May 2001

National Economic Trends

Accounting for Computers

In 1987, Nobel Prize laureate Robert Solow quipped: "You can see the computer age everywhere but in the productivity statistics."[1] While computers may have already seemed ubiquitous in the late 1980s, their proliferation throughout the economy during the 1990s proceeded at a phenomenal pace. As shown in the chart, total nominal expenditures on computers and peripheral equipment in the U.S. tripled over the decade, rising from $49 billion in 1990 to nearly $150 billion in 2000. Recent weakness in sales of computer equipment is also evident: During the most recent two quarters, demand fell $13.6 billion from its peak in the third quarter of 2000. When placed in perspective, however, the drop-off in demand is still small relative to the increases of the previous decade.

The bulk of computer sales during the 1990s went to the business sector. Business spending on computers—a component of fixed investment in the National Income Accounts—rose from $39 billion in 1990 to more than $114 billion in 2000. On average, business investment accounted for nearly 75 percent of all computer purchases over the decade, while households accounted for about 17.6 percent and governments for 7.7 percent.

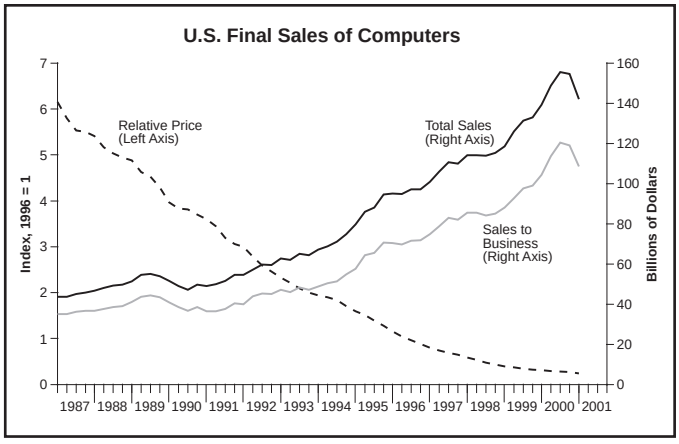
The rapid increase in computer investment by businesses is part of a general trend of rising investment in information and communications technology (ICT). Computer equipment alone accounted for more than 8 percent of total nonresidential business fixed investment in 2000. When software, communication equipment and other information-processing equipment is included, ICT investment accounted for a startling 40 percent of total business investment, eclipsing the more traditional expenditures for industrial and transportation equipment.

It should be noted that these data represent nominal expenditures on computers, and therefore dramatically understate the expansion of effective computing power, given the rapid pace of quality improvement in computers. When measuring the price of computers, the U.S. Bureau of Economic Analysis applies a statistical technique for estimating a standardized cost of computing power—known as a hedonic price index. From 1987 through 2000, the ratio of this quality-adjusted price index to the price index for non-computer final sales declined nearly 95 percent (see chart). That is, the quantity of computing power purchased with one dollar in 1987 cost only an inflation-adjusted nickel in 2000.

Many economists attribute recent increases in U.S. labor productivity growth to the widespread application of new computer technologies in the business sector, fulfilling Solow's prediction that the proliferation of computers ought to have productivity-enhancing effects. As ICT investment surged during the 1990s, growth of output per hour in the non-farm business sector accelerated to a 2.8 percent annual rate from 1996 through 2000, up from an average growth rate of 1.6 percent during the previous 25 years. It is yet to be seen whether strong productivity growth will continue; however, it appears likely that the computer sector will continue to be a vibrant part of the U.S. economy throughout coming years.

—Michael R. Pakko

[1] Solow, Robert M. "We'd Better Watch Out." *New York Times Book Review*, July 12, 1987, p.36.



Views expressed do not necessarily reflect official positions of the Federal Reserve System

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Conventions used in this publication:

1. Shaded areas indicate recessions, as determined by the National Bureau of Economic Research.

2. *Percent change* refers to simple percent changes. *Percent change from year ago* refers to the percent change from the same month or quarter in the previous year. The *percent change at annual rate* shows what the growth rate would be over an entire year if the same simple percent change continued for four quarters or twelve months. The percent change at annual rate of X between the previous quarter $t-1$ and the current quarter t is:

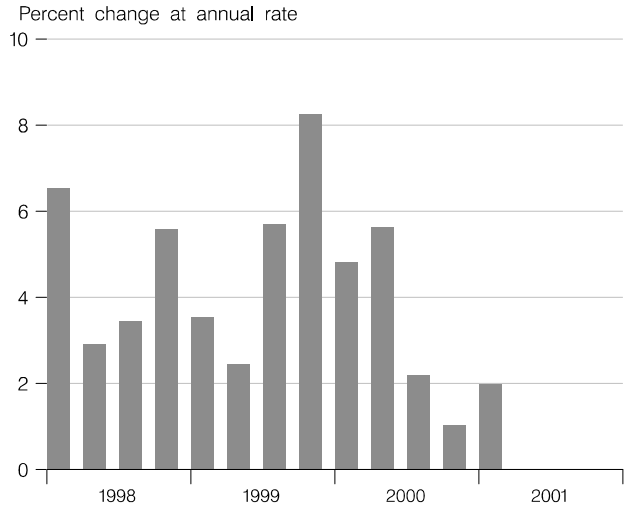
$$100 \times \left[\left(\frac{X_t}{X_{t-1}} \right)^4 - 1 \right]$$

   For monthly data replace 4 with 12.

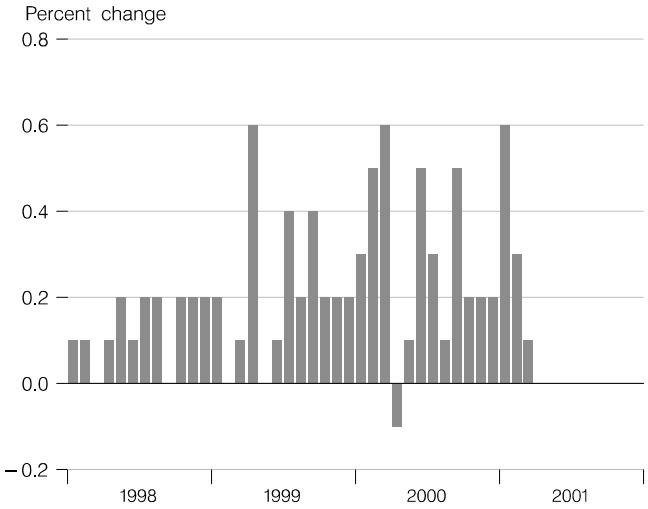
3. All data with significant seasonal patterns are seasonally adjusted, unless labeled NSA.

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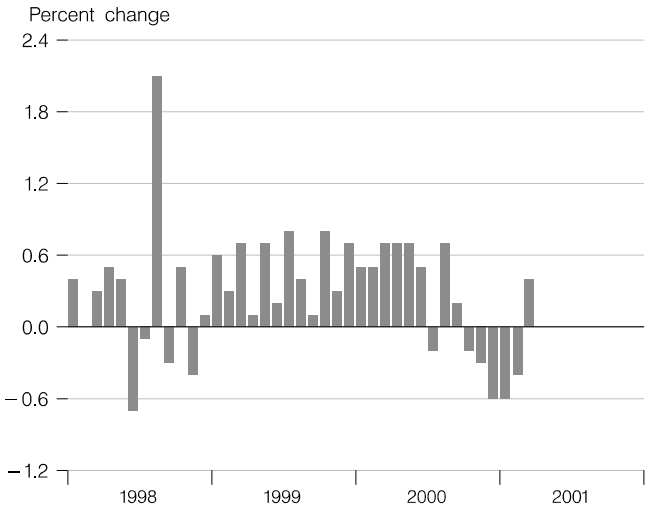
Real GDP Growth



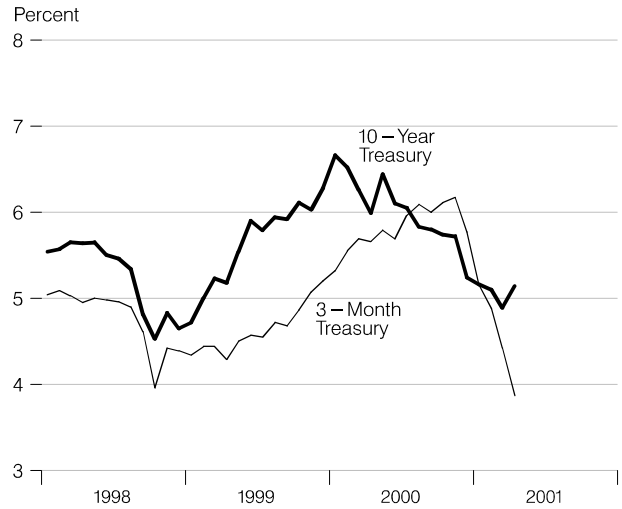
Consumer Price Index



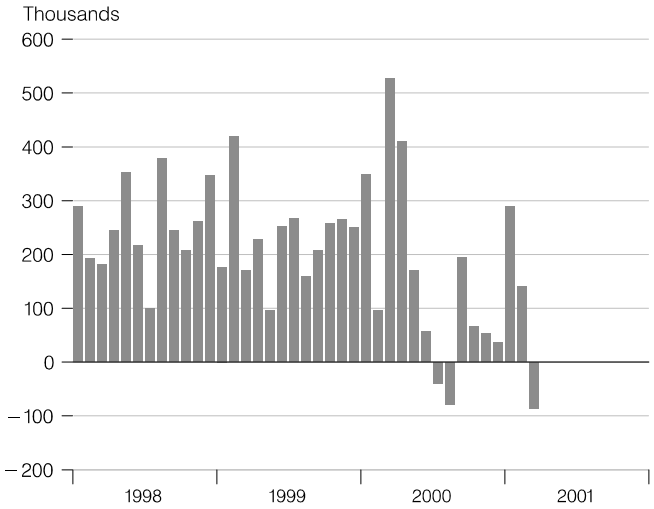
Industrial Production



Interest Rates



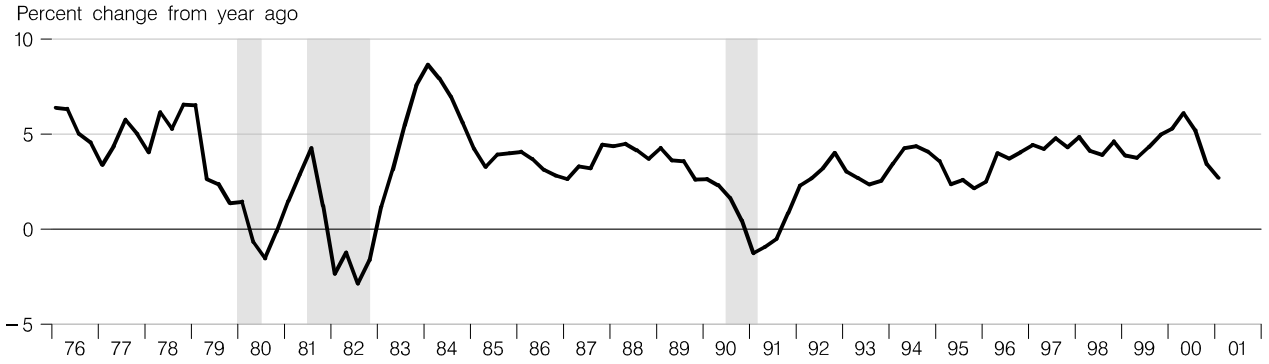
Change in Nonfarm Payrolls



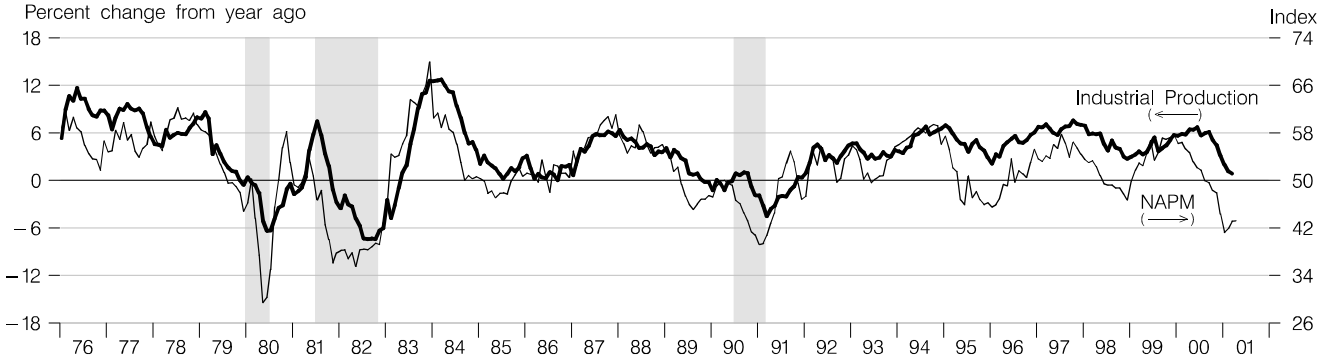
Unemployment Rate



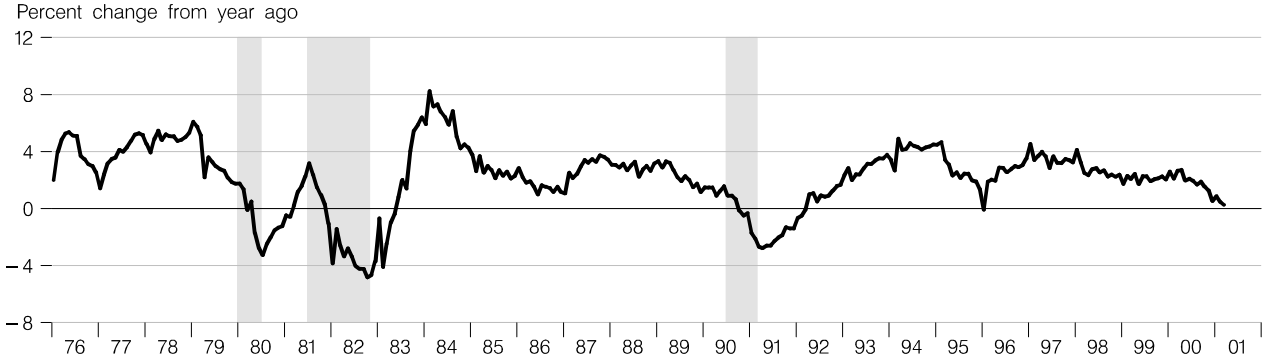
Real Gross Domestic Product



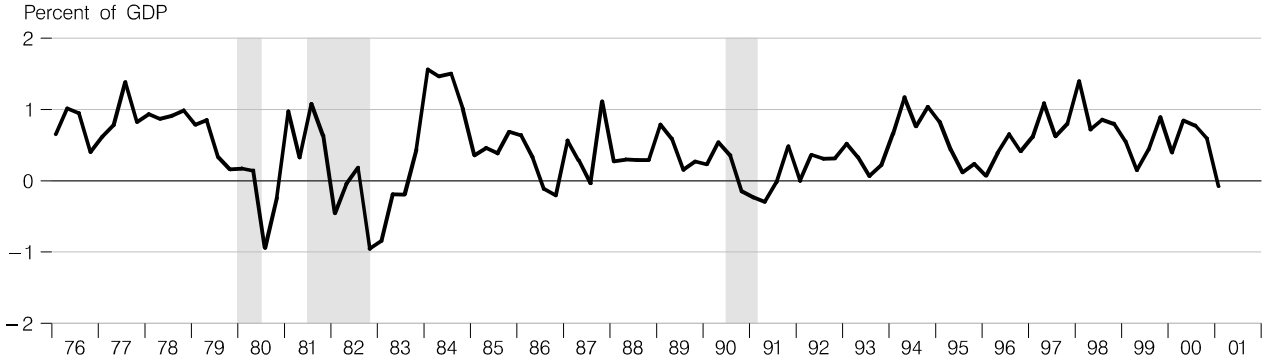
Industrial Production and Purchasing Managers' (NAPM) Indexes



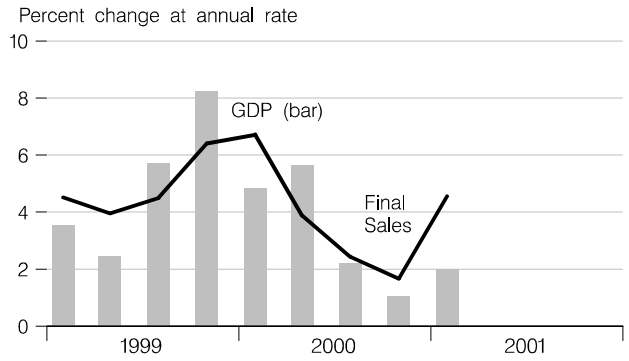
Aggregate Private Nonfarm Hours



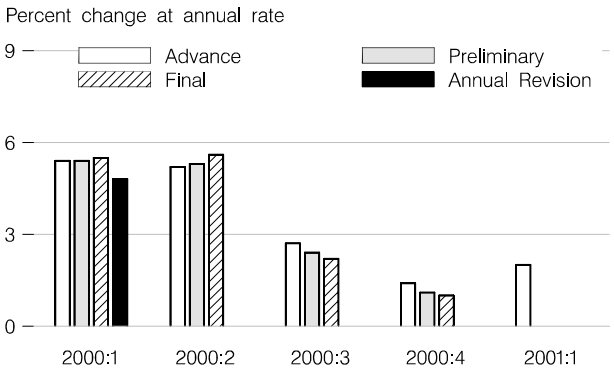
Real Change in Private Inventories



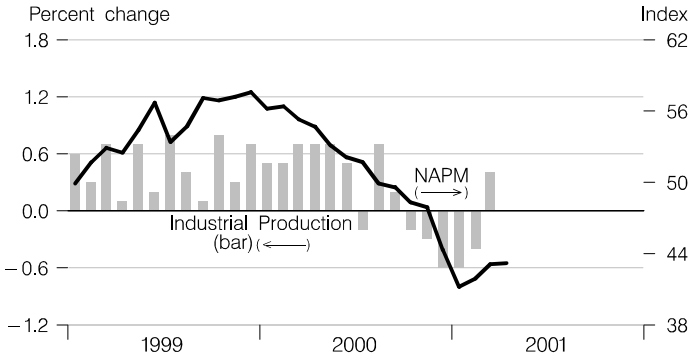
Real Final Sales and GDP



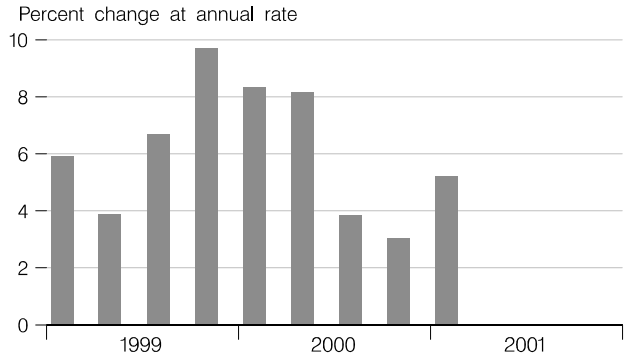
Real GDP Revisions



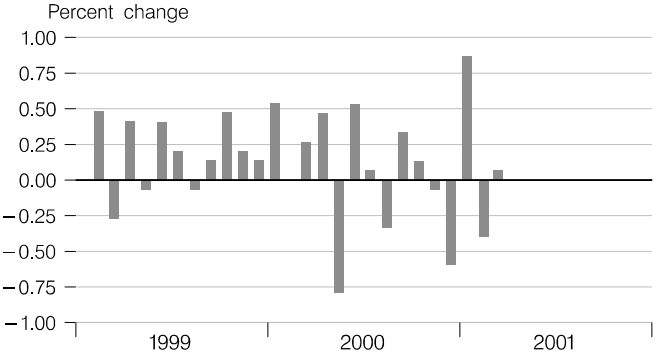
Industrial Production and NAPM Index



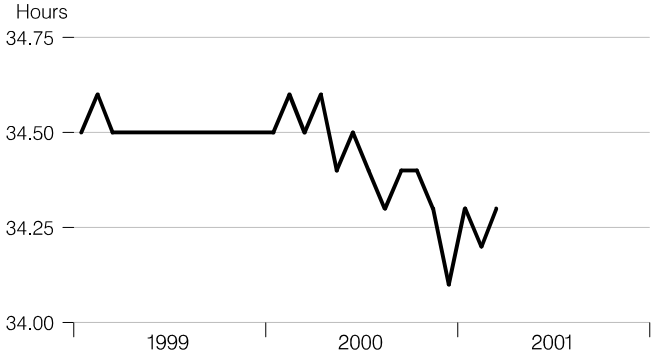
Nominal Gross Domestic Product



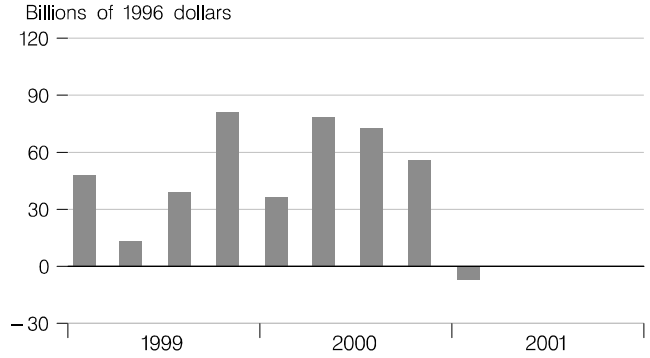
Aggregate Private Nonfarm Hours



Average Weekly Private Nonfarm Hours



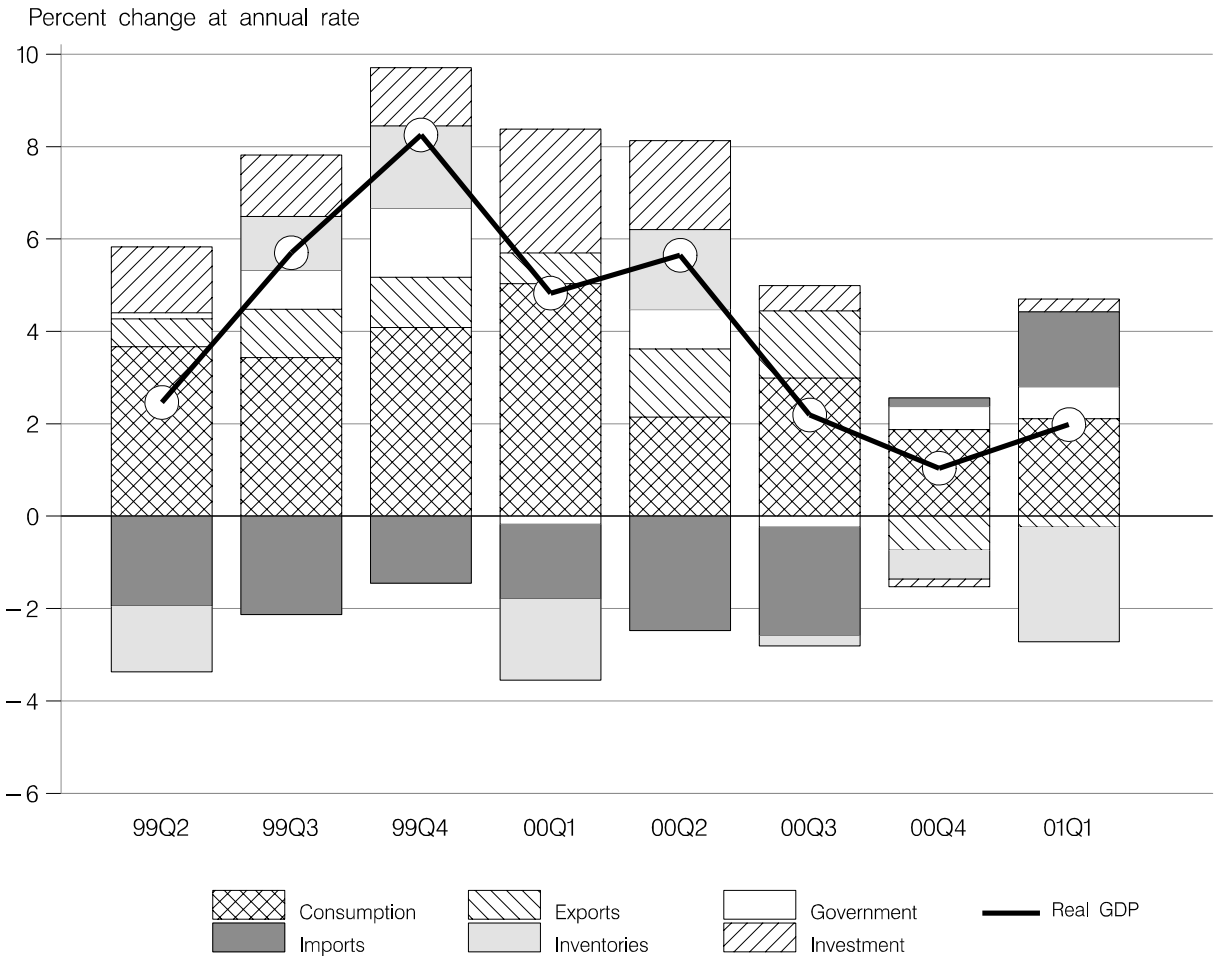
Real Change in Private Inventories



Inventory-Sales Ratio



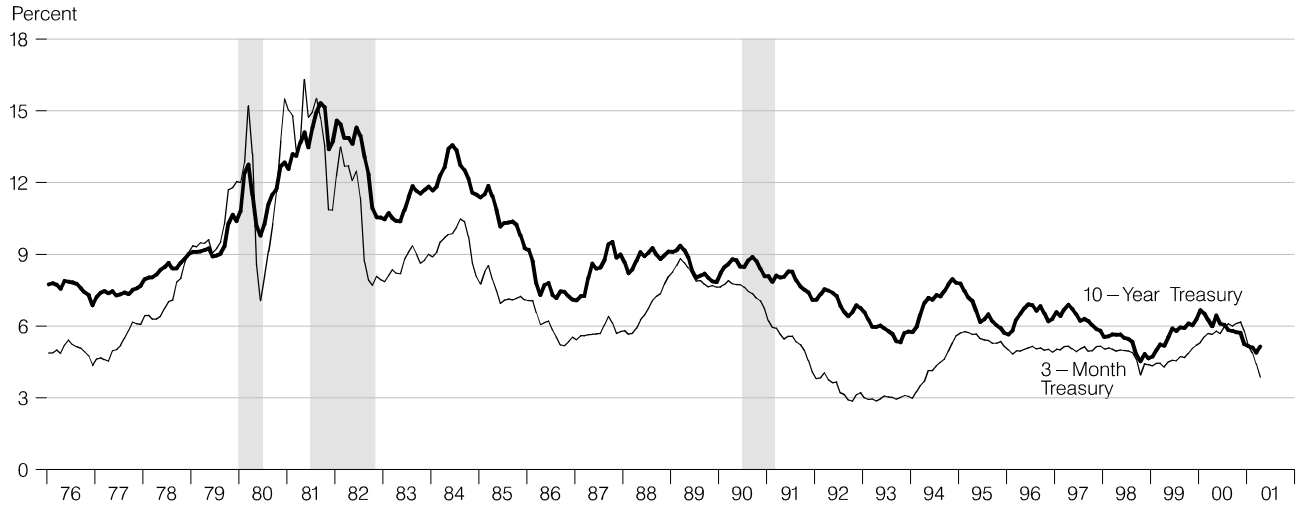
Contribution of Components to Real GDP Growth



Contributions to Real GDP Growth Rate

	1999			2000				2001
	2nd	3rd	4th	1st	2nd	3rd	4th	1st
Real GDP	2.46	5.70	8.25	4.83	5.65	2.19	1.04	1.98
Final Sales	3.88	4.53	6.47	6.59	3.92	2.41	1.66	4.46
Change in Inventory	−1.42	1.17	1.78	−1.76	1.73	−0.22	−0.62	−2.48
Consumption	3.67	3.43	4.08	5.03	2.14	2.99	1.87	2.11
Fixed Investment	1.43	1.33	1.26	2.68	1.93	0.55	−0.17	0.28
Nonresidential	1.18	1.47	1.22	2.54	1.87	1.02	−0.02	0.15
Residential	0.25	−0.13	0.03	0.14	0.06	−0.47	−0.15	0.14
Government	0.13	0.84	1.50	−0.18	0.85	−0.24	0.50	0.69
Federal	0.12	0.41	0.79	−0.93	0.97	−0.57	0.22	0.33
State and Local	0.01	0.43	0.71	0.75	−0.12	0.33	0.28	0.35
Net Exports	−1.35	−1.08	−0.37	−0.94	−1.00	−0.90	−0.55	1.38
Exports	0.60	1.05	1.09	0.67	1.48	1.45	−0.74	−0.24
Imports	−1.95	−2.13	−1.45	−1.61	−2.48	−2.35	0.19	1.62
Residual	0.31	0.05	−0.11	0.10	−0.12	0.06	0.18	0.02

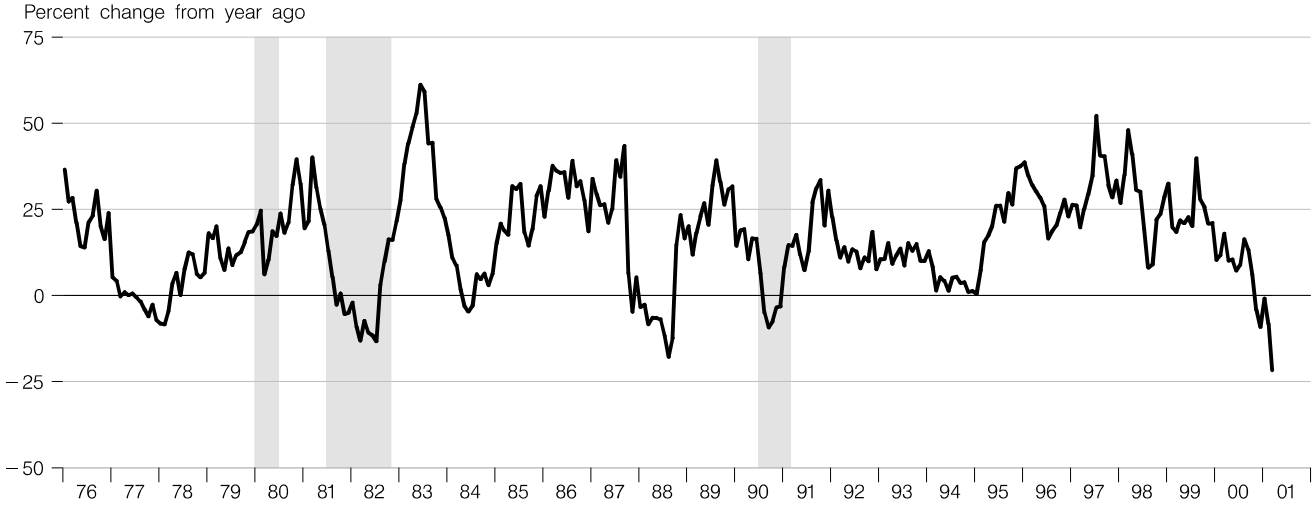
Interest Rates



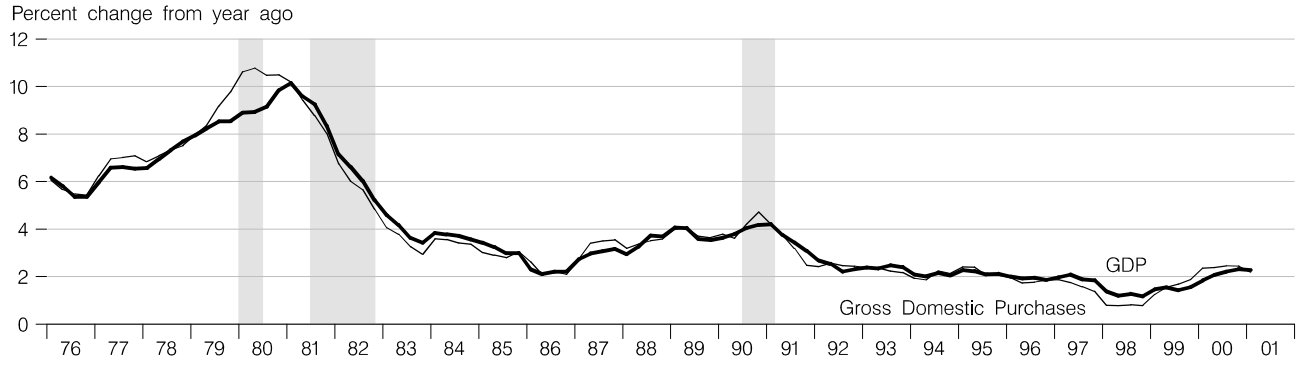
Treasury Yield Curve



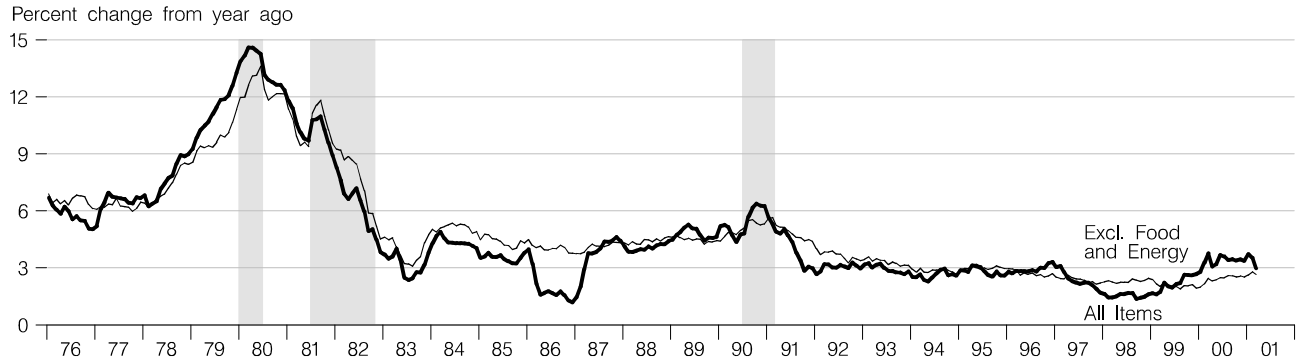
Standard and Poor's 500 Index with Reinvested Dividends



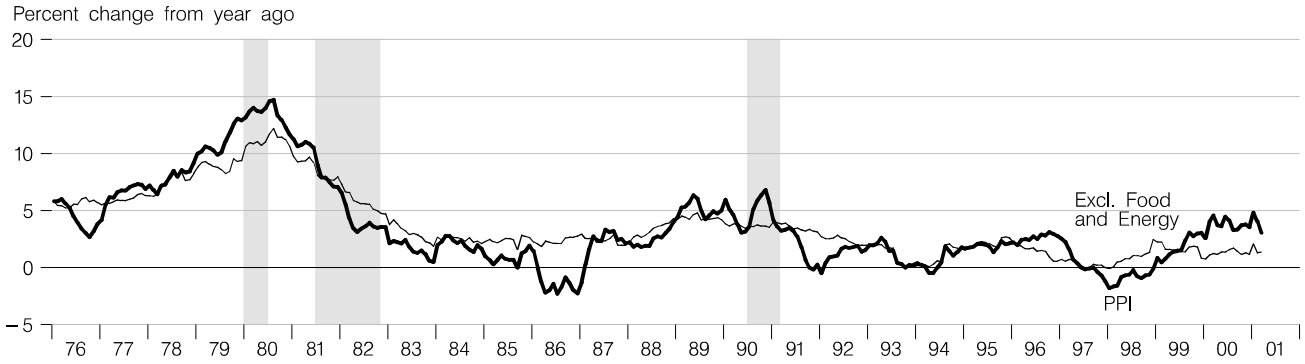
NIPA Chain Price Indexes



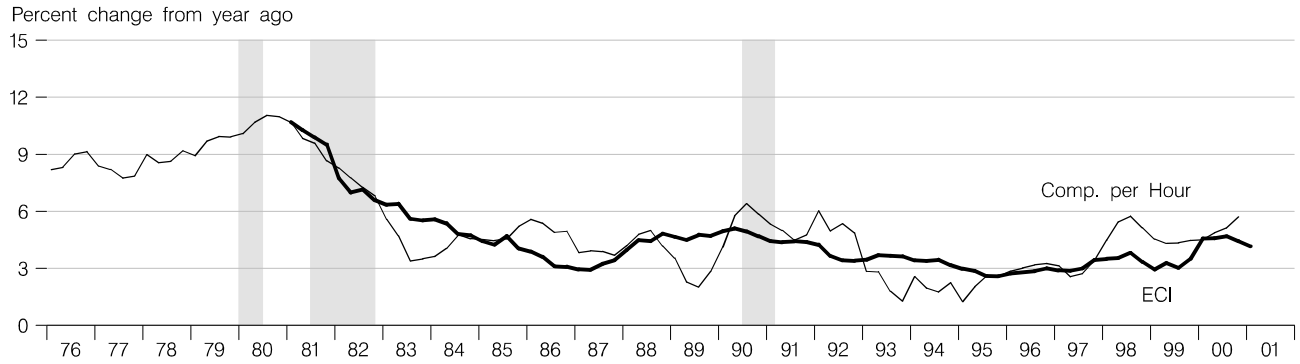
Consumer Price Index



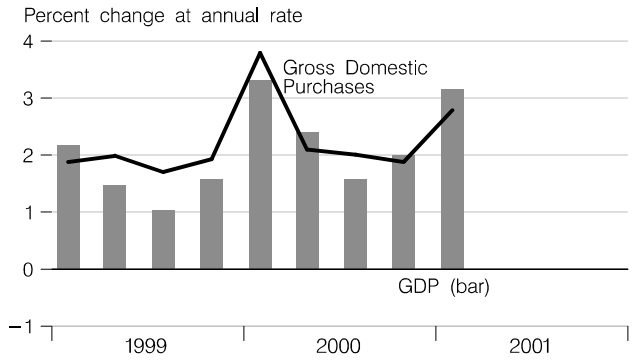
Producer Price Index, Finished Goods



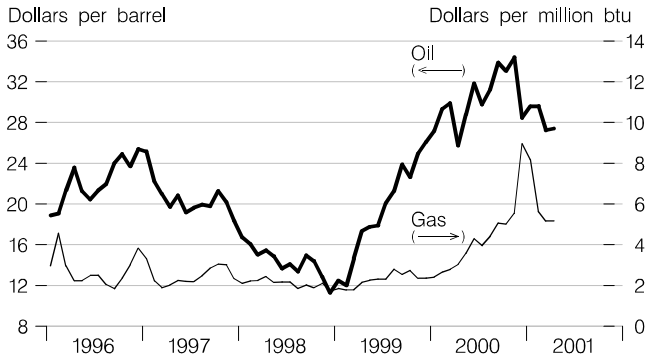
Employment Cost Index and Compensation per Hour



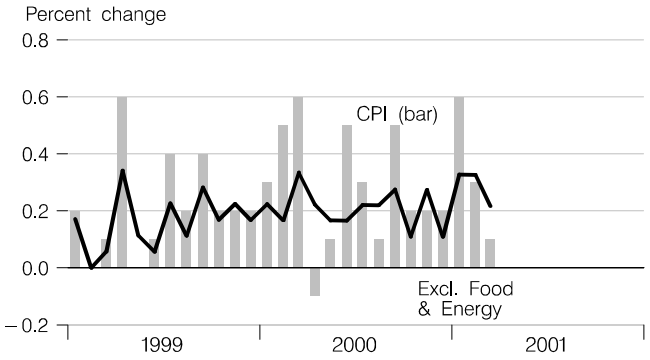
NIPA Chain Price Indexes



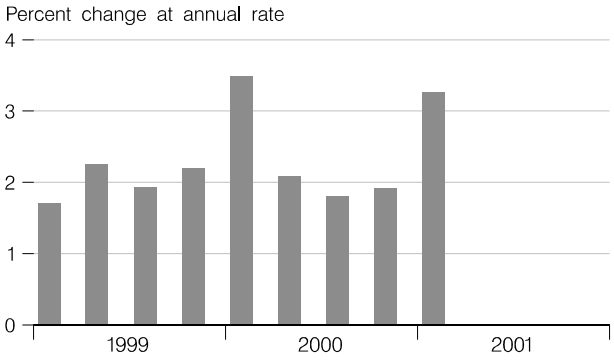
Crude Oil and Natural Gas Prices



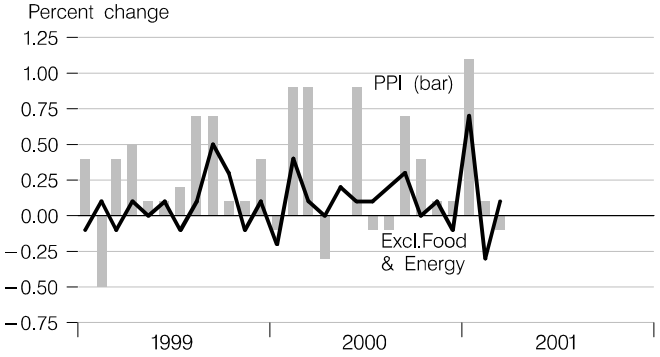
Consumer Price Index



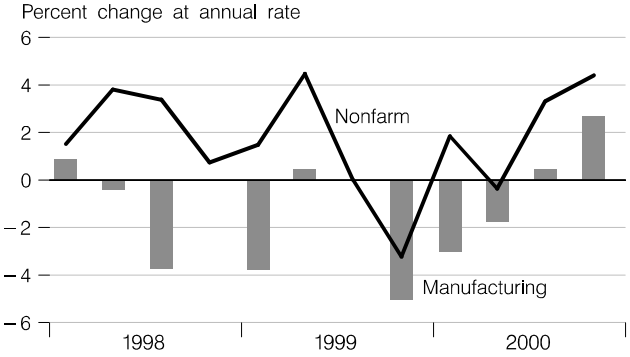
Consumption Chain Price Index



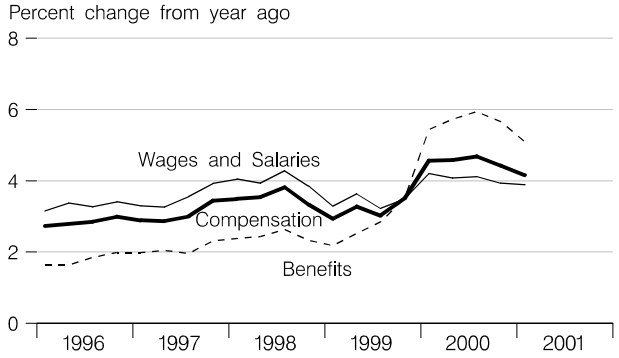
Producer Price Index, Finished Goods



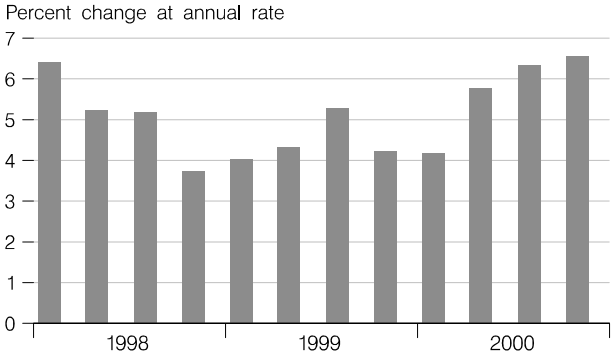
Unit Labor Cost



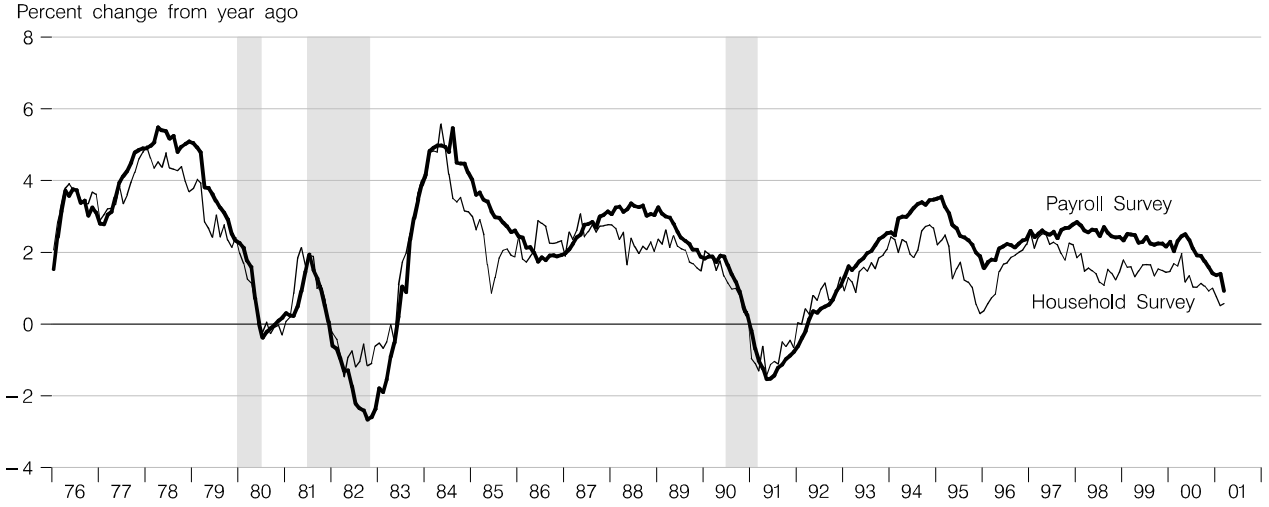
Employment Cost Index



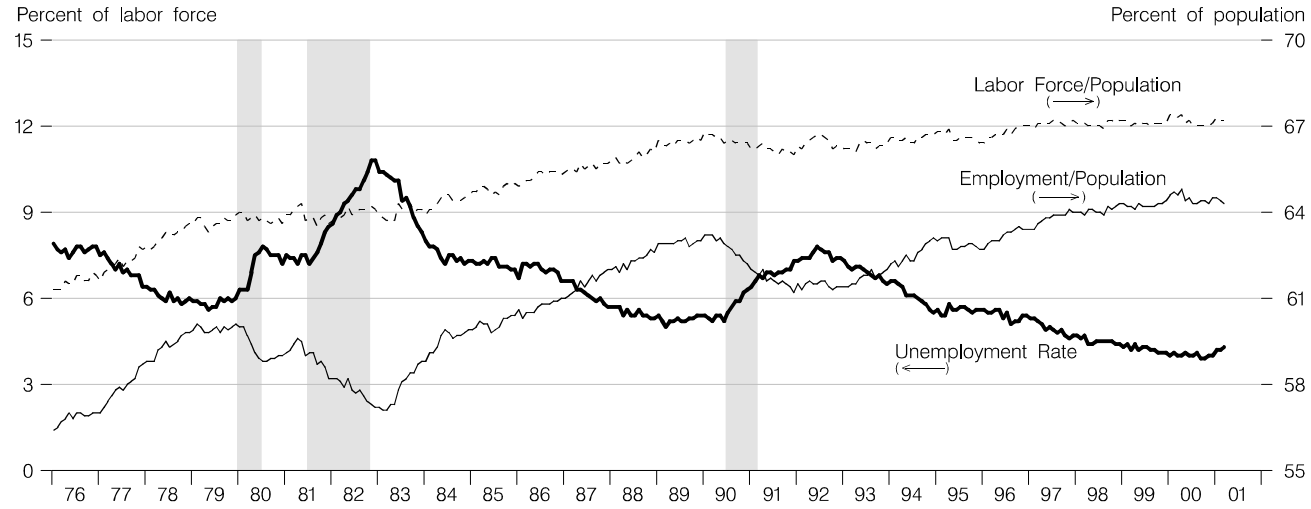
Compensation per Hour



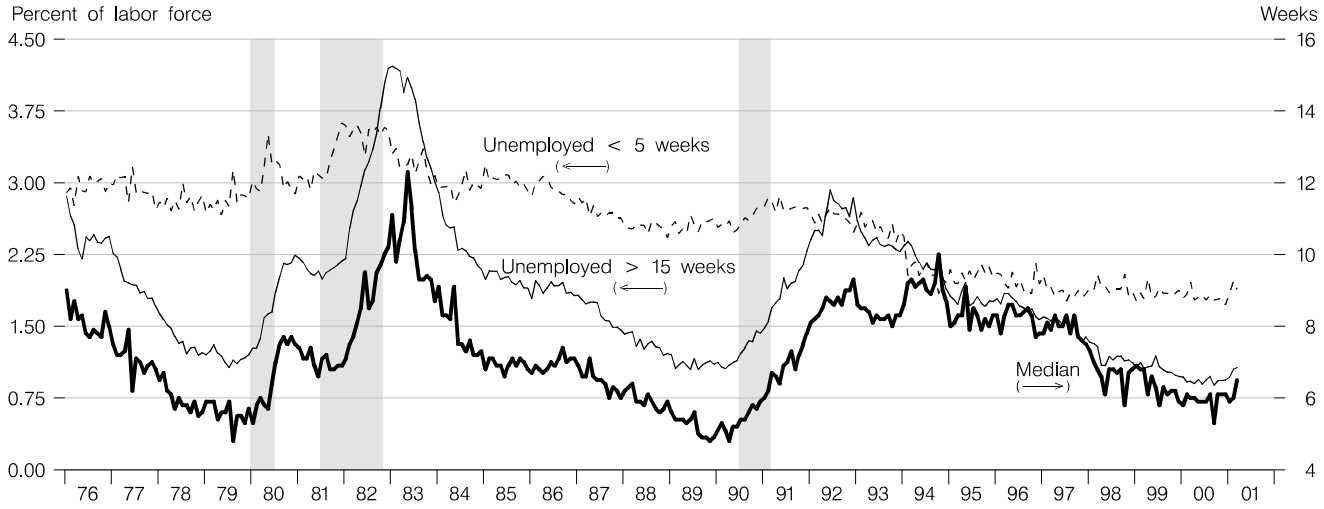
Employment



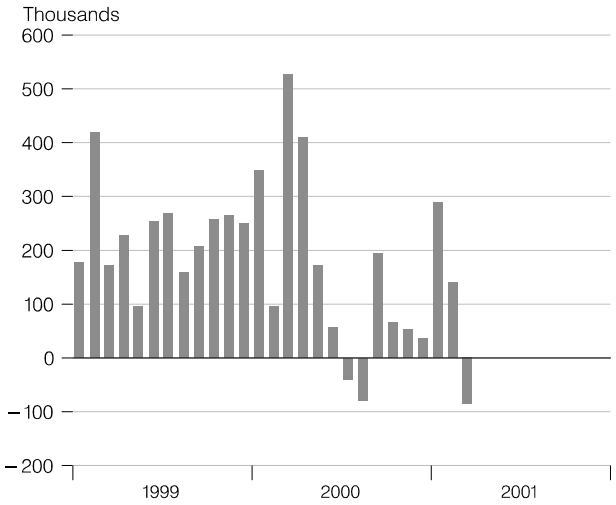
Unemployment, Labor Force Participation and Employment Rates



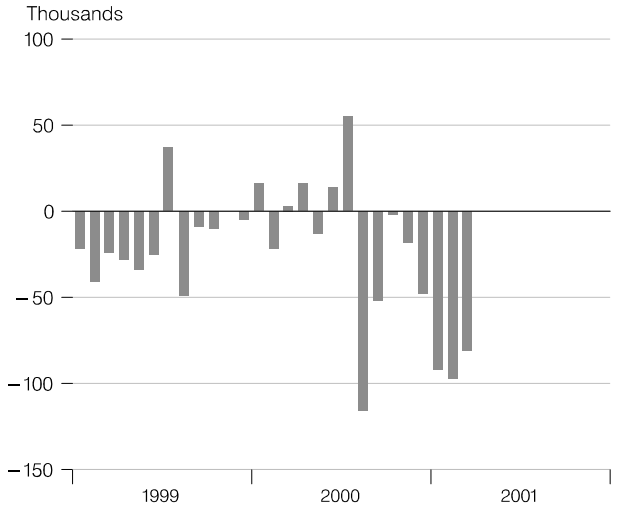
Duration of Unemployment



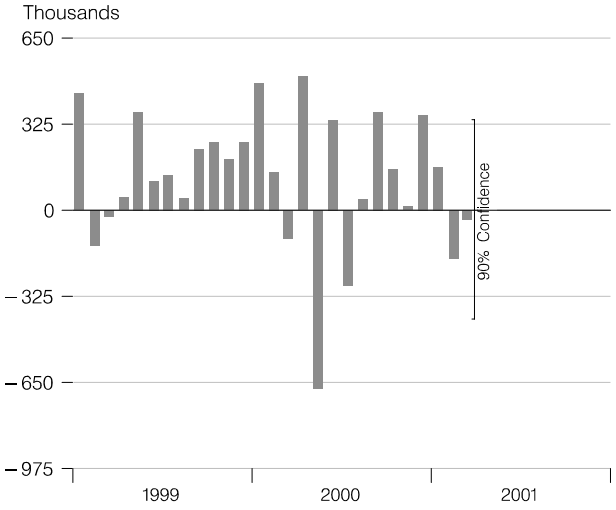
Change in Nonfarm Payrolls



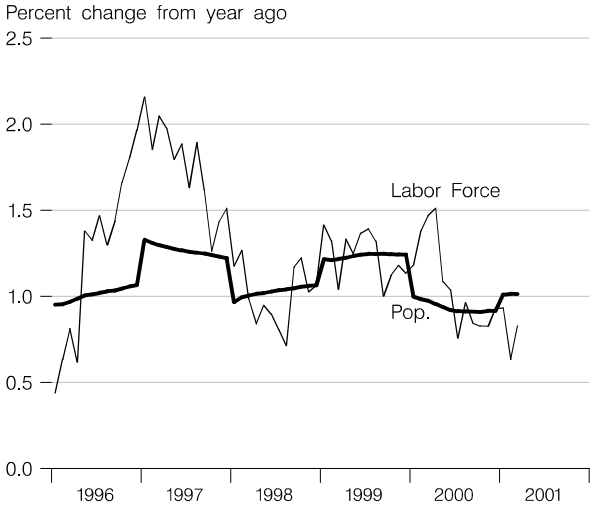
Change in Manufacturing Payrolls



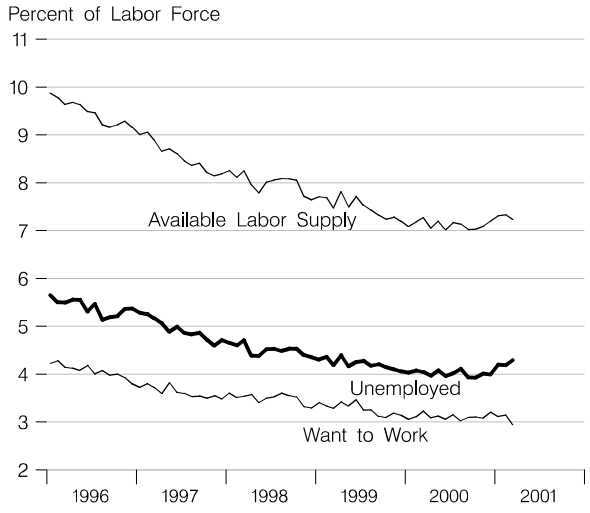
Change in Household Employment



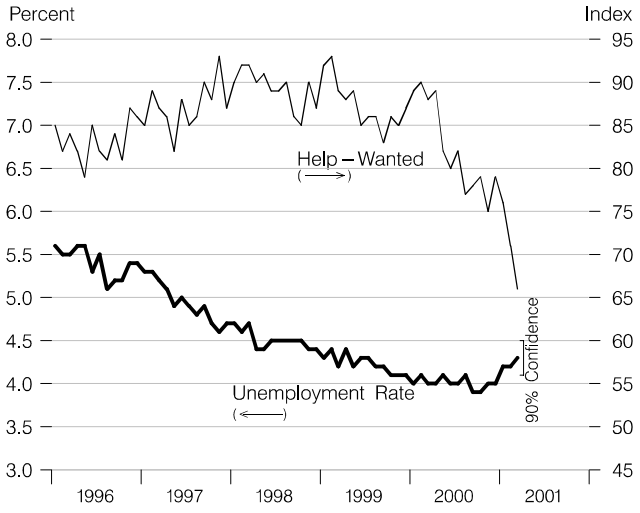
Labor Force and Population



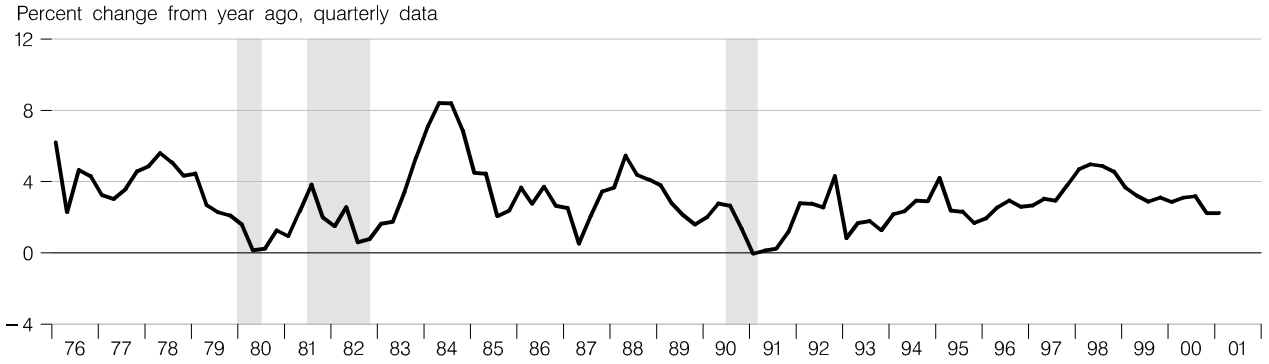
Available Labor Supply and Components



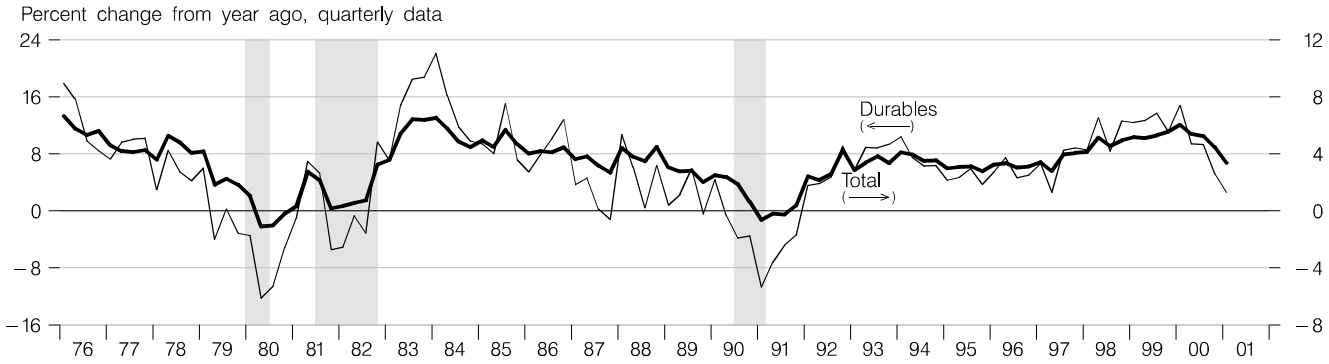
Unemployment Rate and Help-Wanted Advertising Index



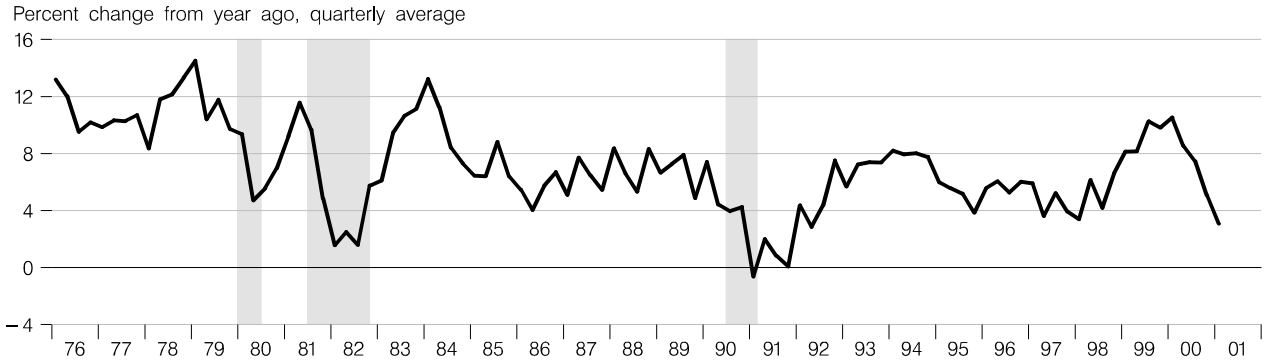
Real Disposable Personal Income



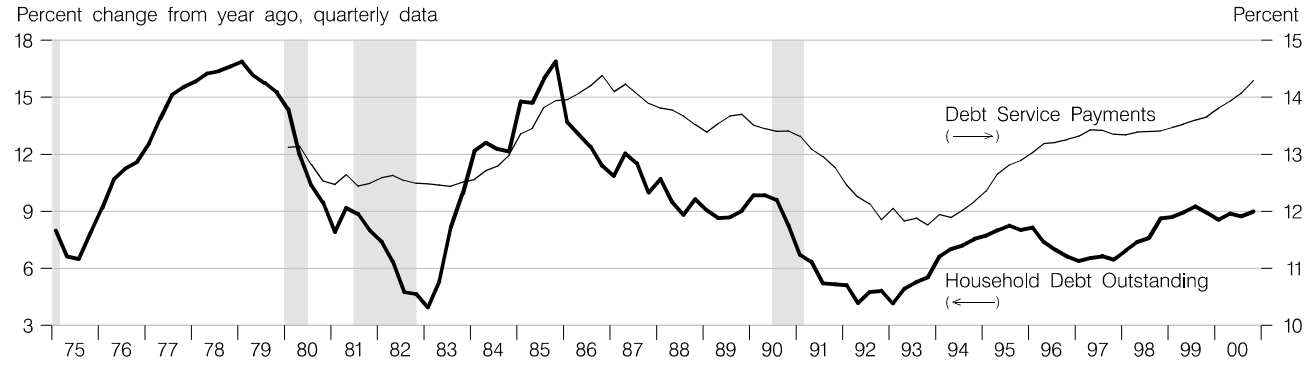
Real Consumption



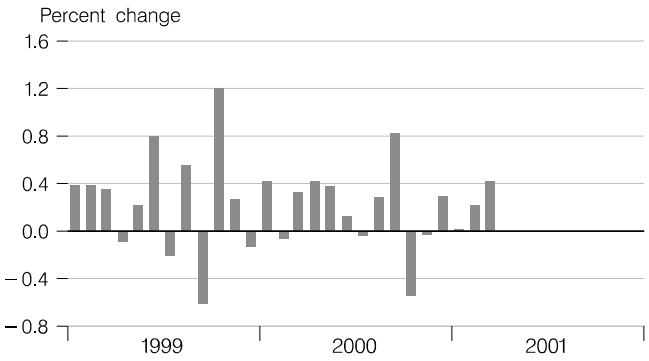
Retail Sales



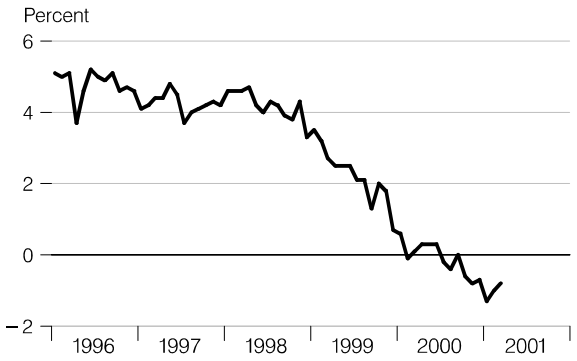
Debt Service Payments as a Percent of Disposable Income and Household Debt Outstanding



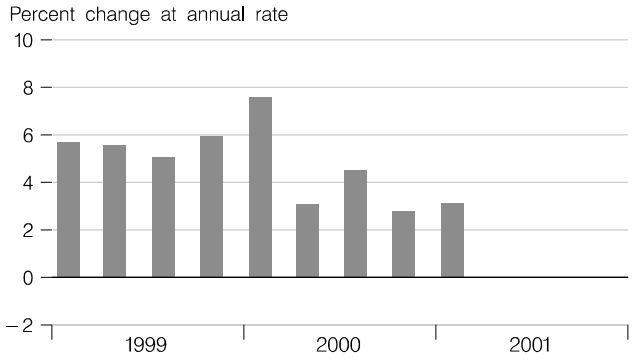
Real Disposable Personal Income



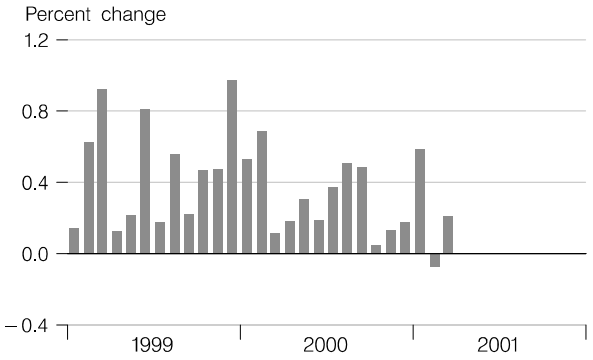
Personal Saving Rate



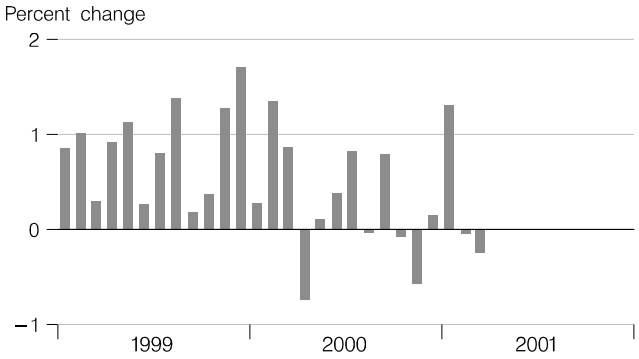
Real Consumption



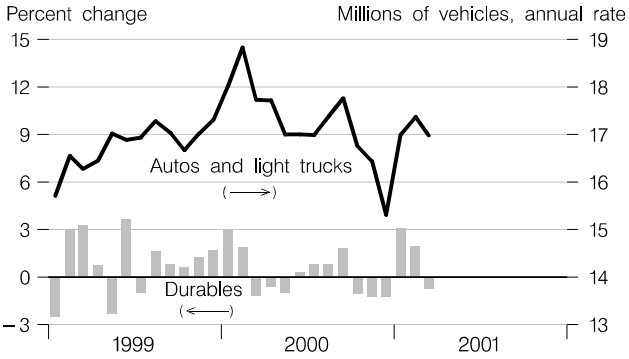
Real Consumption



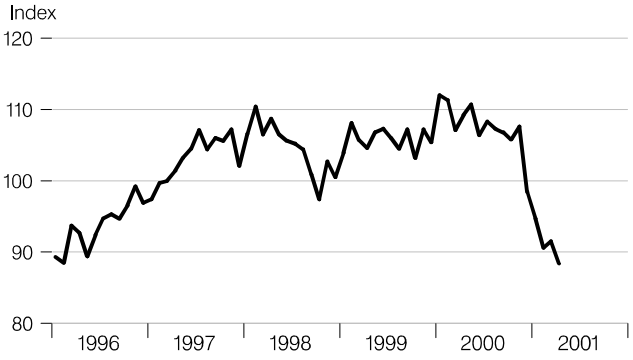
Retail Sales



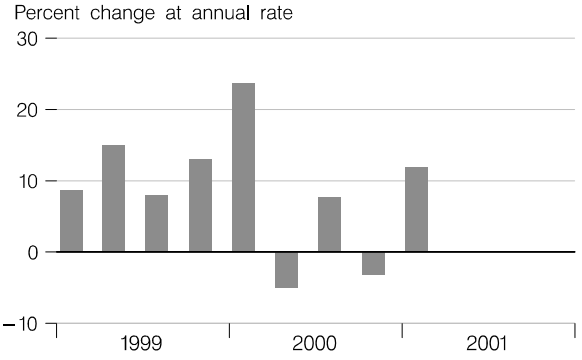
Real Durables Consumption and Vehicle Sales



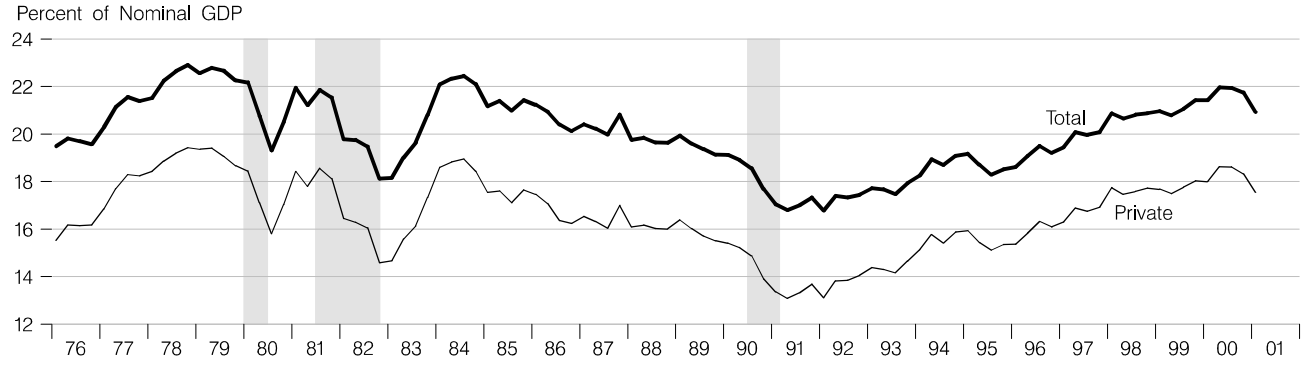
Consumer Sentiment (U. of Michigan)



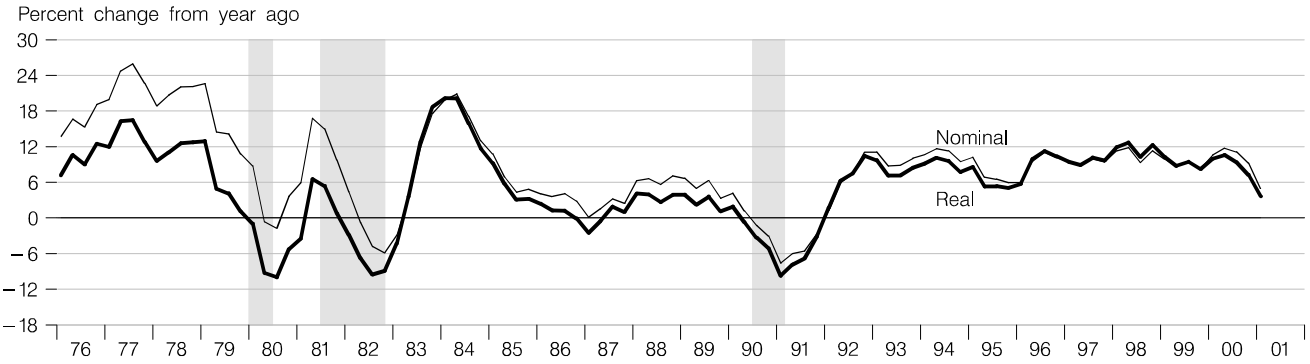
Real Durables Consumption



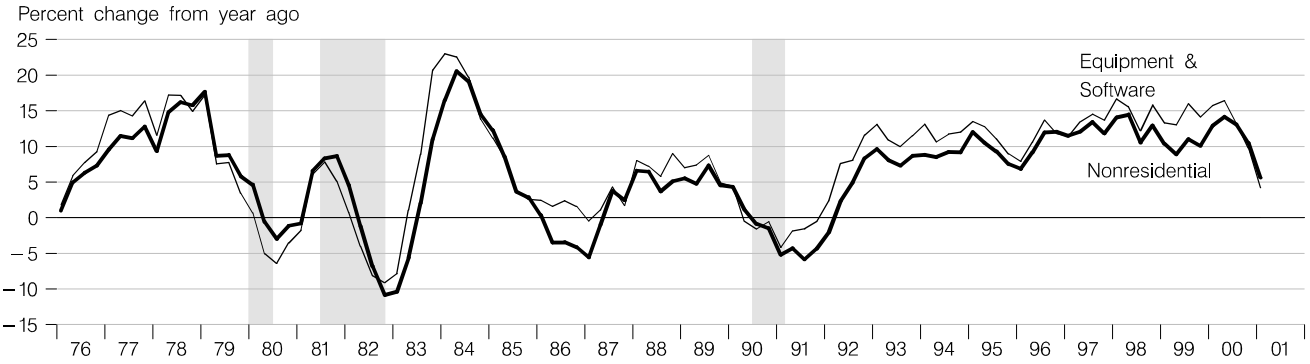
Investment



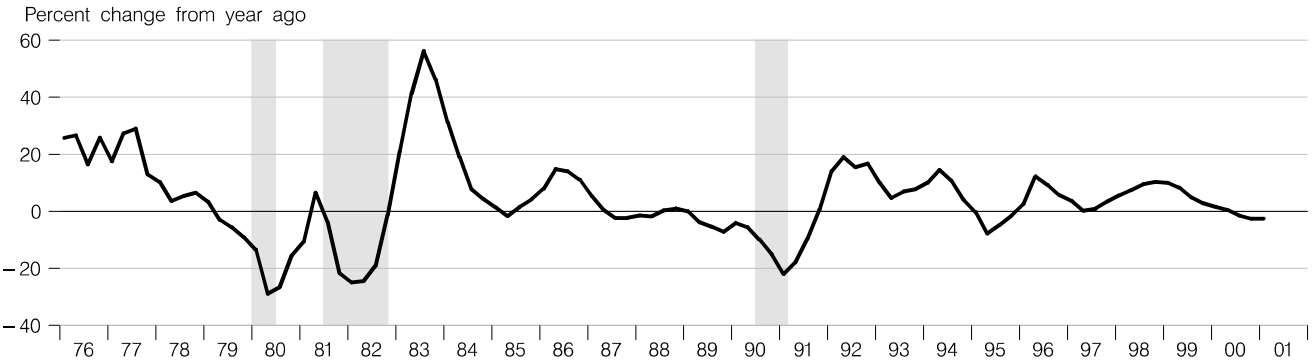
Private Fixed Investment



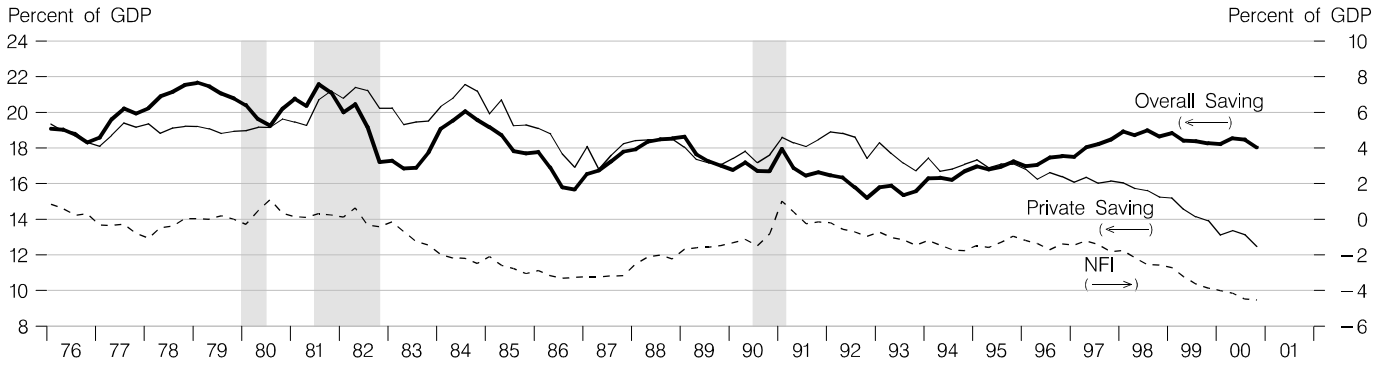
Real Nonresidential Fixed and Equipment & Software Investment



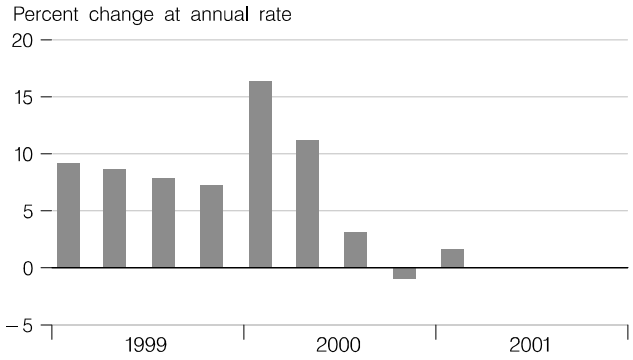
Real Residential Fixed Investment



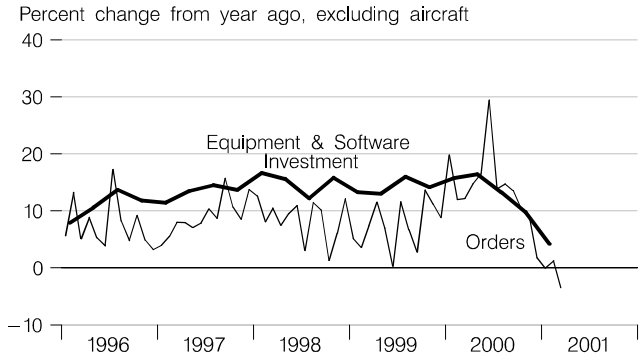
Gross Saving Rates and Net Foreign Investment



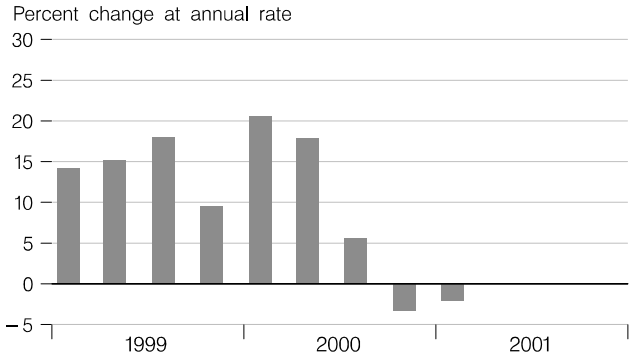
Real Private Fixed Investment



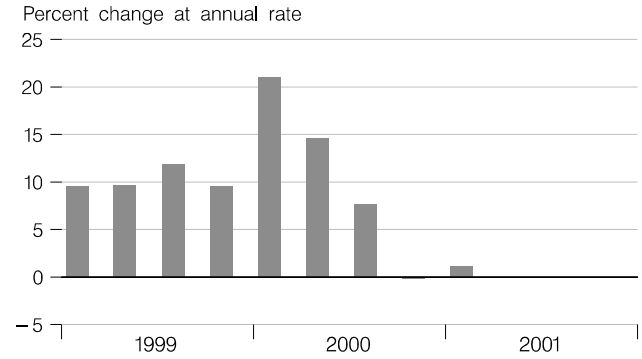
Nondefense Capital Goods Orders



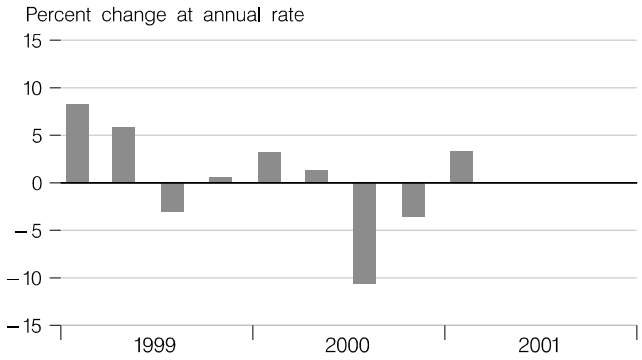
Real Equipment & Software Investment



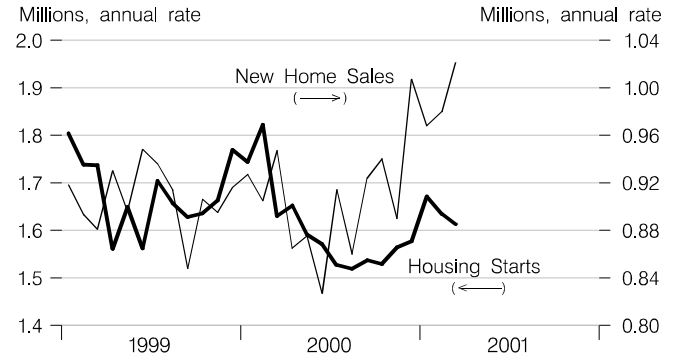
Real Nonresidential Fixed Investment



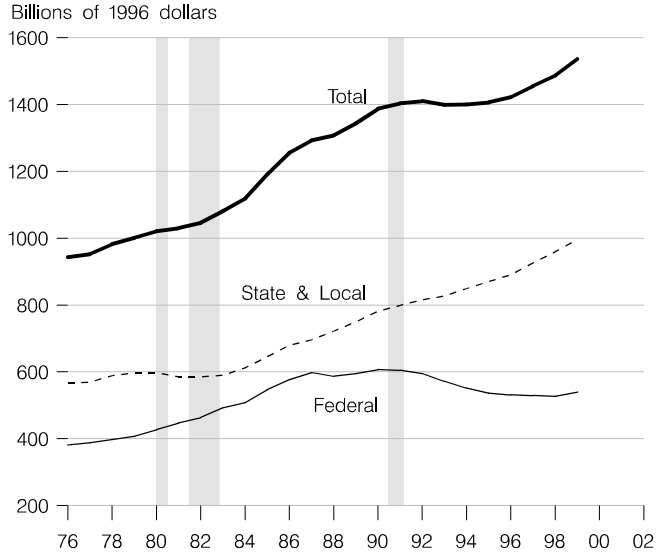
Real Residential Fixed Investment



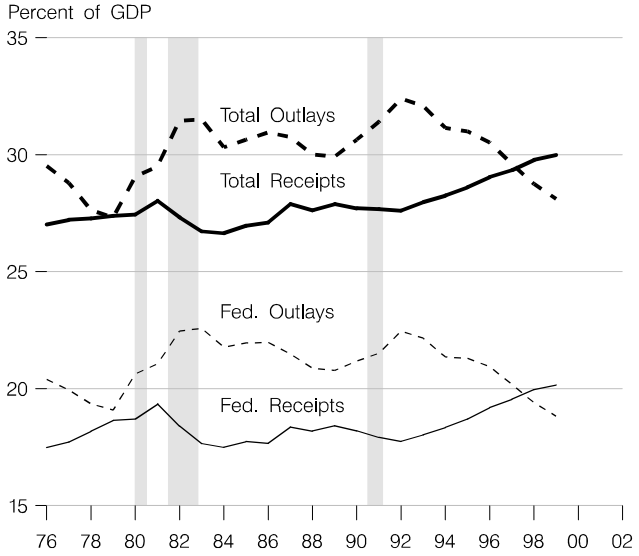
Housing Starts and New Home Sales



Govt. Consumption and Investment



Government Receipts and Outlays

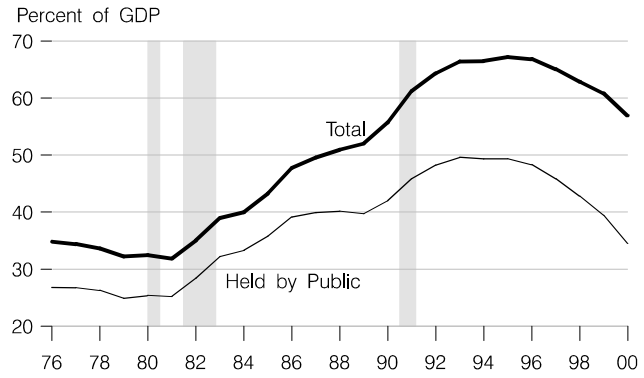


Government Budgets

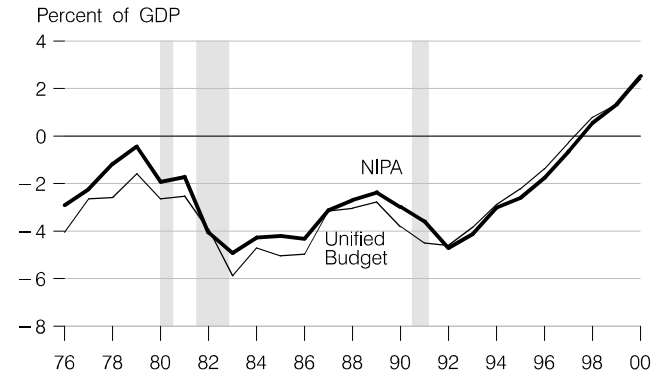
Billions of dollars

	National Income Accounts (Calendar Years)						Unified Budget (Fiscal Years)		
	State and Local			Federal			Federal		
	Receipts	Expenditures	Surplus or Deficit(-)	Receipts	Expenditures	Surplus or Deficit(-)	Receipts	Outlays	Surplus or Deficit(-)
1980	316.6	307.8	8.8	522.8	576.6	−53.8	517.1	590.9	−73.8
1981	344.4	336.9	7.5	605.6	659.3	−53.7	599.3	678.2	−79.0
1982	360.3	362.5	−2.2	599.5	732.1	−132.6	617.8	745.8	−128.0
1983	392.1	387.3	4.8	623.9	797.8	−173.9	600.6	808.4	−207.8
1984	436.4	412.6	23.8	688.1	856.1	−168.0	666.5	851.9	−185.4
1985	469.2	447.0	22.2	747.4	924.6	−177.2	734.1	946.4	−212.3
1986	507.9	487.2	20.7	786.4	978.5	−192.1	769.2	990.5	−221.2
1987	536.0	523.8	12.2	870.5	1018.4	−147.9	854.4	1004.1	−149.8
1988	573.7	558.1	15.6	928.9	1066.2	−137.3	909.3	1064.5	−155.2
1989	618.9	599.6	19.3	1010.3	1140.3	−130.0	991.2	1143.7	−152.5
1990	663.4	660.8	2.6	1055.7	1228.7	−173.0	1032.0	1253.2	−221.2
1991	716.0	723.8	−7.8	1072.3	1287.6	−215.3	1055.0	1324.4	−269.4
1992	772.2	777.2	−5.0	1121.3	1418.9	−297.6	1091.3	1381.7	−290.4
1993	823.2	821.7	1.5	1197.3	1471.5	−274.2	1154.4	1409.5	−255.1
1994	873.8	865.2	8.6	1293.7	1506.0	−212.3	1258.6	1461.9	−203.3
1995	917.9	902.5	15.4	1383.7	1575.7	−192.0	1351.8	1515.8	−164.0
1996	960.4	939.0	21.4	1499.1	1635.9	−136.8	1453.1	1560.6	−107.5
1997	1011.3	980.3	31.0	1625.5	1678.8	−53.3	1579.3	1601.3	−22.0
1998	1072.3	1030.6	41.7	1754.0	1705.0	49.0	1721.8	1652.6	69.2
1999	1142.7	1092.7	50.0	1874.6	1750.2	124.4	1827.5	1703.0	124.4
2000	1230.1	1170.5	59.6	2065.7	1813.9	251.8	2025.0	1788.0	237.0

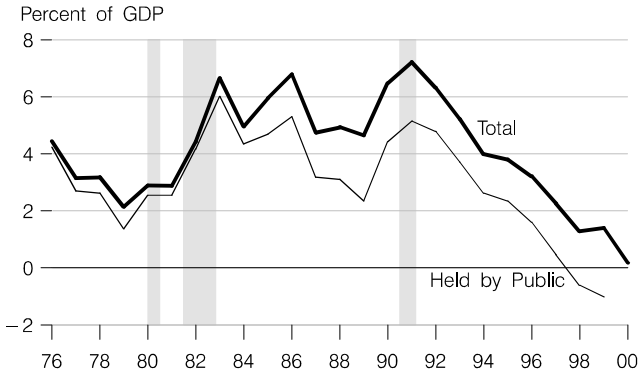
Federal Debt



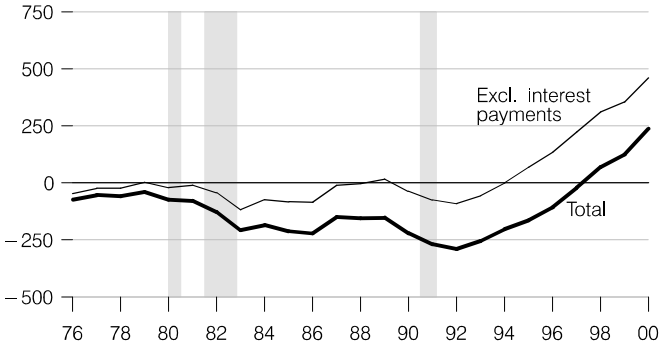
Federal Surplus (+) / Deficit (-)



Change in Federal Debt



Federal Surplus (+) / Deficit (-), Unified Basis

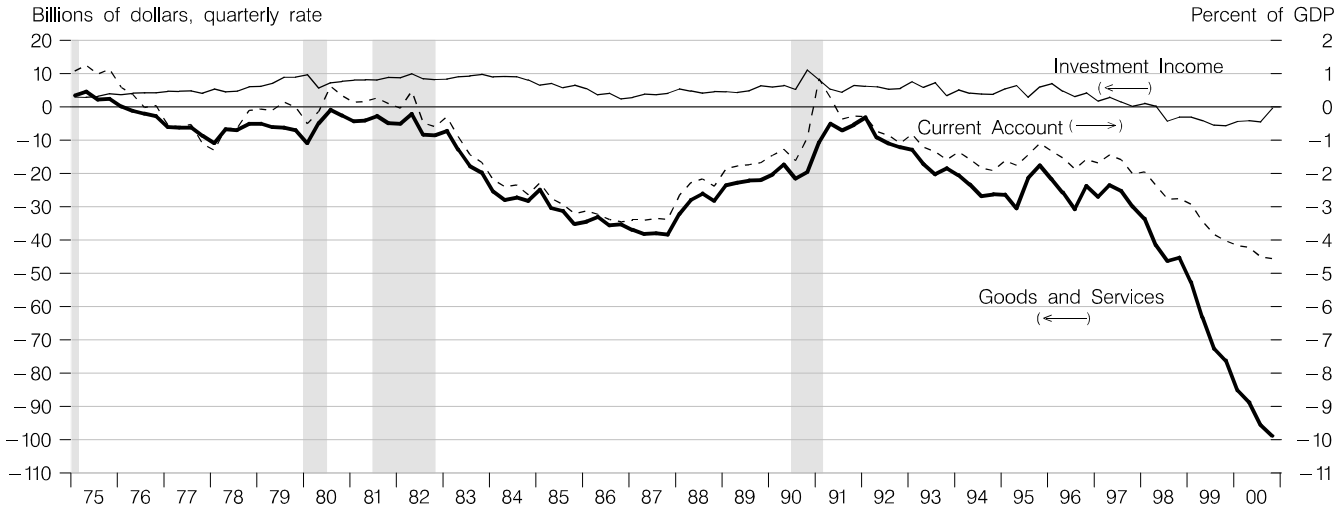


Federal Government Debt

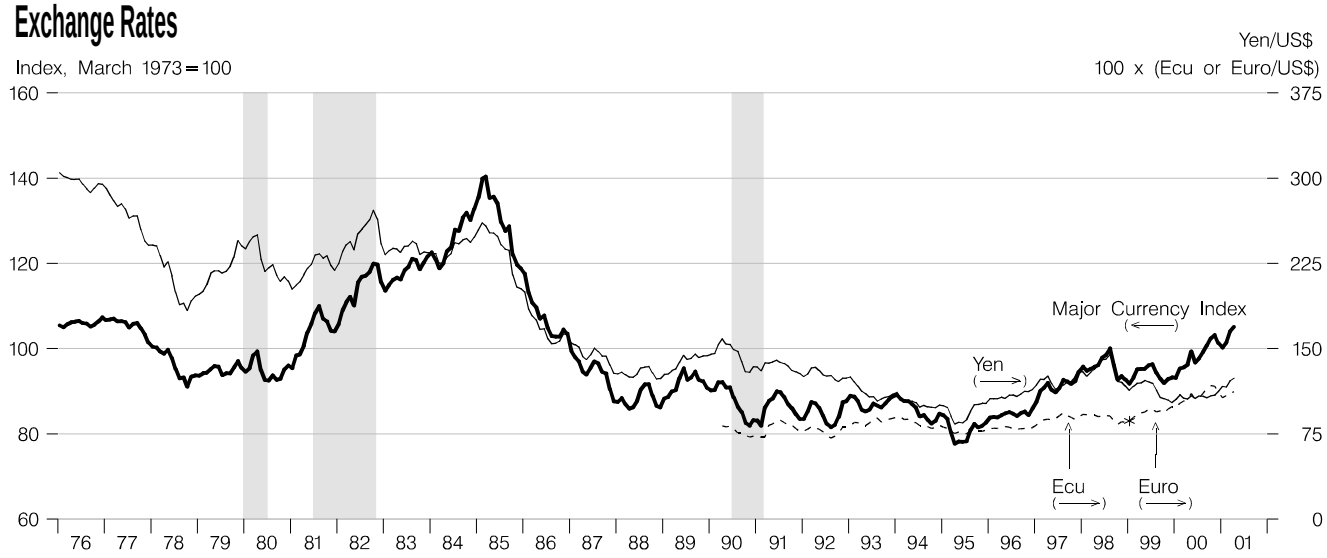
Billions of dollars, end of month or fiscal year, excluding agency – issued debt

		Total Public Debt	Held by Agencies and Trusts	Held by Public		Held by Private Investors	
				Total	Federal Reserve Banks	Total	Foreign and International
1998		5526.2	1763.9	3762.3	458.1	3313.2	1224.2
1999		5656.3	1988.7	3667.6	496.5	3175.4	1281.3
2000		5674.2	2235.7	3438.5	511.4	2936.2	1225.2
1997	March	5380.9	1506.8	3874.1	395.1	3452.2	1157.6
	June	5376.2	1571.6	3804.6	410.9	3377.3	1182.7
	September	5413.1	1596.8	3816.4	436.5	3401.6	1230.5
	December	5502.4	1655.7	3846.7	430.7	3414.6	1241.6
1998	March	5542.4	1670.4	3872.1	433.2	3437.5	1250.5
	June	5547.9	1757.6	3790.4	439.8	3349.3	1256.0
	September	5526.2	1763.9	3762.3	458.1	3313.2	1224.2
	December	5614.2	1826.8	3787.4	452.1	3334.0	1278.7
1999	March	5651.6	1857.1	3794.6	465.7	3327.5	1272.1
	June	5638.8	1953.6	3685.2	484.9	3199.2	1258.6
	September	5656.3	1988.7	3667.6	496.5	3175.4	1281.3
	December	5776.1	2060.6	3715.5	477.7	3233.9	1268.8
2000	March	5773.4	2085.4	3688.0	501.7	3182.8	1273.8
	June	5685.9	2190.2	3495.7	505.0	2987.4	1248.8
	September	5674.2	2235.7	3438.5	511.4	2936.2	1225.2
	December	5662.2	2248.7	3413.5	532.8	2880.4	1220.8

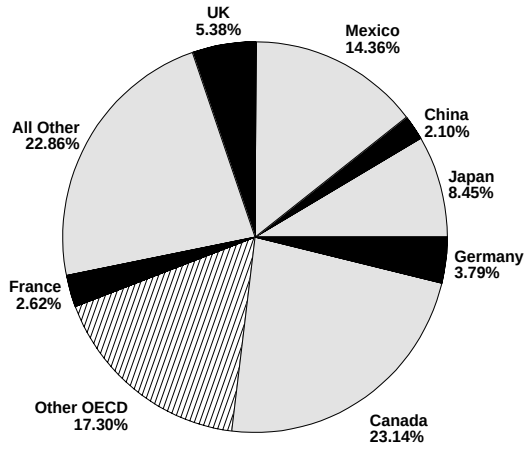
Current Account, Trade and Investment Income Balances



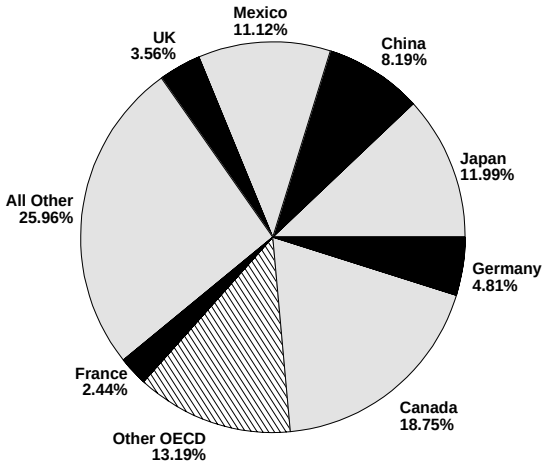
Exchange Rates



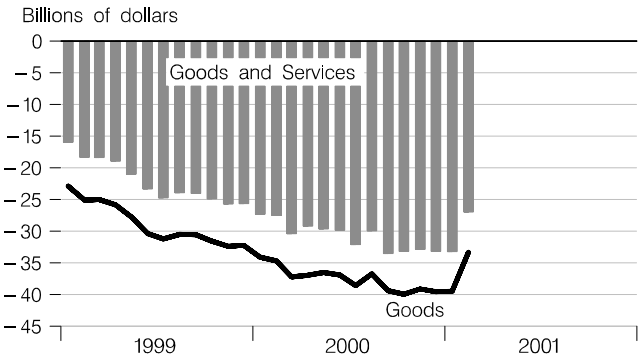
Goods Export Shares, 2000



Goods Import Shares, 2000



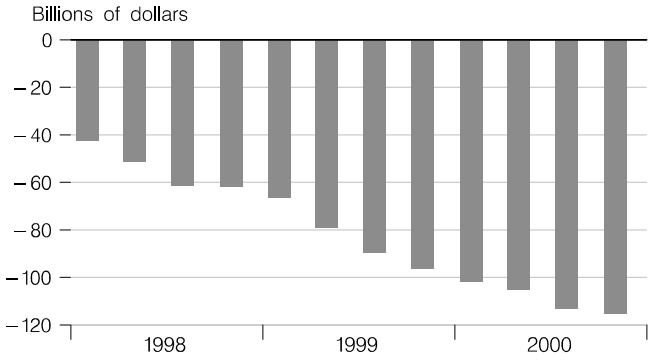
Trade Balance



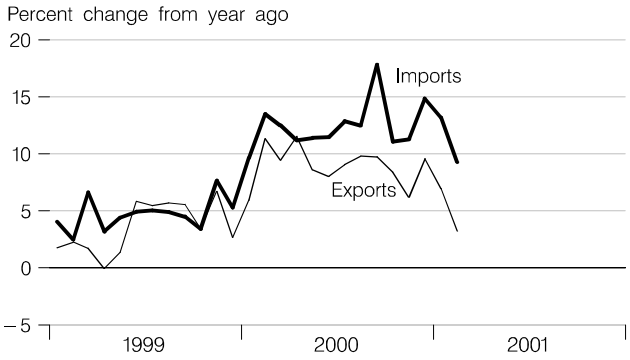
Goods Trade



Current Account Balance



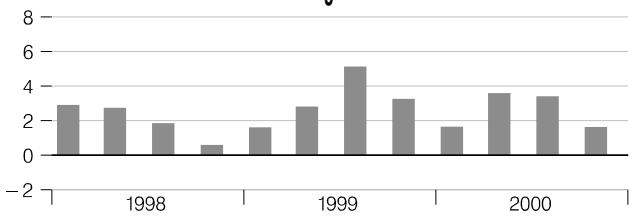
Services Trade



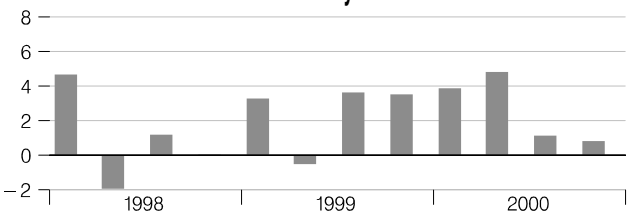
Real GDP Growth of Major Trading Partners

Percent change at annual rate

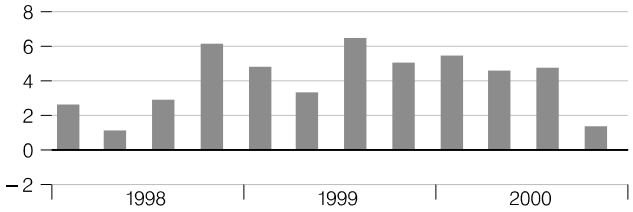
United Kingdom



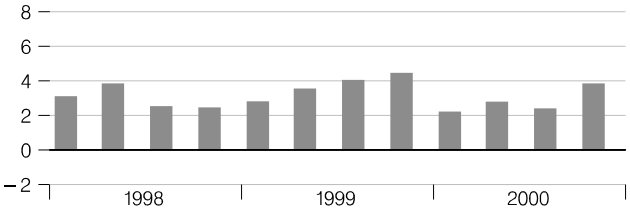
Germany



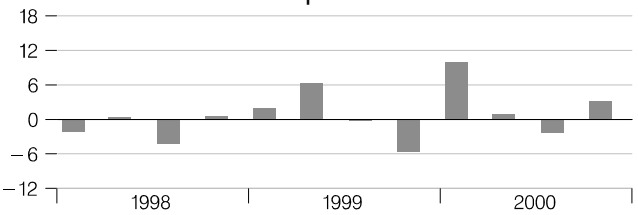
Canada



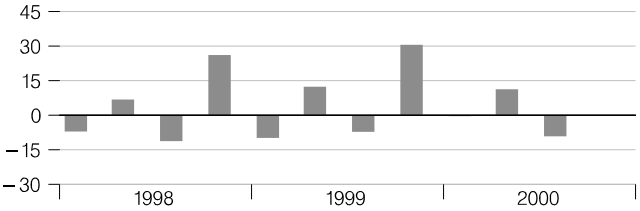
France



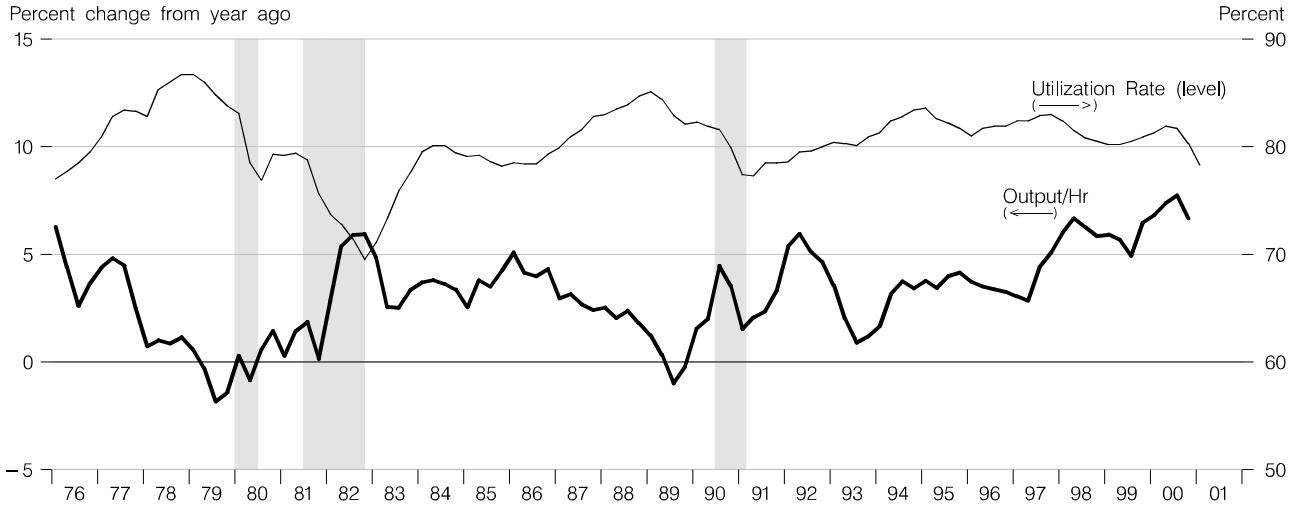
Japan



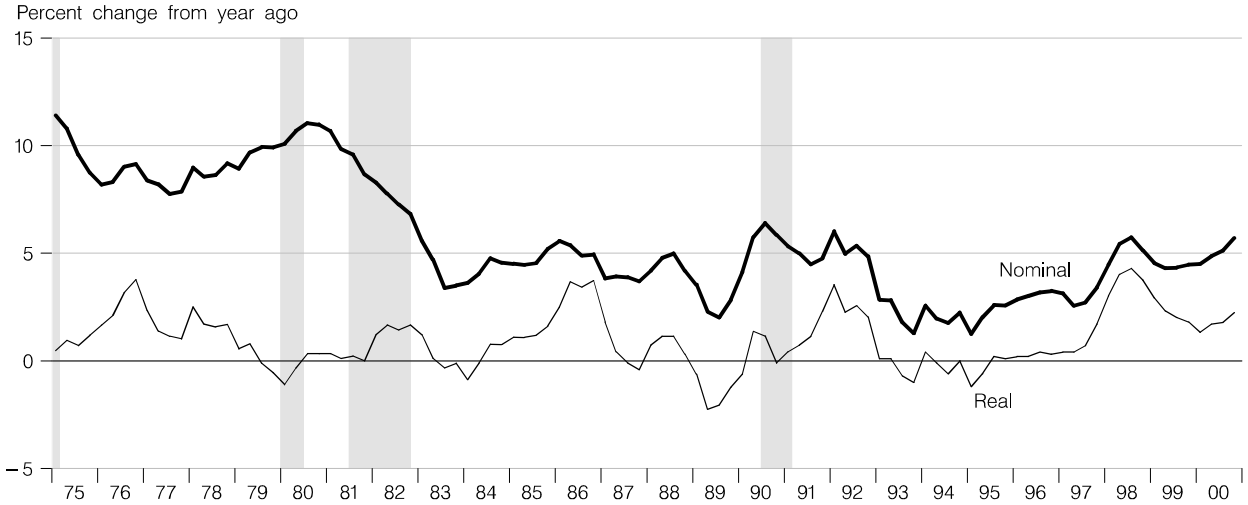
Mexico



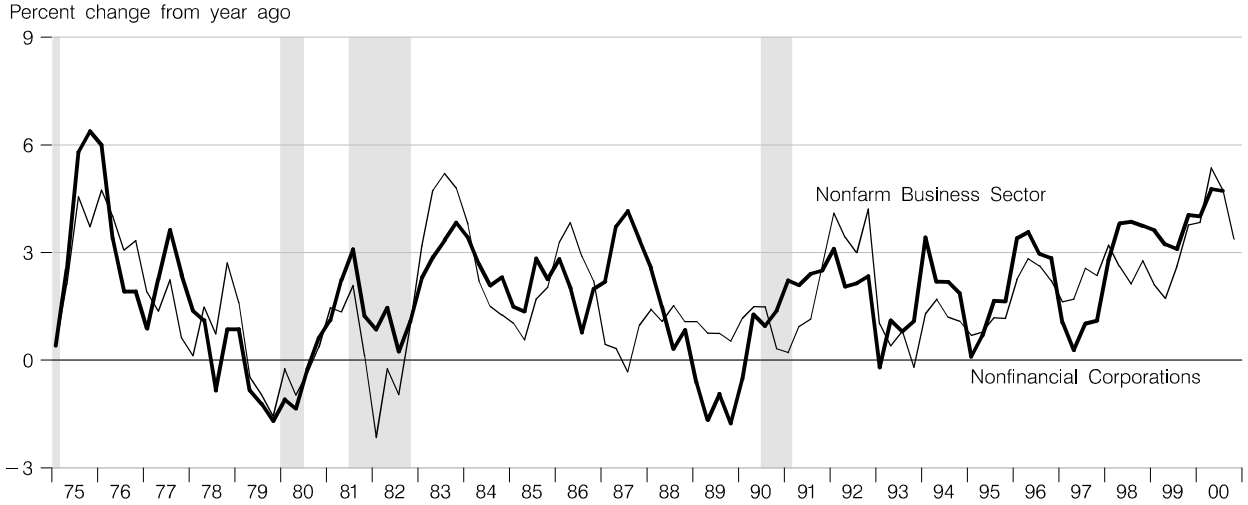
Output per Hour and Capacity Utilization, Manufacturing



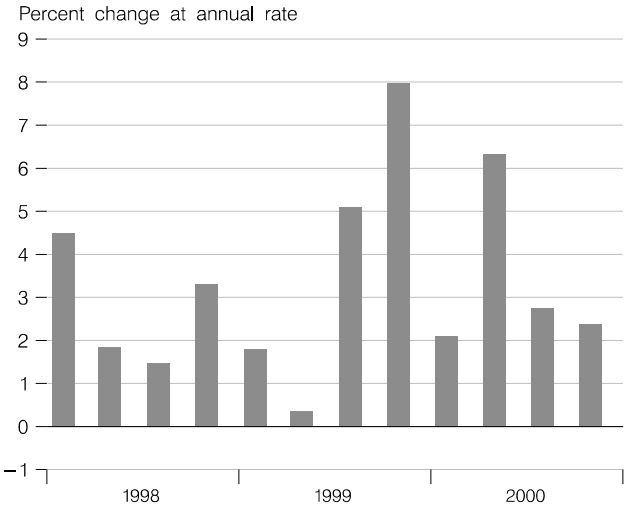
Nonfarm Compensation per Hour



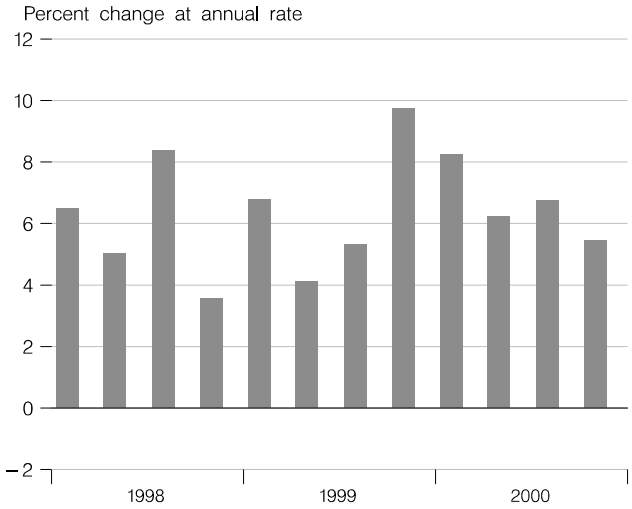
Output per Hour, Nonfarm Business and Nonfarm, Nonfinancial Corporations



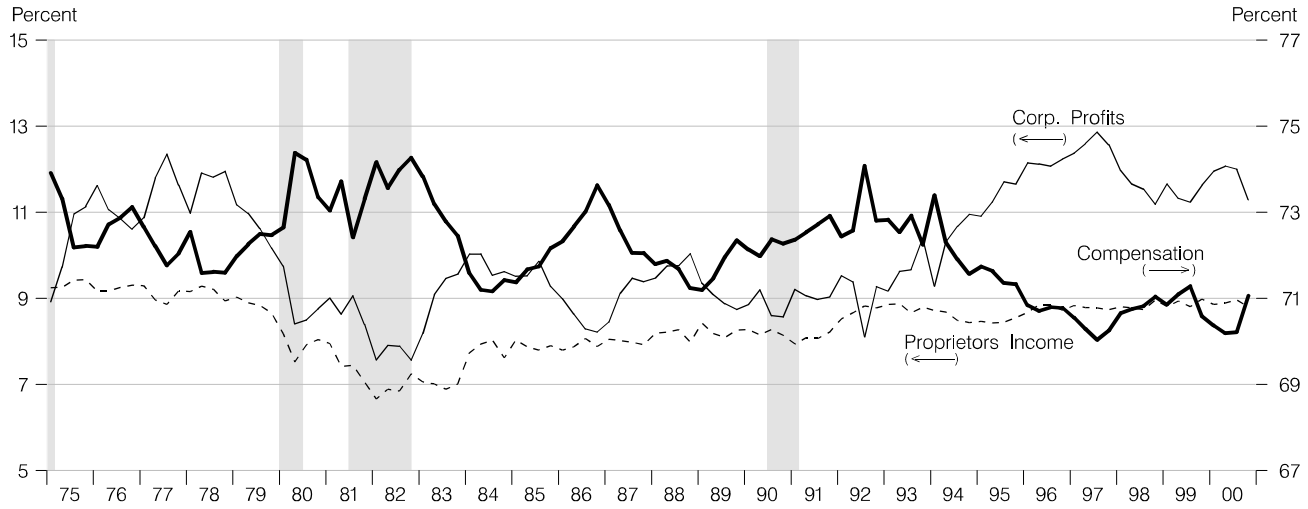
Nonfarm Output per Hour



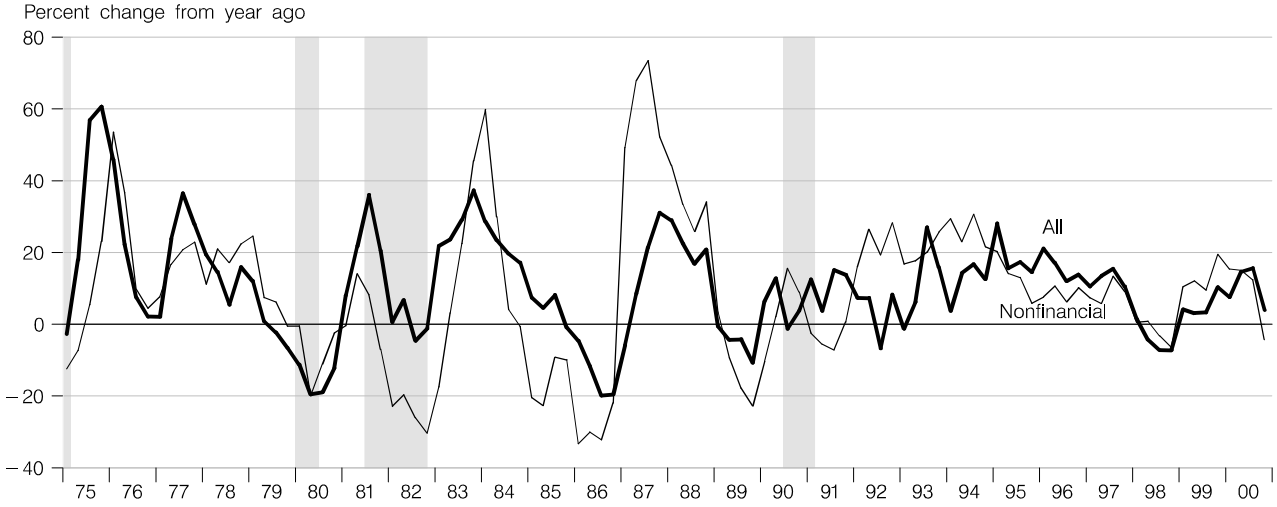
Manufacturing Output per Hour



Selected Component Shares of National Income



Corporate Profits after Tax (with IVA and CCAdj)



	Nominal GDP			Real GDP			Final Sales			Change in Private Inventories	
		Percent change			Percent change			Percent change		Billions of 1996 $	
	Billions of $	Annual rate	Year ago	Billions of 1996 $	Annual rate	Year ago	Billions of 1996 $	Annual rate	Year ago	Last qtr	Year/Year ago
1997	8318.4		6.5	8159.450		4.4	8095.204		4.0		63.757
1998	8790.2		5.7	8515.652		4.4	8435.173		4.2		80.169
1999	9299.2		5.8	8875.761		4.2	8826.900		4.6		45.287
2000	9963.1		7.1	9318.475		5.0	9250.947		4.8		60.872
1998 1	8634.7	7.6	6.3	8404.861	6.5	4.8	8289.394	4.1	4.1	117.319	80.766
2	8722.0	4.1	5.3	8465.570	2.9	4.1	8402.717	5.6	4.5	60.914	73.918
3	8829.1	5.0	5.2	8537.607	3.4	3.9	8463.426	2.9	3.7	73.069	79.351
4	8974.9	6.8	5.9	8654.492	5.6	4.6	8584.999	5.9	4.6	69.374	80.169
1999 1	9104.5	5.9	5.4	8729.967	3.5	3.9	8680.265	4.5	4.7	48.073	62.858
2	9191.5	3.9	5.4	8783.175	2.5	3.8	8764.868	4.0	4.3	13.101	50.904
3	9340.9	6.7	5.8	8905.764	5.7	4.3	8861.769	4.5	4.7	39.096	42.411
4	9559.7	9.7	6.5	9084.060	8.3	5.0	9000.543	6.4	4.8	80.878	45.287
2000 1	9752.7	8.3	7.1	9191.804	4.8	5.3	9148.034	6.7	5.4	36.634	42.427
2	9945.7	8.2	8.2	9318.924	5.6	6.1	9235.283	3.9	5.4	78.603	58.803
3	10039.4	3.8	7.5	9369.475	2.2	5.2	9290.933	2.4	4.8	72.517	67.158
4	10114.4	3.0	5.8	9393.696	1.0	3.4	9329.537	1.7	3.7	55.734	60.872
2001 1	10243.6	5.2	5.0	9439.872	2.0	2.7	9433.910	4.6	3.1	−7.130	49.931

	Consumption			Durables Consumption			Private Fixed Investment			Nonresidential Fixed Investment		
		Percent change			Percent change			Percent change			Percent change	
	Billions of 1996 $	Annual rate	Year ago	Billions of 1996 $	Annual rate	Year ago	Billions of 1996 $	Annual rate	Year ago	Billions of 1996 $	Annual rate	Year ago
1997	5423.902		3.6	657.347		6.6	1328.630		9.6	1009.344		12.2
1998	5678.654		4.7	727.268		10.6	1485.274		11.8	1140.256		13.0
1999	5978.815		5.3	817.779		12.4	1621.375		9.2	1255.285		10.1
2000	6294.308		5.3	896.017		9.6	1771.734		9.3	1413.727		12.6
1998 1	5572.385	4.8	4.1	696.376	9.4	8.6	1427.367	17.4	11.9	1095.977	20.1	14.1
2	5651.576	5.8	5.1	719.352	13.9	13.0	1477.585	14.8	12.7	1136.398	15.6	14.5
3	5710.969	4.3	4.6	726.670	4.1	8.4	1496.394	5.2	10.3	1146.336	3.5	10.5
4	5779.790	4.9	5.0	766.673	23.9	12.6	1539.748	12.1	12.3	1182.332	13.2	12.9
1999 1	5860.238	5.7	5.2	782.677	8.6	12.4	1574.043	9.2	10.3	1209.432	9.5	10.4
2	5940.214	5.6	5.1	810.480	15.0	12.7	1607.125	8.7	8.8	1237.494	9.6	8.9
3	6013.801	5.0	5.3	826.150	8.0	13.7	1637.758	7.8	9.4	1272.464	11.8	11.0
4	6101.005	5.9	5.6	851.802	13.0	11.1	1666.560	7.2	8.2	1301.758	9.5	10.1
2000 1	6213.455	7.6	6.0	898.223	23.6	14.8	1730.930	16.4	10.0	1365.267	21.0	12.9
2	6260.644	3.1	5.4	886.688	−5.0	9.4	1777.643	11.2	10.6	1412.488	14.6	14.1
3	6329.832	4.5	5.3	903.161	7.6	9.3	1791.273	3.1	9.4	1438.805	7.7	13.1
4	6373.303	2.8	4.5	895.997	−3.1	5.2	1787.089	−0.9	7.2	1438.346	−0.1	10.5
2001 1	6422.588	3.1	3.4	921.544	11.9	2.6	1794.172	1.6	3.7	1442.205	1.1	5.6

	GDP Chain Price Index			Employment Cost Index			ECI: Wages			ECI: Benefits		
		Percent change			Percent change			Percent change			Percent change	
	Index	Annual rate	Year ago	Index	Annual rate	Year ago	Index	Annual rate	Year ago	Index	Annual rate	Year ago
1997	101.950		2.0	133.3		3.1	130.4		3.5	140.2		2.1
1998	103.230		1.3	138.0		3.5	135.6		4.0	143.6		2.4
1999	104.770		1.5	142.4		3.2	140.3		3.4	147.6		2.8
2000	106.990		2.1	148.9		4.6	146.0		4.1	156.0		5.7
1998 1	102.750	1.0	1.4	136.2	3.0	3.5	133.7	4.0	4.0	142.2	1.1	2.4
2	103.040	1.1	1.2	137.3	3.3	3.5	134.8	3.3	3.9	143.1	2.6	2.4
3	103.420	1.5	1.3	138.8	4.4	3.8	136.5	5.1	4.3	144.1	2.8	2.6
4	103.690	1.0	1.2	139.7	2.6	3.3	137.5	3.0	3.9	145.1	2.8	2.3
1999 1	104.250	2.2	1.5	140.2	1.4	2.9	138.1	1.8	3.3	145.3	0.6	2.2
2	104.630	1.5	1.5	141.8	4.6	3.3	139.7	4.7	3.6	146.7	3.9	2.5
3	104.900	1.0	1.4	143.0	3.4	3.0	140.9	3.5	3.2	148.2	4.2	2.8
4	105.310	1.6	1.6	144.6	4.6	3.5	142.3	4.0	3.5	150.2	5.5	3.5
2000 1	106.170	3.3	1.8	146.6	5.6	4.6	143.9	4.6	4.2	153.2	8.2	5.4
2	106.800	2.4	2.1	148.3	4.7	4.6	145.4	4.2	4.1	155.1	5.1	5.7
3	107.220	1.6	2.2	149.7	3.8	4.7	146.7	3.6	4.1	157.0	5.0	5.9
4	107.750	2.0	2.3	151.0	3.5	4.4	147.9	3.3	3.9	158.7	4.4	5.7
2001 1	108.590	3.2	2.3	152.7	4.6	4.2	149.5	4.4	3.9	161.0	5.9	5.1

	Exports			Imports			Nonfarm Output per Hour			Nonfarm Compensation/Hr		
		Percent change			Percent change			Percent change			Percent change	
	Billions of 1996 $	Annual rate	Year ago	Billions of 1996 $	Annual rate	Year ago	Index	Annual rate	Year ago	Index	Annual rate	Year ago
1997	981.458		12.3	1094.778		13.7	107.5		2.0	113.1		3.0
1998	1003.557		2.3	1224.579		11.9	110.4		2.7	119.0		5.2
1999	1032.963		2.9	1355.333		10.7	113.2		2.5	124.2		4.4
2000	1126.291		9.0	1538.696		13.5	118.1		4.3	130.5		5.1
1998 1	1004.509	1.0	6.8	1179.803	14.2	14.1	109.6	4.5	3.2	116.8	6.4	4.5
2	996.826	−3.0	1.8	1216.575	13.1	12.7	110.1	1.8	2.6	118.3	5.2	5.4
3	988.775	−3.2	−1.5	1232.900	5.5	9.7	110.5	1.5	2.1	119.8	5.2	5.7
4	1024.117	15.1	2.2	1269.017	12.2	11.2	111.4	3.3	2.8	120.9	3.7	5.1
1999 1	1003.277	−7.9	−0.1	1283.060	4.5	8.8	111.9	1.8	2.1	122.1	4.0	4.5
2	1017.613	5.8	2.1	1332.170	16.2	9.5	112.0	0.4	1.7	123.4	4.3	4.3
3	1042.588	10.2	5.4	1385.190	16.9	12.4	113.4	5.1	2.6	125.0	5.3	4.3
4	1068.376	10.3	4.3	1420.903	10.7	12.0	115.6	8.0	3.8	126.3	4.2	4.5
2000 1	1084.819	6.3	8.1	1461.653	12.0	13.9	116.2	2.1	3.8	127.6	4.2	4.5
2	1121.787	14.3	10.2	1525.219	18.6	14.5	118.0	6.3	5.4	129.4	5.8	4.9
3	1158.764	13.9	11.1	1586.436	17.0	14.5	118.8	2.7	4.8	131.4	6.3	5.1
4	1139.795	−6.4	6.7	1581.475	−1.2	11.3	119.5	2.4	3.4	133.5	6.5	5.7
2001 1	1133.588	−2.2	4.5	1538.510	−10.4	5.3						

		Household Survey Employment				Nonfarm Payroll Employment				Nonfarm Aggregate Hours			
				Percent change				Percent change			Percent change		
		Thousands	Change	Annual rate	Year ago	Thousands	Change	Annual rate	Year ago	Index	Monthly rate	Annual rate	Year ago
	1996	126720	1812		1.5	119597	2409		2.1	136.6			2.4
	1997	129572	2852		2.3	122677	3080		2.6	141.4			3.5
	1998	131471	1898		1.5	125845	3168		2.6	145.2			2.7
	1999	133501	2030		1.5	128772	2926		2.3	148.3			2.1
	2000	135215	1714		1.3	131408	2637		2.0	151.1			1.9
1999	1	132923	632	1.9	1.7	127800	833	2.6	2.4	147.1	0.5	1.9	2.0
	2	133192	269	0.8	1.5	128430	630	2.0	2.3	147.8	0.5	1.9	2.1
	3	133627	435	1.3	1.6	129073	644	2.0	2.3	148.5	0.5	1.8	2.1
	4	134263	636	1.9	1.5	129783	710	2.2	2.2	149.6	0.7	2.9	2.1
2000	1	135036	774	2.3	1.6	130626	843	2.6	2.2	150.7	0.8	3.2	2.4
	2	135181	145	0.4	1.5	131552	926	2.9	2.4	151.2	0.3	1.2	2.3
	3	135049	−132	−0.4	1.1	131619	67	0.2	2.0	151.2	0.0	0.2	1.8
	4	135593	544	1.6	1.0	131836	217	0.7	1.6	151.2	0.0	0.0	1.1
2001	1	135865	272	0.8	0.6	132232	395	1.2	1.2	151.5	0.2	0.8	0.5
1999	Mar	132861	−25	−0.2	1.6	128054	171	1.6	2.5	147.1	−0.3	−3.2	2.1
	Apr	132909	48	0.4	1.3	128282	228	2.2	2.5	147.7	0.4	5.0	2.4
	May	133279	370	3.4	1.5	128377	95	0.9	2.3	147.6	−0.1	−0.8	1.7
	Jun	133388	109	1.0	1.6	128630	253	2.4	2.3	148.2	0.4	5.0	2.3
	Jul	133521	133	1.2	1.7	128898	268	2.5	2.4	148.5	0.2	2.5	2.3
	Aug	133565	44	0.4	1.7	129057	159	1.5	2.2	148.4	−0.1	−0.8	1.9
	Sep	133795	230	2.1	1.3	129265	208	2.0	2.2	148.6	0.1	1.6	2.1
	Oct	134049	254	2.3	1.5	129523	258	2.4	2.2	149.3	0.5	5.8	2.1
	Nov	134241	192	1.7	1.5	129788	265	2.5	2.2	149.6	0.2	2.4	2.3
	Dec	134498	257	2.3	1.4	130038	250	2.3	2.2	149.8	0.1	1.6	2.0
2000	Jan	134976	478	4.3	1.5	130387	349	3.3	2.3	150.6	0.5	6.6	2.6
	Feb	135120	144	1.3	1.7	130482	95	0.9	2.0	150.6	0.0	0.0	2.1
	Mar	135013	−107	−0.9	1.6	131009	527	5.0	2.3	151.0	0.3	3.2	2.7
	Apr	135517	504	4.6	2.0	131419	410	3.8	2.4	151.7	0.5	5.7	2.7
	May	134843	−674	−5.8	1.2	131590	171	1.6	2.5	150.5	−0.8	−9.1	2.0
	Jun	135183	340	3.1	1.3	131647	57	0.5	2.3	151.3	0.5	6.6	2.1
	Jul	134898	−285	−2.5	1.0	131607	−40	−0.4	2.1	151.4	0.1	0.8	2.0
	Aug	134939	41	0.4	1.0	131528	−79	−0.7	1.9	150.9	−0.3	−3.9	1.7
	Sep	135310	371	3.3	1.1	131723	195	1.8	1.9	151.4	0.3	4.0	1.9
	Oct	135464	154	1.4	1.1	131789	66	0.6	1.7	151.6	0.1	1.6	1.5
	Nov	135478	14	0.1	0.9	131842	53	0.5	1.6	151.5	−0.1	−0.8	1.3
	Dec	135836	358	3.2	1.0	131878	36	0.3	1.4	150.6	−0.6	−6.9	0.5
2001	Jan	135999	163	1.4	0.8	132167	289	2.7	1.4	151.9	0.9	10.9	0.9
	Feb	135815	−184	−1.6	0.5	132307	140	1.3	1.4	151.3	−0.4	−4.6	0.5
	Mar	135780	−35	−0.3	0.6	132221	−86	−0.8	0.9	151.4	0.1	0.8	0.3

	Unempl. Rate	Retail Sales: Billions of dollars	Retail Sales: Percent change Monthly/ quarterly	Retail Sales: Percent change Annual rate	Retail Sales: Percent change Year ago	Industrial Production: Index	Industrial Production: Percent change Monthly/ quarterly	Industrial Production: Percent change Annual rate	Industrial Production: Percent change Year ago	Treasury Yields 3-mo	Treasury Yields 10-yr
1996	5.4	2496.503			5.7	119.556			4.6	5.01	6.44
1997	5.0	2612.931			4.7	127.586			6.7	5.06	6.35
1998	4.5	2745.714			5.1	133.669			4.8	4.78	5.26
1999	4.2	2995.795			9.1	139.203			4.1	4.64	5.64
2000	4.0	3230.789			7.8	146.989			5.6	5.82	6.03
1999 1	4.3	723.050	2.4	9.9	8.1	136.506	1.0	3.9	3.3	4.41	4.98
2	4.3	739.876	2.3	9.6	8.2	138.137	1.2	4.9	3.8	4.45	5.54
3	4.2	757.371	2.4	9.8	10.3	140.114	1.4	5.8	4.4	4.65	5.88
4	4.1	775.498	2.4	9.9	9.8	142.056	1.4	5.7	5.1	5.04	6.14
2000 1	4.0	799.141	3.0	12.8	10.5	144.365	1.6	6.7	5.8	5.52	6.48
2	4.0	802.972	0.5	1.9	8.5	147.130	1.9	7.9	6.5	5.71	6.18
3	4.0	813.908	1.4	5.6	7.5	148.406	0.9	3.5	5.9	6.02	5.89
4	4.0	814.768	0.1	0.4	5.1	148.055	-0.2	-0.9	4.2	6.02	5.57
2001 1	4.2	823.784	1.1	4.5	3.1	146.268	-1.2	-4.7	1.3	4.82	5.05
1999 Apr	4.4	244.556	0.9	11.7	8.1	137.433	0.1	1.2	3.3	4.29	5.18
May	4.2	247.325	1.1	14.5	8.6	138.373	0.7	8.5	3.6	4.50	5.54
Jun	4.3	247.995	0.3	3.3	7.8	138.605	0.2	2.0	4.5	4.57	5.90
Jul	4.3	250.003	0.8	10.2	9.5	139.671	0.8	9.6	5.4	4.55	5.79
Aug	4.2	253.458	1.4	17.9	11.1	140.278	0.4	5.3	3.7	4.72	5.94
Sep	4.2	253.910	0.2	2.2	10.1	140.392	0.1	1.0	4.1	4.68	5.92
Oct	4.1	254.867	0.4	4.6	9.0	141.481	0.8	9.7	4.4	4.86	6.11
Nov	4.1	258.115	1.3	16.4	9.7	141.879	0.3	3.4	5.1	5.07	6.03
Dec	4.1	262.516	1.7	22.5	10.7	142.808	0.7	8.1	5.7	5.20	6.28
2000 Jan	4.0	263.234	0.3	3.3	10.1	143.569	0.5	6.6	5.6	5.32	6.66
Feb	4.1	266.799	1.4	17.5	10.4	144.291	0.5	6.2	5.9	5.55	6.52
Mar	4.0	269.108	0.9	10.9	11.1	145.234	0.7	8.1	5.8	5.69	6.26
Apr	4.0	267.119	-0.7	-8.5	9.2	146.266	0.7	8.9	6.4	5.66	5.99
May	4.1	267.417	0.1	1.3	8.1	147.228	0.7	8.2	6.4	5.79	6.44
Jun	4.0	268.436	0.4	4.7	8.2	147.896	0.5	5.6	6.7	5.69	6.10
Jul	4.0	270.645	0.8	10.3	8.3	147.595	-0.2	-2.4	5.7	5.96	6.05
Aug	4.1	270.549	-0.0	-0.4	6.7	148.650	0.7	8.9	6.0	6.09	5.83
Sep	3.9	272.714	0.8	10.0	7.4	148.973	0.2	2.6	6.1	6.00	5.80
Oct	3.9	272.490	-0.1	-1.0	6.9	148.660	-0.2	-2.5	5.1	6.11	5.74
Nov	4.0	270.931	-0.6	-6.7	5.0	148.206	-0.3	-3.6	4.5	6.17	5.72
Dec	4.0	271.347	0.2	1.9	3.4	147.300	-0.6	-7.1	3.1	5.77	5.24
2001 Jan	4.2	274.912	1.3	17.0	4.4	146.427	-0.6	-6.9	2.0	5.15	5.16
Feb	4.2	274.779	-0.0	-0.6	3.0	145.910	-0.4	-4.2	1.1	4.88	5.10
Mar	4.3	274.093	-0.2	-3.0	1.9	146.466	0.4	4.7	0.8	4.42	4.89
Apr										3.87	5.14

		Consumer Price Index					Consumer Price Index less Food and Energy					Producer Price Index Finished Goods				
			Percent change					Percent change					Percent change			
		Index	Monthly/ quarterly	Annual rate	Year ago	Year to date	Index	Monthly/ quarterly	Annual rate	Year ago	Year to date	Index	Monthly/ quarterly	Annual rate	Year ago	
	1996	157.0			2.9		165.8			2.7		131.3			2.6	
	1997	160.6			2.3		169.7			2.4		131.8			0.4	
	1998	163.1			1.5		173.6			2.3		130.7			−0.9	
	1999	166.7			2.2		177.2			2.1		133.0			1.8	
	2000	172.3			3.4		181.5			2.4		138.0			3.7	
1999	1	164.9	0.4	1.6	1.7	1.6	175.9	0.5	1.9	2.2	1.9	131.4	0.3	1.2	0.7	
	2	166.0	0.7	2.9	2.1	2.2	176.8	0.5	1.9	2.1	1.9	132.3	0.7	2.8	1.3	
	3	167.2	0.7	2.8	2.3	2.4	177.6	0.5	1.9	2.0	1.9	133.6	1.0	4.0	2.3	
	4	168.5	0.8	3.2	2.6	2.6	178.7	0.6	2.4	2.0	2.0	134.8	0.9	3.7	2.9	
2000	1	170.3	1.0	4.2	3.3	4.2	179.8	0.6	2.6	2.2	2.6	136.3	1.1	4.4	3.7	
	2	171.5	0.7	3.0	3.3	3.6	181.0	0.7	2.7	2.4	2.6	137.5	0.9	3.6	3.9	
	3	173.0	0.9	3.5	3.5	3.6	182.1	0.6	2.5	2.6	2.6	138.4	0.7	2.6	3.6	
	4	174.3	0.7	2.9	3.4	3.4	183.2	0.6	2.4	2.5	2.5	139.8	1.0	4.1	3.7	
2001	1	176.1	1.0	4.2	3.4	4.2	184.6	0.8	3.2	2.7	3.2	141.7	1.4	5.5	4.0	
1999	Mar	165.0	0.1	1.5	1.7	1.2	176.0	0.1	0.7	2.0	0.9	131.5	0.4	4.7	0.8	
	Apr	166.0	0.6	7.5	2.2	2.8	176.6	0.3	4.2	2.2	1.7	132.2	0.5	6.6	1.1	
	May	166.0	0.0	0.0	2.0	2.2	176.8	0.1	1.4	2.1	1.6	132.3	0.1	0.9	1.4	
	Jun	166.1	0.1	0.7	2.0	2.0	176.9	0.1	0.7	2.0	1.5	132.4	0.1	0.9	1.5	
	Jul	166.7	0.4	4.4	2.1	2.3	177.3	0.2	2.7	2.0	1.7	132.7	0.2	2.8	1.5	
	Aug	167.1	0.2	2.9	2.2	2.4	177.5	0.1	1.4	1.9	1.6	133.6	0.7	8.4	2.4	
	Sep	167.8	0.4	5.1	2.6	2.7	178.0	0.3	3.4	2.1	1.8	134.5	0.7	8.4	3.1	
	Oct	168.2	0.2	2.9	2.6	2.7	178.3	0.2	2.0	2.1	1.8	134.6	0.1	0.9	2.7	
	Nov	168.5	0.2	2.2	2.6	2.7	178.7	0.2	2.7	2.1	1.9	134.7	0.1	0.9	3.0	
	Dec	168.9	0.2	2.9	2.7	2.7	179.0	0.2	2.0	1.9	1.9	135.2	0.4	4.5	3.0	
2000	Jan	169.4	0.3	3.6	2.8	3.6	179.4	0.2	2.7	2.0	2.7	135.1	−0.1	−0.9	2.6	
	Feb	170.2	0.5	5.8	3.3	4.7	179.7	0.2	2.0	2.2	2.4	136.3	0.9	11.2	4.0	
	Mar	171.2	0.6	7.3	3.8	5.6	180.3	0.3	4.1	2.4	2.9	137.5	0.9	11.1	4.6	
	Apr	171.1	−0.1	−0.7	3.1	4.0	180.7	0.2	2.7	2.3	2.9	137.1	−0.3	−3.4	3.7	
	May	171.3	0.1	1.4	3.2	3.4	181.0	0.2	2.0	2.4	2.7	137.1	0.0	0.0	3.6	
	Jun	172.2	0.5	6.5	3.7	3.9	181.3	0.2	2.0	2.5	2.6	138.3	0.9	11.0	4.5	
	Jul	172.7	0.3	3.5	3.6	3.9	181.7	0.2	2.7	2.5	2.6	138.2	−0.1	−0.9	4.1	
	Aug	172.8	0.1	0.7	3.4	3.5	182.1	0.2	2.7	2.6	2.6	138.0	−0.1	−1.7	3.3	
	Sep	173.6	0.5	5.7	3.5	3.7	182.6	0.3	3.3	2.6	2.7	139.0	0.7	9.1	3.3	
	Oct	173.9	0.2	2.1	3.4	3.6	182.8	0.1	1.3	2.5	2.6	139.6	0.4	5.3	3.7	
	Nov	174.3	0.2	2.8	3.4	3.5	183.3	0.3	3.3	2.6	2.6	139.8	0.1	1.7	3.8	
	Dec	174.6	0.2	2.1	3.4	3.4	183.5	0.1	1.3	2.5	2.5	140.0	0.1	1.7	3.6	
2001	Jan	175.7	0.6	7.8	3.7	7.8	184.1	0.3	4.0	2.6	4.0	141.6	1.1	14.6	4.8	
	Feb	176.2	0.3	3.5	3.5	5.6	184.7	0.3	4.0	2.8	4.0	141.8	0.1	1.7	4.0	
	Mar	176.3	0.1	0.7	3.0	4.0	185.1	0.2	2.6	2.7	3.5	141.7	−0.1	−0.8	3.1	

Notes

Pages 4, 5: **Final sales** is gross domestic product (GDP) minus change in private inventories. **Advance, preliminary, and final GDP growth rates** are released during the first, second, and third months of the following quarter. Changes result from incorporation of more complete information. Real GDP is measured in 1996 dollars. The **Purchasing Managers' Index** is a weighted average of diffusion indexes for new orders, production, supplier deliveries, inventories, and employment. The National Association of Purchasing Management (NAPM) surveys over 300 firms in 20 manufacturing industries, weighting responses by industry share of GDP. **Aggregate and average weekly hours** are paid hours of production and nonsupervisory employees. The inventory-sales ratio uses nominal (current-dollar) inventory and sales data.

Page 6: Beginning with the October 1999 **comprehensive revision** to the National Income and Product Accounts (NIPA), a new formula is used to calculate the **contribution** of a component to the overall GDP growth rate. The new formula produces estimates roughly equivalent to the old formula. For more information, see the October 1999 issue of the *Survey of Current Business*, p. 16. The sign is changed for **imports**.

Page 7: Ten-year **Treasury yields** are adjusted to constant maturity. Three-month yields are secondary market averages, but all rates used in the yield curves are adjusted to constant maturity. **Standard and Poor's 500 Index with Reinvested Dividends** shows the total return: capital gains plus dividends.

Pages 8,9: **Oil** (West Texas intermediate crude) and **Natural Gas** (Henry Hub) **prices** are monthly averages of daily spot prices listed in the *Wall Street Journal*. **Consumer price index** is for all urban consumers. The **consumption chain price index** is the index associated with the personal consumption expenditures component of GDP. The **Employment Cost Index (ECI)** covers private nonfarm employers. **ECI compensation** refers to a fixed sample of jobs, while **compensation per hour** covers all workers in the nonfarm business sector in a given quarter. In both cases, **compensation** is wages and salaries plus benefits.

Pages 10,11: **Nonfarm payroll employment** is counted in a survey of about 390,000 establishments (Current Employment Survey). It excludes self-employed individuals and workers in private households, but double-counts individuals with more than one job. The **household survey** (Current Population Survey) of about 50,000 households provides estimates of civilian employment, unemployment rate, labor force participation rate, and employment-population ratio. **Population** is civilian, noninstitutional, 16 years and over. New population controls introduced in January 2000 affect levels and growth rates of household survey employment, labor force and population. The unemployment rate and other series were minimally affected. 90 percent confidence intervals for the unemployment rate (± 0.2 percentage points) and change in household survey employment (± 376,000) measure uncertainty due to sample size. The **available labor supply** is the sum of the unemployed and those persons not in the labor force but who want to work now. The household survey was significantly changed in January 1994, so care should be exercised in making short-term comparisons around this date, particularly with the duration data shown on page 10.

Pages 13: The **Michigan consumer sentiment index** shows changes in a summary measure of consumers' answers to five questions about their current and expected financial situation, expectations about future economic conditions, and attitudes about making large purchases. The survey is based on a representative sample of U.S. households.

Pages 14, 15: Overall **gross saving** includes government saving, which is the sum of the government surplus and capital consumption (see notes for pages 16 and 17). **Net foreign investment (NFI)** is U.S. investment abroad minus foreign investment in the U.S. Aside from a statistical discrepancy, NFI also equals the difference between gross domestic investment and saving. The comprehensive revision introduced the **equipment & software** component of business investment.

Pages 16, 17: **Government consumption and investment** is current expenditures on goods and services, including capital consumption (depreciation) and gross investment, as reported in the NIPAs. The **unified federal budget surplus/deficit** differs from **NIPA basis** in four main ways: (1) NIPA excludes transactions involving existing assets; (2) NIPA outlays exclude government investment and include consumption of government capital, while unified budget outlays do the reverse; (3) NIPA accounts exclude Puerto Rico and U.S. territories; and (4) various timing issues are handled differently. **Outlays and receipts** are from the NIPAs, except as noted. Since 1977, the federal **fiscal year** starts on October 1. Excluded agency debt was 0.6 percent of federal debt at the end of fiscal 1997. **Federal debt held by the public** includes holdings of the Federal Reserve System and excludes holdings of the social security and other federal trust funds. Federal grants in aid to state and local governments appear in both state and local receipts and federal outlays.

Pages 18, 19: The **trade balance** (shown on a balance of payments basis) is the difference between exports and imports of goods (merchandise) and services. It is nearly identical in concept to the **net exports** component of GDP, but differs slightly in accounting details. The **investment income balance** equals income received from U.S.-owned assets in other countries minus income paid on foreign-owned assets in the U.S. The investment income balance is nearly identical in concept to the difference between gross national product and gross domestic product, but differs in accounting details. The **current account balance** is the trade balance plus the balance on investment income plus net unilateral transfers to the U.S. from other countries.

Pages 20, 21: **Output per hour** (Y/H), **unit labor cost** (C/Y), and **compensation per hour** (C/H) are indexes which approximately obey the following relationship: %(Y/H) + %(C/Y) = %(C/H) with %() meaning percent changes. Unit labor cost is shown on page 9. **Real compensation per hour** uses the CPI to adjust for the effects of inflation. Nonfarm business accounted for about 76 percent of the value of GDP in 1996, while nonfinancial corporations accounted for about 54 percent. **Inventory valuation adjustments (IVA)** remove the effect of changes in the value of existing inventories from corporate profits and proprietors' income. (This change in value does not correspond to current production and therefore is not part of GDP). **Capital consumption adjustments (CCAdj)** increase profits and proprietors' income by the difference between estimates of economic depreciation and depreciation allowed by the tax code. Components of national income not shown are rental income of persons and net interest.

Sources

Bureau of Economic Analysis (BEA), U.S. Dept. of Commerce
National income and product accounts, international trade and investment data (except by country), auto and light truck sales

Census Bureau, U.S. Dept. of Commerce
Inventory-sales ratios, retail sales, capital goods orders, housing starts, exports and imports by country

Bureau of Labor Statistics (BLS), U.S. Dept. of Labor
All employment-related data, employment cost index, consumer and producer price indexes, unit labor cost, output per hour, compensation per hour, multifactor productivity

United States Department of Treasury
Unified budget receipts, outlays, deficit, debt

Federal Reserve Board
Index of industrial production, treasury yields, exchange rates, capacity utilization, household debt

The Survey Research Center, The University of Michigan
Consumer sentiment index

The Conference Board
Help-wanted advertising index

Organization for Economic Cooperation and Development (OECD)
GDP for major trading partners (not available on FRED)