The Economy in Perspective

Water, water, every where,
And all the boards did shrink;
Water, water, every where,
Nor any drop to drink.

Samuel Taylor Coleridge—
The Rime of the Ancient Mariner

Market liquidity dominates the financial news these days, and for good reason. Liquidity conditions influence the ability to execute financial transactions quickly and at prices that fairly approximate true value. In illiquid markets, trading takes more time, involves more risk, and becomes more expensive. Real economic activity can fall victim to illiquid financial markets if potential investors fear they will be unable to sell the securities they own at a reasonable price in the future. If enough investors pull back from a market, its ability to support economic activity is impaired.

How can one gauge the fair price of a financial instrument at a given moment? After all, isn't market trading itself a process of price discovery through which supply and demand conditions are revealed? In highly liquid markets, small differences between "bid" and "asked" prices attract additional buyers or sellers, narrowing the price spread. There is no foolproof way to measure market liquidity, but many observers contend that some financial markets have become less liquid during the past few months than in the previous several years.

Why have these markets dried up? Investors' willingness to take on risk has most likely changed. Pension fund managers, insurance companies, and households may simply have reined in their appetite for certain kinds of investments, even if the riskiness of those projects has not changed. Moreover, investors who have suffered a recent loss of wealth have less ability to bear risk. Another concern is the riskiness of the projects themselves, such as the questionable profitability of building another steel mill in Malaysia.
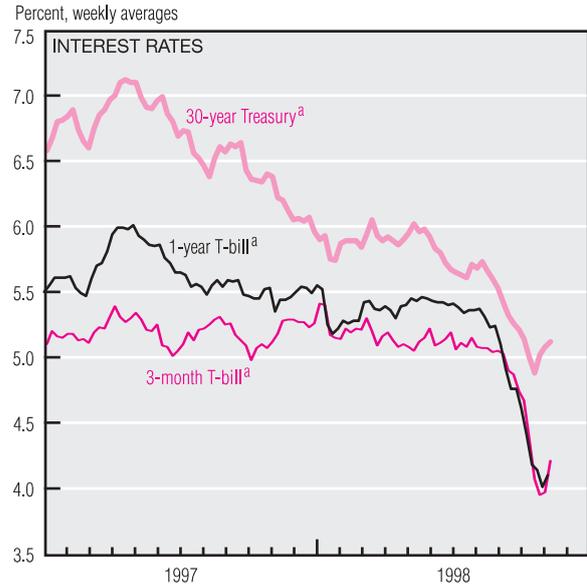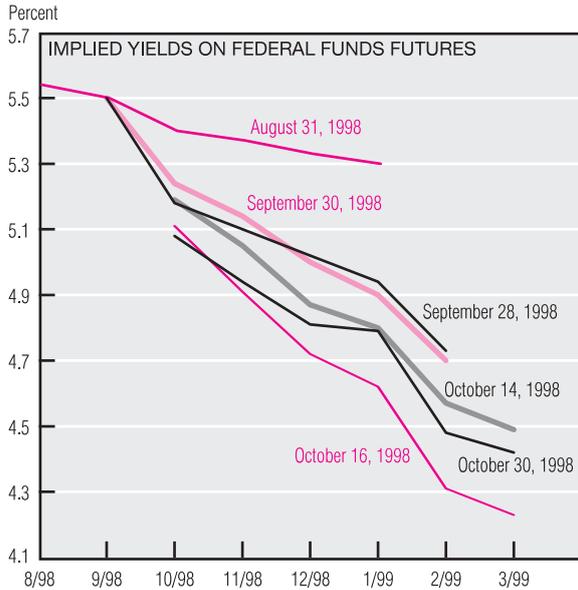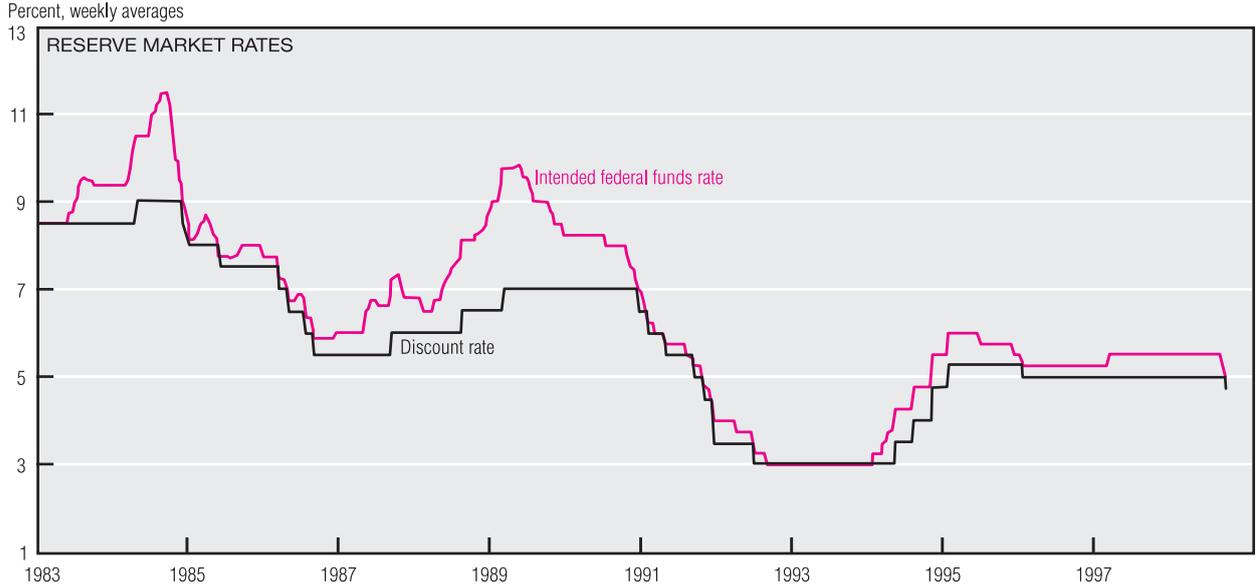
There is also a micro-market explanation. Many securities firms make markets in the securities they underwrite. Think of such a firm as a department store, balancing its cost of inventory financing with its desire to carry a wide selection of merchandise and offer a generous return policy. Large securities firms have likewise become important dealers in various markets, acting as both buyers and sellers to keep markets liquid. At reasonable trading volumes and financing costs, this activity encourages more trading and leads to greater overall profit for the firm. But securities dealers, like department stores, dislike holding inventory that does not move briskly. In the last few months, as demand for certain securities has declined sharply, some dealers apparently have become less willing to make markets in them or to hold much inventory. These firms also worry about their own risk exposure. The resulting reduction in market liquidity further curbs some customers' readiness to purchase these instruments in the first place.

Monetary policy operates principally by adjusting the amount of base money available in the economy; base money consists of cash and bank reserves. By supplying more base money, the Fed can push short-term interest rates down and give banks more leeway to expand their lending. But short-term U.S. Treasury rates have declined considerably on their own for the past few months, as investors have shortened the maturity of their holdings and rushed into assets that they consider safe. The flight to quality that is so evident in today's financial markets does not result from restrictive monetary policy. It is the product of individual decisions made by thousands of businesses and millions of households in response to their changing views about risk and reward. The Fed can enlarge the banking system's capacity to take up the slack created by less liquid capital markets, but it cannot alter the underlying risk profiles of the real investment activities that capital markets had previously been funding.

Once people are satisfied that they've regained their ability to appraise the risks associated with various forms of investment, more markets will begin operating smoothly again. Of course, the relative cost of financing could become so great that certain kinds of projects are no longer profitable, but that would not necessarily be a bad outcome. In the past, similar projects obtained financing only because of unreasonable risk assessments. Monetary policy must, of course, not allow credit availability to evaporate unduly. On the other hand, it would be counterproductive to pour water on a drowning man.

Percent, weekly averages

RESERVE MARKET RATES

Intended federal funds rate

Discount rate

Percent

IMPLIED YIELDS ON FEDERAL FUNDS FUTURES

August 31, 1998

September 30, 1998

September 28, 1998

October 14, 1998

October 16, 1998

October 30, 1998

Percent, weekly averages

INTEREST RATES

30-year Treasury[a]

1-year T-bill[a]

3-month T-bill[a]

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

At its September 29 meeting, the Federal Open Market Committee (FOMC) lowered the federal funds rate target to 5.25%, a decline of 25 basis points. Chairman Greenspan initiated a further decline of 25 basis points roughly two weeks later, on October 15, lowering the target rate to 5.0%. This second decline in the federal funds rate target was accompanied by a decrease from 5.0% to 4.75% in the discount rates charged by Federal Reserve district banks.

These interest-rate declines follow a period of remarkable stability. Prior to the September reduction, the federal funds rate target had stood at 5.5% since March 1997 and had remained between 5.25% and

5.75% since July 1995. The discount rates had held steady at 5.0% since January 1996.
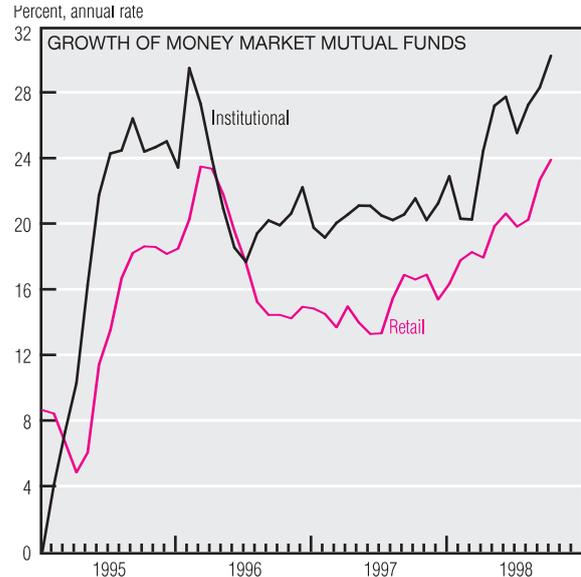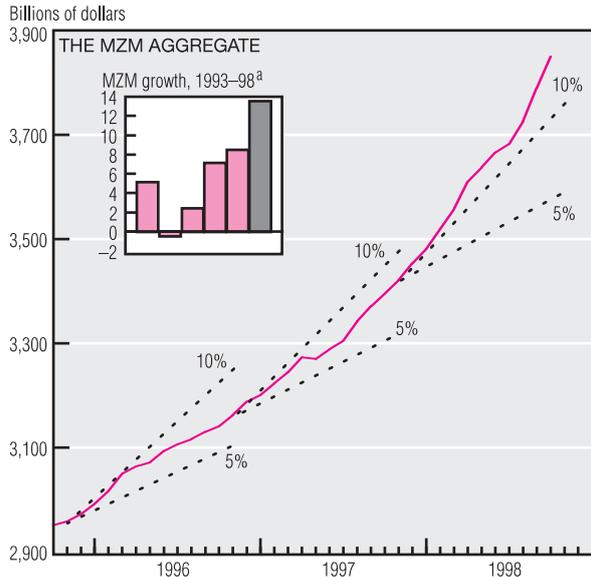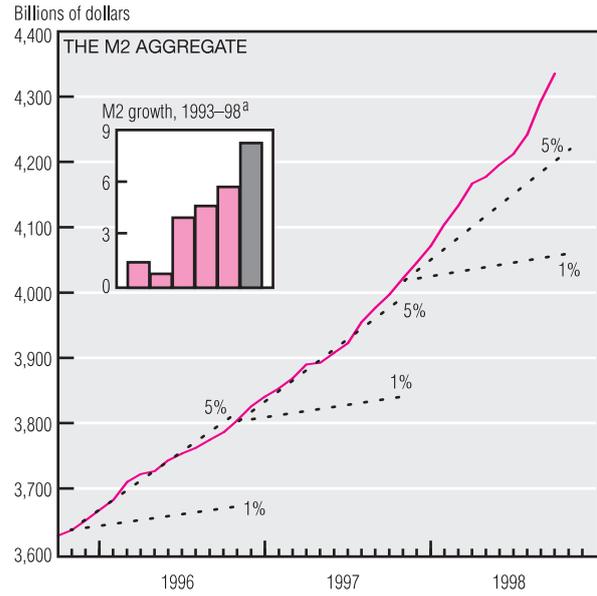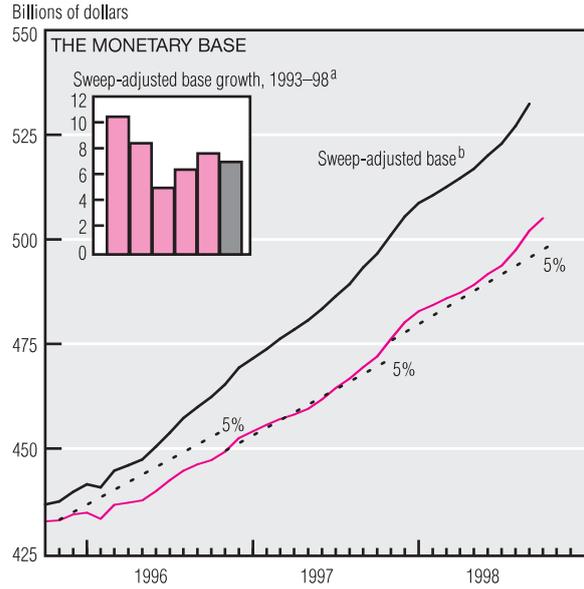
Such stability in these rates is unprecedented in the period since the Federal Reserve stopped explicitly targeting monetary aggregates in the early 1980s. Between 1983 and 1995, the federal funds rate target was adjusted 112 times (an average of more than eight times per year) and typically varied by at least one percentage point during each year. Including the recent pair of adjustments, the target has moved four times since the beginning of 1996, falling from 5.5% to 5.0%. This stability has been associated with a combination of sustained economic growth and

low inflation during this period.

Implied yields on federal funds futures fell substantially between the end of August and the September FOMC meeting and continued to fall through mid-October. Fed funds futures allow market participants to hedge against or speculate on future changes in the federal funds rate. These yields provide a measure of where market participants believe the federal funds rate will be in the coming months. As of August 31, these futures were trading at about 5.3% for January 1999. By the end of September, the January 1999 futures rate had declined to about 4.9%, and by the end of October to 4.8%. Based

Billions of dollars

THE MONETARY BASE

Sweep-adjusted base growth, 1993–98[a]

Sweep-adjusted base[b]

5%

5%

5%

1996   1997   1998

Billions of dollars

THE M2 AGGREGATE

M2 growth, 1993–98[a]

5%

1%

5%

1%

5%

1%

1996   1997   1998

Billions of dollars

THE MZM AGGREGATE

MZM growth, 1993–98[a]

10%

10%

5%

10%

5%

5%

1996   1997   1998

Percent, annual rate

GROWTH OF MONEY MARKET MUTUAL FUNDS

Institutional

Retail

1995   1996   1997   1998

a. Growth rates are percentage rates calculated on a fourth-quarter over fourth-quarter basis. Annualized growth rates for M2 and MZM in 1998 are calculated on an estimated October over 1997:IVQ basis; for the sweep-adjusted base, 1998 growth is calculated on a September over 1997:IVQ basis.
b. The sweep-adjusted base includes an estimate of required reserves saved when balances are temporarily shifted from reservable to nonreservable accounts.
NOTE: Data are seasonally adjusted. Last plots for M2 and MZM are estimated for October 1998. Dotted lines for M2 and the monetary base are FOMC-determined provisional ranges. Dotted lines for MZM represent growth in levels and are for reference only.
SOURCE: Board of Governors of the Federal Reserve System.

on these futures yields, the federal funds rate is now expected to be near 4.5% by March of next year.

It is interesting to note that while the September 29 decline in the federal funds rate target had little impact on federal funds futures rates, the October 15 decrease had a substantial downward effect. This is consistent with the conventional wisdom that the September decrease was widely anticipated by financial markets, while the October change was quite unexpected.
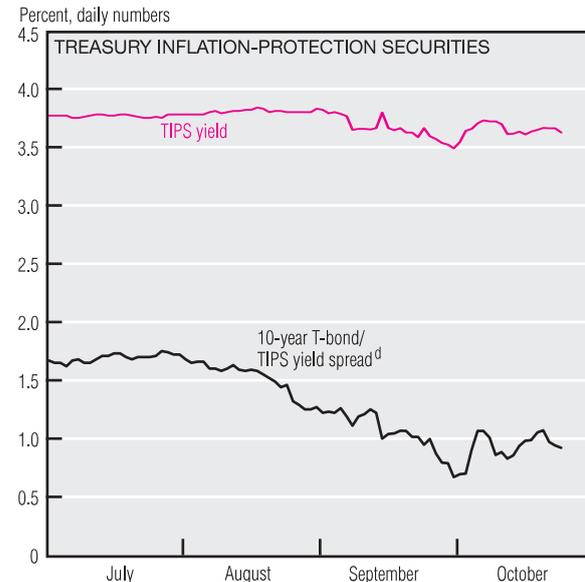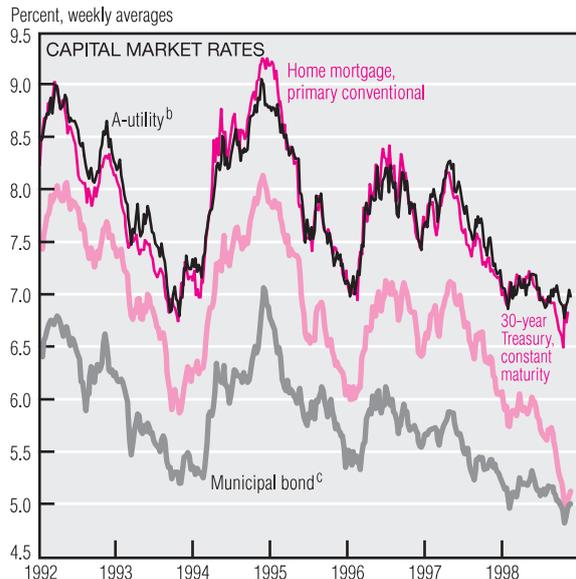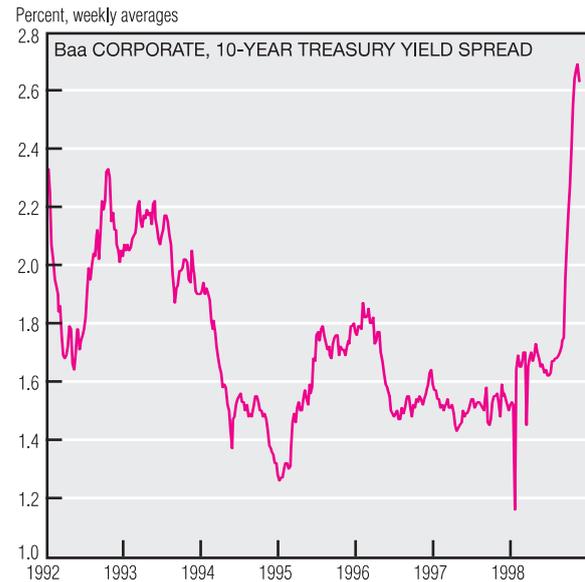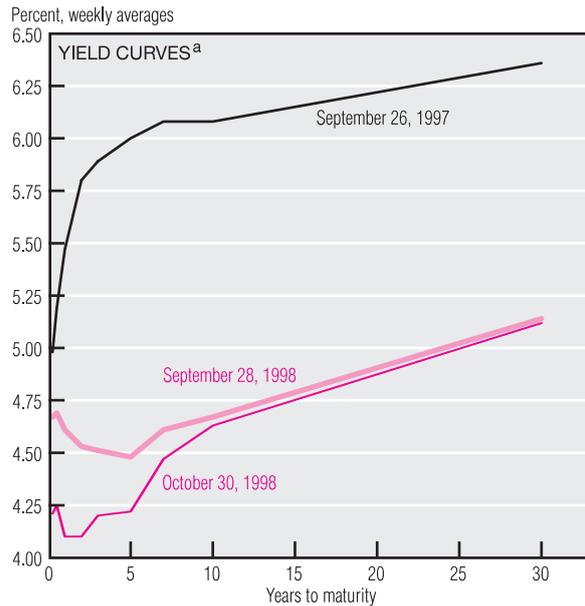
Yields on both short- and long-term Treasury securities have de-

clined substantially since August, although they have rebounded slightly in recent weeks. As is often pointed out in these pages, a decline in the federal funds rate target in an environment of falling interest rates might not represent an "easing" of policy in any meaningful sense, but instead may be viewed as a neutral policy response to a changing economic environment.

The monetary aggregates continue to increase at a relatively rapid pace, and there is little indication that these growth rates are slowing significantly. Using projections for Octo-

ber, the estimated year-to-date growth rate for M2 is about 8%, well above the 5% upper bound of the provisional target range set by the FOMC. Since July, M2 is estimated to have grown at well over 11%. Year-to-date growth in MZM is estimated to have exceeded 13%. Growth in the monetary base has also accelerated in recent months. The continued high growth rates of these monetary aggregates, combined with the recent acceleration of growth rates, may provide a warning signal of future inflation.

Interest Rates, Spreads, and Volatility

Percent, weekly averages

YIELD CURVES[a]

September 26, 1997

September 28, 1998

October 30, 1998

Years to maturity

Percent, weekly averages

Baa CORPORATE, 10-YEAR TREASURY YIELD SPREAD

Percent, weekly averages

CAPITAL MARKET RATES

Home mortgage, primary conventional

A-utility[b]

30-year Treasury, constant maturity

Municipal bond[c]

Percent, daily numbers

TREASURY INFLATION-PROTECTION SECURITIES

TIPS yield

10-year T-bond/ TIPS yield spread[d]

July   August   September   October

a. All instruments are constant-maturity series.
b. Estimate of the yield on a recently offered, A-rated utility bond with a maturity of 30 years and call protection of five years.
c. Bond Buyer Index, general obligation, 20 years to maturity, mixed quality.
d. 10-year Treasury bond constant-maturity yield minus the yield quote for the TIPS-adjusted series.
SOURCES: Board of Governors of the Federal Reserve System; and Bloomberg information services.

In the bond market, at least, the last few months provide strong reasons for calling 1998 "the year of the spread." The big news has not been in interest rate movements as such but rather in the breakdown of traditional relationships between bonds of differing maturity, risk, and issuer. Such changes in the spreads between bonds have plagued portfolios across the board and have been blamed for everything from the downfall of hedge funds to lower bank profits.

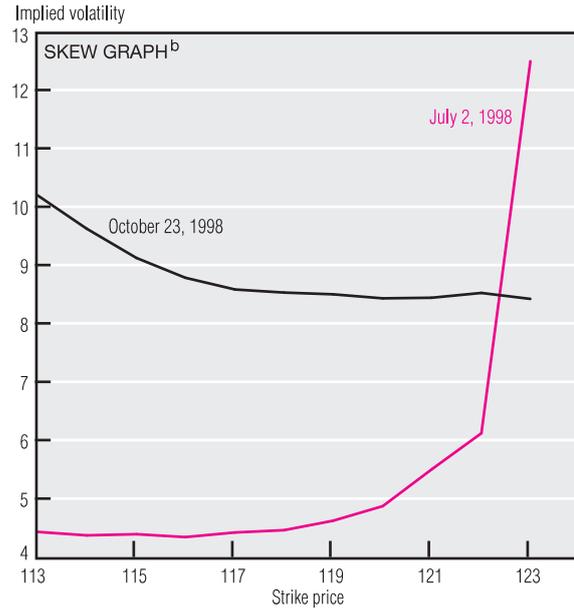This is not to imply that movements in the rates themselves were trivial. With the Federal Reserve's decreasing the Federal funds rate and discount rate on October 15, short rates fell; the yield curve on Treasuries assumed a more normal upward slope, though it remains flatter and less smooth than usual, a point best appreciated by comparing a yield curve from last year. The yield-curve inversion has become more localized at the short end, with the 3-year, 3-month spread at –1 basis point, and the 10-year, 3-month spread moving up from zero to 42 basis points.

Agitation in the financial markets had two apparent effects, a change in spreads and an increase in volatility. Investors' oft-noted "flight to quality" was apparent in the sharp increase in the spread between corporate Baa bonds and 10-year Treasuries, and equally so in other markets: The spread between A-rated utilities and 30-year Treasuries more than doubled (from 99 to 200 basis points) from June to September. This meant a flight toward liquidity as well as toward low credit risk. The firmness of yields on the relatively illiquid, but very safe, Treasury

Interest Rates, Spreads, and Volatility (cont.)

Level
HISTORICAL IMPLIED VOLATILITY, 1998[a]

Options contract on
U.S. 10-year note future

Implied volatility
SKEW GRAPH[b]

July 2, 1998

October 23, 1998

Strike price

Level
SCALED SHORT-RATE CHANGES[c,d]

Secondary market 3-month T-bill yield

a. Underlying instrument is Bloomberg information services' "generic" 10-year note future.
b. Options contracts on U.S. 10-year note future.
c. Day-to-day changes in the Treasury rate. Scaling compensates for the propensity of volatility to increase and decrease as rates rise and fall, and for the
tendency of this relationship to be nonlinear.
d. Shaded areas indicate recessions.
SOURCE: Bloomberg information services.

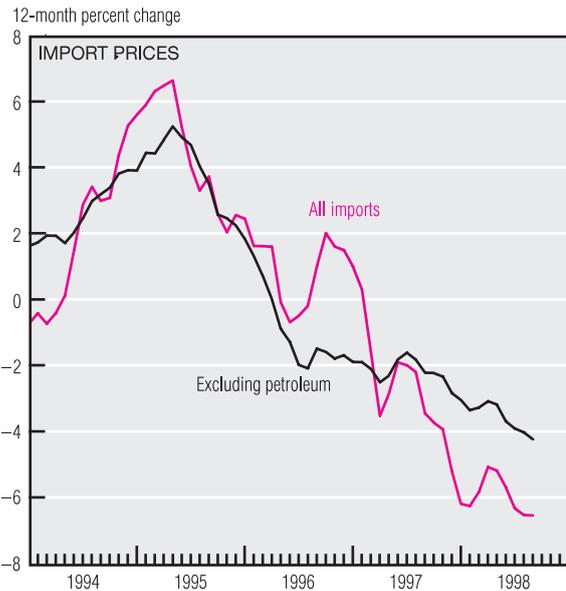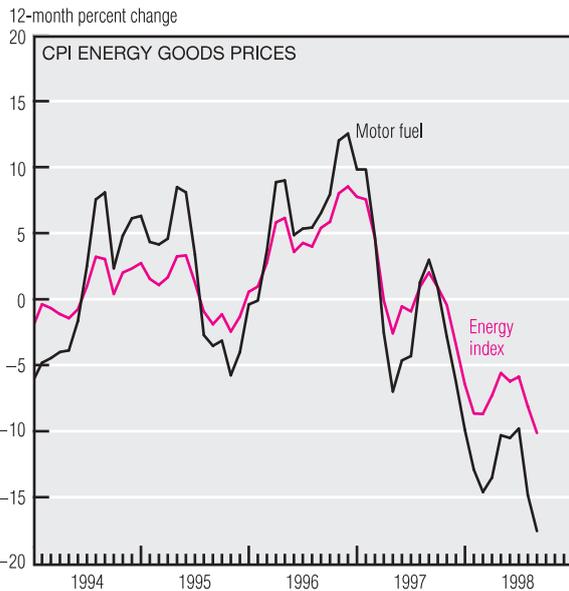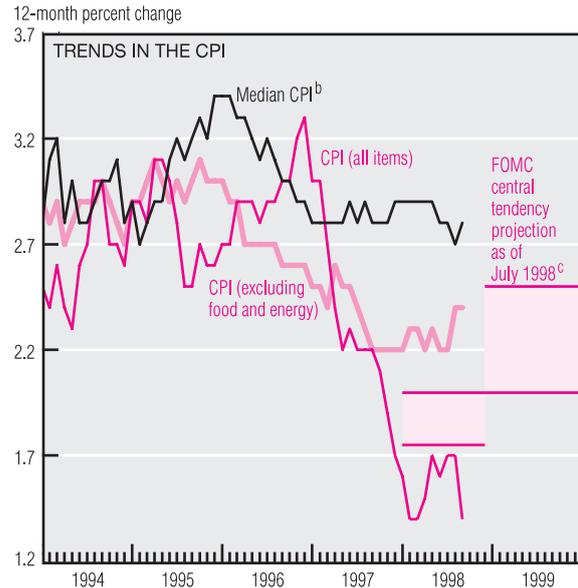Inflation Protected Securities led to a reduction in the spread between Treasury bonds and TIPS.

The flight to quality coincided with increased volatility in the financial markets. One way to view this is to look at financial options, which are of two kinds: A *call* gives its holder the right but not the obligation to purchase a particular security at a given price (the *strike price*); a *put* confers the right but not the obligation to sell at the strike price. This structure makes option prices very sensitive to market volatility.

By using standard methods to price options, one can find the market's implied volatility, an estimate of how changeable participants expect prices to be in the future. As such, it is a forward-looking measure and is distinct from the backward-looking, historical volatility computed from actual prices. The jump in volatility since the collapse of the Russian ruble in August is readily apparent, though optimists point to the sharp decrease since mid-October as a positive sign. We can also observe that this pattern holds true for options at many different strike prices.

Statistical measures of volatility are useful, but the human eye is often the best judge of underlying patterns. The right perspective is necessary, however. Because interest rates show larger changes when rates are high, it helps to scale the changes by the level of interest rates. Because rates twice as high show changes that are more than twice as large, it also makes sense to scale in a nonlinear fashion. From this perspective, the recent drop in Treasury rates looks less frightening than it otherwise might.

Inflation and Prices

September Price Statistics

	Percent change, last:				1997 avg.
	1 mo.[a]	3 mo.[a]	12 mo.	5 yr.	
Consumer prices					
All items	0.0	1.5	1.4	2.4	1.7
Less food and energy	2.1	2.3	2.4	2.7	2.2
Median[b]	3.2	2.9	2.8	3.0	2.9
Producer prices					
Finished goods	3.7	0.6	–0.9	1.0	–1.2
Less food and energy	5.1	3.0	1.0	1.3	0.0

12-month percent change

TRENDS IN THE CPI

Median CPI[b]

CPI (all items)

FOMC central tendency projection as of July 1998[c]

CPI (excluding food and energy)

12-month percent change

CPI ENERGY GOODS PRICES

Motor fuel

Energy index

12-month percent change
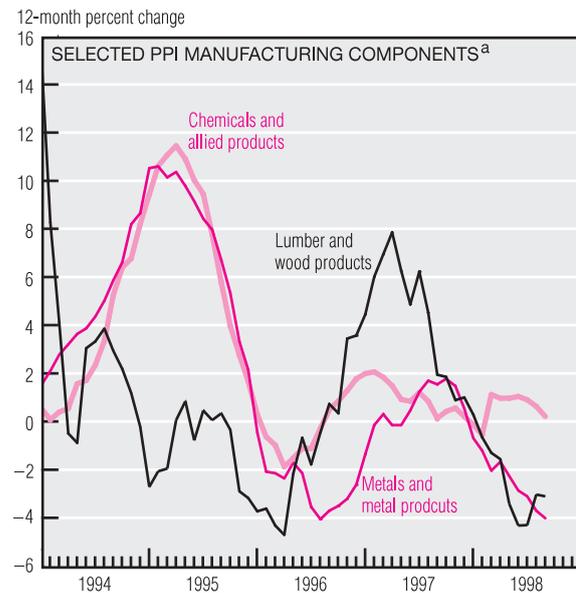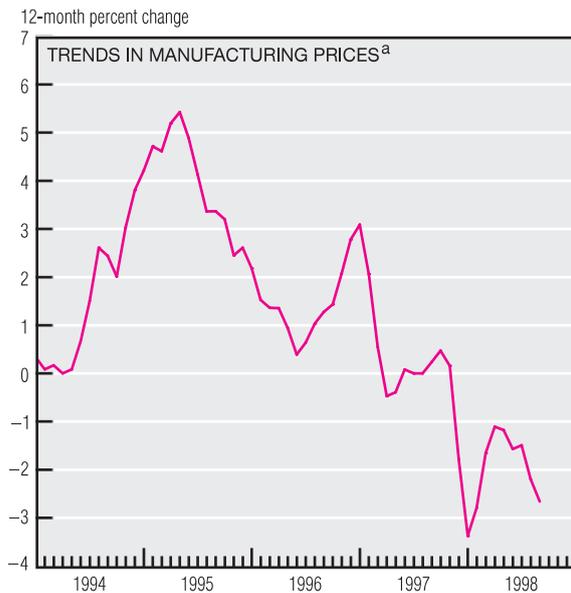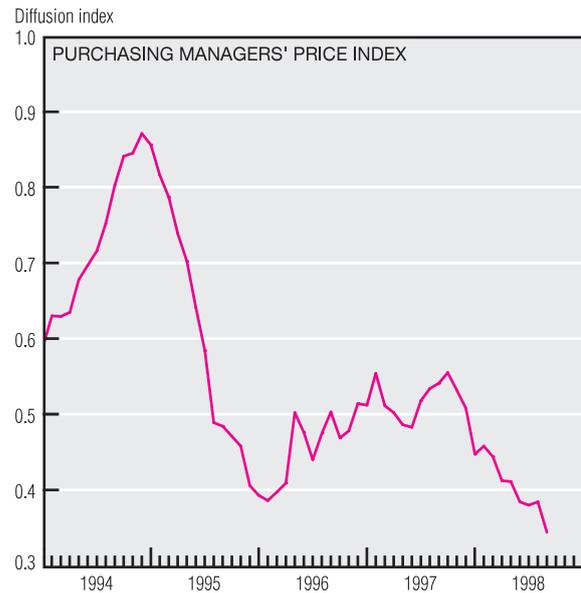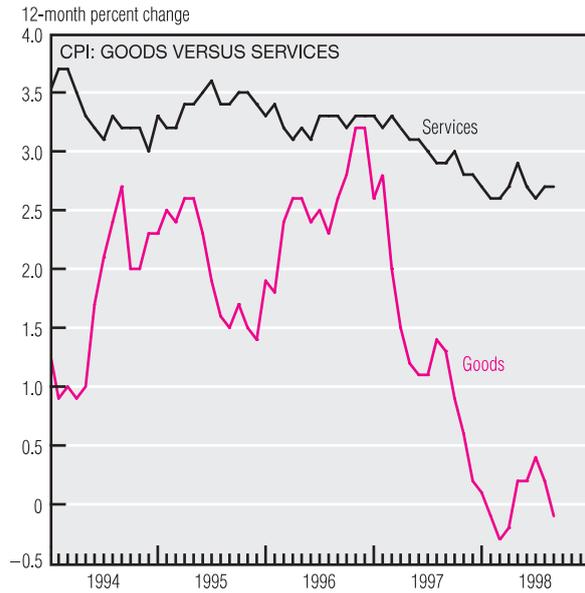
IMPORT PRICES

All imports

Excluding petroleum

a. Annualized.
b. Calculated by the Federal Reserve Bank of Cleveland.
c. Upper and lower bounds for CPI inflation path as implied by the central tendency growth ranges issued by the FOMC and nonvoting Reserve Bank presidents.
SOURCES: U.S. Department of Labor, Bureau of Labor Statistics; and the Federal Reserve Bank of Cleveland.

The Consumer Price Index (CPI) remained unchanged on average in September and has increased a mere 1.4% over the past 12 months. However, alternative measures of "core" inflation—the CPI excluding food and energy and the median CPI—suggest that underlying inflation is currently running a full percentage point higher than the CPI including all items. (The CPI excluding food and energy has increased 2.4% over the past 12 months, while the median CPI

shows inflation of 2.8% over the same period.)

If we compare the two inflation measures published by the Bureau of Labor Statistics (BLS)—the CPI and the CPI excluding food and energy—it becomes clear that the volatile food and energy components have restrained the overall CPI. Specifically, the BLS's energy index is down 10% for the 12 months ending in September, mostly as a result of declining petroleum prices. Indeed, the gasoline

component of the CPI has dropped 17.5% over the past 12 months. Import prices, which have fallen 6.5% over that period, are also subduing retail price growth. Even when the energy component is excluded, import prices are down 4.2% over the 12 months ending in September.

Sharp downward pressure on import prices may be having a considerable impact on the measured inflation rate. One well-known feature of the recent slowing in the
(continued on next page)

Inflation and Prices (cont.)

12-month percent change

CPI: GOODS VERSUS SERVICES

Services

Goods

Diffusion index

PURCHASING MANAGERS' PRICE INDEX

12-month percent change

TRENDS IN MANUFACTURING PRICES[a]

12-month percent change

SELECTED PPI MANUFACTURING COMPONENTS[a]

Chemicals and allied products

Lumber and wood products

Metals and metal prodcuts

a. From the Producer Price Index.
SOURCES: U.S. Department of Labor, Bureau of Labor Statistics; and the National Association of Purchasing Management.

CPI is that it has occurred predominantly in goods, which are much more likely than services to be imported. Over the past 12 months, retail goods prices have shown no net increase, while retail service prices are continuing to rise at a rate between 2½% and 3%.

Steady goods prices at the retail level actually mask large declines in the cost of producing goods. Survey data show that since the end of last year, the share of purchasing man-
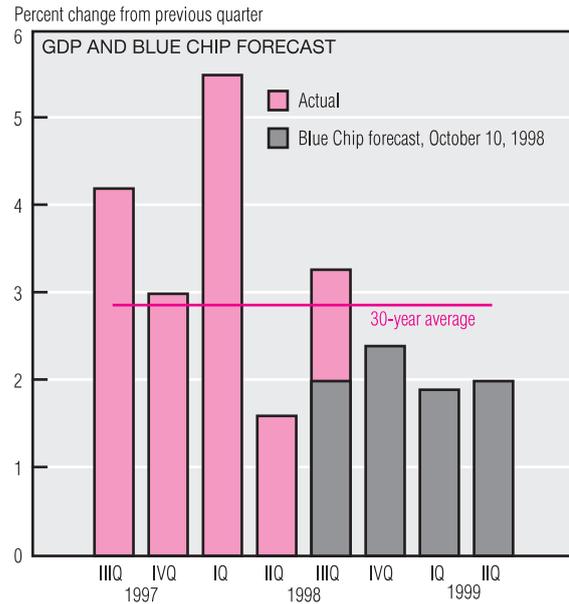
agers who have seen prices rise has been smaller than the share who have seen them fall. Thus, declining input costs are likely to have been exerting downward pressure on the prices of manufactured goods. Indeed, those prices have been on a downward trajectory all year and are now about 2½% below their September 1997 level.

Basic materials lead the list of manufactured goods whose prices have fallen. Lumber and wood prices have dropped about 3% over
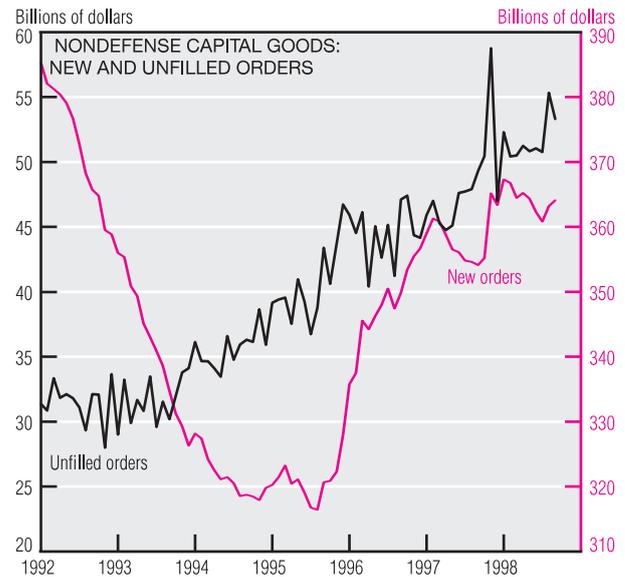
the past 12 months, while metals and metal product prices are down about 4%. These decreases too may result from the weakness of foreign economies, which have flooded U.S. markets with lumber and steel in the last year. In fact, recent months have brought accusations from domestic steel manufacturers that imported steel is being "dumped" on the U.S. economy at prices that are lower than foreign firms' production costs.

Economic Activity

Real GDP and Components, 1998:IIIQ[a]
(Advance estimate)

	Change, billions of 1992 $	Percent change, last: Quarter	Four quarters
Real GDP	60.9	3.3	3.4
Consumer spending	49.1	3.9	4.7
Durables	0.0	0.0	7.3
Nondurables	8.7	2.3	3.6
Services	38.6	5.5	4.7
Business fixed investment	−2.3	−1.0	8.6
Equipment	2.0	1.0	13.3
Structures	−3.3	−6.4	−3.2
Residential investment	5.2	6.9	11.3
Government spending	4.6	1.4	0.8
National defense	3.1	4.2	−2.2
Net exports	−17.3	—	—
Exports	−7.1	−2.9	−2.3
Imports	10.2	3.4	8.6
Change in business inventories	19.0	—	—

Percent change from previous quarter

GDP AND BLUE CHIP FORECAST

Actual
Blue Chip forecast, October 10, 1998
30-year average

IIIQ IVQ 1997 / IQ IIQ IIIQ IVQ 1998 / IQ IIQ 1999

Actual versus Predicted GDP[a]

	Actual 1998:IIIQ	Predicted 1998:IIIQ	Difference
GDP	7,559.5	7,536.1	23.4
Personal consumption expenditures	5,179.3	5,170.0	9.3
Change in business inventories	57.2	36.3	20.9
Net exports	−262.5	−265.9	3.4
Fixed investment and government spending	2,585.5	2,595.7	−10.2

Billions of dollars / Billions of dollars

NONDEFENSE CAPITAL GOODS: NEW AND UNFILLED ORDERS

New orders
Unfilled orders

1992 1993 1994 1995 1996 1997 1998

a. Chain-weighted data in billions of 1992 dollars.
NOTE: All data are seasonally adjusted.
SOURCES: U.S. Department of Commerce, Bureau of Economic Analysis and Bureau of the Census; and *Blue Chip Economic Indicators*, October 10, 1998.

GDP growth was surprisingly strong in the third quarter of this year, at least if the 3.3% advance estimate is compared with the October Blue Chip consensus forecast of only 2%. Growth for the entire year still might meet the 3.4% consensus forecast if the third-quarter estimate is not revised and fourth-quarter growth is no less than about 3%. Forecasts of 1999 growth, however, apparently are not being marked up from the range of 2% or so.

The unexpected strength of the economy last quarter was mostly in consumption spending and inventory accumulation. With relatively steady growth in real disposable personal income as well as in spending on services and nondurable goods, recent variations in the consumption portion of GDP have reflected changes in durable goods purchases. A sharp decline in July, associated with the General Motors strike, was offset by increases in the next two months, with no net growth in the third quarter.

It is impossible to say whether the third-quarter spurt in inventory accumulation was intended or unintended. September inventory data are not yet available, so there is no reliable basis for judging movements of inventory components. Preliminary GDP estimates (to be released in late November) might even tell a different inventory story on the basis of September data.

Unexpected strength in consumption and inventories more than offset some unexpected weakness in the combination of fixed investment and government spending. (The further deterioration in net exports was actually less severe than anticipated.)
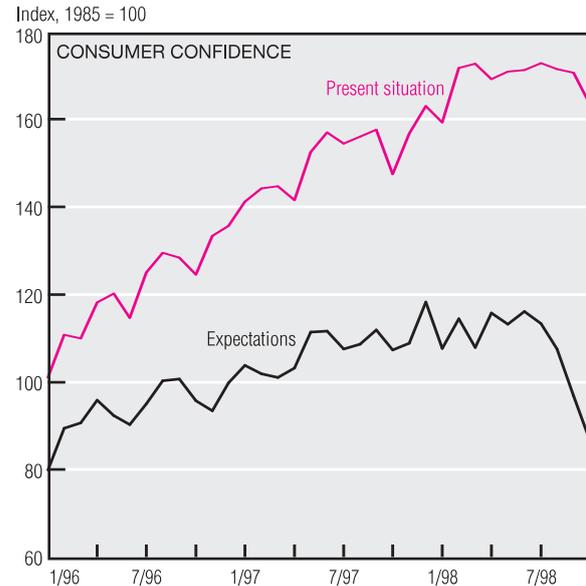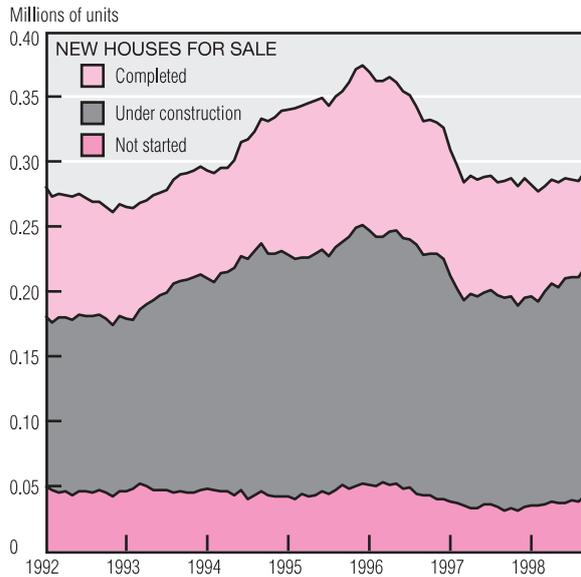
Economic Activity (cont.)

Index, 1987 =1.0

Percent of 1987 output

INDUSTRIAL PRODUCTION AND CAPACITY UTILIZATION

Capacity utilization

Average, 1967–97

Industrial production

Residential Vacancies (thousands of units)			
	1997:IIIQ	**1998:IIIQ**	**Percent change**
All nonseasonal housing units	112,446	114,000	+ 1.4
Vacant	10,013	10,508	+ 5.0
For rent	3,018	3,120	+ 3.8
For sale only	1,062	1,208	+13.7
Other	5,933	6,180	+ 4.2

Millions of units

NEW HOUSES FOR SALE
- Completed
- Under construction
- Not started

Index, 1985 = 100

CONSUMER CONFIDENCE

Present situation

Expectations

NOTE: All data are seasonally adjusted except residential vacancies.
SOURCES: U.S. Department of Commerce, Bureau of the Census; Board of Governors of the Federal Reserve System; and The Conference Board, Inc.

More troubling is weakness in the combination of fixed investment and government spending relative to expectations (not specified in the Blue Chip quarterly consensus forecast). Nonresidential fixed investment dipped slightly. Spending on nonresidential structures declined for the third consecutive quarter. Expenditures on producers' durable equipment, which had slowed sharply in 1998:IIQ, dropped even more sharply in 1998:IIIQ. Residential investment advanced at less than half the pace of the year's first two quarters, though still at twice the rate of GDP.

Quarterly investment data can be highly variable, making any conclusion premature, but it is clear that without a return to a growth trend, investment spending no longer would support future economic expansion. Recent patterns of monthly new and unfilled orders for nondefense capital goods provide no clear basis for expecting fixed investment to deviate from recent years' growth trend. But the plateau in industrial production and the more-than-year-long decline in capacity utilization might raise doubts about a continuation of the growth trend.

The slowdown in residential investment seems consistent with other housing market indicators. Vacancies have been growing faster than the number of housing units over the past year. This is especially evident in the "for sale" market, where vacancies have increased 13.7%. Excess supply is not yet evident in the number of completed houses standing vacant, but there has been an increase in the numbers of those under construction and those not yet started.

Consumer confidence, especially as measured by expectations for the future, dropped again in September.

Labor Markets

Change, thousands of workers

AVERAGE MONTHLY NONFARM EMPLOYMENT GROWTH

Labor Market Conditions
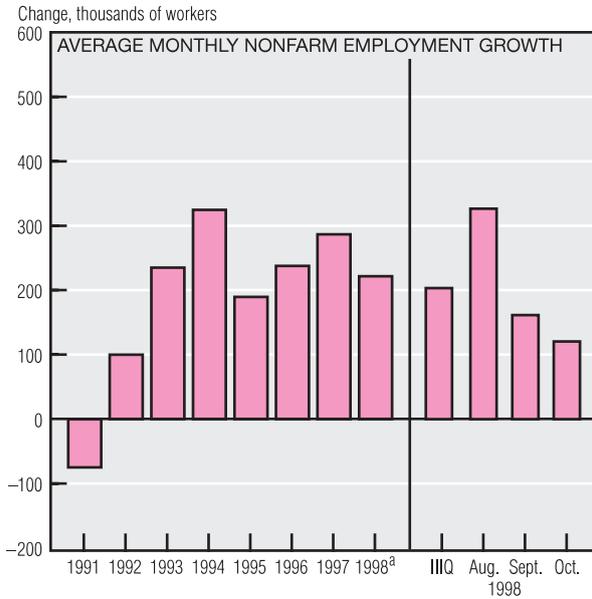
		Average monthly change (thousands of employees)			
				1998	
Employment	**1995**	**1996**	**1997**	**YTD[a]**	**Oct.**
Payroll survey	185	233	282	218	116
Goods-producing	8	31	42	−1	−38
Manufacturing	−1	3	21	−16	−52
Electronic equipment	4	2	4	−4	−12
Motor vehicles	2	0	3	0	7
Construction	10	28	20	18	19
Service-producing	178	202	240	219	154
Business services	38	45	61	36	58
FIRE[b]	−1	14	17	22	25
Household survey	32	232	240	90	−88
		Average for period (percent)			
Civilian unemployment	5.6	5.4	5.0	4.5	4.6

LABOR MARKET INDICATORS[c]

EMPLOYMENT COST INDEX
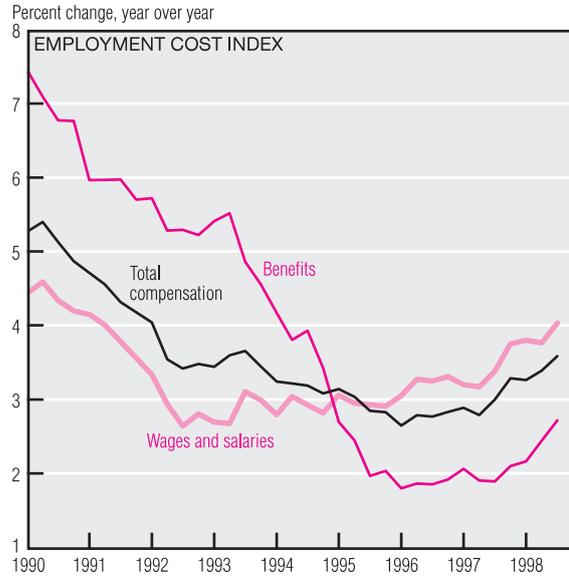
a. Year to date.
b. Finance, insurance, and real estate.
c. Vertical line indicates break in data series due to survey redesign.
NOTE: All data are seasonally adjusted.
SOURCE: U.S. Department of Labor, Bureau of Labor Statistics.

Most employment indicators held steady in October, but employment costs implied labor-market tightness in the third quarter. The number of jobs in the economy increased moderately, and the unemployment rate held constant. Wage and salary rates grew faster than they have in more than six years.

Nonfarm payrolls increased 116,000 for the month. This small addition brings average monthly payroll growth for the year to a level that is about 64,000 lower than last year's average. Employment in the goods-producing se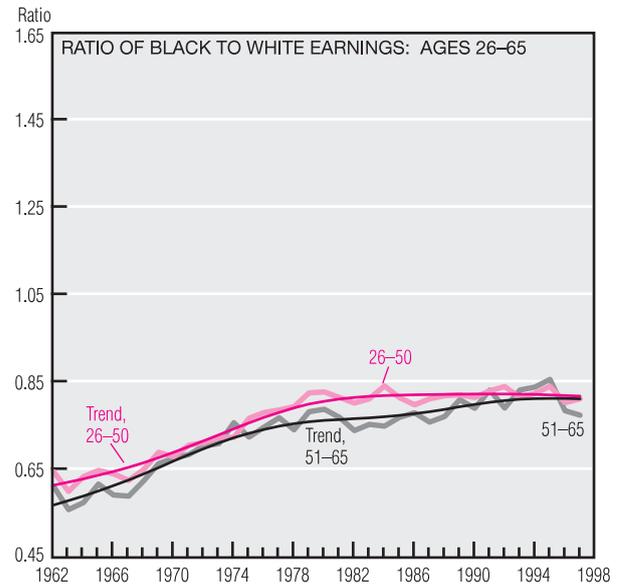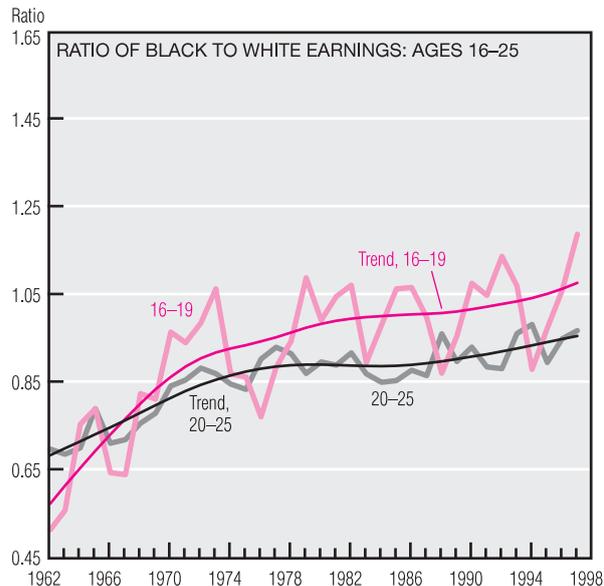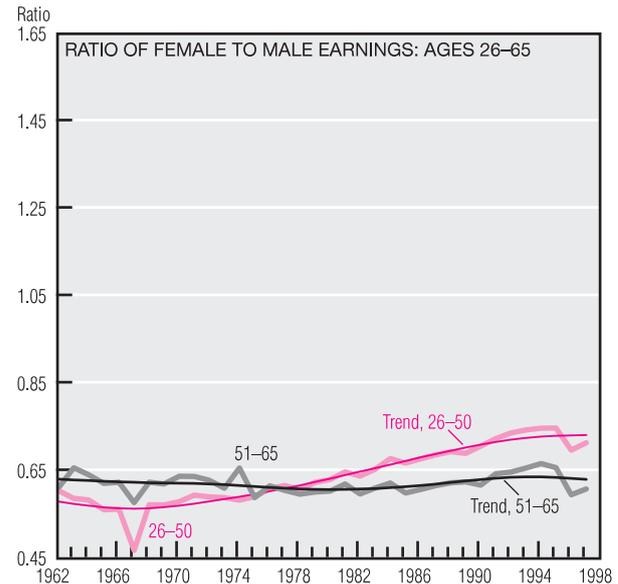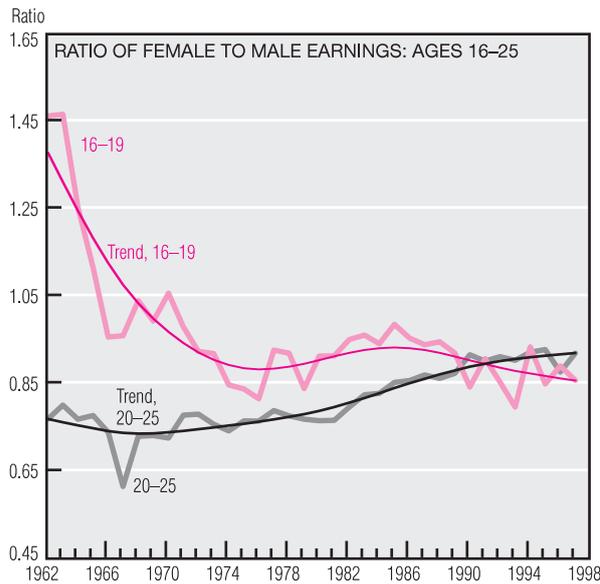ctor, which has been curbed by manufacturing losses, decreased for the second consecutive month. The largest drops were in apparel (14,000) and electronic equipment (12,000) manufacturing. The service-producing sector added 154,000 jobs. Employment growth was strong in business services, especially computer services and engineering and management services.

The household survey (used to calculate the unemployment rate) recorded a drop of 88,000 in October, following an unusually strong gain of 597,000 the previous month. The unemployment rate was unmoved at 4.6%, despite large fluctua-tions in employment. The household and payroll employment surveys generally do not diverge for very long, but October marks the sixth month in which differences between the two series exceeded 200,000.

While jobs growth continued to slow, accelerated growth in the employment cost index suggests tightness in the labor market. In the largest increase since the current expansion began (1991:IIQ), the index of straight-time wages and salaries rose 4% in the year ending this September. Increases in the index of benefits costs, while lower, are rising rapidly.

Age and Earnings

Ratio
1.65

RATIO OF FEMALE TO MALE EARNINGS: AGES 16–25

16–19

Trend, 16–19

Trend, 20–25

20–25

Ratio
1.65

RATIO OF FEMALE TO MALE EARNINGS: AGES 26–65

Trend, 26–50

51–65

26–50

Trend, 51–65

Ratio
1.65

RATIO OF BLACK TO WHITE EARNINGS: AGES 16–25

Trend, 16–19

16–19

Trend, 20–25

20–25

Ratio
1.65

RATIO OF BLACK TO WHITE EARNINGS: AGES 26–65

26–50

Trend, 26–50

Trend, 51–65

51–65

NOTE: Trend components are calculated using a Hodrick-Prescott filter.
SOURCES: U.S. Department of Labor, Bureau of Labor Statistics, *Current Population Survey*; and Federal Reserve Bank of Cleveland.
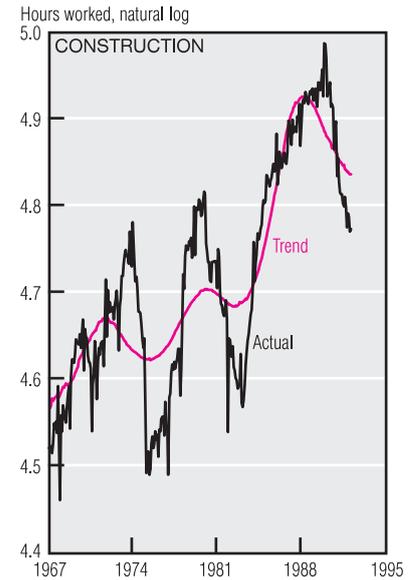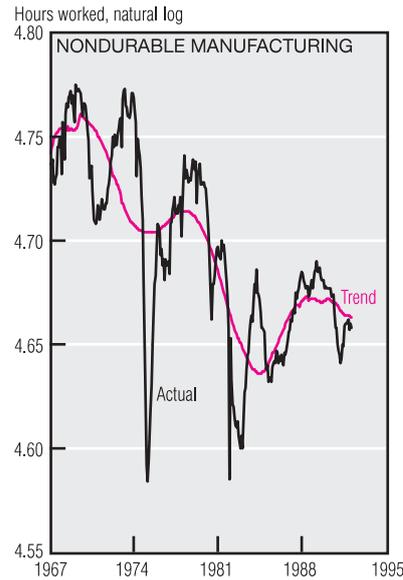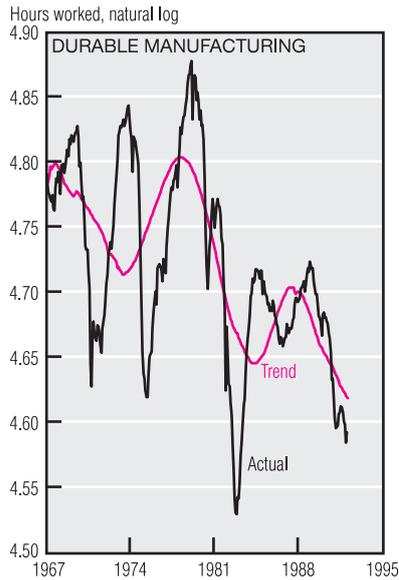
Earnings inequality—both for women compared to men and for blacks compared to whites—has decreased substantially since the 1960s, but different age groups have had widely differing experiences. In the early years of the 1962–98 period, female teens working full time earned roughly 40% more than their male counterparts. However, in a slightly older group (20–25), females earned about 17% less than males. Over time, the relative earnings of those two age groups

have converged so that females in both groups now earn approximately 85% as much as males.

Older female workers, in contrast, still face low earnings relative to men. In the early 1960s, women in the 26–50 and 51–65 age groups earned about 60% as much as men. In the 26–50 group, women's earnings have climbed to just over 70% of men's. In the oldest group, however, there has been virtually no change in the relative earnings of men and women in more than 35 years.

A comparison of blacks and whites in these same age groups also shows much less earnings inequality for the young than for the old. In the early 1960s, black teenagers earned about half as much as their white counterparts; by 1997, their earnings were approximately equal. The pattern common to the other three age groups shows blacks' earnings starting the period at about 65% of whites', then rising close to 90% for the group aged 20–25 and to just under 85% for the two oldest groups.

The Business Cycle
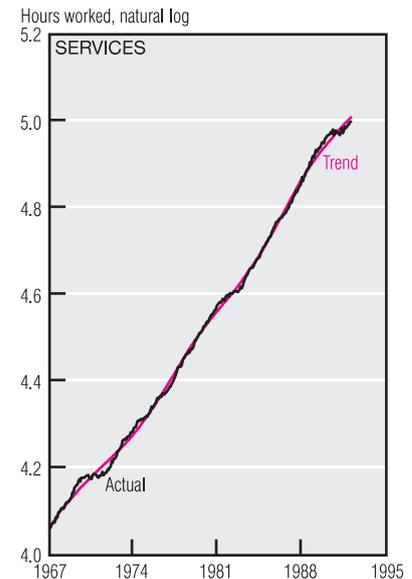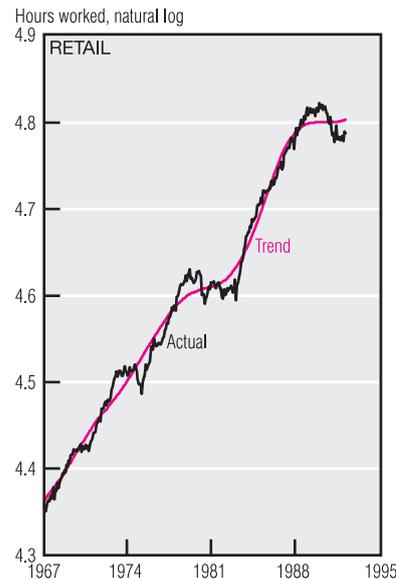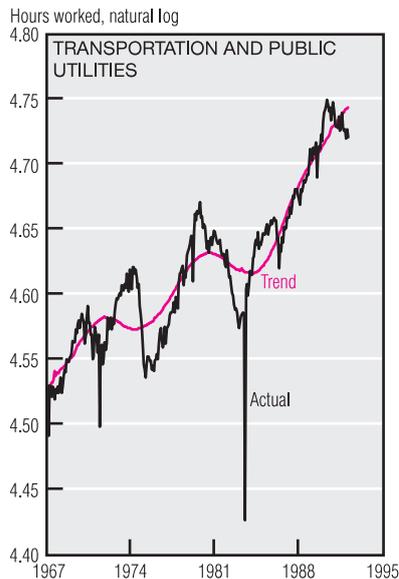
Hours worked, natural log — DURABLE MANUFACTURING (Trend, Actual), 1967–1995

Hours worked, natural log — NONDURABLE MANUFACTURING (Trend, Actual), 1967–1995

Hours worked, natural log — CONSTRUCTION (Trend, Actual), 1967–1995

Hours worked, natural log — TRANSPORTATION AND PUBLIC UTILITIES (Trend, Actual), 1967–1995

Hours worked, natural log — RETAIL (Trend, Actual), 1967–1995

Hours worked, natural log — SERVICES (Trend, Actual), 1967–1995

NOTE: Data are monthly and seasonally adjusted indexes of hours worked. Cyclical components are computed using an approximation to a band pass filter. For more information on this method, see Christiano and Fitzgerald (1998).

SOURCES: Bureau of Labor Statistics; DRI/McGraw–Hill; and Lawrence J. Christiano and Terry J. Fitzgerald, "The Band Pass Filter: Optimal Approximations," 1998, manuscript available at http://www.econ.nwu.edu/faculty/christiano/.

It is widely recognized that most sectors of the economy move up and down together over the business cycle, a trait known as *comovement*. Such diverse economic activities as aircraft production in Washington State and rug-making in Dalton, Georgia typically experience prosperity and recession at the same time.

Comovement is, in fact, central to the official definition of the business cycle given by the National Bureau of Economic Research. According to this definition, "a recession is a recurring period of decline in total output, income, employment, and trade, usually lasting from six months to a year, and *marked by widespread contractions in many sectors of the economy*" (italics added).

One way to see comovement is to compare economic activity across sectors by measuring the number of hours worked in each. To do this, we must first separate the business-cycle component of hours worked in each sector from its underlying long-run trend and from very short-term fluctuations.

Despite substantial differences among sectors in the trend growth of hours, the business-cycle compo-

nents in most sectors move together closely. To show this, we can compare the fluctuations in the business-cycle component of hours worked in each sector with the cyclical movements in total hours for all sectors. Charts of these data illustrate the striking similarity of the cyclical movements in each sector with the fluctuations in total hours.

This similarity between the cyclical movements of hours worked in broadly defined sectors and total hours worked continues to hold for

The Business Cycle (cont.)
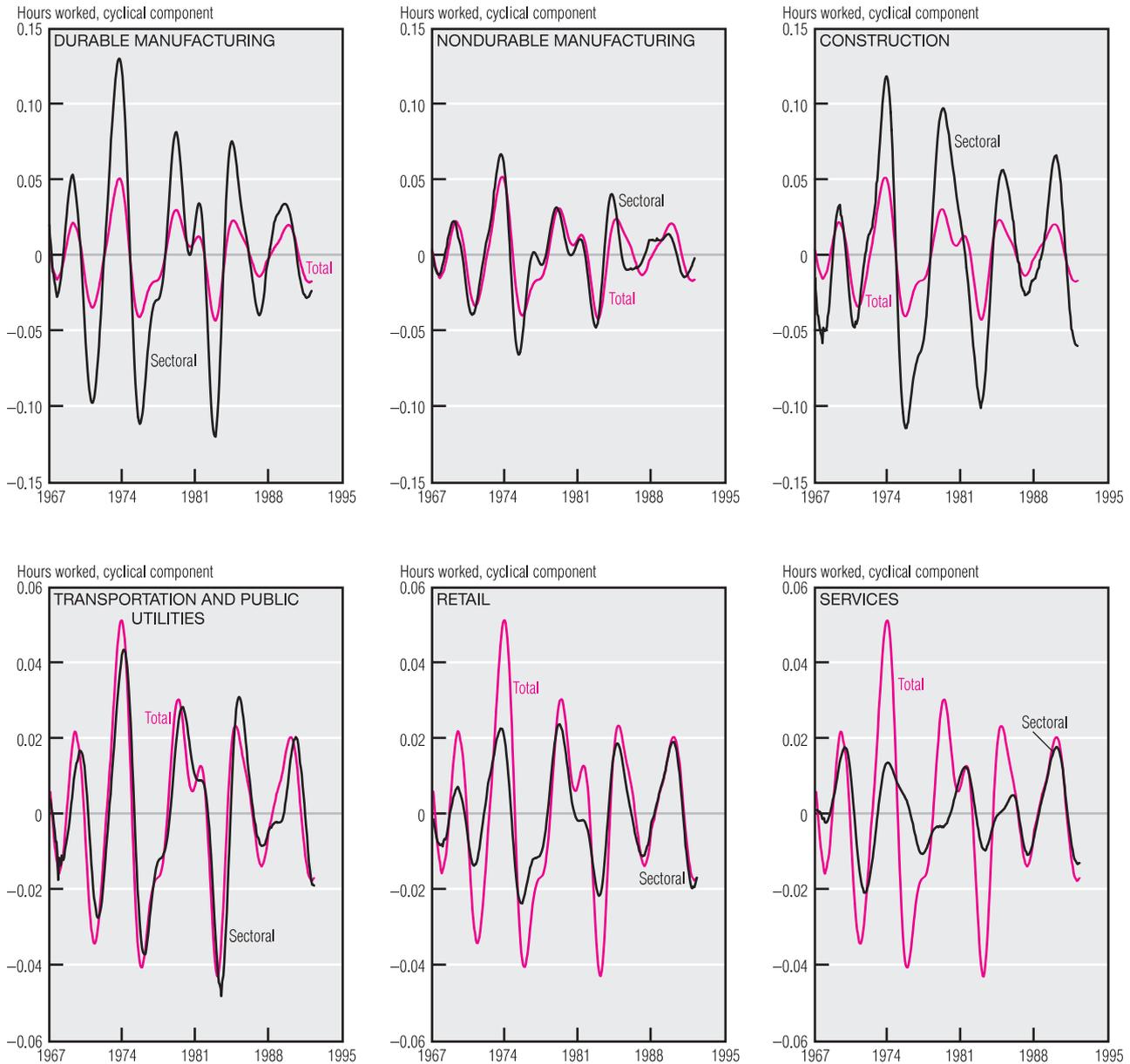
Hours worked, cyclical component — DURABLE MANUFACTURING

Hours worked, cyclical component — NONDURABLE MANUFACTURING

Hours worked, cyclical component — CONSTRUCTION

Hours worked, cyclical component — TRANSPORTATION AND PUBLIC UTILITIES

Hours worked, cyclical component — RETAIL

Hours worked, cyclical component — SERVICES

NOTE: Data are monthly and seasonally adjusted indexes of hours worked. Cyclical components are computed using an approximation to a band pass filter. For more information on this method, see Christiano and Fitzgerald (1998).

SOURCES: Bureau of Labor Statistics; DRI/McGraw–Hill; and Lawrence J. Christiano and Terry J. Fitzgerald, "The Band Pass Filter: Optimal Approximations," 1998, manuscript available at http://www.econ.nwu.edu/faculty/christiano/.

more narrowly defined subsectors of manufacturing. Moreover, cyclical hours worked in different subsectors tend to move with one another in addition to moving with total hours. As subsectors are more and more narrowly defined, though, one would expect to find less comovement. The reason is that the relative importance of specific events and shocks increases. For example, while we would expect that a hurricane hitting the coast of Florida would have a major impact on construction jobs in that area, we would not expect that
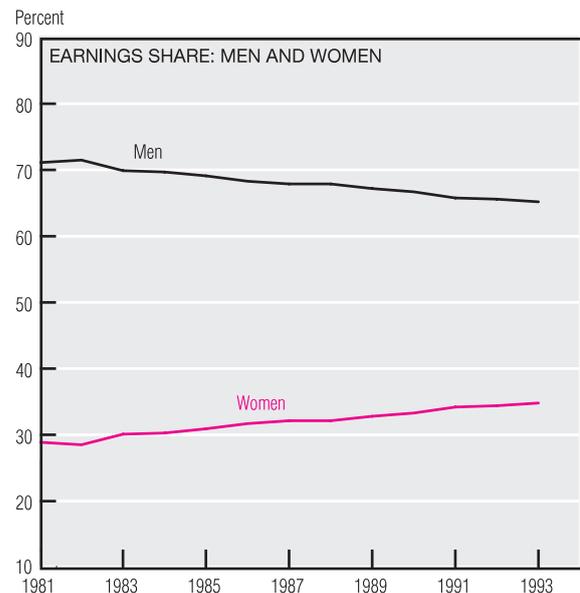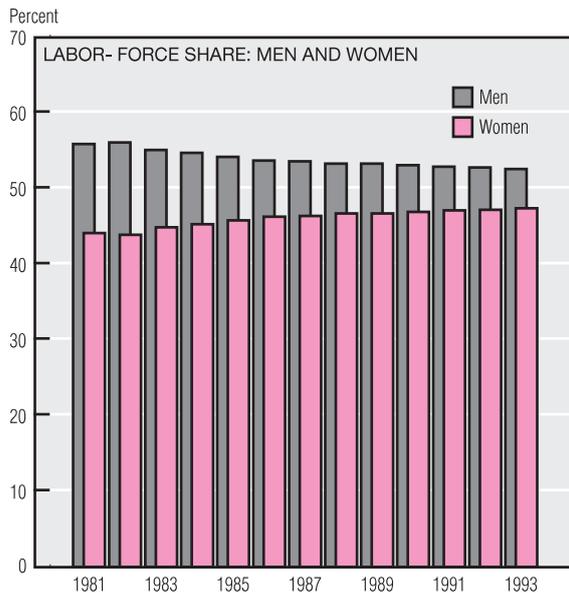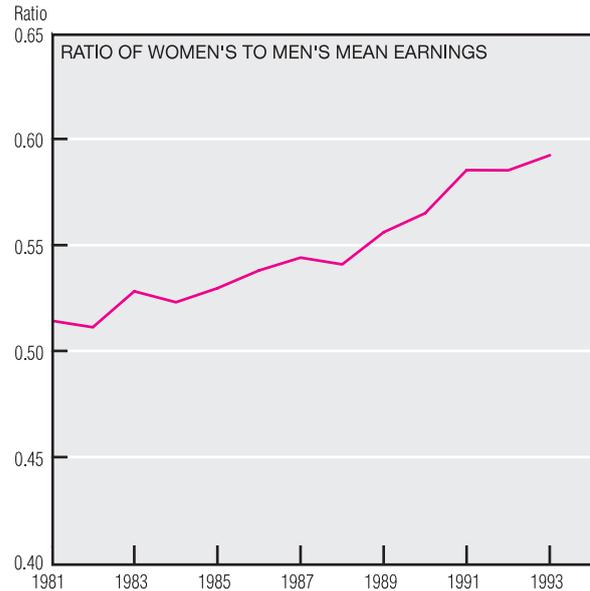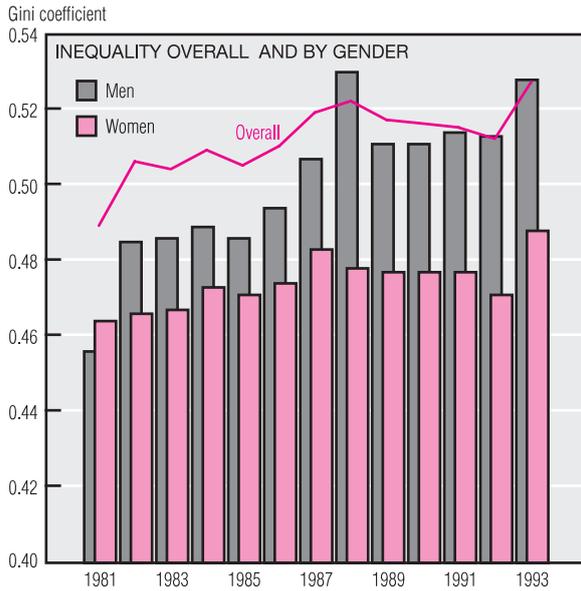
change to be closely associated with manufacturing employment fluctuations in Cleveland.

While the comovement in output and employment across sectors during the business cycle is widely recognized, this fact alone provides little guidance either to the current state of the economy or to the appropriate conduct of monetary policy. One problem is that we cannot identify the business-cycle component of data clearly until long *after* a given business cycle has occurred. A hot topic of debate today is where we are in the *current* business cycle.

But even if we could pinpoint our present position, there is no clear consensus on exactly what the best policy would be.

As knowledge about it improves, comovement may become more useful to economists in understanding the workings of the economy and thereby contribute to the design of good fiscal and monetary policies. In particular, the tendency of most economic sectors to move together over the business cycle provides a clue for research into the source of these fluctuations.

Earnings Inequality

Gini coefficient

INEQUALITY OVERALL AND BY GENDER

- Men
- Women
- Overall

Ratio

RATIO OF WOMEN'S TO MEN'S MEAN EARNINGS

Percent

LABOR- FORCE SHARE: MEN AND WOMEN

- Men
- Women

Percent

EARNINGS SHARE: MEN AND WOMEN

Men

Women

SOURCE: Kelvin R. Utendorf, "Recent Changes in Earnings Distributions in the United States," *Social Security Bulletin*, vol. 61, no. 2 (1998), pp. 12–28.
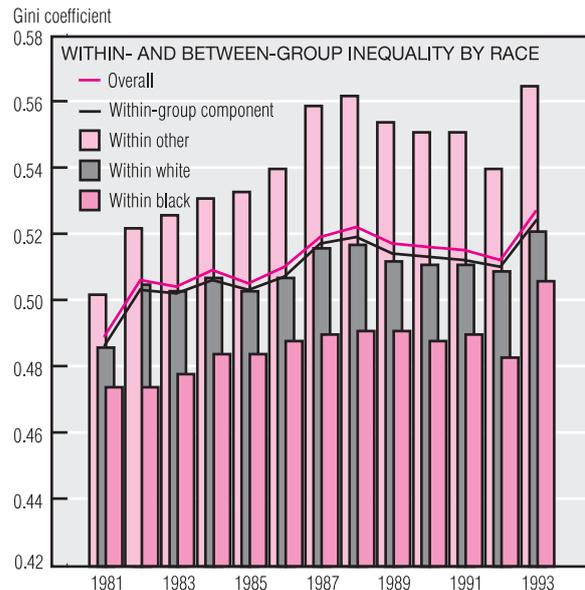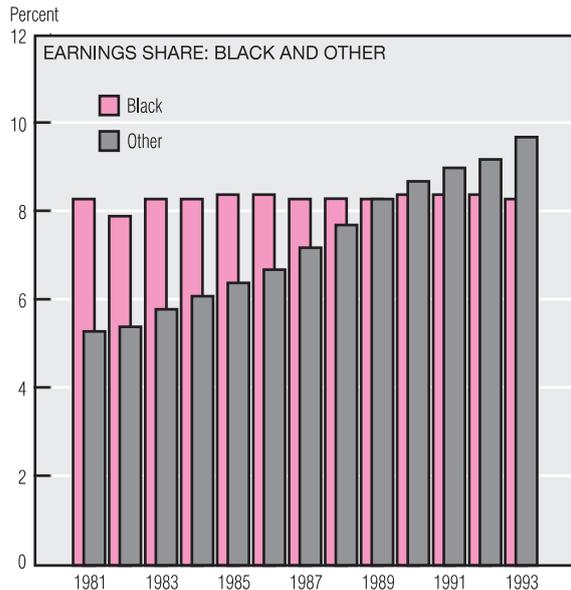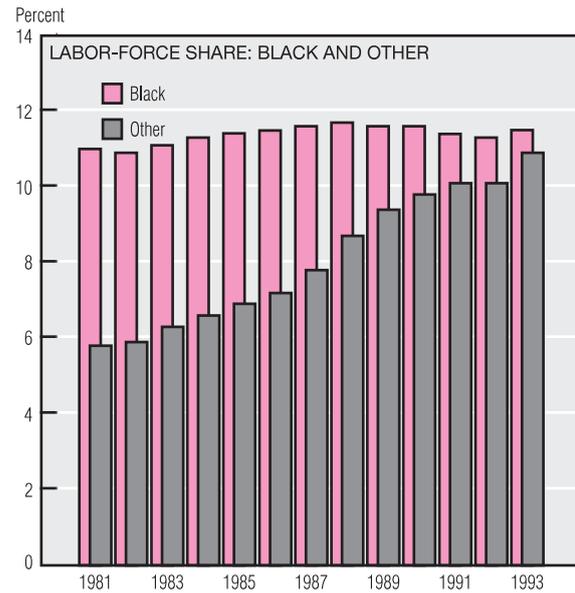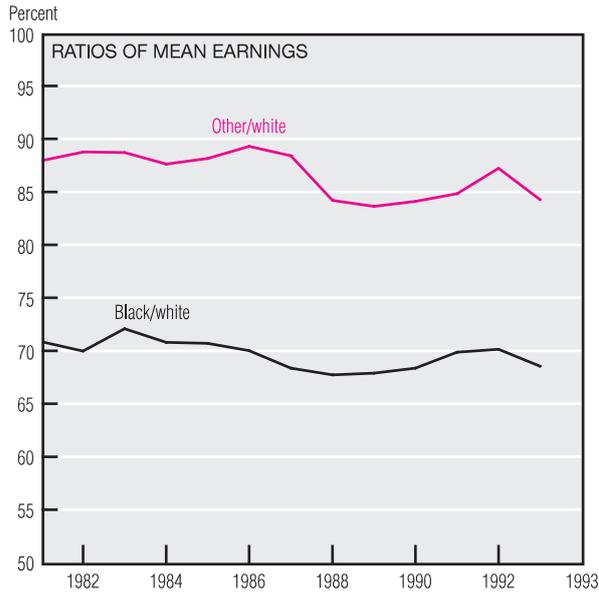
Policymakers are concerned not only with achieving rapid economic growth but also with how the fruits of growth are distributed across the population. The most commonly used measure of inequality, the Gini coefficient, is based on a comparison of each individual with every other individual in the population being studied. In the case of earnings, a Gini value of zero indicates perfect equality—each person has identical earnings—and a value of one indicates perfect inequality—all earnings in the economy go to one person.

Earnings inequality shows an upward trend during the early and mid-1980s for the labor force overall and for men and women separately. Some analysts have suggested that greater earnings inequality was the result of increasing returns to education and more widespread use of computers in the workplace. In 1989–92, this trend reversed for the overall population and for women, and stabilized for men.

The degree of inequality between men and women lessened consistently, despite the increase in overall earnings inequality during the 1980s. One reason was women's

higher relative earnings: Their mean earnings increased from just over 50% of men's mean earnings in 1981 to almost 60% in 1993, the final year for which data were available. This was partly due to a decline in men's mean earnings after 1988; it may also reflect women's shift from part-time to full-time employment. Moreover, women made up a larger fraction of the labor force in 1993 (47.4%) than in 1981 (44.1%). This resulted from increased efficiency in home-production activities and from a shift of such activities to the formal

Earnings Inequality (cont.)

Percent

RATIOS OF MEAN EARNINGS

Other/white

Black/white

Percent

LABOR-FORCE SHARE: BLACK AND OTHER

- Black
- Other

Percent

EARNINGS SHARE: BLACK AND OTHER

- Black
- Other

Gini coefficient

WITHIN- AND BETWEEN-GROUP INEQUALITY BY RACE

- Overall
- Within-group component
- Within other
- Within white
- Within black

SOURCE: Kelvin R. Utendorf, "Recent Changes in Earnings Distributions in the United States," *Social Security Bulletin*, vol. 61, no. 2 (1998), pp. 12–28.

sector. As a consequence, the gap between male and female earnings shrank from 42.2 percentage points in 1981 to 30.4 percentage points in 1993.

No significant trend is apparent in the ratio of black Americans' mean earnings relative to whites'. The ratio declined from 71% in 1981 to 69% in 1993, although it did not go down steadily each year. Most of the decline occurred because of more rapid growth in whites' mean earnings. The same held for the mean earnings of the "other" category relative to whites: Between

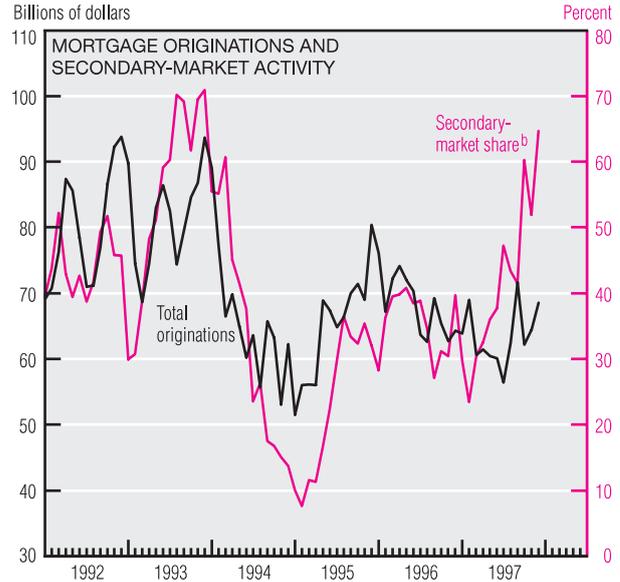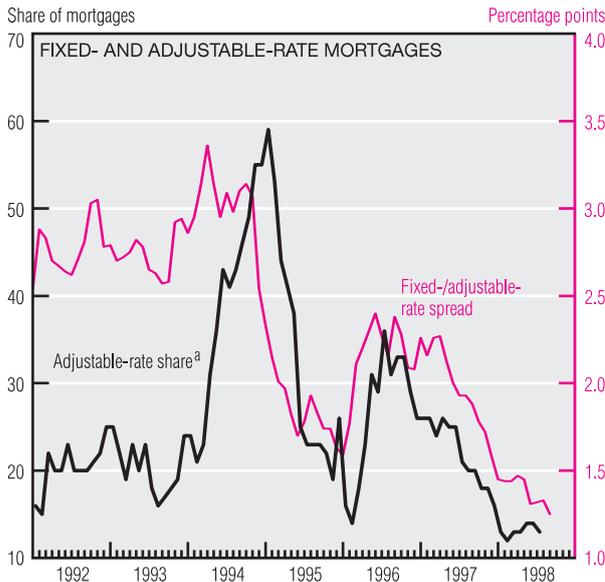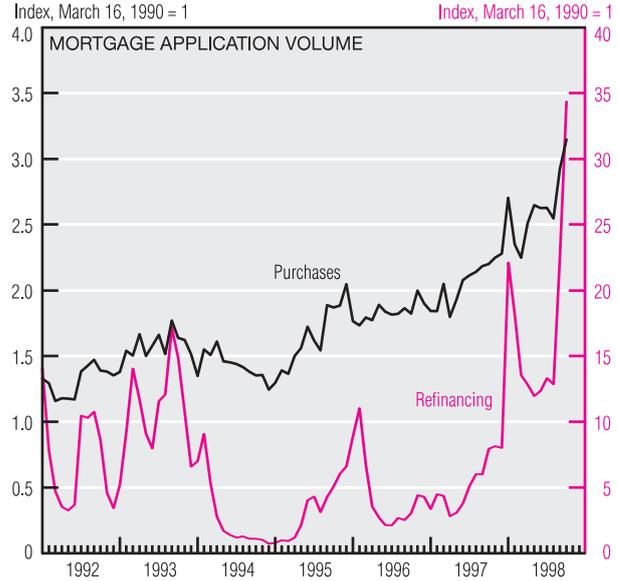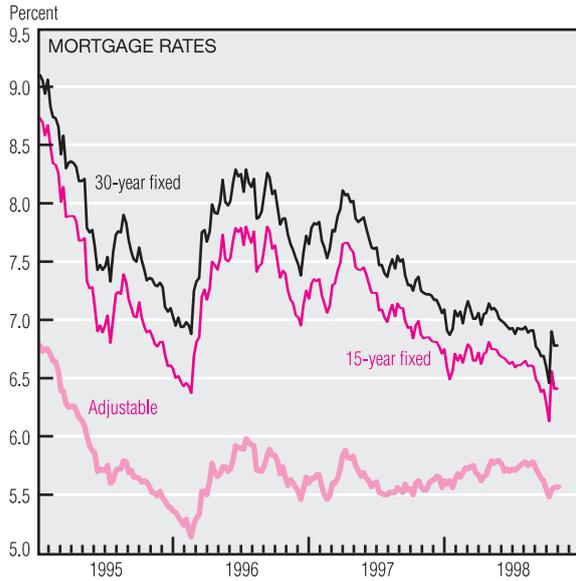1981 and 1993, this ratio dropped from 88% to 84%.

Blacks' share of the labor force increased only marginally—from 11% in 1981 to 11.5% in 1993. The "others'" share increased more—from 6% to 11% over the same period. These increases corresponded to a drop in white men's share of the labor force.

Blacks' earnings share remained stable, the slight increase in their labor-force share offsetting the slight decline in their mean earnings relative to whites. The earnings share of the "other" category doubled—from 5% in 1981 to

10% in 1993—despite the small decline in their mean earnings relative to whites. Whites' earnings share, of course, declined in a compensating manner.

Because mean earnings differ substantially by race, one might think that the disparity across racial categories contributes heavily to overall earnings inequality, but this is not the case. If Gini coefficients are broken down into within- versus between-racial-group components, we find overwhelming dominance by the within-racial-group component.

MORTGAGE RATES

Percent

30-year fixed

15-year fixed

Adjustable

MORTGAGE APPLICATION VOLUME

Index, March 16, 1990 = 1

Purchases

Refinancing

FIXED- AND ADJUSTABLE-RATE MORTGAGES

Share of mortgages

Percentage points

Fixed-/adjustable-rate spread

Adjustable-rate share[a]

MORTGAGE ORIGINATIONS AND SECONDARY-MARKET ACTIVITY

Billions of dollars

Percent

Secondary-market share[b]

Total originations

a. Percent of new conventional mortgage originations with adjustable rates.
b. Secondary-market purchases by Fannie Mae and Freddie Mac as a share of all mortgage originations.
SOURCES: U.S. Department of the Treasury, Office of Thrift Supervision; U.S. Department of Housing and Urban Development; Federal National Mortgage Association; Federal Home Loan Mortgage Corporation; Mortgage Bankers Association of America; and *Bank Rate Monitor*, various issues.

The recent turmoil set off by uncertainty in world financial markets has proven a great boon to people seeking to buy homes or refinance their mortgages. Nevertheless, it has been a wild ride.

After holding relatively steady throughout the first half of the year, long-term mortgage rates fell 45 basis points (bps) between late August and early October. Not surprisingly, mortgage application volumes for both new purchases and refinancing went through the roof, far

exceeding even those seen in the refinancing boom of 1993. Following last month's sharp drop, mortgage rates rose 44 bps in a single week, amidst a global flight to quality.
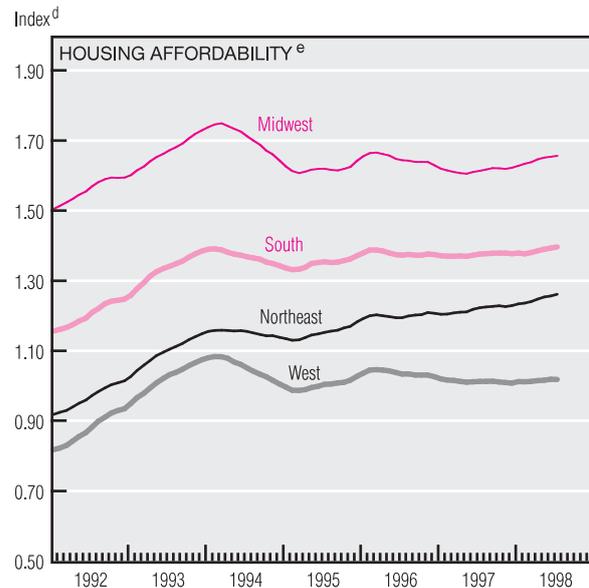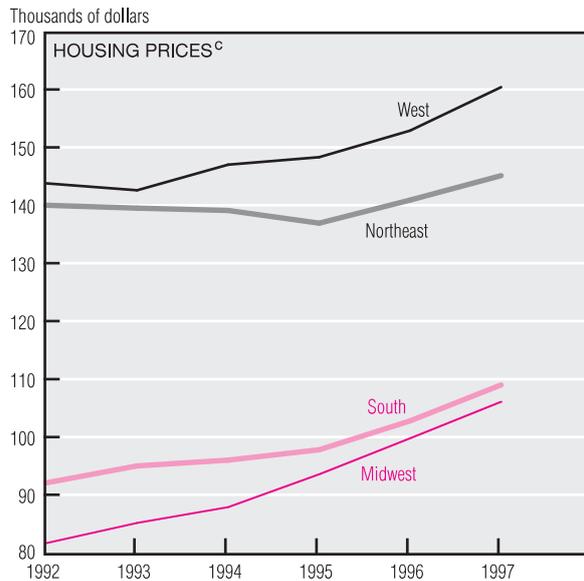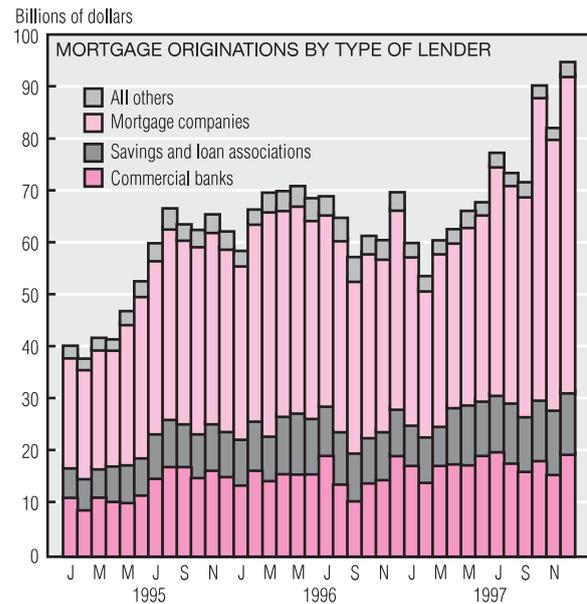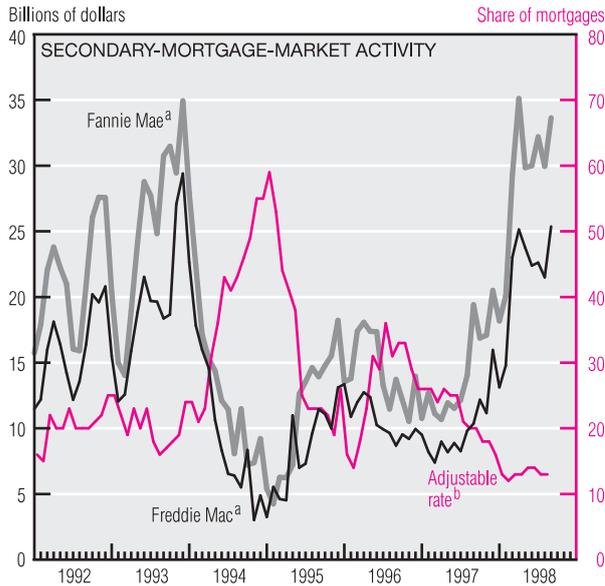
Although short-term interest rates, like long-term rates, fell between late August and early October, the overall spread between fixed- and adjustable-rate mortgages declined to 125 bps in September, reaching its nadir for this decade. The small fixed-/adjustable-rate spread and the low absolute level of long-term rates

have combined to reduce the fraction of new mortgages with adjustable rates to a decade-long low.

The steady flattening of the yield curve over the last year and a half has produced dramatic shifts in secondary-mortgage-market activity. Indeed, the ongoing rise in new originations with fixed rates has spurred growth in the fraction of new mortgages funneled through the secondary market. One important reason is that originators would

Housing Finance (cont.)

SECONDARY-MORTGAGE-MARKET ACTIVITY

Billions of dollars / Share of mortgages

Fannie Mae[a]

Freddie Mac[a]

Adjustable rate[b]

MORTGAGE ORIGINATIONS BY TYPE OF LENDER

Billions of dollars

- All others
- Mortgage companies
- Savings and loan associations
- Commercial banks

HOUSING PRICES[c]

Thousands of dollars

West

Northeast

South

Midwest

HOUSING AFFORDABILITY[e]

Index[d]

Midwest

South

Northeast

West

a. Purchase data include conventional and government-insured mortgages.
b. Percent of new conventional mortgage originations with adjustable rates.
c. Median sale price of existing single-family homes.
d. Index of median family income as a percent of the income required to qualify for a 20%-down-payment mortgage on an existing, median-priced, single-family home.
e. 12-month moving average.
SOURCES: U.S. Department of the Treasury, Office of Thrift Supervision; U.S. Department of Housing and Urban Development; Federal National Mortgage Association; Federal Home Loan Mortgage Corporation; and National Association of Realtors.

rather keep adjustable-rate loans on their books than long-term mortgages, which they prefer to sell on the secondary market. As a result, by the end of last year purchases by both Fannie Mae and Freddie Mac had reached levels not seen since the refinancing boom of 1993. This trend has continued and will probably do so throughout 1998.
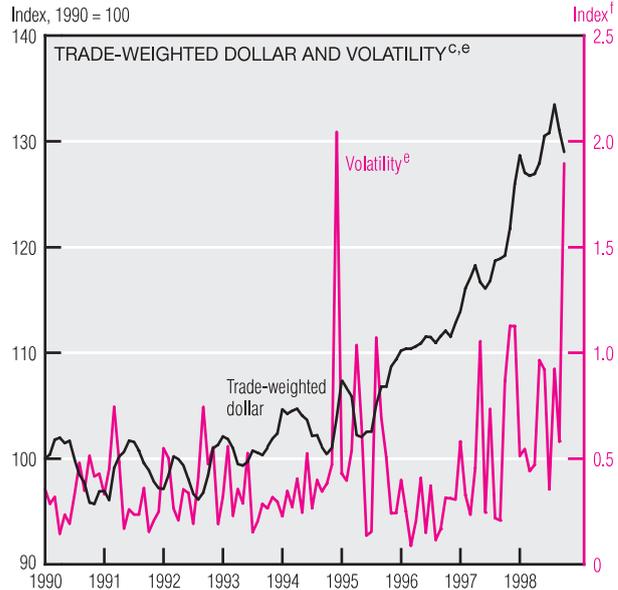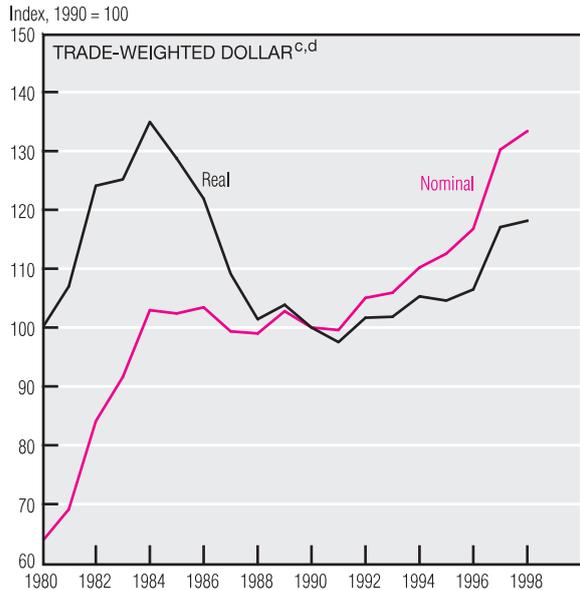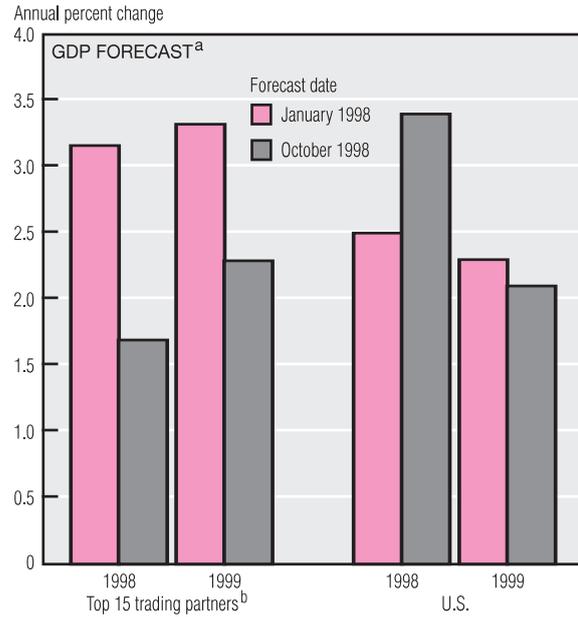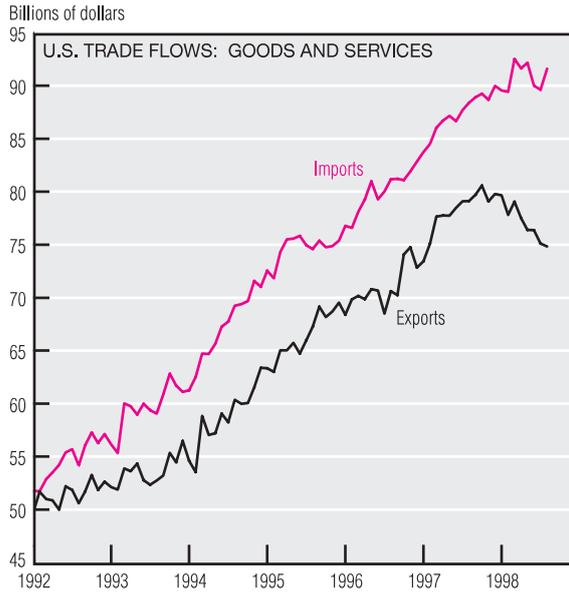
Given the strength of the secondary market, it is not surprising that the share of total originations made by mortgage banks has risen dramatically. Mortgage companies typically earn their revenues though origination and servicing fees on mortgage loans rather than from the interest income they generate. Thus, instead of holding loans in their own portfolios, these institutions choose to package them in pools for sale to the secondary market. In contrast, commercial banks and thrifts have

failed to capture much of the recent rise in origination volume.

The long-term decline in interest rates has helped offset the recent robust rise in housing prices. Consequently, the overall affordability of median-priced homes has remained relatively stable across the country over the last two years and has improved in the Midwest and Northeast regions.

International Trade

Billions of dollars

U.S. TRADE FLOWS: GOODS AND SERVICES

Imports

Exports

1992 1993 1994 1995 1996 1997 1998

Annual percent change

GDP FORECAST[a]

Forecast date
- January 1998
- October 1998

1998 1999   1998 1999

Top 15 trading partners[b]   U.S.

Index, 1990 = 100

TRADE-WEIGHTED DOLLAR[c,d]

Real

Nominal

1980 1982 1984 1986 1988 1990 1992 1994 1996 1998

Index, 1990 = 100   **Index[f]**

TRADE-WEIGHTED DOLLAR AND VOLATILITY[c,e]

Volatility[e]

Trade-weighted dollar

1990 1991 1992 1993 1994 1995 1996 1997 1998

a. U.S. forecast is from *Blue Chip Economic Indicators*; foreign forecast is from various sources.
b. Canada, Japan, Mexico, Germany, U.K., Taiwan, China, South Korea, France, Singapore, Italy, Hong Kong, Netherlands, Belgium, and Malaysia.
c. Trade-weighted dollar index includes the 15 countries listed above.
d. Estimates for 1998 utilize CPI forecasts from various sources and an average of exchange rates through September 1998.
e. October 1998 estimate is the average of daily data through October 23.
f. Standard deviation of daily trade-weighted dollar index each month.

SOURCES: U.S. Department of Labor, Bureau of Labor Statistics; U.S. Department of Commerce, Bureau of the Census and Bureau of Economic Analysis; International Monetary Fund, *International Financial Statistics*; Organisation for Economic Co-operation and Development, *Economic Outlook*; DRI/McGraw–Hill; *Blue Chip Economic Indicators*, various issues; and *The Economist*, October 17–23, 1998.

The U.S. posted a record $16.8 billion trade deficit in August. The imbalance has increased precipitously since July 1997 because U.S. exports of goods and services have fallen 5.4%. By most accounts, the trade deficit will widen still farther—reaching approximately $175 billion to $180 billion this year—as the effects of the Asian and Russian economic crises continue to filter through the world.
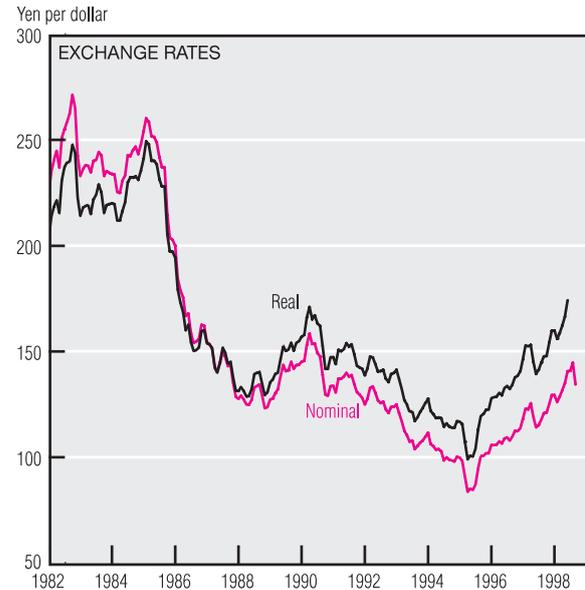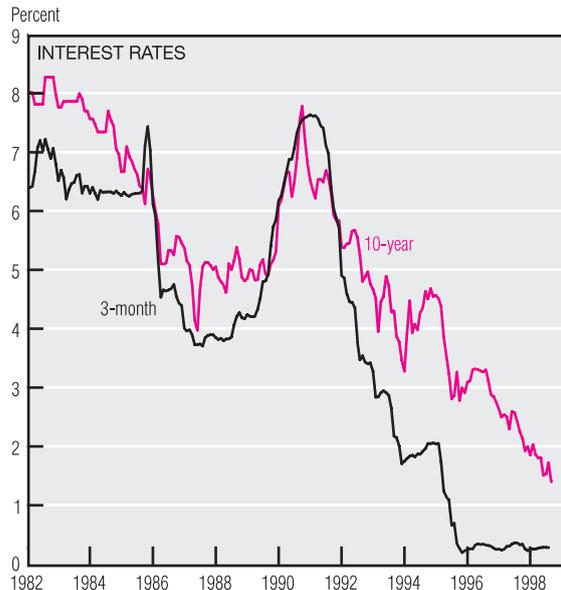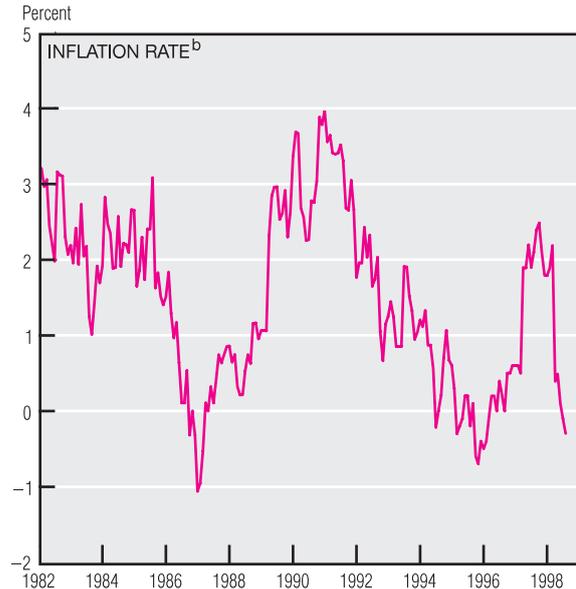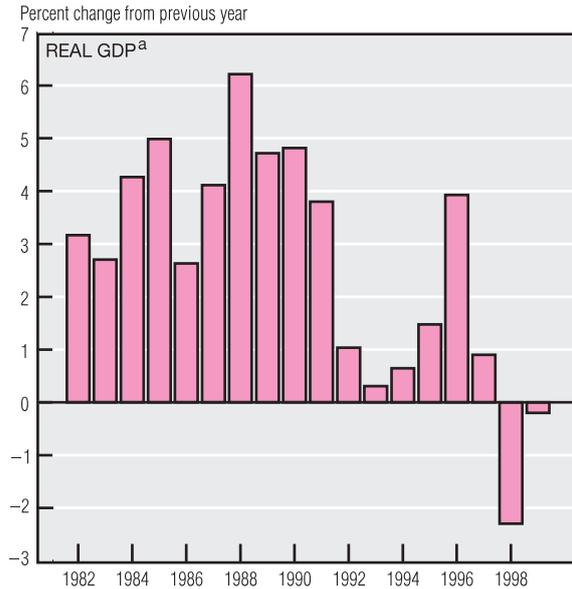
In part, larger projected increases in the deficit reflect a gloomier outlook for foreign economies. In January, economists generally expected real growth among our 15 largest trading partners to average 3.2% this year and 3.3% next year. The current consensus, however, is that these countries' real growth will be only 1.7% in 1998 and 2.3% in 1999. The outlook for U.S. growth this year is more optimistic now than it was in January, but economists have pared their forecast for 1999. To narrow our trade deficit, foreign growth typically must exceed U.S. growth by about two percentage points.

The sharp rise of the real trade-weighted dollar last year—which brought its cumulative appreciation since 1991 to 21.2%—also weakens our global competitiveness. Thus far this year, the trade-weighted dollar's real appreciation has been subdued, but higher nominal volatility since July 1997 suggests that international commerce has become riskier and more uncertain.

The Japanese Economy

Percent change from previous year

REAL GDP[a]

Percent

INFLATION RATE[b]

Percent

INTEREST RATES

10-year

3-month

Yen per dollar

EXCHANGE RATES

Real

Nominal

a. 1998 and 1999 data are forecasts from *The Economist*, October 17–23, 1998, p. 116.
b. Sales taxes imposed in April 1997 account for the jump in year-over-year price changes between April 1997 and April 1998.
SOURCES: U.S. Department of Labor, Bureau of Labor Statistics; International Monetary Fund, *International Financial Statistics*; *The Economist*, October 17–23, 1998; Bank of Japan; Statistical Bureau of the Prime Minister (Japan); and DRI/McGraw–Hill.

In its seventh year of economic malaise, Japan is poised to experience its first annual decline in real GDP since the 1974 oil crisis. According to a poll by *The Economist*, forecasters expect real GDP to drop 2.3% in 1998 and to fall a further 0.2% in 1999.

The asset-price deflation of the early 1990s saddled Japanese banks with huge portfolios of nonperforming loans and a reluctance to extend new credit. This situation, combined with the broader wealth effects of asset-price declines, has trimmed the country's average annual growth rate to only 1.4% since 1992, substantially below the 4.1% growth rate of the previous 10 years. To resolve its banking situation, Japan recently adopted measures to guarantee bank deposits, close numerous insolvent banks, and help rebuild bank capital.

Many observers have questioned whether, with a crippled banking sector and extremely low interest rates, the Bank of Japan could stimulate economic growth—even temporarily. The traditional monetary transmission mechanism relies on interest-rate reductions and bank lending, which now seem unlikely in Japan. Under a floating-exchange-rate regime, however, a monetary expansion will also promote an exchange-rate depreciation, irrespective of its effect on interest rates. A further yen depreciation and an expanded trade surplus are likely prerequisites to a Japanese recovery.