for inflation path as implied by the central tendency growth ranges issued by the FOMC and nonvoting Reserve Bank presidents.

d. Blue Chip Panel of economists.

SOURCES: U.S. Department of Labor, Bureau of Labor Statistics; U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve Bank of Cleveland; and *Blue Chip Economic Indicators*, August 10, 2000.

Whether the July price statistics show inflation to be high or low is a matter of perspective. Judged against this year's performance, the July numbers appear modest. The Consumer Price Index (CPI) rose an annualized 2.8% for the month, or about $\frac{3}{4}$ percentage point under its 12-month average increase. However, the July data also indicate that retail prices continued to rise at the somewhat elevated pace set in 1999—about one percentage point above their 1997–99 average growth rate. Also, signals from

July's so-called "core" inflation statistics (statistics that attempt to distinguish between transitory and permanent movements in the data) were a bit high. The CPI excluding food and energy items rose 2.7% in the month, or roughly $\frac{1}{4}$ percentage point higher than its 12-month average, while the median CPI jumped 3.5%, more than $\frac{3}{4}$ percentage point higher than its 12-month average. Finally, the PCE Chain-Type Price Index, an alternative measure of retail prices, has risen slightly more than 2½% in the past 12 months,

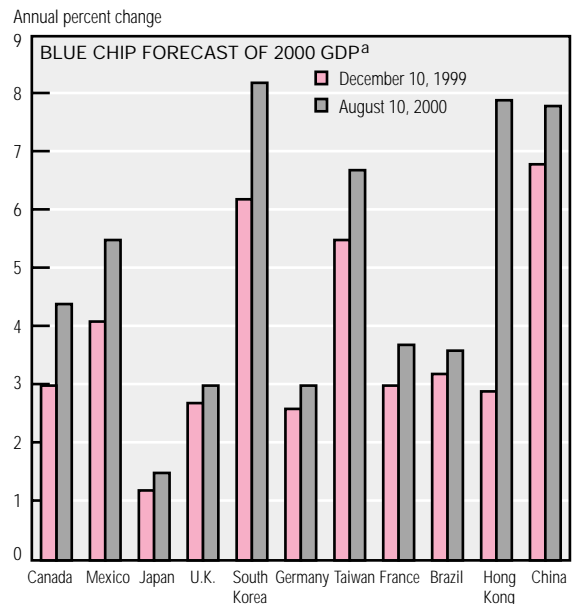
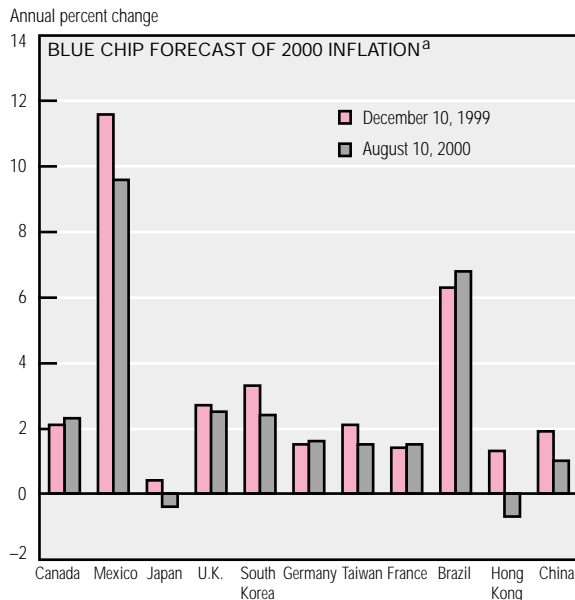
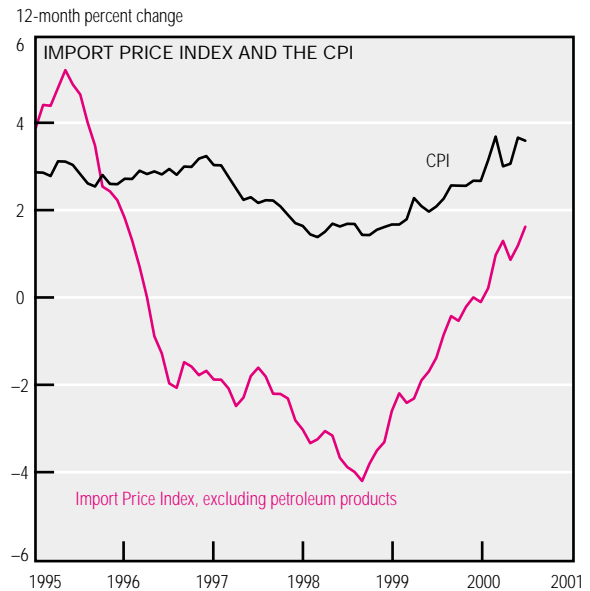
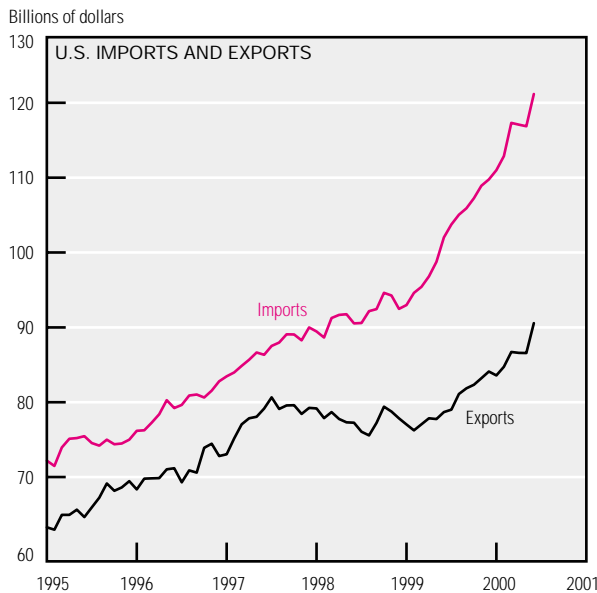
nearly the highest growth trend posted in more than five years.

Economists expect retail price data to moderate gradually over the next several quarters before stabilizing around the 2½% level by next spring. Inflation pessimists see the trend in the CPI leveling off at a rate slightly under 3¼%, while the inflation optimists see the price data holding to just under 2%.

Potential pressure on domestic resource markets is considered (at least by some economists) to be an

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Inflation and Prices (cont.)



a. Blue Chip Panel of economists.

SOURCES: U.S. Department of Labor, Bureau of Labor Statistics; U.S. Department of Commerce, Bureau of the Census; and *Blue Chip Economic Indicators*, December 10, 1999 and August 10, 2000.

important unknown in the inflation outlook for the remainder of this year and next. However, the notion that future inflation trends can be forecasted by evaluating resource markets is hotly debated, with some analysts using slack economies abroad to explain why U.S. resource market conditions have been particularly uninformative about inflation in recent years. They argue that the availability of ample foreign resources meant that U.S. demand was not met with the same cost pressures—hence inflation pressures—as in the past. The U.S. trade gap has widened sharply

since the summer of 1997, a period when import prices exerted substantial downward influence on U.S. retail prices.

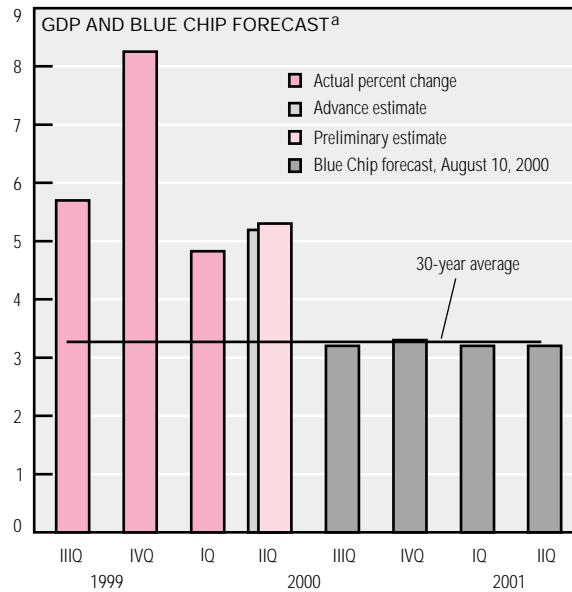
According to this view, a key factor in the U.S. inflation outlook is the continued sluggishness of economies abroad. Should other nations' production start to gain significant momentum and command greater amounts of their productive capacity, the U.S. economy's ability to forestall an upward surge in inflation would be greatly diminished. Surprisingly, while foreign economies have shown greater-than-expected strength this year, their own

inflation performance has been generally less than expected. For each of 11 major U.S. trading partners, real economic growth has been tracking above analysts' expectations, in many cases more than a percentage point higher. However, inflation performance in seven of these countries is tracking somewhat lower than analysts had projected. Overall, despite the generally stronger world economic activity, nonpetroleum import prices this year have continued to have a net dampening influence on U.S. retail prices.

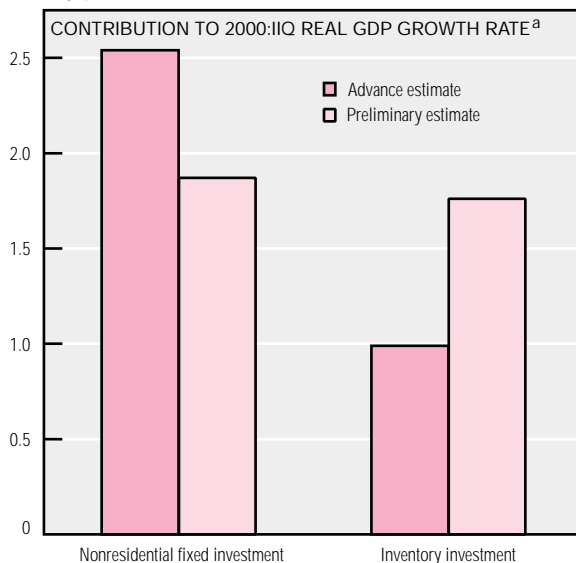
Economic Activity

Real GDP and Components, 2000:IIQ ^{a,b} (Preliminary estimate)	Change, billions of 1996 \$	Percent change, last:	
		Quarter	Four quarters
Real GDP	119.7	5.3	6.0
Consumer spending	44.7	2.9	5.4
Durables	-11.5	-5.0	9.4
Nondurables	15.7	3.4	5.4
Services	37.7	4.4	4.5
Business fixed investment	45.5	10.9	10.5
Equipment	46.0	17.8	16.4
Structures	3.2	4.8	7.2
Residential investment	0	0	0.1
Government spending	18.8	4.9	4.2
National defense	13.1	16.2	4.2
Net exports	-31.8	—	—
Exports	34.9	13.5	10.0
Imports	66.6	19.5	14.7
Change in private inventories	42.7	—	—

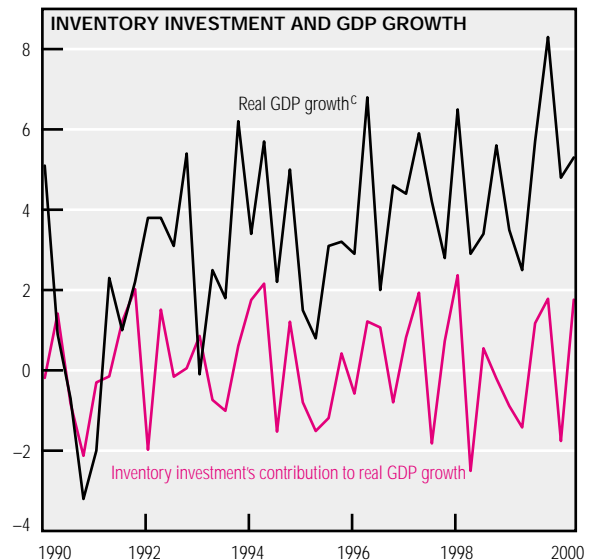
Annualized percent change from previous quarter



Percentage points



Percent change



a. Chain-weighted data in billions of 1996 dollars.

b. Components of real GDP need not add to totals because current dollar values are deflated at the most detailed level for which all required data are available.

c. Annualized percent change from previous quarter.

NOTE: All data are seasonally adjusted and annualized.

SOURCES: U.S. Department of Commerce, Bureau of Economic Analysis; and *Blue Chip Economic Indicators*, August 10, 2000.

The preliminary estimate of GDP growth for 2000:IIQ, at 5.3% (annualized), is 0.1 percentage point higher than the advance estimate, according to the August release. The increase reflects upward revisions to inventory investment and exports, offsetting an upward revision to imports and downward revisions to consumer spending (especially durable goods) and non-residential fixed investment. Residential investment remained unchanged. These revisions hint that economic growth may be

tapering off; Blue Chip forecasters are predicting a quick decline to about 3%.

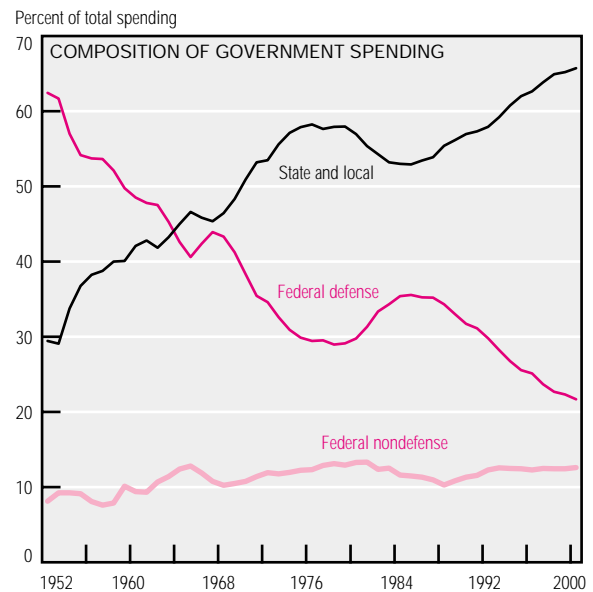
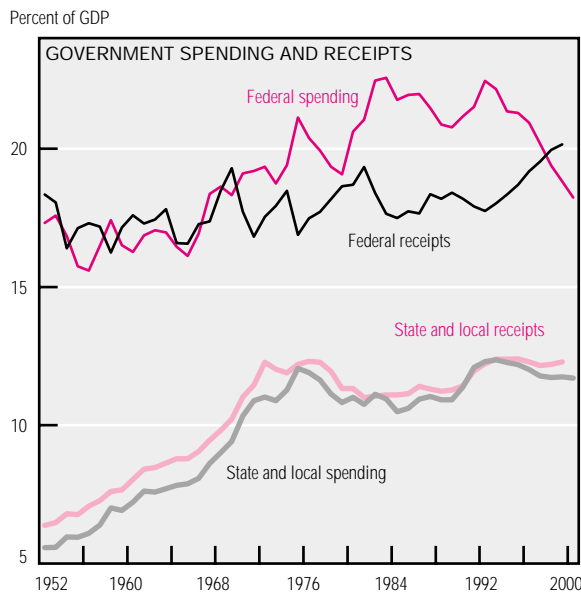
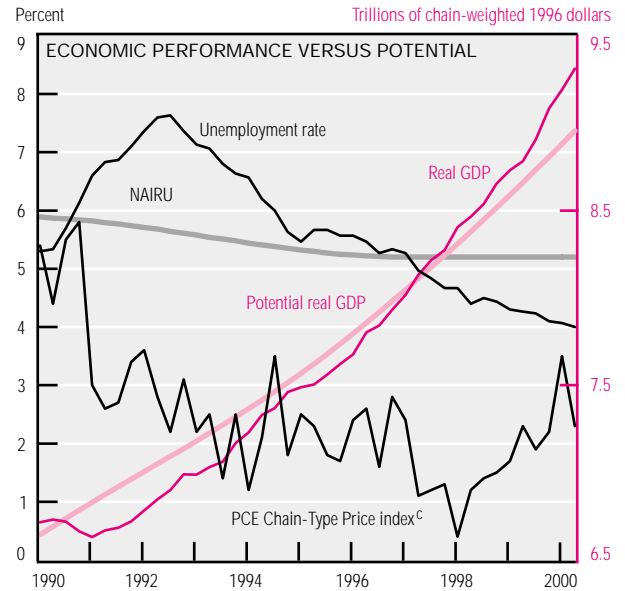
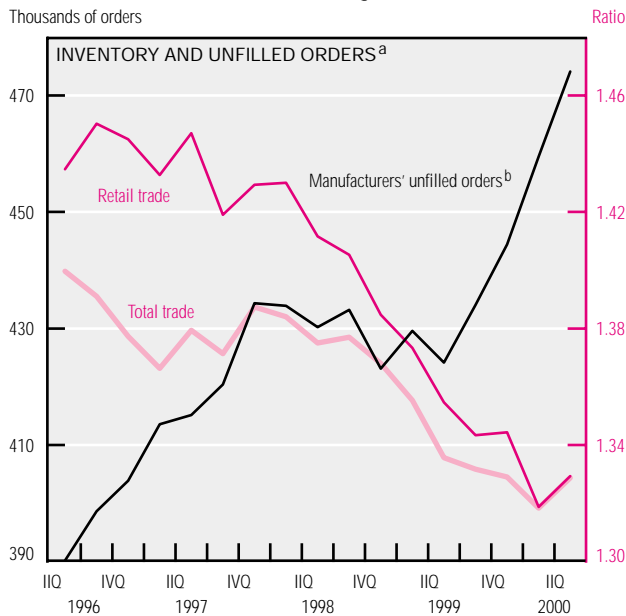
A sharp increase in inventory investment could signal a future slowdown. Whereas the previous trend of increasing inventories has not kept up with strong demand and sales, the second-quarter increase outpaced sales. If demand remains moderate, retailers might cut back on new orders, prompting a manufacturing slowdown and easing labor markets. Sectoral data show the inventory-to-sales ratio rising

notably in retail trade rather than in wholesale or manufacturing, though their levels are still extremely low by historical standards. Unfilled manufacturing orders are substantial; even if demand eases, they could keep manufacturers and workers busy into the near future.

Employment has grown steadily during the current expansion. In fact, since mid-1997, total employment has remained above the level that some analysts believe triggers accelerating inflation. From this perspective, policies that succeeded in preventing

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Economic Activity (cont.)



a. Ratio of inventory-on-hand to sales; chain-weighted data in billions of 1996 dollars.

b. Excluding defense capital goods.

c. Annualized percent change from previous quarter.

SOURCES: U.S. Department of Commerce, Bureau of Economic Analysis and Bureau of the Census; and Congressional Budget Office.

unemployment from falling below the estimated nonaccelerating inflation rate of unemployment (NAIRU) would have reduced current employment by more than 1,600,000 jobs. During the same period, real GDP has exceeded an analogous estimate of the trend level of potential U.S. economic output. Again, if policies had tried to keep output rising along its estimated potential level—and had succeeded—the cumulative real output forgone would have been just over \$450 billion in 1996 dollars. Despite the suggestion that inflationary pressures should accompany recent levels of

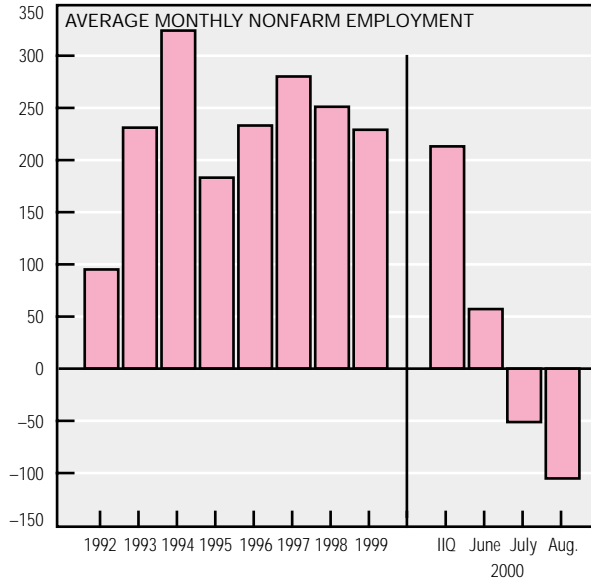
employment and output, the personal consumption price index measure of inflation is near 2.5%.

The election year and recent debate over budget surpluses have called attention to the role of government receipts and expenditures. As a share of GDP, state and local spending and receipts more than doubled between the Korean War and the early 1970s, but have changed little since then. Federal spending increased irregularly during the late 1960s and 1970s, but the past decade has erased most of that increase. Likewise, federal

government receipts have grown by nearly as much as expenditures have decreased—so much that, for the first time since 1966, federal receipts exceeded expenditures for two consecutive years. Patterns in the combined expenditures of all governments show that the share of federal nondefense expenditures has risen slightly over the past half-century. Most notably, the share of state and local expenditures has doubled and the share of federal defense expenditures has declined by half.

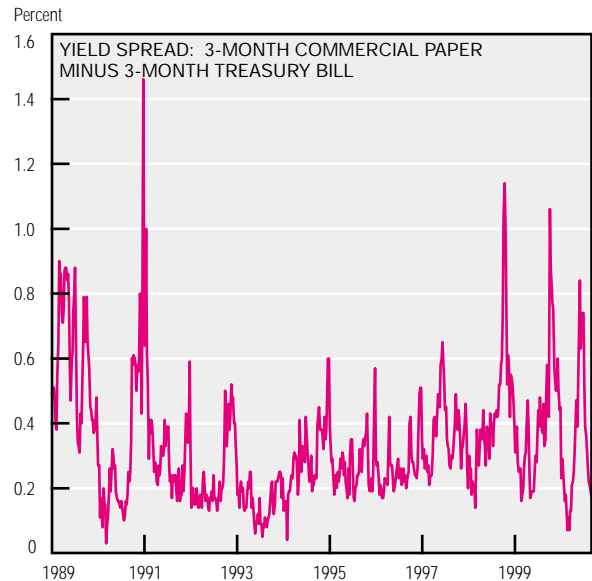
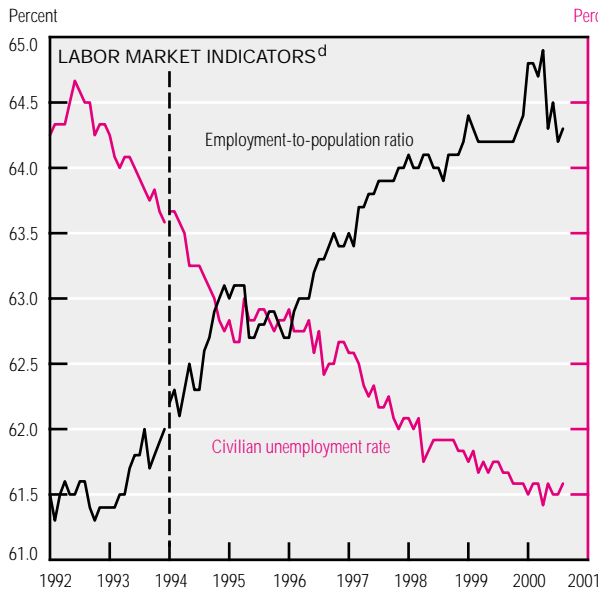
Labor Markets

Change, thousands of workers



Labor Market Conditions

	Average monthly change (thousands of employees)				
	1997	1998	1999	YTD ^a	Aug. 2000
Payroll employment	280	251	229	182	-105
Goods-producing	48	22	4	15	-79
Mining	1	-3	-3	1	0
Construction	21	37	25	15	0
Manufacturing	25	-12	-18	-2	-79
Durable goods	27	-2	-6	4	-43
Nondurable goods	-2	-11	-12	-5	-36
Service-producing	232	229	225	167	-26
TPU ^b	16	20	16	4	-64
Retail trade	24	30	36	28	-35
FIRE ^c	21	22	10	0	25
Services	141	120	124	108	160
Government	17	28	28	20	-122
	Average for period (percent)				
Civilian unemployment	4.9	4.5	4.2	4.0	4.1



a. Year to date.
 b. Transportation and public utilities.
 c. Finance, insurance, and real estate.
 d. Vertical line indicates break in data series due to survey redesign.
 NOTE: All data are seasonally adjusted.
 SOURCES: U.S. Department of Labor, Bureau of Labor Statistics; and The Conference Board, Help-Wanted Advertising Index.

In August, total nonfarm employment registered its largest monthly decline (105,000) since 1991. Although private-sector employment growth has slowed recently, declines in total nonfarm employment over the last two months may overstate the sluggishness of the labor market. Payroll decreases due to layoffs at the conclusion of the decennial census are ebbing, and private-sector payroll growth would have exceeded 100,000 last month (instead of 17,000) if not for the now-resolved Verizon strike. Another labor market

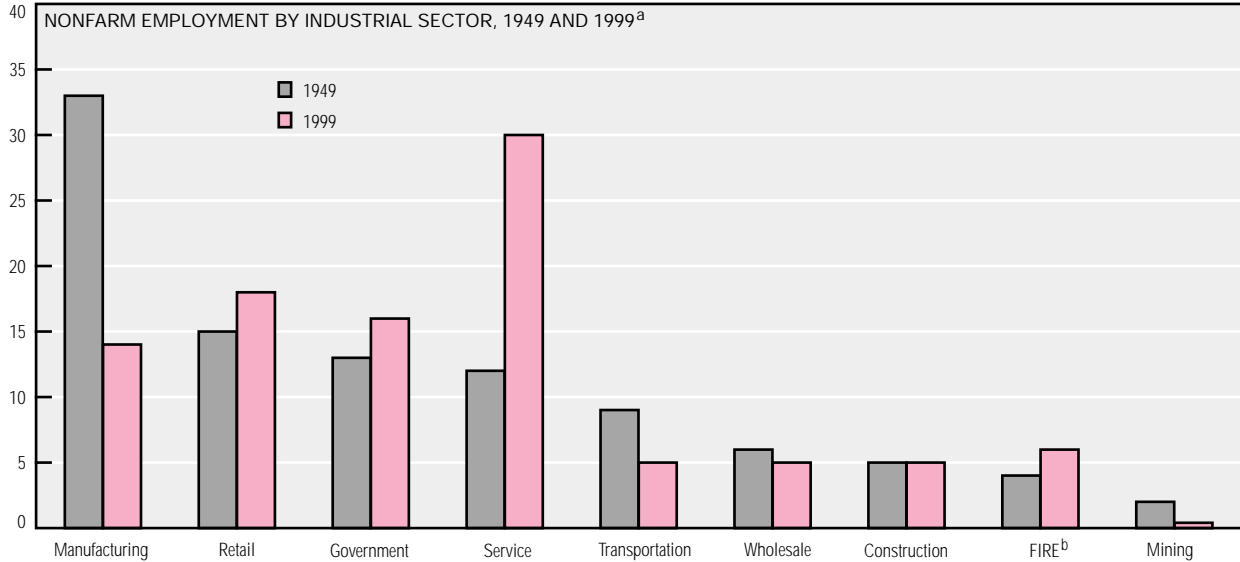
measure, the unemployment rate, shows little change. It rose one-tenth of a percent to 4.1% in August; since October, it has fluctuated between 3.9% and 4.1%.

Is the labor market really slowing? A measure of labor demand would help answer this question; unfortunately, the U.S. has never consistently measured the job vacancy rate. A proxy gauge of labor demand, however, is the Help-Wanted Advertising Index, a national average of the number of job ads appearing in the newspapers of 51 markets.

In previous business cycles, the index posted steep increases, quickly followed by precipitous declines. The current expansion seemed to follow this pattern until 1994; since then, the index has remained fairly stable. Despite this expansion's record length and extremely low unemployment rate, the index has not reached levels attained in the 1970s and 1980s. This could reveal deficiencies in the index because new technologies such as the Internet have given employers alternative ways to advertise new jobs.

Labor Market Trends

Percent of total employment



Productivity Gains, 1970–95

Industry	Employment (thousands)		Percent change, 1970–95		
	1970	1995	Employment	Output	Productivity per worker
Railroad transport	633.8	238.4	-62.4	29	244
Steel	627.0	241.6	-61.5	3	197
Textiles	974.8	663.2	-32.0	62	138
Agriculture	3,463.0	3,440.0	-0.7	132	134
Apparel	1,363.8	935.8	-31.4	55	126
Coal mining	145.1	104.4	-28.1	59	121
Manufacturing	19,367.0	18,524.0	-4.4	100	110

a. The agriculture, fishing, and forestry industry is not included because it represents a relatively small share of nonfarm employment.

b. Finance, insurance, and real estate.

SOURCES: U.S. Department of Labor, Bureau of Labor Statistics and Occupational Safety and Health Administration; and W. Michael Cox and Richard Alm, *Myths of Rich and Poor* (New York: Basic Books, 1999).

Among the most striking labor-market trends of the past 50 years is the shift in employment from the goods-producing sector to the service sector. Two interrelated forces have generated this long-term change in the sectoral composition of U.S. employment. One is the changing composition of output, reflecting changes in taste, real income, and relative prices. The other is rising labor productivity in many industries, which resulted from the application of new

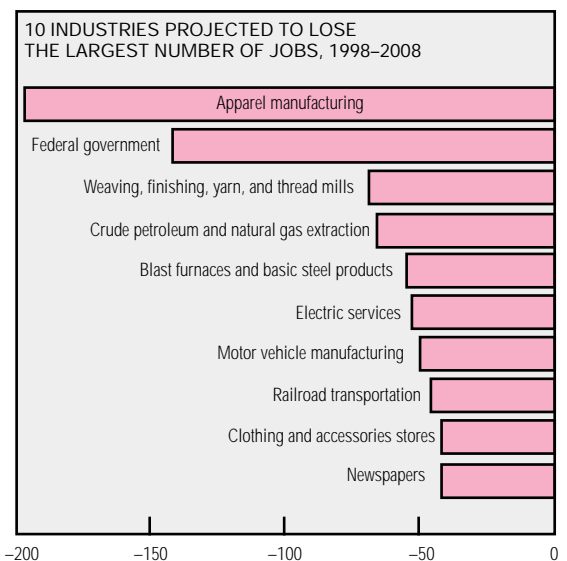
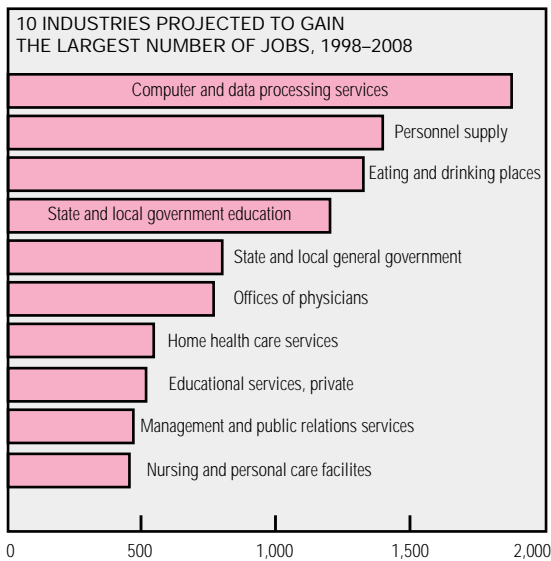
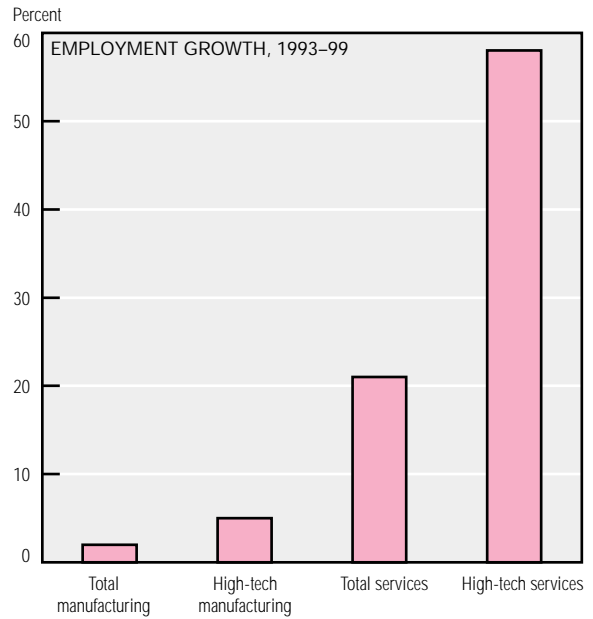
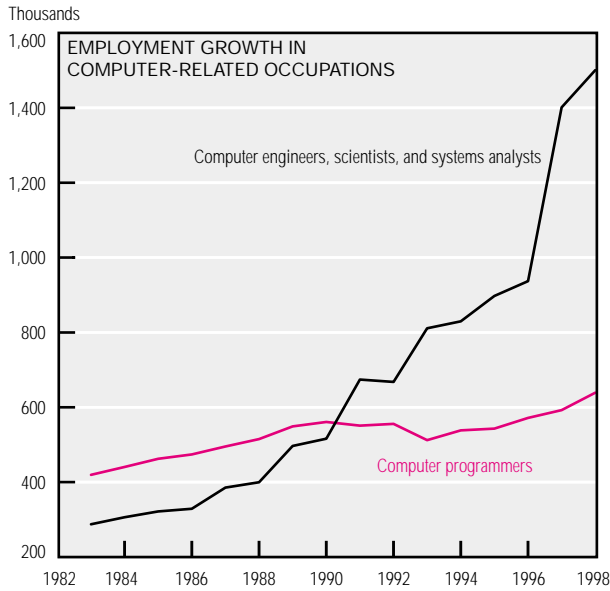
technologies and knowledge, much of it embedded in modern capital equipment and better-educated workers, enabling the introduction of new products and services.

In the post-World War II years, manufacturing accounted for approximately one-third of total nonfarm employment, while the service industry comprised less than 15%. Fifty years later, the shares are roughly reversed, with service industries doubled and manufacturing halved. Mining's share of employ-

ment, however, fell even more precipitously (75%) than that of manufacturing. As the workforce has expanded, a larger share of workers has entered service-producing industries, where solid gains occurred in the employment shares of retail, government, and finance, insurance, and real estate. However, wholesale trade's share declined slightly, and the share employed in the transportation and utilities industry was roughly halved. Sharp productivity increases over the last 25 years have

(continued on next page)

Labor Market Trends (cont.)



SOURCE: U.S. Department of Labor, Bureau of Labor Statistics.

allowed some industries to expand output while reducing employment. Between 1970 and 1995, overall manufacturing employment dropped almost 5%, but manufacturing output doubled, constituting a 110% increase in productivity per worker. Within the manufacturing sector, output per worker has increased 197% in the steel industry over the last 25 years, 138% in the textile industry, and 126% in apparel.

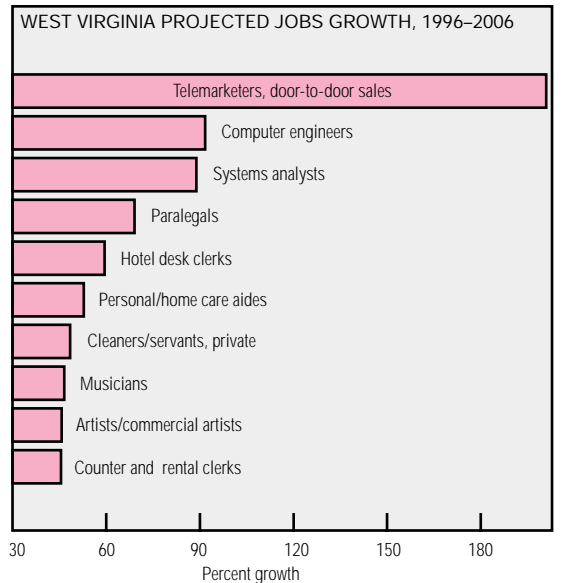
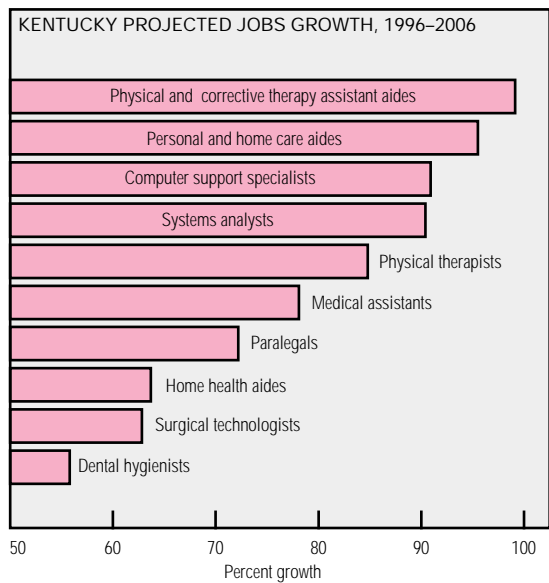
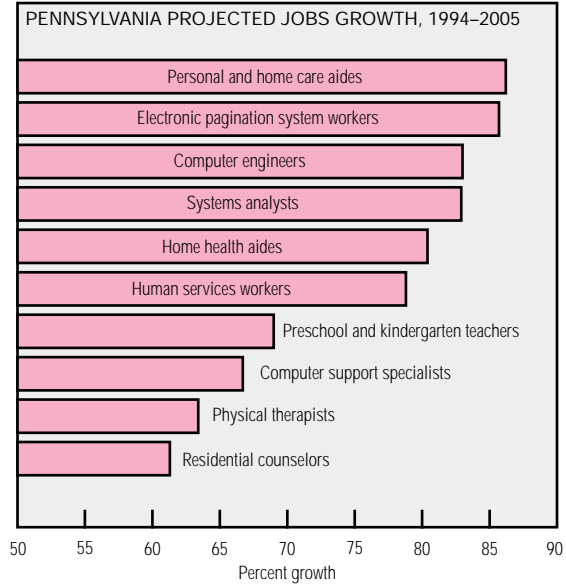
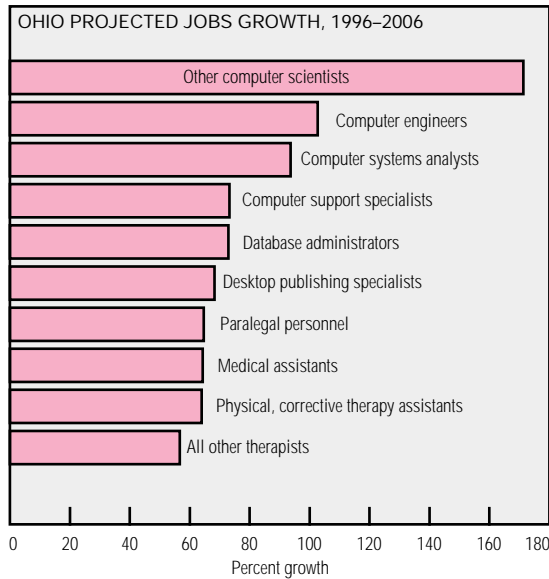
These huge productivity gains have not been limited to the goods-producing sector. Railroad employment, a subset of the transportation industry, fell more than 60% during the 1970-95 period, but productivity per worker soared 244%. With such employment shifts over time, increased productivity expands the set of goods available for consumption.

Growth in high-tech employment is one trend that highlights the shift

from a labor-intensive, goods-producing economy to one dependent on human capital and service production. The U.S. has experienced great technological gains in the 1990s, and, as expected, high-tech employment growth has far outpaced the rest of the economy. A look at computer-related occupations over the last 15 years reveals remarkable growth: While the number of computer programmers increased

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Labor Market Trends (cont.)



SOURCES: Commonwealth of Kentucky, Workforce Development Cabinet, Labor Market Information Division, Research and Statistics Branch, *Kentucky Occupational Outlook to 2006*; State of Ohio, Bureau of Employment Services, Labor Market Information Division, *Ohio Job Outlook to 2006*; Commonwealth of Pennsylvania, Department of Labor and Industry, Bureau of Research and Statistics, *Pennsylvania Workforce 2005*; State of West Virginia, Bureau of Employment Programs, Department of Research, Information, and Analysis, *Occupational Projections: 1996 to 2006*.

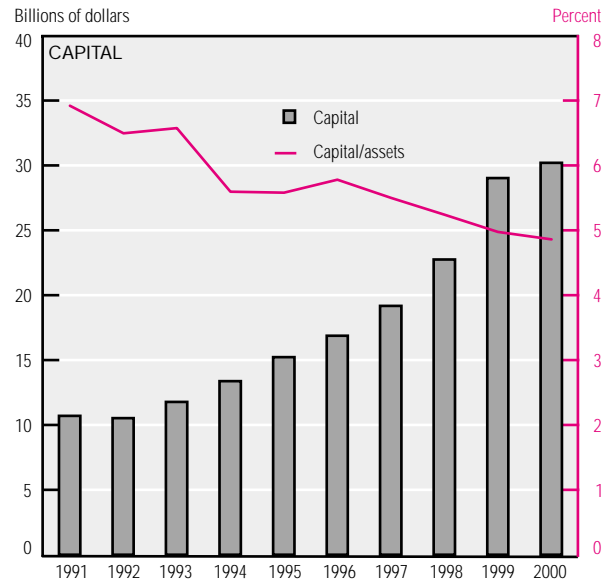
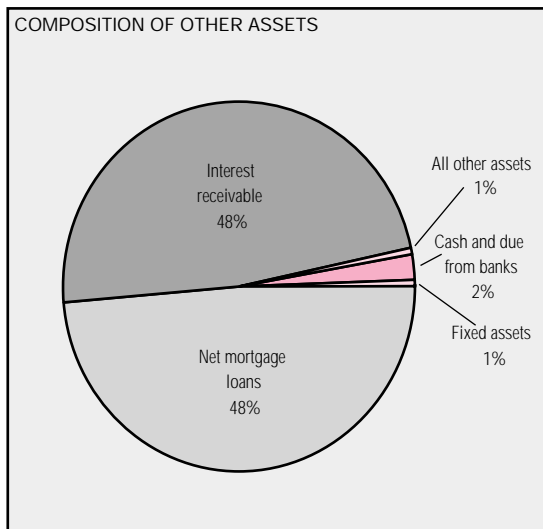
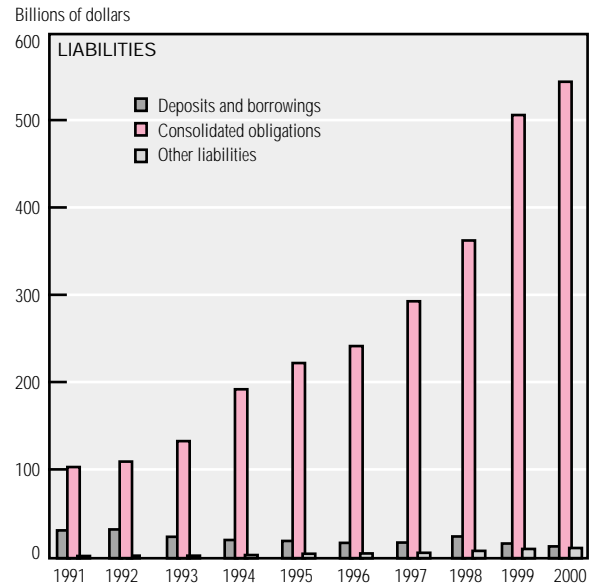
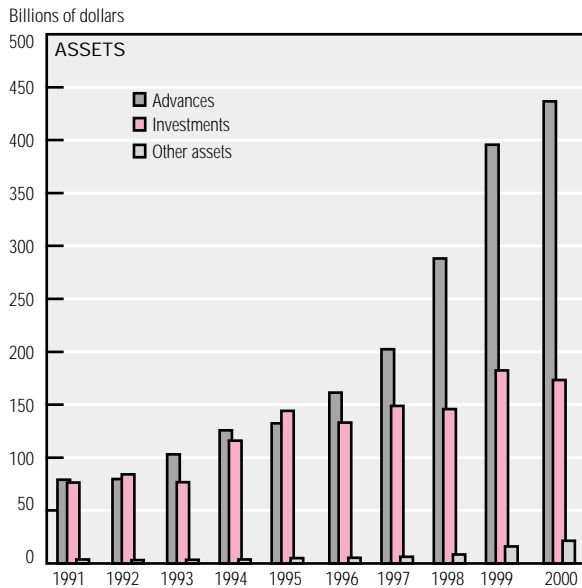
52% in the 1983-98 period, the number of computer engineers, scientists, and systems analysts dwarfed this figure, registering 421% growth over the same period. Just as overall employment growth in the service-producing sector has exceeded that of the goods-producing sector, high-tech service jobs have grown roughly 12 times as fast as those in manufacturing since 1993.

Projections for the U.S. and the Fourth District suggest that the shift

in employment share from goods production to service production will continue. Nationally, the 10 industries projected to gain the most jobs in 1998-2008 will be in the service-producing sector (seven in services, two in government, and one in retail trade). Estimates for the Fourth District indicate an identical trend: Each state projects its 10 fastest-growing job categories will be in the service-producing sector.

States' projections for occupation growth show two noteworthy trends. First, the high-tech industry is expected to continue growing at a phenomenal rate. Of particular interest is the trend in Ohio, where high-tech jobs are projected to account for the six fastest-growing occupations in the 1994-2005 period. Second, the health care industry is projected to see large growth as well: In Kentucky, it will comprise seven of the 10 fastest-growing occupations.

Federal Home Loan Banks



SOURCE: Federal Home Loan Bank System, *Quarterly Financial Report*, June 30, 2000, and annual reports.

The 12 Federal Home Loan Banks are stock-chartered, government-sponsored enterprises whose original mission was to provide short-term advances to member institutions, funded by deposits from those institutions. Membership was open to specialized housing-finance lenders, mostly savings and loan associations and mutual savings banks. As their traditional clientele has shrunk and the financial system has consolidated, the FHLB system has reinvented its role

in financial markets. FHLB advances now represent an important funding source for member institutions' mortgage portfolios, having risen to \$436 billion by the end of 1999:11Q and far outstripping all other FHLB investments and assets.

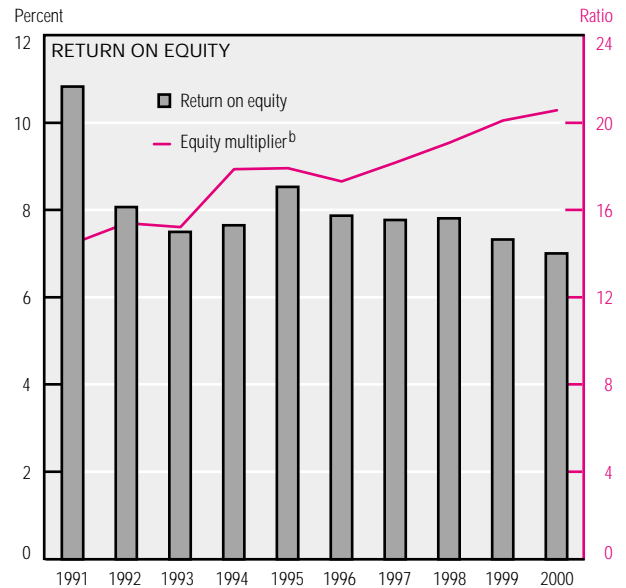
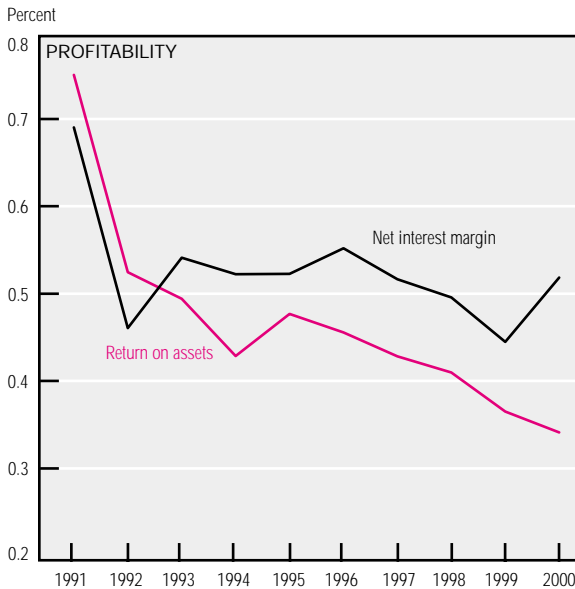
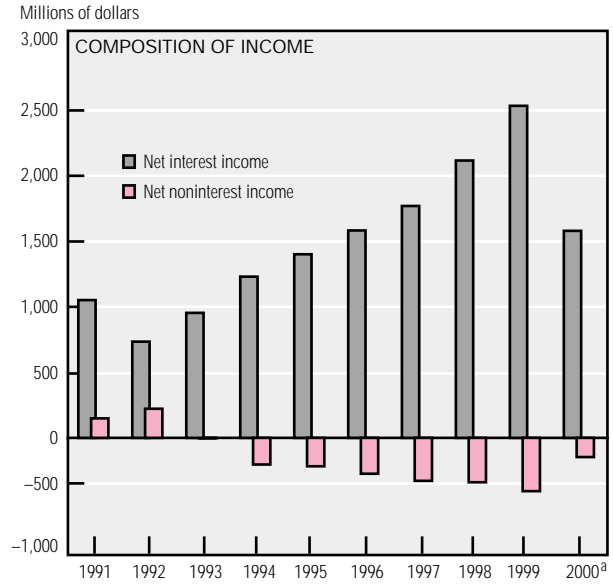
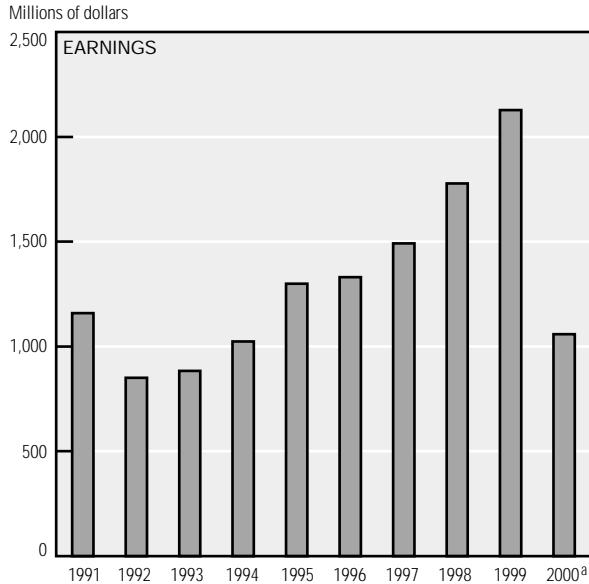
The lion's share of funding for FHLB assets came from \$564 billion in consolidated obligations of the FHLB system—bonds issued on behalf of the 12 banks collectively. The market views these bonds as implicitly backed by the U.S. government; hence, FHLBs

can raise funds at rates of return below those paid by AAA-rated corporations. Member institutions' deposits and short-term borrowings, along with other liabilities, contributed few funds. FHLBs have added to their capital as they have grown, although the pace of asset growth has outstripped capital growth since 1996, and the capital-to-asset ratio fell to 4.9% by mid-2000.

In 1997, the FHLB of Chicago initiated the Mortgage Partnership Finance Program, whereby it invests directly in mortgages, in addition to

(continued on next page)

Federal Home Loan Banks (cont.)



a. Data through first half of year.
 b. Equity multiplier is the ratio of total assets to equity.
 SOURCE: Federal Home Loan Bank System, *Quarterly Financial Report*, June 30, 2000, and annual reports.

supporting members' own portfolios through advances. Currently, most FHLBs offer this program; the \$10.4 billion in mortgages that they hold represents almost half of their other assets. This portfolio is projected to be a major source of asset growth for FHLBs and it represents a significant departure from their original mission.

FHLB's earnings have grown steadily since 1994. Their \$1,059 million in net income for the first half of 2000 compares favorably to \$974 million for the first half of 1999. Break-

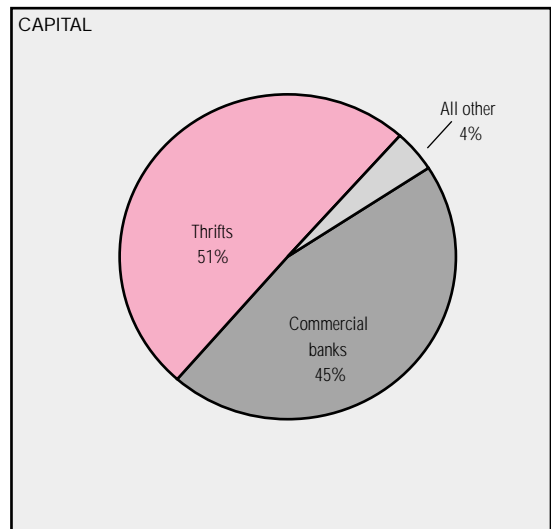
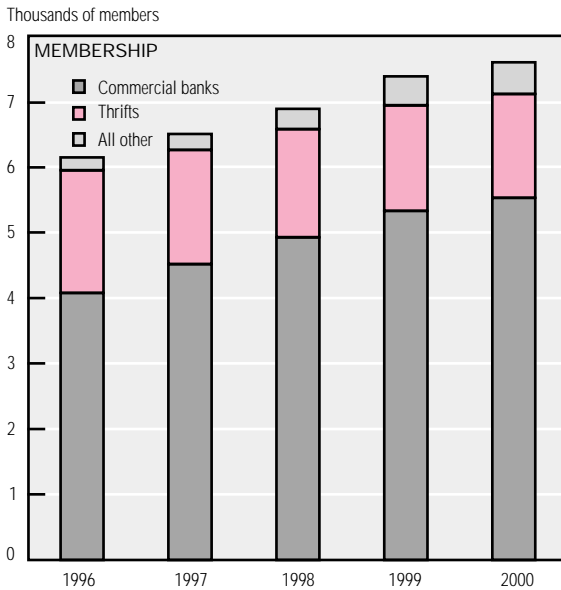
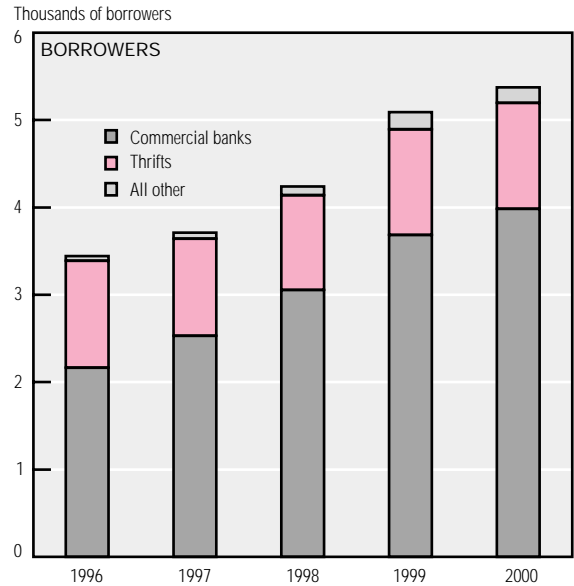
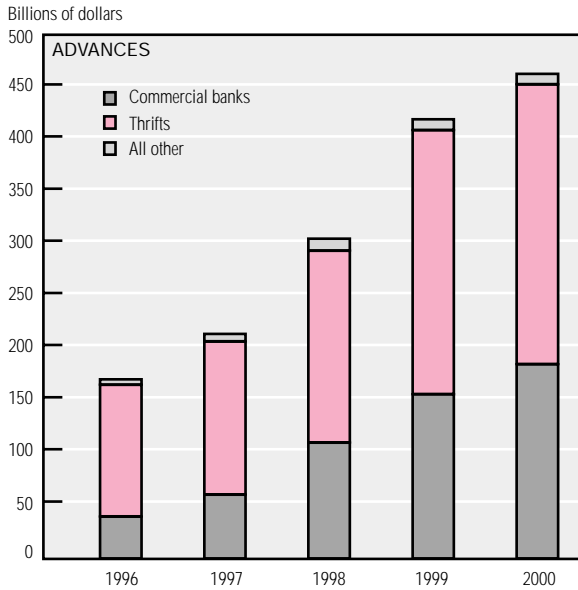
ing down earnings into interest and noninterest sources reveals that, like commercial banks and savings and loans, FHLBs' earnings come primarily from net interest income (interest income less interest expense). Net interest income grew steadily from \$735 million in 1992 to \$2,533 million at the end of 1999; for the first half of 2000 it measured \$1,581 million, up from \$1,163 million for the same period in 1999.

A steady increase in operating expenses, especially in employee compensation and benefits, has

driven an increasingly negative spread between noninterest income and noninterest expense since 1993. Improvements in earnings and net interest income have resulted from strong asset growth rather than improvements in underlying profitability. Return on assets declined during the 1990s from 75 basis points (bp) in 1991 to 36 bp at the end of 1999. The annualized return on assets through 2000:IIQ is 34 bp. The net interest margin rose from 44 bp at the end of 1999 to 52 bp in mid-2000, still a far cry from the

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Federal Home Loan Banks (cont.)



SOURCE: Federal Home Loan Bank System, *Quarterly Financial Report*, June 30, 2000, and annual reports.

69 bp margin earned in 1991 and the 300–400 bp margins typical of depository institutions.

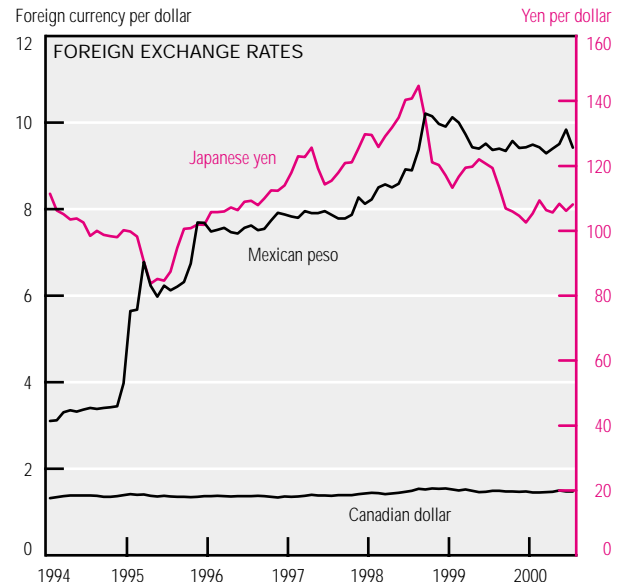
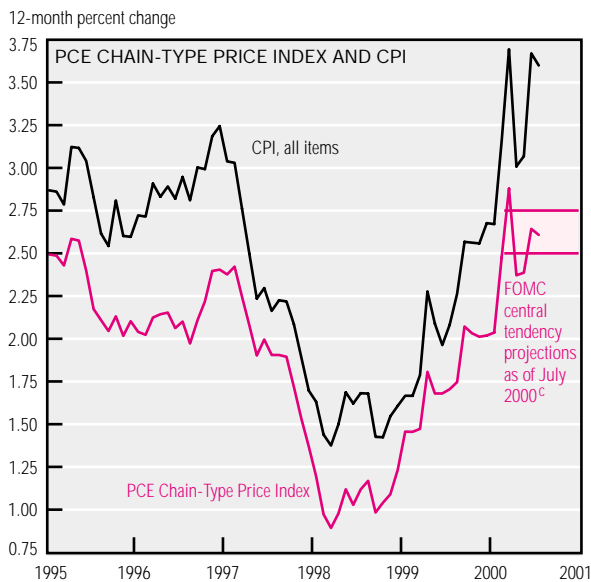
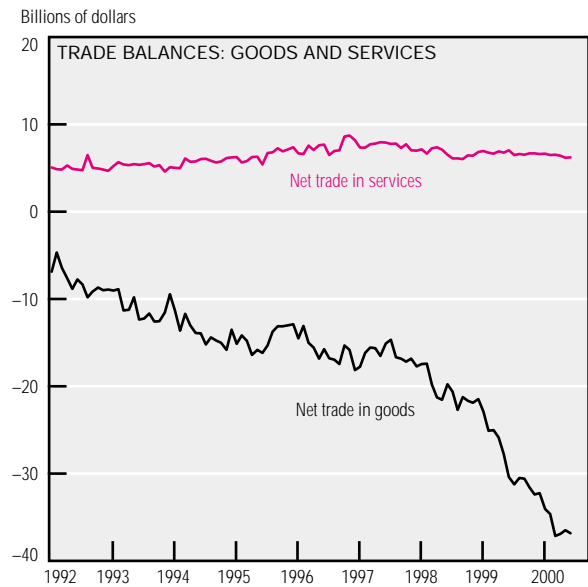
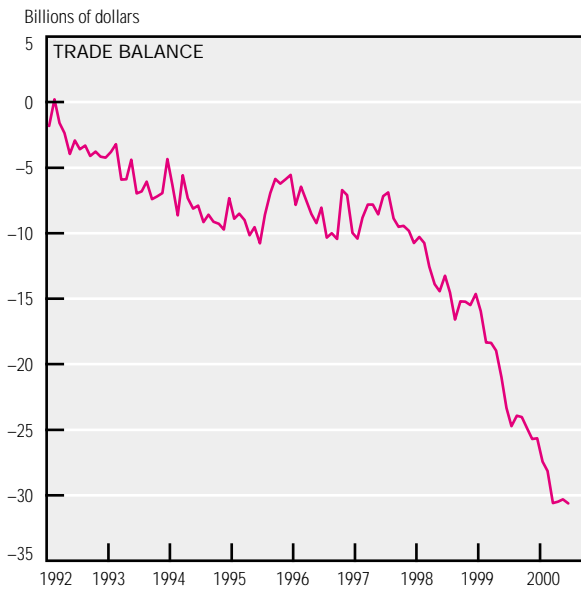
Despite continued increases in leverage since 1996, return on equity fell to 7.02% in the first half of 2000 from 7.33% at the end of 1999. Such persistently weak returns on assets and equity have put further pressure on FHLBs to undertake nontraditional lines of business.

The FHLBs' changing role is evident in its membership, which has increased steadily to a record

7,594 institutions at the end of 2000:IIQ. Notably, commercial banks now represent 73% of members, numbering 5,526 at midyear. Thrift institution membership continues to decline, reflecting the consolidation of the thrift industry. Another 486 members were drawn from other housing lenders, including credit unions and insurance companies, up nearly 10% at the end of June from the beginning of the year. Nevertheless, thrifts remain the heaviest users of FHLB

advances, accounting for 58% of the \$436.6 billion in advances at mid-year. Advances to commercial banks have increased over the past five years, reaching \$175 billion at 2000:IIQ. Provisions of the Financial Modernization Act of 1999 allow FHLBs to make advances against community banks' small business loan portfolios, which should stimulate banks' use of advances in the future.

The U.S. Trade Deficit



SOURCES: U.S. Department of Commerce, Bureau of the Census and Bureau of Economic Analysis; and Board of Governors of the Federal Reserve System.

The monthly U.S. trade deficit has been essentially unchanged since March, with a slight decline in the services surplus offset by a slight decline in the goods deficit. This June's deficit of \$30.6 billion was about 25% larger than last June's. If monthly deficits for the rest of 2000 were somehow to remain at this level, the annual deficit would be only 36% greater than in 1999. Last year's deficit exceeded 1998's by 59%.

The deficit with Canada, our largest trading partner, was \$4.3 billion, 50% more than a year ago. The exchange rate with Canada, however, has remained relatively

stable. With Mexico, our second-largest trading partner, the deficit was \$2.3 billion, 9% more than a year ago. The exchange rate with Mexico also changed little from a year ago but is somewhat volatile. The June deficit with Japan was \$6.3 billion, slightly less than a year ago; the exchange rate, while stable in recent months, has depreciated somewhat in the past year.

A country that runs a trade deficit is absorbing—through consumption and investment—more of the world's resources than it is producing. Such a country also is spending beyond its current income and must borrow

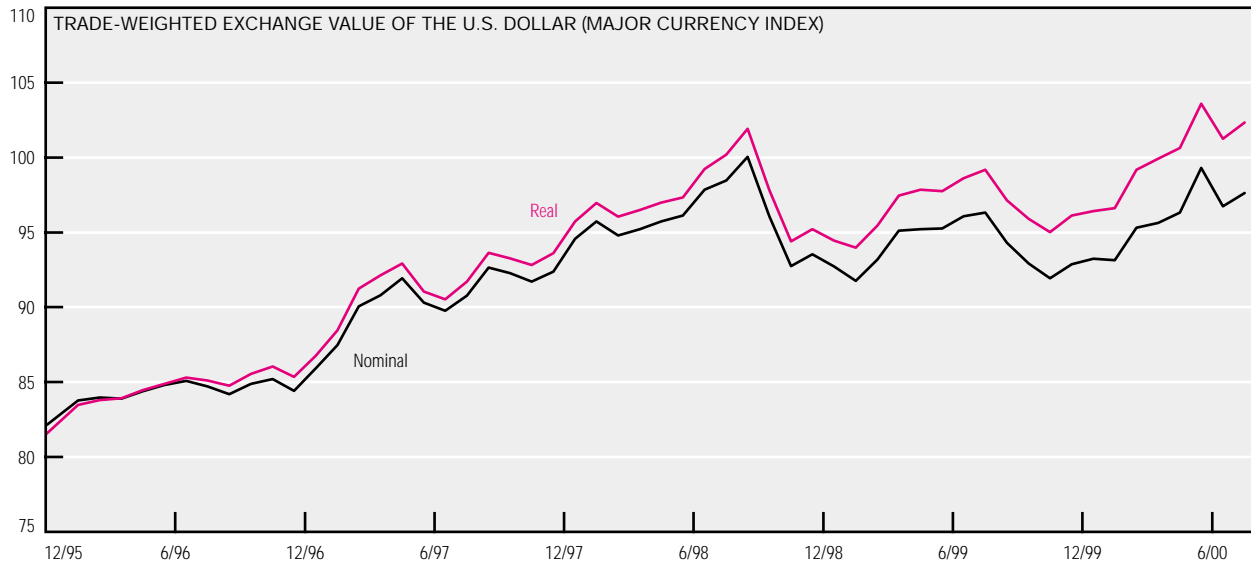
from abroad to finance its expenditures. This economic fact of life guarantees that a nation's net inflow of foreign capital will always exactly match its current-account deficit.

To understand the competitiveness of U.S. goods and services in foreign markets, it is important to gauge movements in the dollar's value. Because the dollar often appreciates against some currencies and depreciates against others, economists construct weighted-average indexes of exchange rates to gain an overall perspective. Usually, the weights reflect trade shares between countries. The Major Currency Index (MCI), for

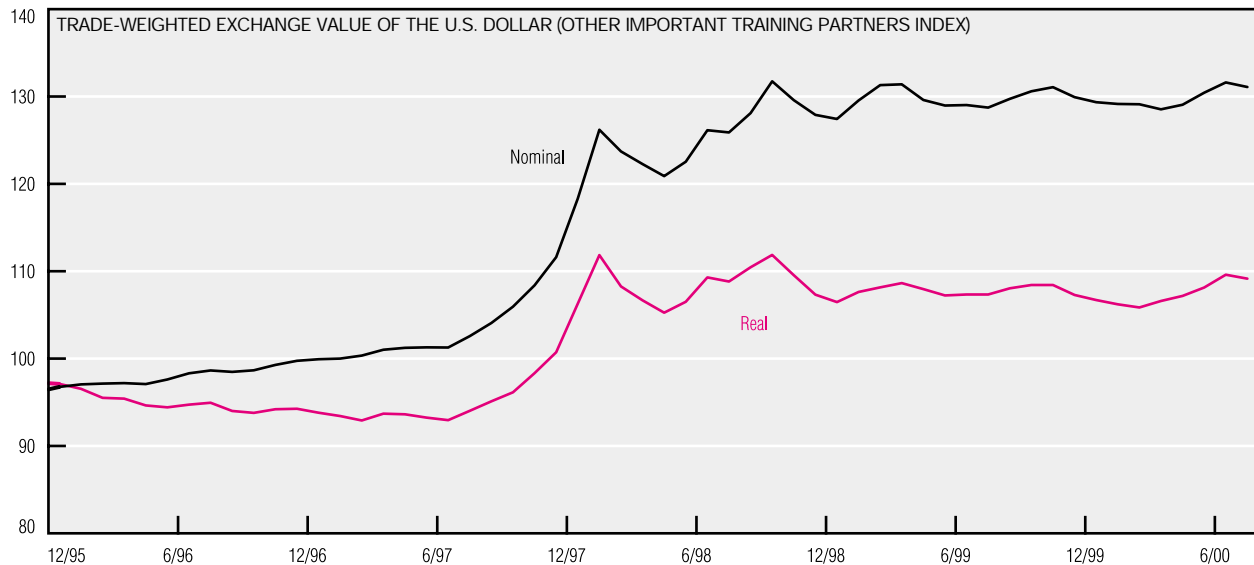
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The U.S. Trade Deficit (cont.)

Index, March 1973 = 100



Index, March 1973 = 100



SOURCE: Board of Governors of the Federal Reserve System.

example, includes currencies heavily traded in financial markets like those of the G-10, the euro area, and Australia. The Other Important Trading Partners (OITP) Index reflects movements of the dollar against currencies of U.S. trading partners in Asia, Latin America, Eastern Europe, and the Middle East. Adjusting for inflation differentials between the U.S. and its trading partners provides indexes of the dollar's average real value in foreign trade.

A country may incur a trade deficit in various ways, each with different implications for its exchange rate.

If ebullient domestic demand alone were responsible for widening the deficit, the dollar would depreciate as the deficit widened. But while the U.S. trade deficit has been growing steadily since 1997, the value of the dollar has not declined in currency markets. That is, despite the increasing net flow of dollars to be exchanged with foreign currencies in trade, the foreign currency price of dollars has not generally declined.

Both the MCI and the OITP indexes of the dollar's value have appreciated slightly this year and significantly since 1997. This real

appreciation suggests that, despite the growing deficit, U.S. goods and services are becoming less price-competitive abroad, while foreign goods grow more price-competitive in the U.S. This is not all bad, if demand in the U.S. essentially exceeds our economy's productive capacity.

Dollar appreciation suggests that investment opportunities in the U.S. have attracted an increasing inflow of foreign capital. This demand for dollars brings appreciation that makes foreign goods less expensive than domestic ones.