



Ahead of the Curve

Many analysts have concluded that the U.S. economy entered a recession in the last few months. The historical pattern is that the Federal Reserve reacts to a weakening economy with a lower target for its monetary policy instrument, the federal funds rate. This suggests that if a typical recession does unfold in the coming months, short-term interest rates will move considerably lower. But there is an important difference this time compared with the last recession, which ended more than a decade ago. The difference is that this time the Fed began lowering its target aggressively in January 2001, well before the onset of recession, whereas in the 1990-91 episode, the Fed was essentially on hold as the recession began and, indeed, until it was well underway.

The Figure shows the Federal Open Market Committee's (FOMC's) target level for the federal funds rate, as a percentage of its initial level, nine months before and after July 1990, the official date for the beginning of the 1990-91 recession. (For example, 70 percent means that the target rate had fallen 30 percent from the level that prevailed nine months before the onset of recession.) For the current episode, no official beginning date has been established—and indeed there is still at least some possibility that no part of 2001 will be classified as a recession. But, for the purposes of discussion, let us suppose that a recession will eventually be dated as beginning in July 2001.

The Figure indicates that the Fed was essentially on hold during the first six months of 1990 and remained committed to a pre-recession level of the target federal funds rate until October of that year, four months after the recession began. At that point, as it became clearer that a recession was underway, the Fed began lowering its target more aggressively. The target federal funds rate eventually reached a cyclical low of 3 percent by September 1992—27 months after the recession onset.

In contrast, during the current episode, the Fed began an aggressive lowering of the federal funds rate target in January of this year, well before any likely beginning recession date and six months before the provisional date we have adopted for purposes of discussion. The Fed thus has taken a far more preemptive stance during the current period as compared with the 1990-91 period.

What accounts for the difference in the two episodes? Probably the main difference is that inflation was kept under better control during the expansion of the late 1990s, whereas inflation had crept to unacceptably high levels during the late 1980s. The chain-type personal consumption expenditures price index rose at rates between 4 and 5 percent from the previous year during most of 1989 and 1990. The same index has risen at an annual rate of less than 1 percent during the first eight months of 2001. Low and relatively stable inflation has given the FOMC more room to lower its federal funds target than it had in 1990, when inflation was relatively high and rising.

—James B. Bullard

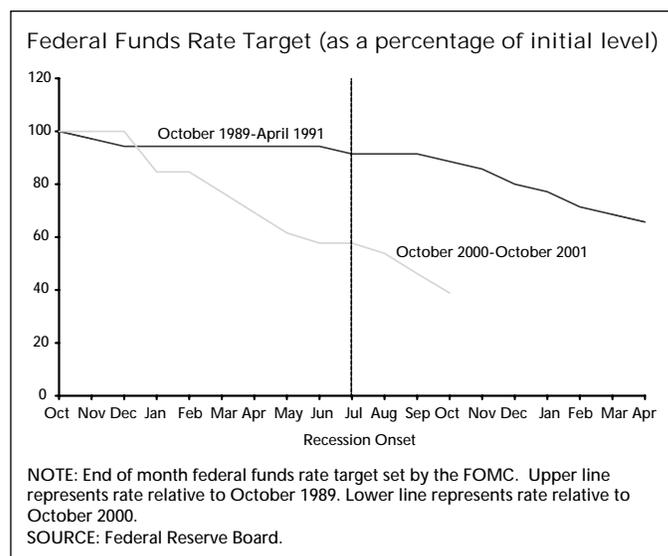


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Conventions used in this publication:

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:

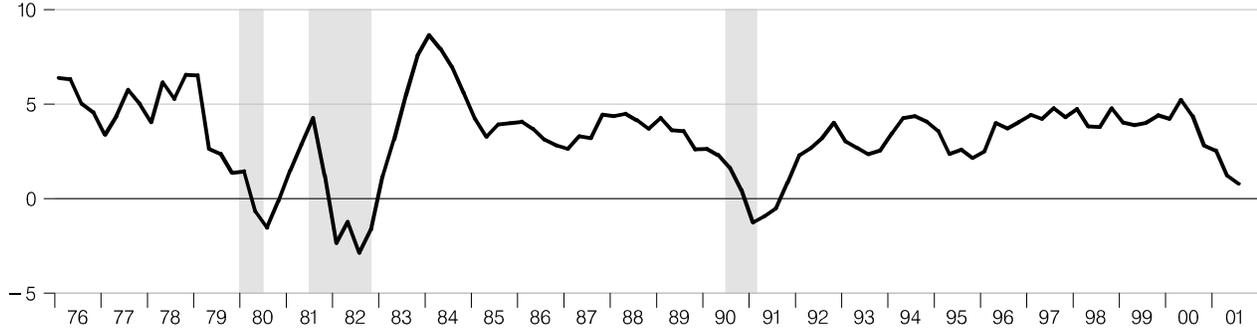
$$100 \times \left[\left(\frac{X_t}{X_{t-1}} \right)^4 - 1 \right]$$

For monthly data replace 4 with 12.

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

Real Gross Domestic Product

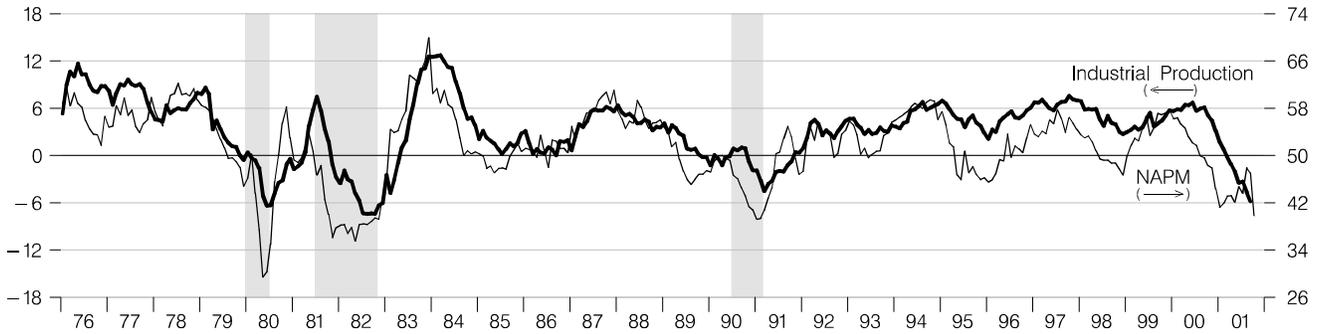
Percent change from year ago



Industrial Production and Purchasing Managers' (NAPM) Indexes

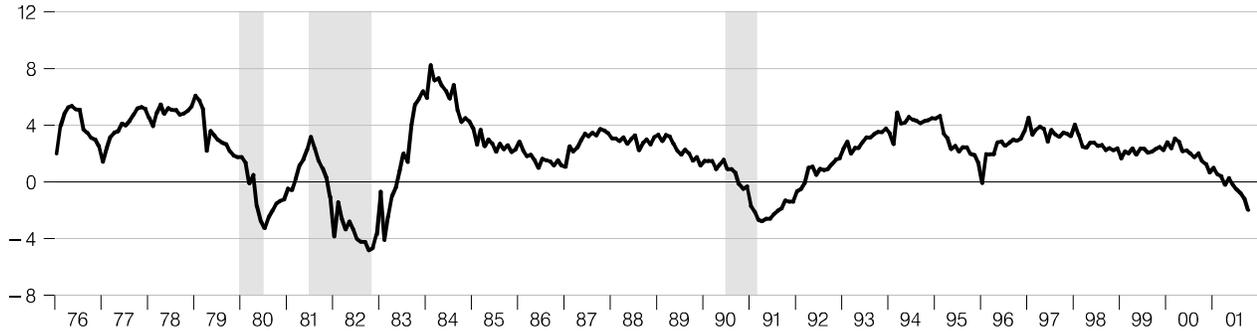
Percent change from year ago

Index



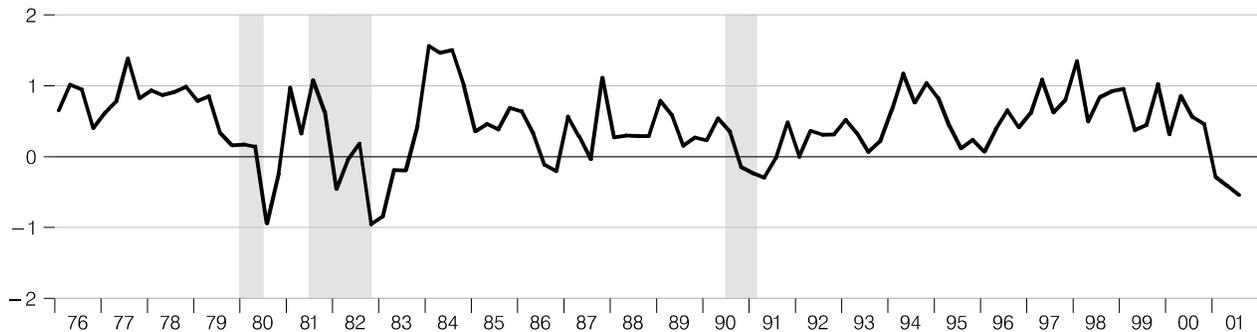
Aggregate Private Nonfarm Hours

Percent change from year ago

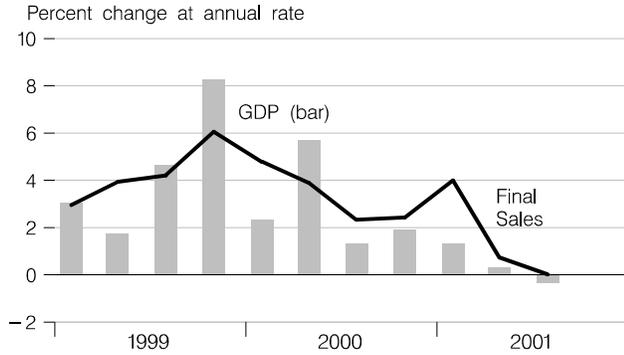


Real Change in Private Inventories

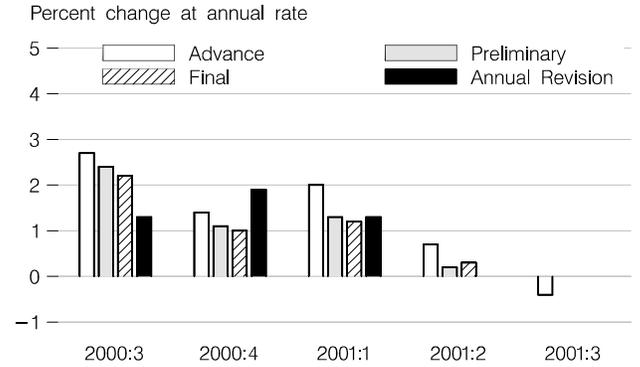
Percent of GDP



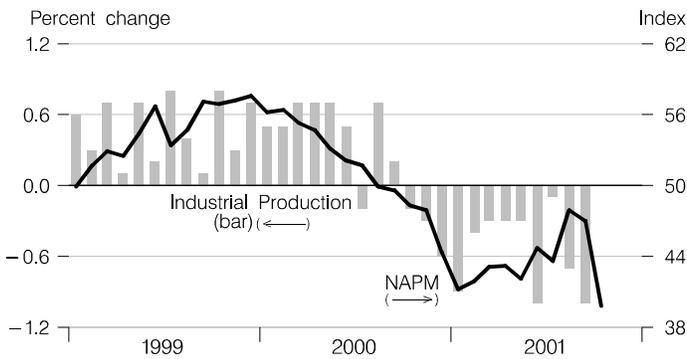
Real Final Sales and GDP



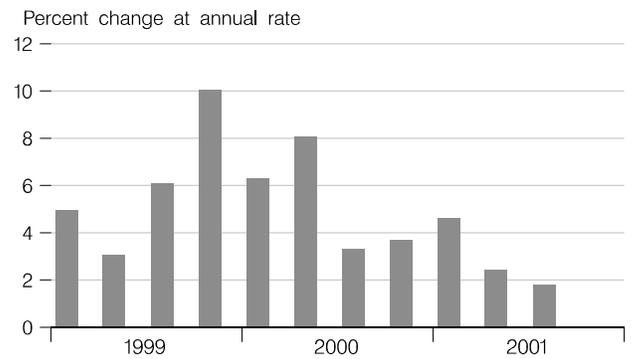
Real GDP Revisions



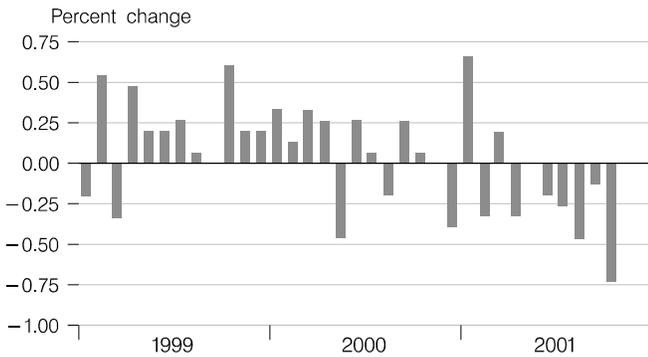
Industrial Production and NAPM Index



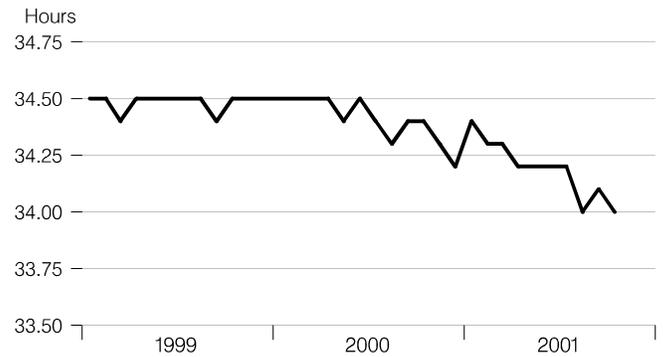
Nominal Gross Domestic Product



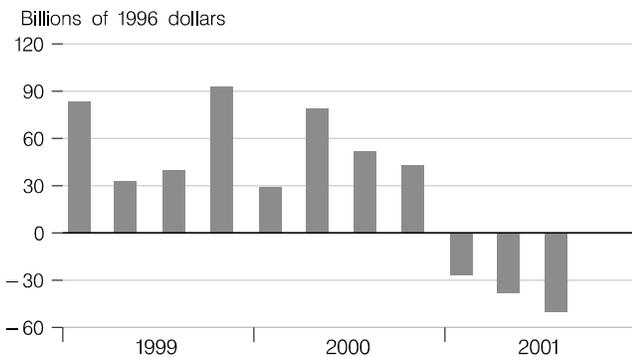
Aggregate Private Nonfarm Hours



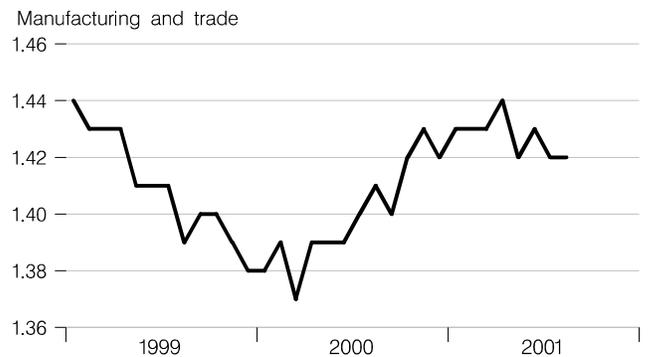
Average Weekly Private Nonfarm Hours



Real Change in Private Inventories

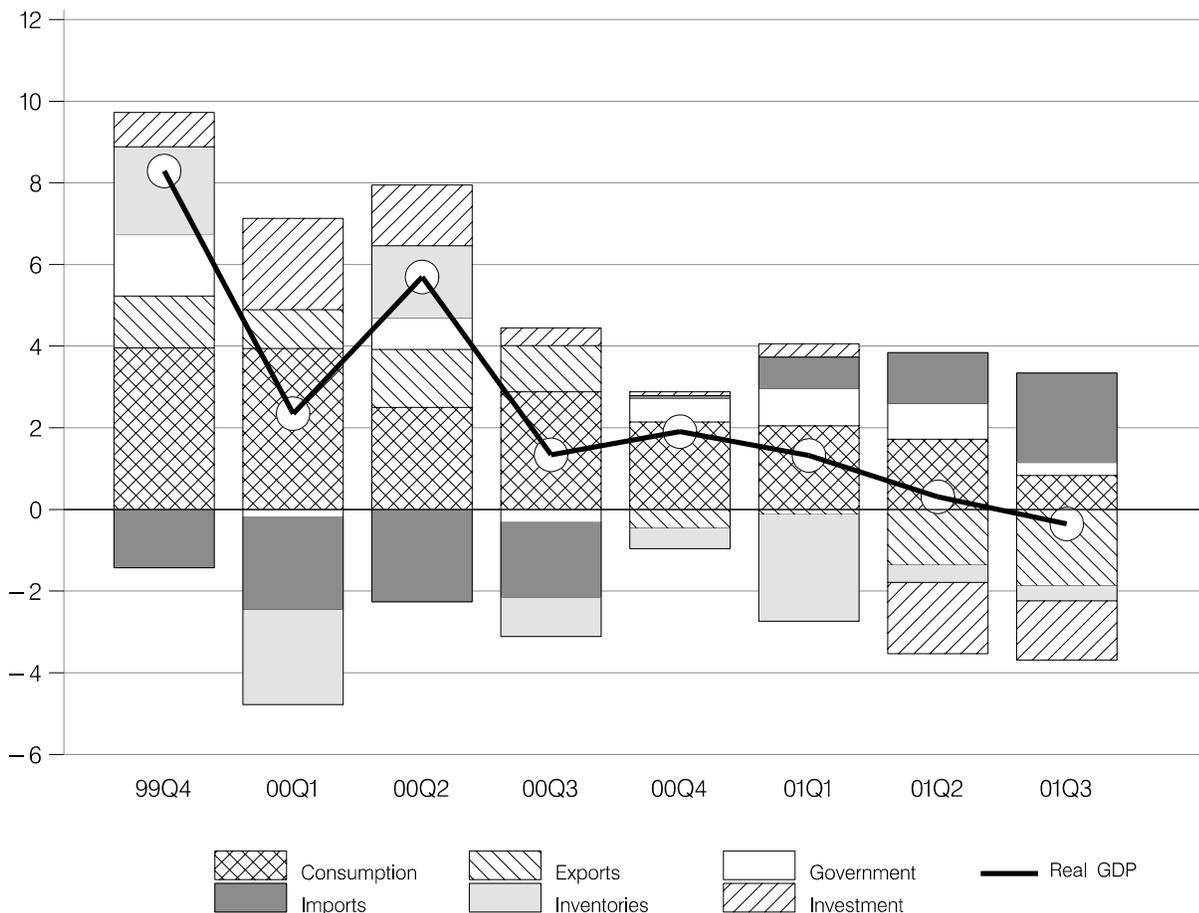


Inventory-Sales Ratio



Contribution of Components to Real GDP Growth

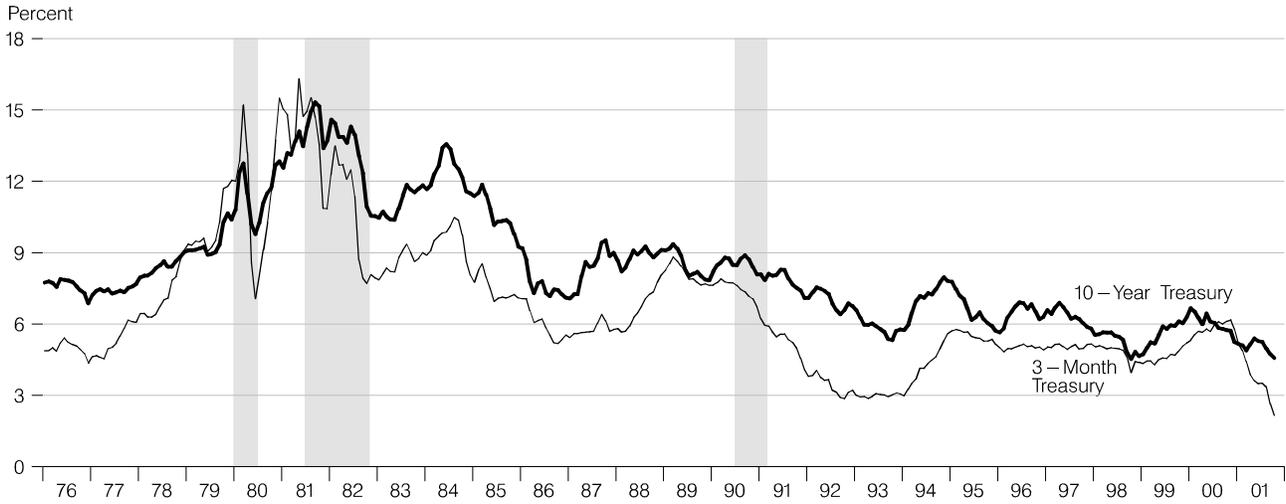
Percent change at annual rate



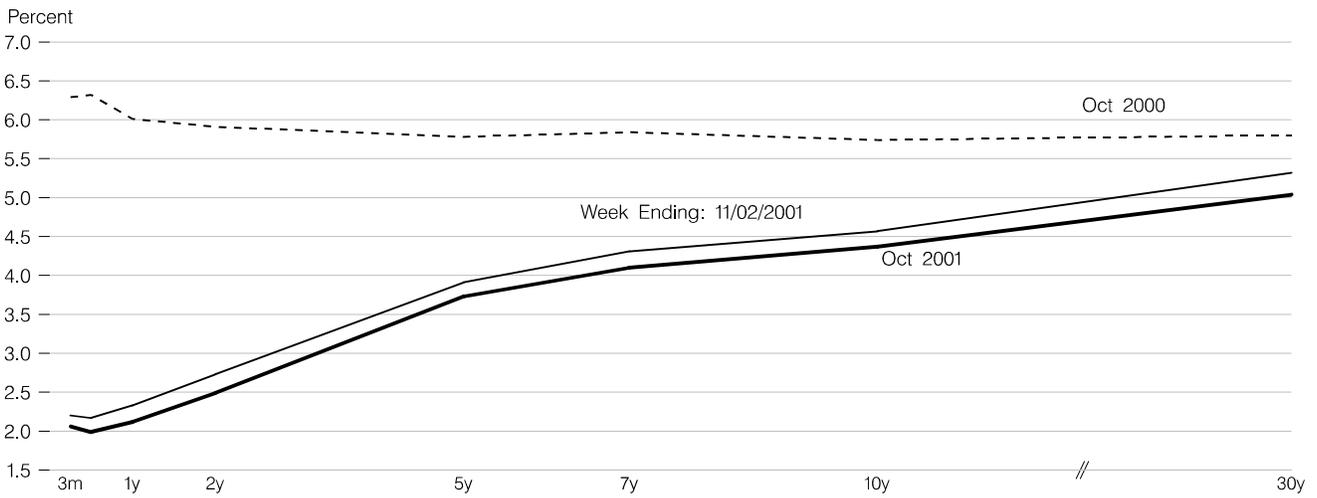
Contributions to Real GDP Growth Rate

	1999	2000				2001		
	4th	1st	2nd	3rd	4th	1st	2nd	3rd
Real GDP	8.29	2.35	5.69	1.34	1.91	1.32	0.31	-0.35
Final Sales	6.14	4.67	3.93	2.29	2.41	3.93	0.73	0.02
Change in Inventory	2.15	-2.32	1.76	-0.95	-0.50	-2.61	-0.42	-0.37
Consumption	3.96	3.94	2.50	2.88	2.14	2.05	1.72	0.83
Fixed Investment	0.84	2.24	1.49	0.44	0.09	0.33	-1.74	-1.45
Nonresidential	0.76	1.88	1.52	0.91	0.13	-0.02	-1.99	-1.53
Residential	0.08	0.36	-0.03	-0.47	-0.05	0.35	0.25	0.08
Government	1.50	-0.20	0.78	-0.32	0.58	0.92	0.87	0.32
Federal	0.85	-0.84	0.90	-0.66	0.27	0.19	0.11	0.27
State and Local	0.65	0.64	-0.12	0.34	0.31	0.73	0.76	0.05
Net Exports	-0.15	-1.32	-0.84	-0.70	-0.39	0.63	-0.12	0.32
Exports	1.27	0.95	1.42	1.13	-0.46	-0.13	-1.37	-1.87
Imports	-1.43	-2.26	-2.26	-1.84	0.07	0.76	1.25	2.19
Residual	-0.23	0.53	-0.47	0.22	-0.08	0.39	0.38	0.21

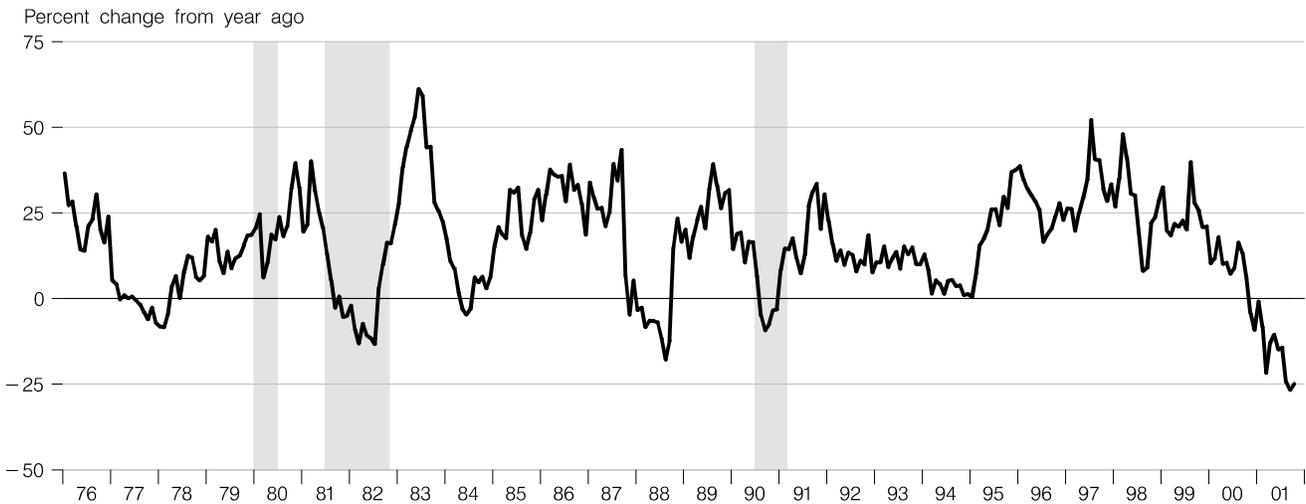
Interest Rates



Treasury Yield Curve

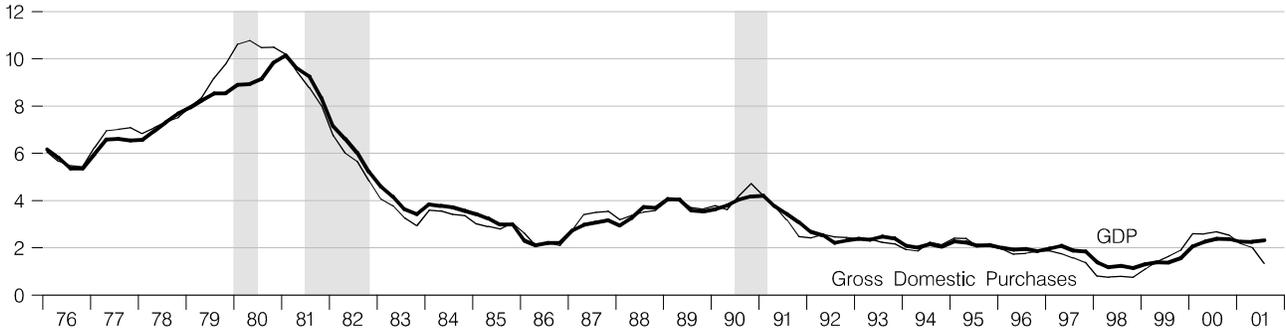


Standard and Poor's 500 Index with Reinvested Dividends



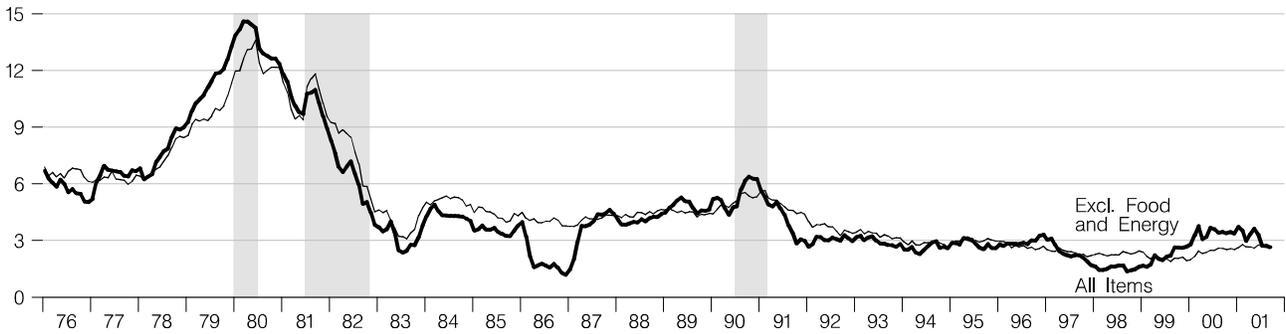
NIPA Chain Price Indexes

Percent change from year ago



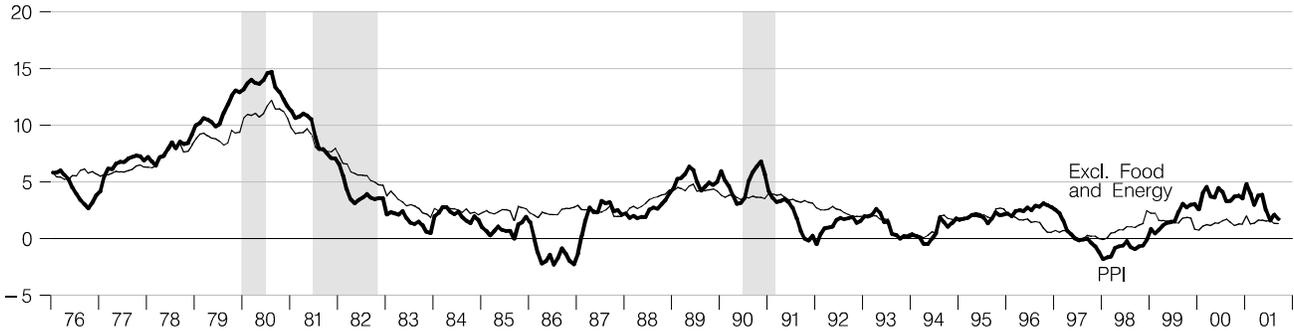
Consumer Price Index

Percent change from year ago



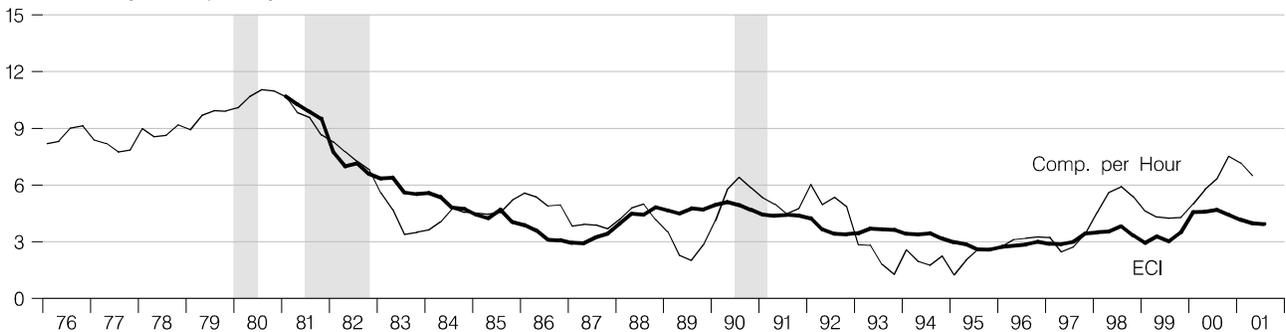
Producer Price Index, Finished Goods

Percent change from year ago

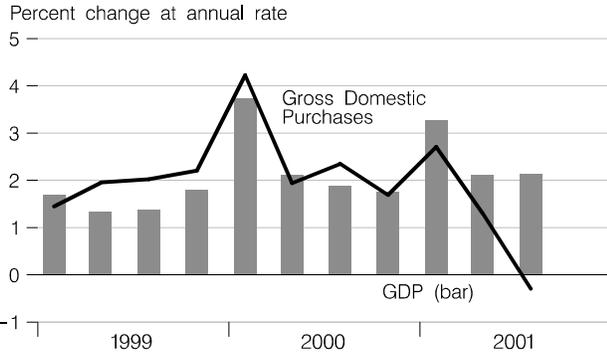


Employment Cost Index and Compensation per Hour

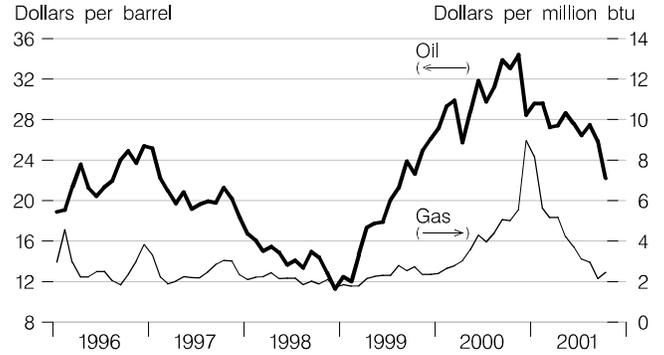
Percent change from year ago



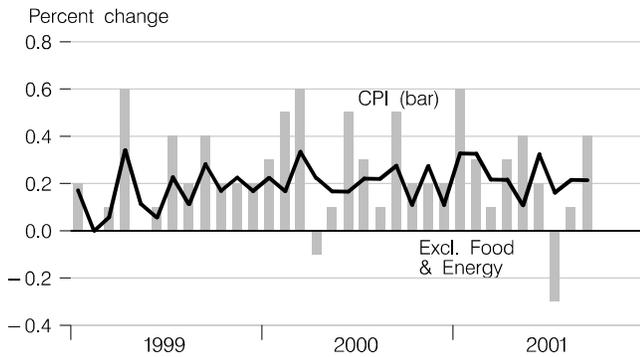
NIPA Chain Price Indexes



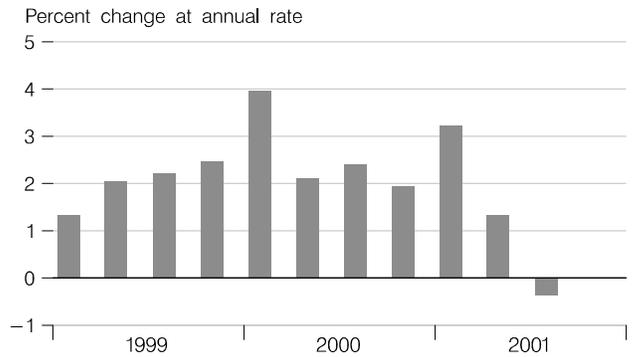
Crude Oil and Natural Gas Prices



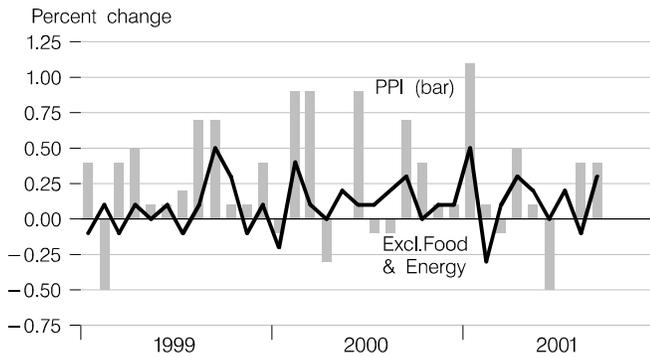
Consumer Price Index



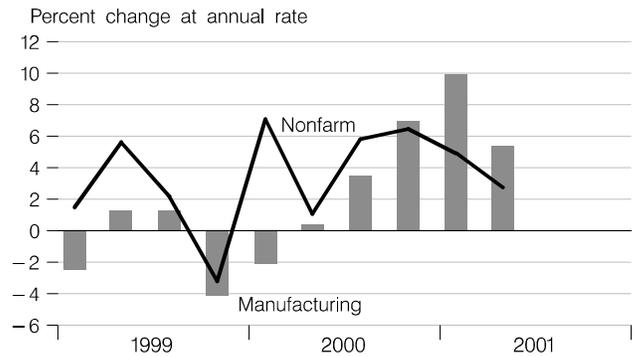
Consumption Chain Price Index



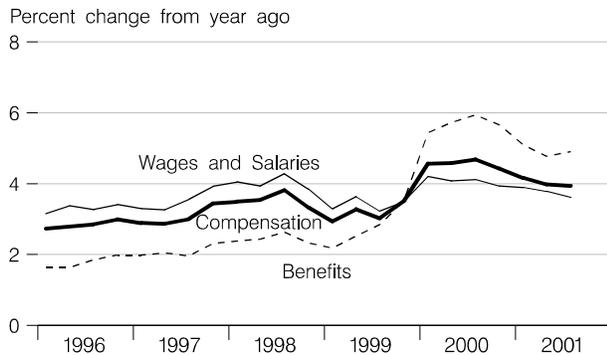
Producer Price Index, Finished Goods



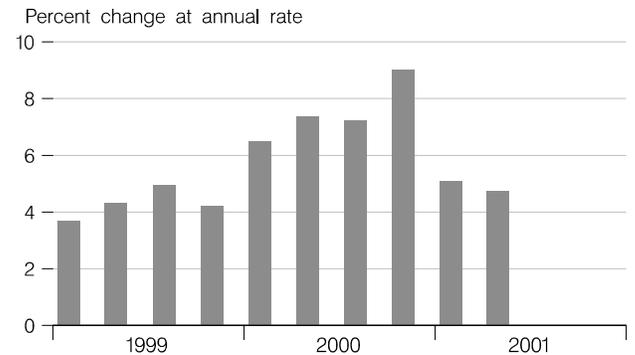
Unit Labor Cost



Employment Cost Index

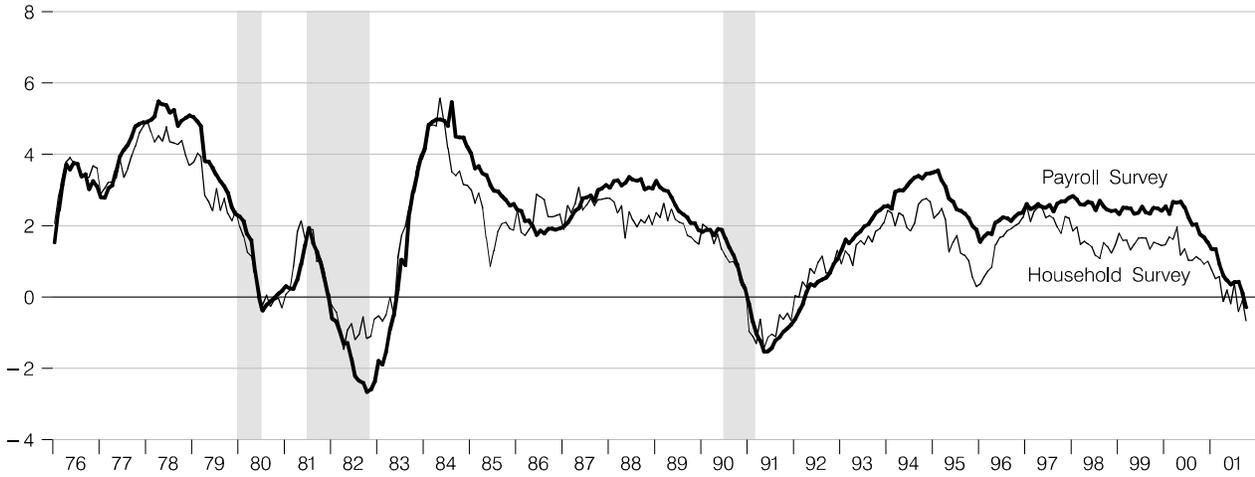


Compensation per Hour



Employment

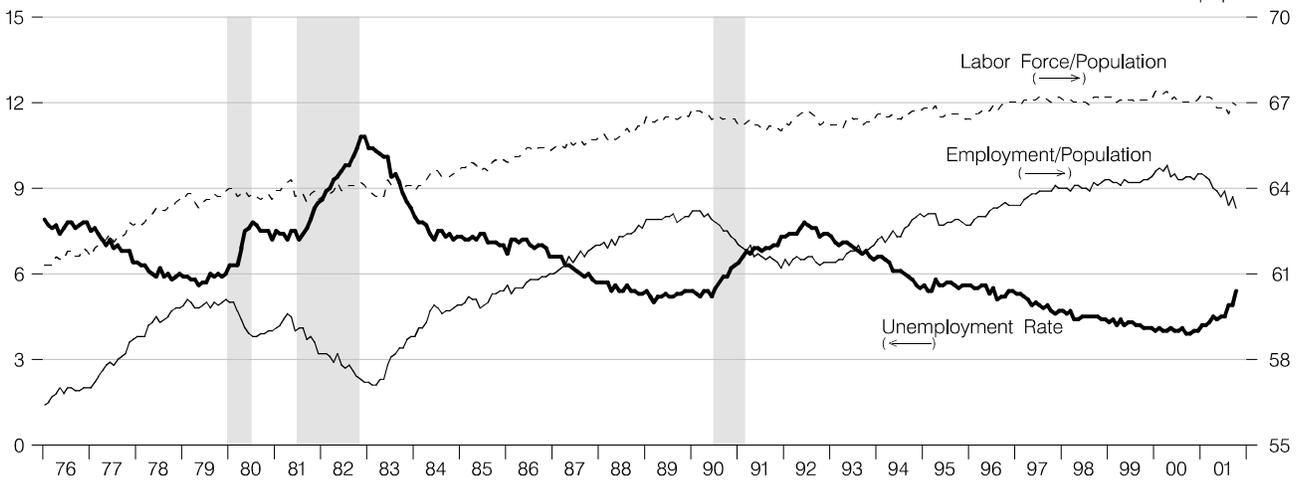
Percent change from year ago



Unemployment, Labor Force Participation and Employment Rates

Percent of labor force

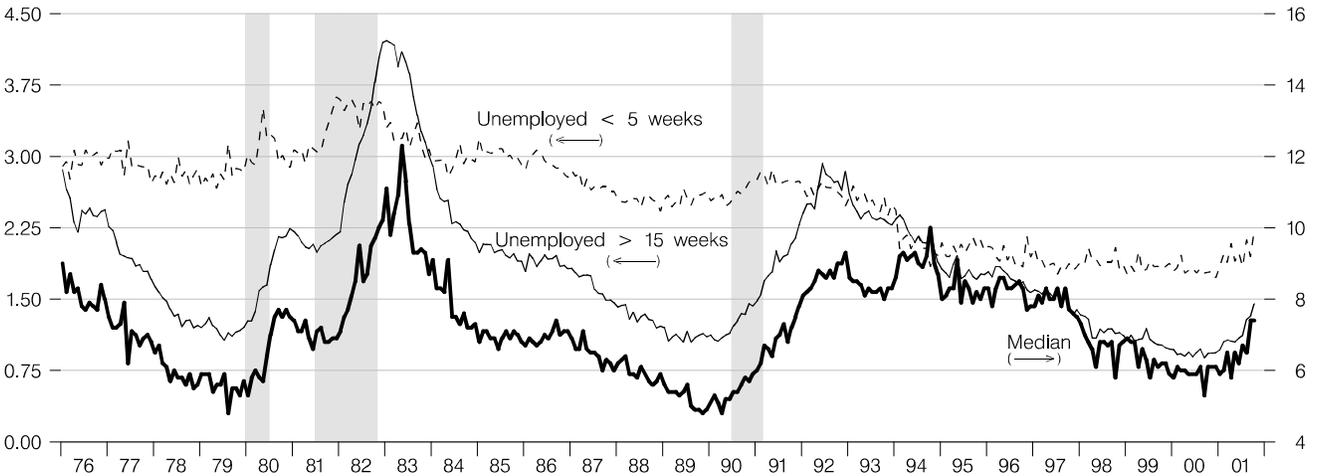
Percent of population



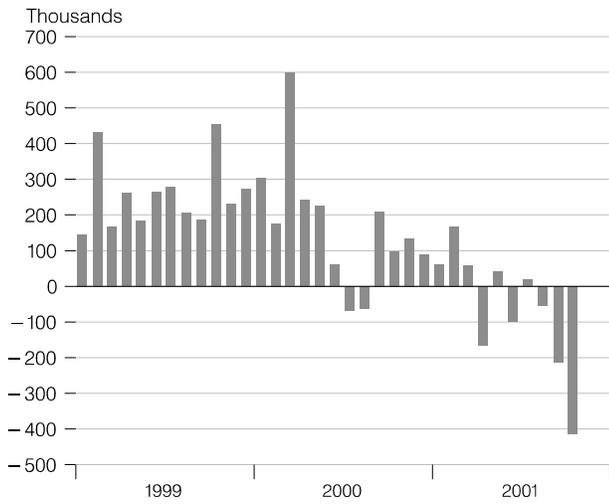
Duration of Unemployment

Percent of labor force

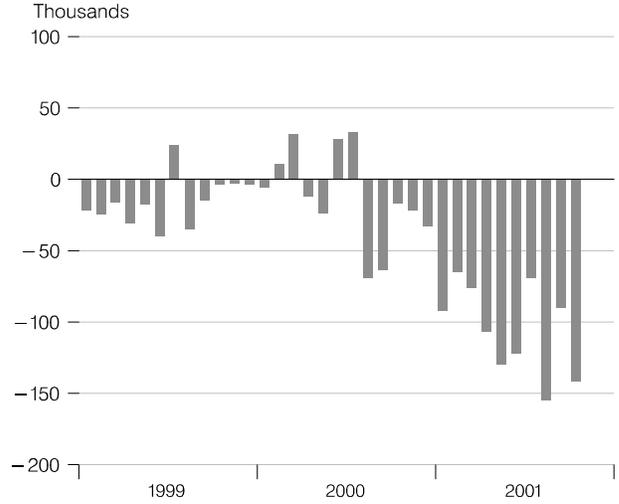
Weeks



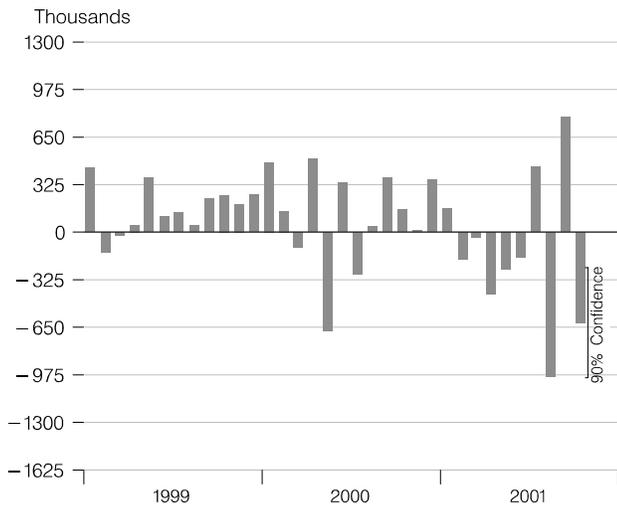
Change in Nonfarm Payrolls



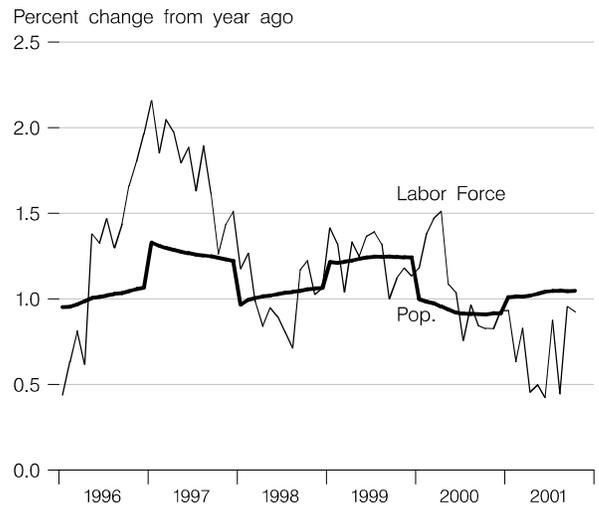
Change in Manufacturing Payrolls



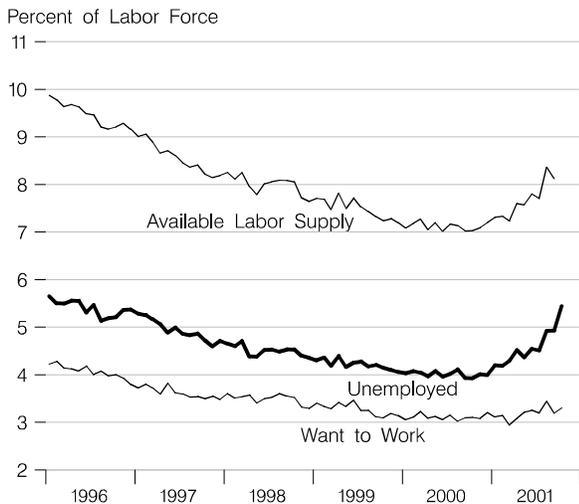
Change in Household Employment



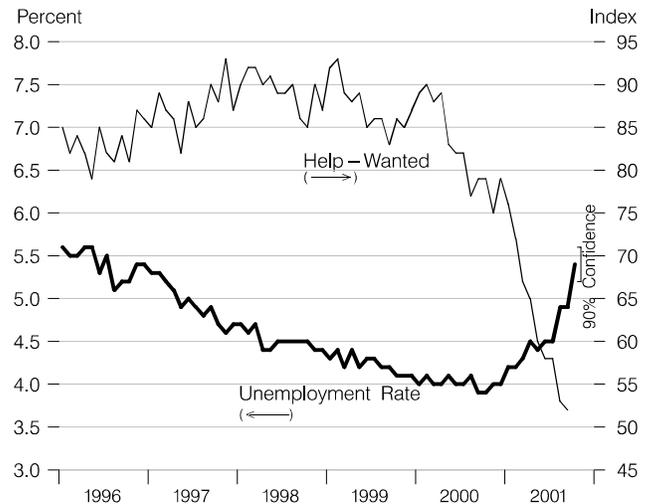
Labor Force and Population



Available Labor Supply and Components

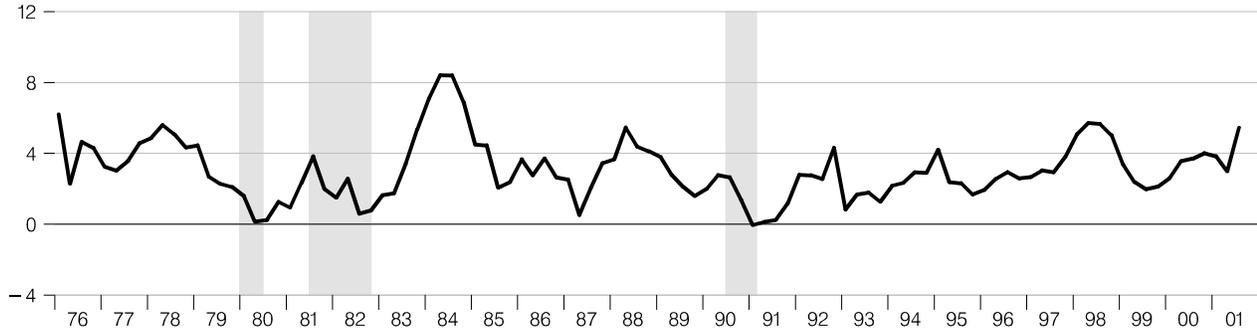


Unemployment Rate and Help-Wanted Advertising Index



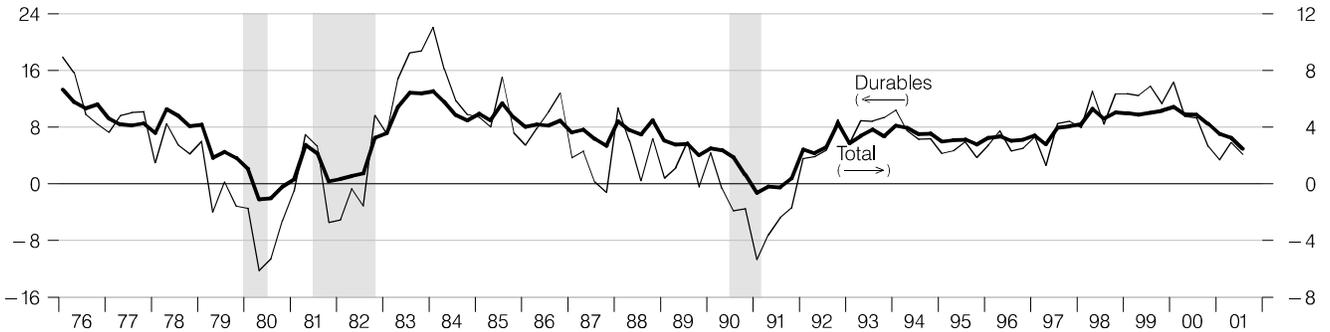
Real Disposable Personal Income

Percent change from year ago, quarterly data



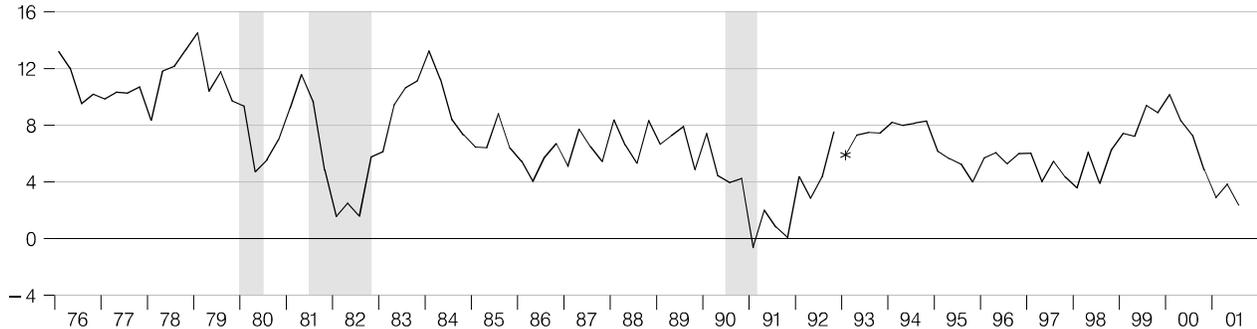
Real Consumption

Percent change from year ago, quarterly data



Retail and Food Services Sales

Percent change from year ago, quarterly average

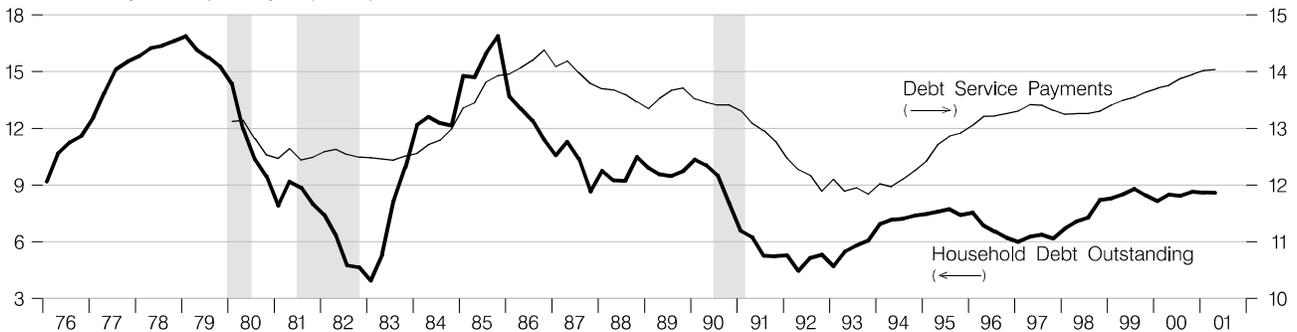


*Data before January 1992 are not strictly comparable (see End Notes).

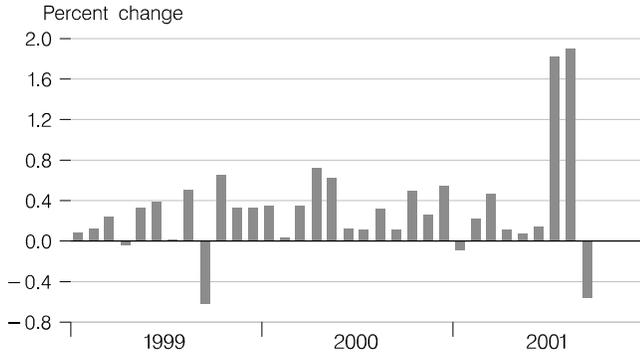
Debt Service Payments as a Percent of Disposable Income and Household Debt Outstanding

Percent change from year ago, quarterly data

Percent



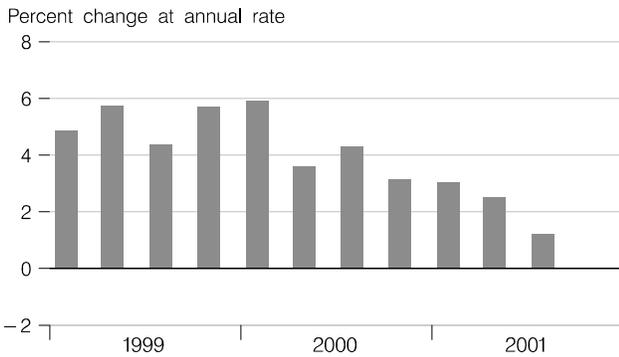
Real Disposable Personal Income



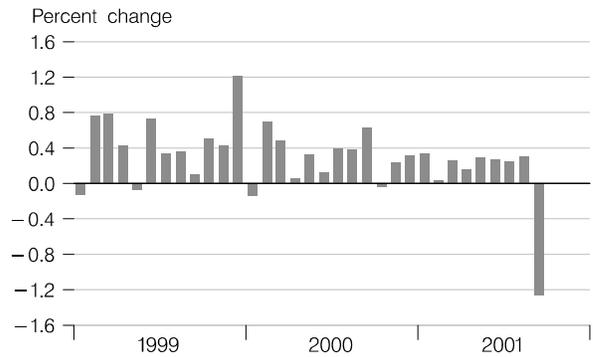
Personal Saving Rate



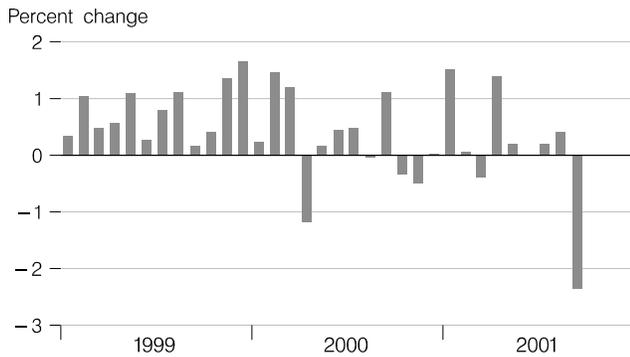
Real Consumption



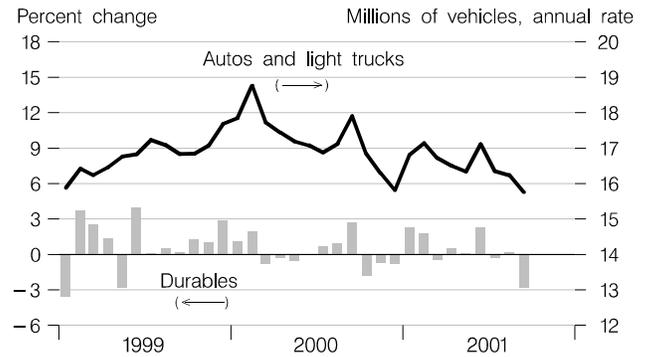
Real Consumption



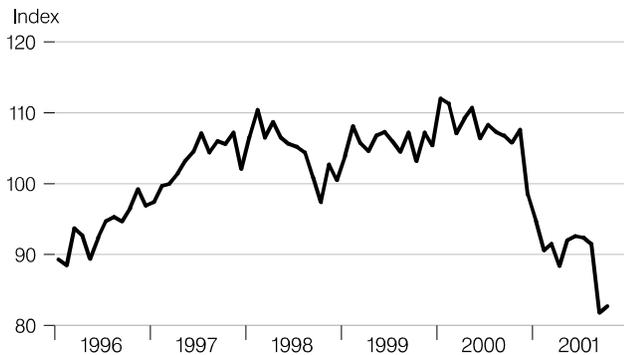
Retail and Food Services Sales



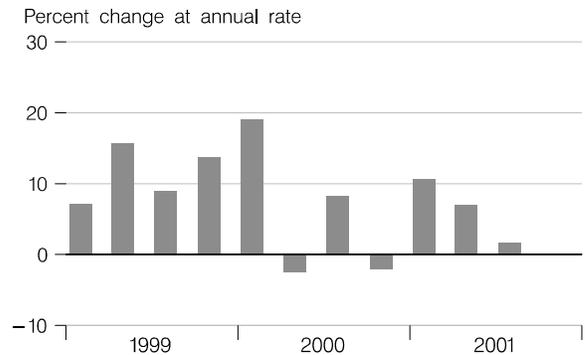
Real Durables Consumption and Vehicle Sales



Consumer Sentiment (U. of Michigan)

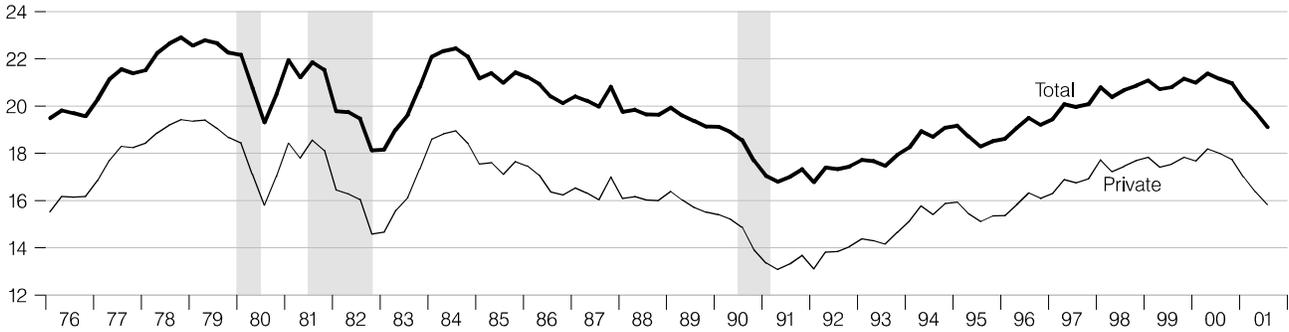


Real Durables Consumption



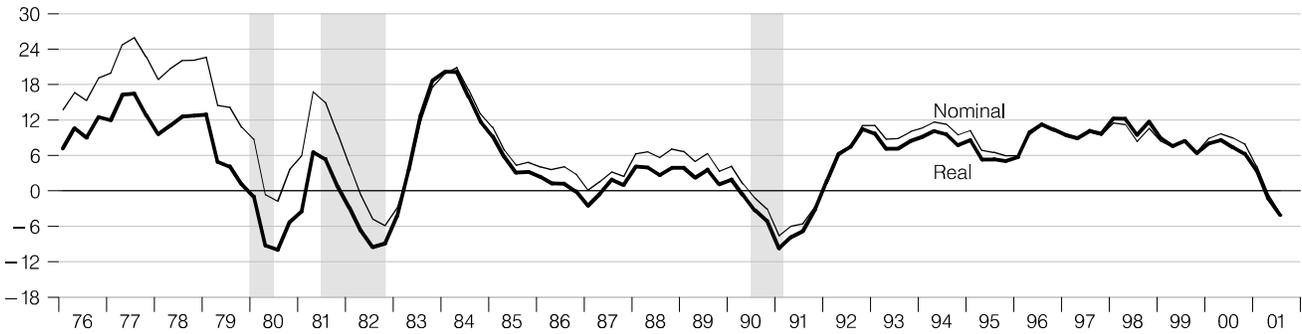
Investment

Percent of Nominal GDP



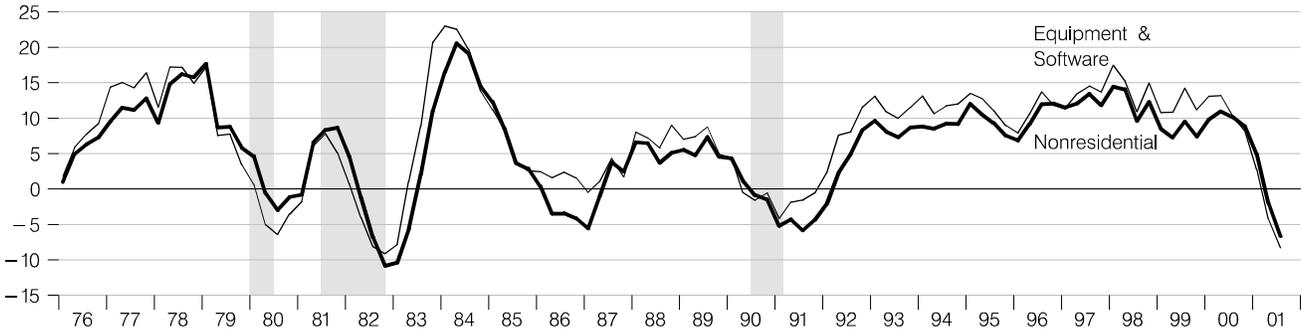
Private Fixed Investment

Percent change from year ago



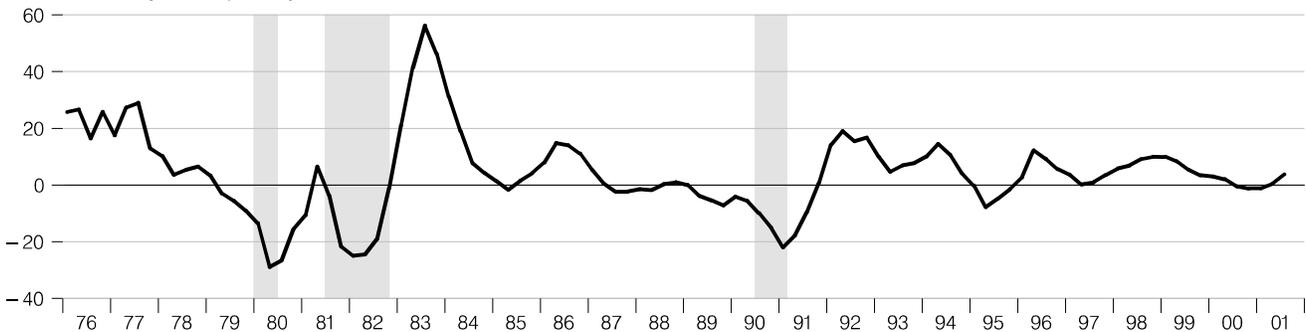
Real Nonresidential Fixed and Equipment & Software Investment

Percent change from year ago

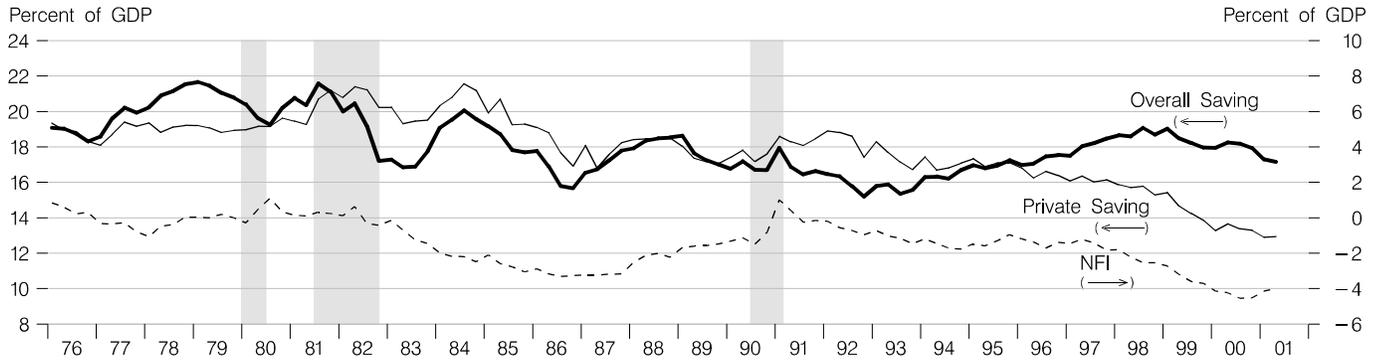


Real Residential Fixed Investment

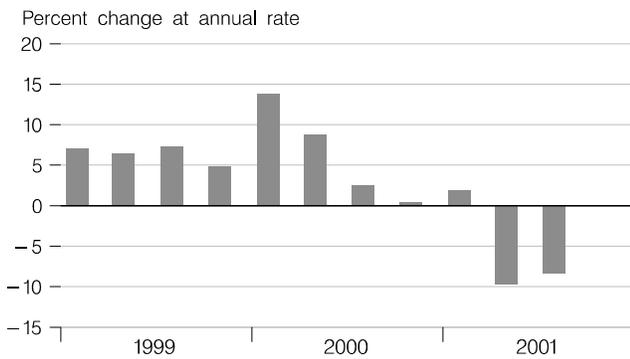
Percent change from year ago



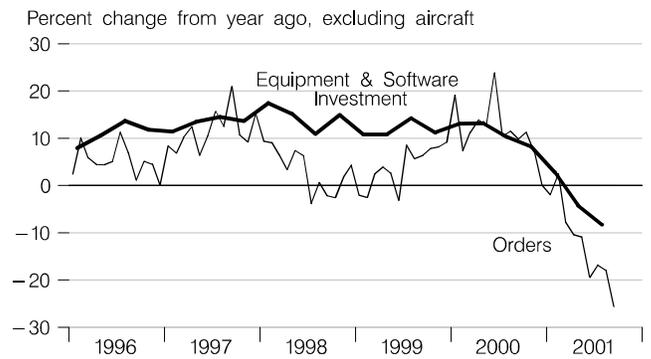
Gross Saving Rates and Net Foreign Investment



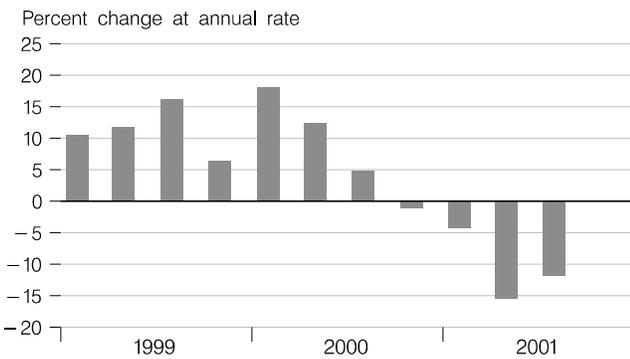
Real Private Fixed Investment



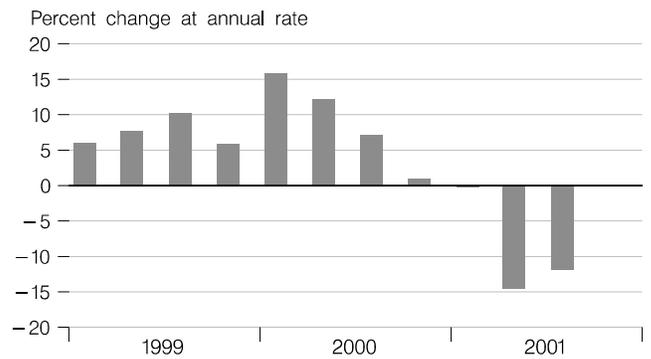
Nondefense Capital Goods Orders



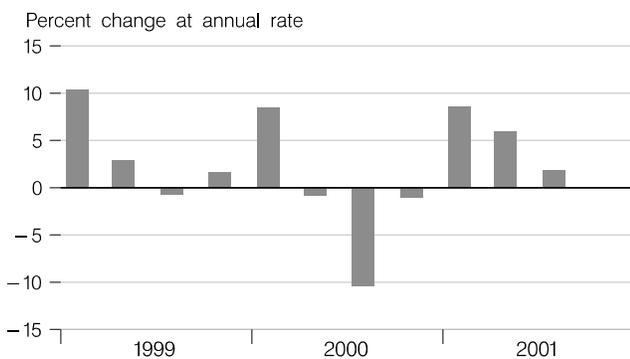
Real Equipment & Software Investment



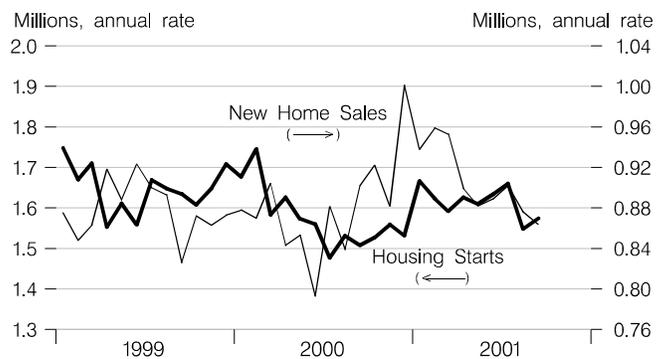
Real Nonresidential Fixed Investment



Real Residential Fixed Investment

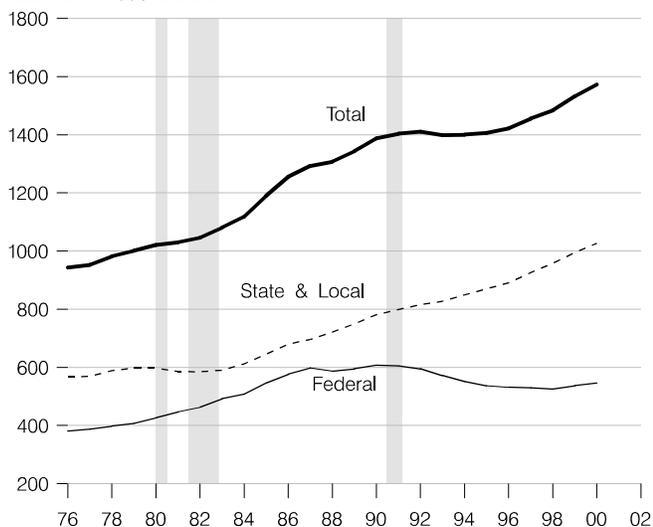


Housing Starts and New Home Sales



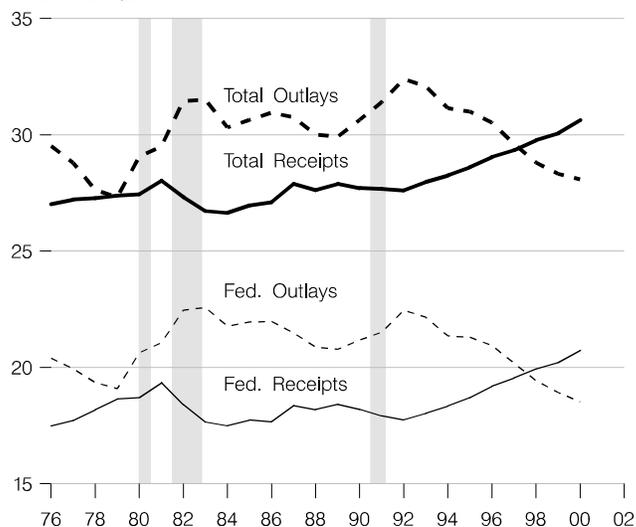
Govt. Consumption and Investment

Billions of 1996 dollars



Government Receipts and Outlays

Percent of GDP



Government Budgets

Billions of dollars

National Income Accounts

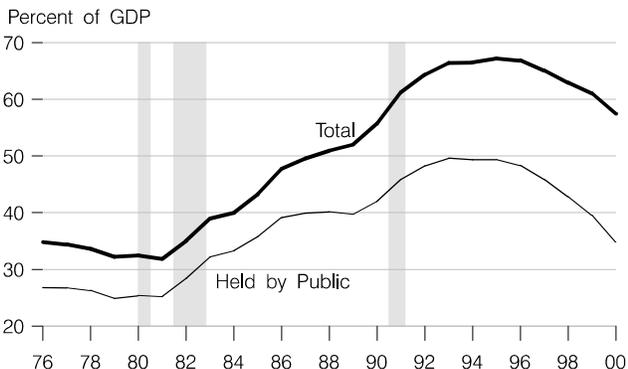
Calendar Years

Unified Budget

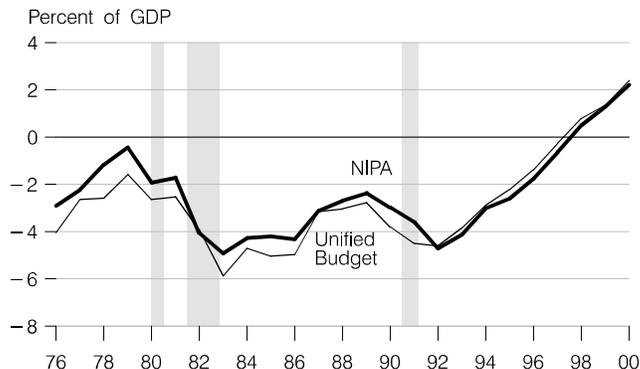
Fiscal Years

	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	1074.4	1033.7	40.7	1749.7	1705.9	43.8	1721.8	1652.6	69.2
1999	1143.8	1101.7	42.1	1872.8	1753.6	119.2	1827.5	1702.9	124.6
2000	1222.6	1189.8	32.8	2046.8	1828.3	218.5	2025.2	1788.8	236.4

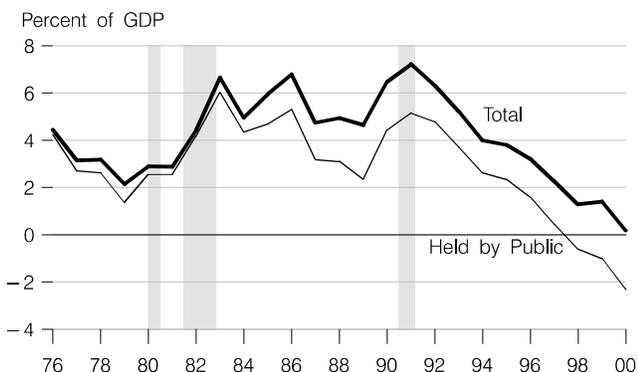
Federal Debt



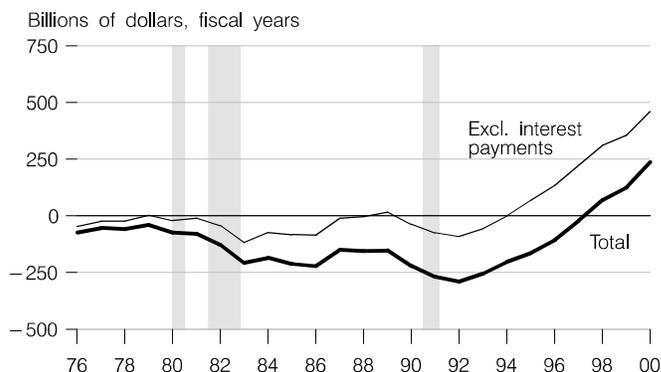
Federal Surplus (+) / Deficit (-)



Change in Federal Debt



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

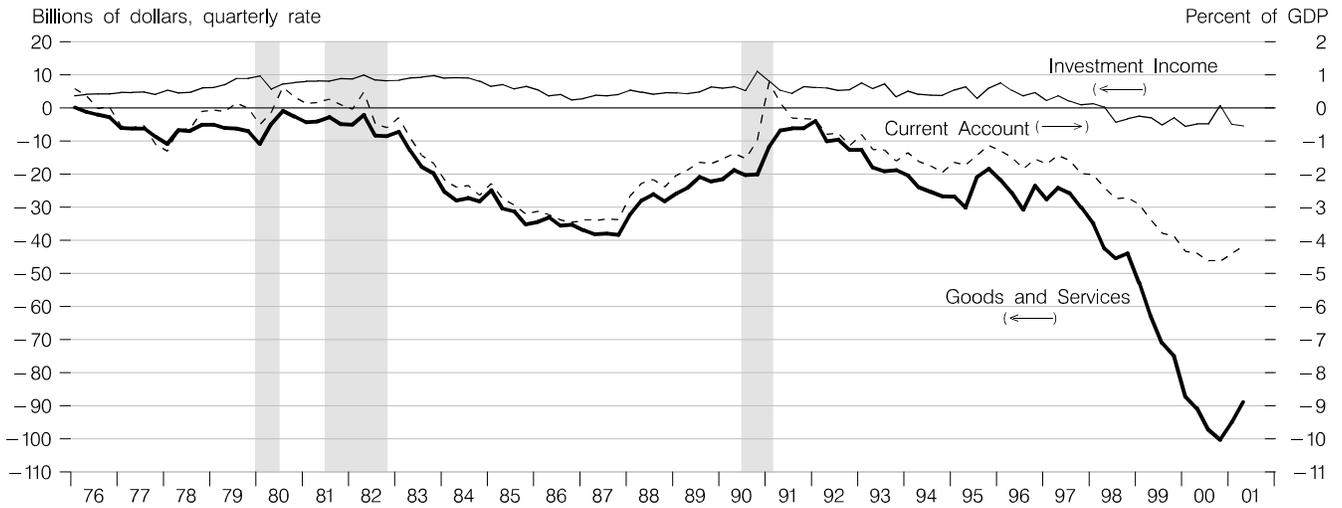


Federal Government Debt

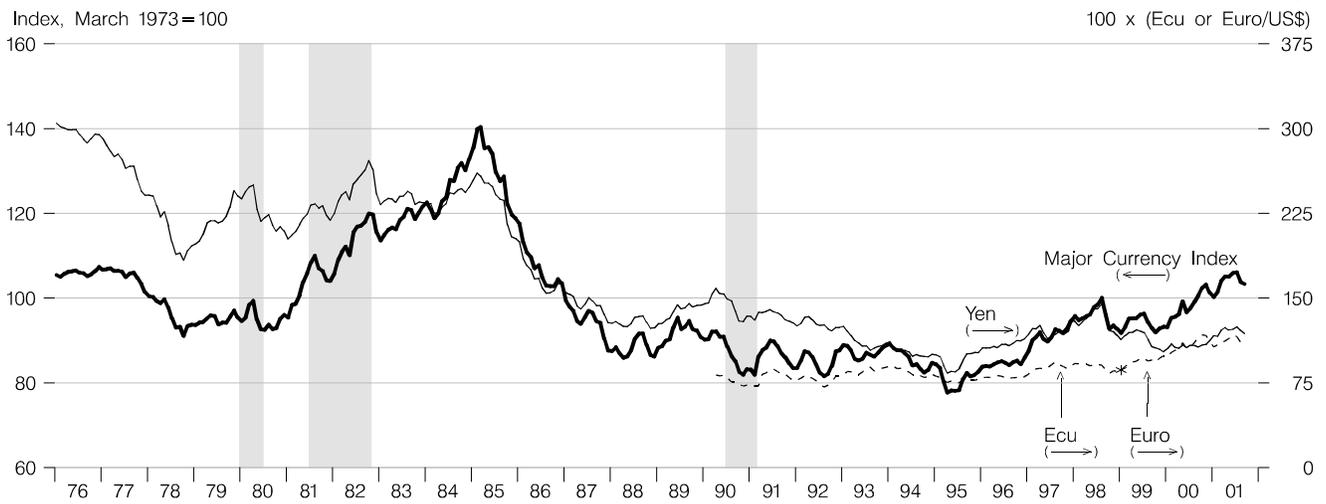
Billions of dollars, end of month or fiscal year, excluding agency-issued debt

		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	1765.6	3760.6	446.0	3313.2	1224.2
1999		5656.3	1989.1	3667.2	489.0	3175.4	1281.4
2000		5674.2	2235.7	3438.5	511.4	2936.2	1224.9
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	1765.6	3760.6	446.0	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	1272.3
	June	5638.8	1953.6	3685.2	484.9	3199.2	1258.8
	September	5656.3	1989.1	3667.2	489.0	3175.4	1281.4
	December	5776.1	2060.6	3715.5	478.0	3233.9	1268.7
2000	March	5773.4	2085.4	3688.0	501.7	3182.8	1273.9
	June	5685.9	2190.2	3495.7	505.0	2987.4	1249.1
	September	5674.2	2235.7	3438.5	511.4	2936.2	1224.9
	December	5662.2	2248.7	3413.5	511.7	2880.4	1201.3
2001	March	5773.7	2339.4	3434.4	523.9	2892.9	1196.1
	June	5726.8	2452.6	3274.2	535.1	2722.6	1167.1

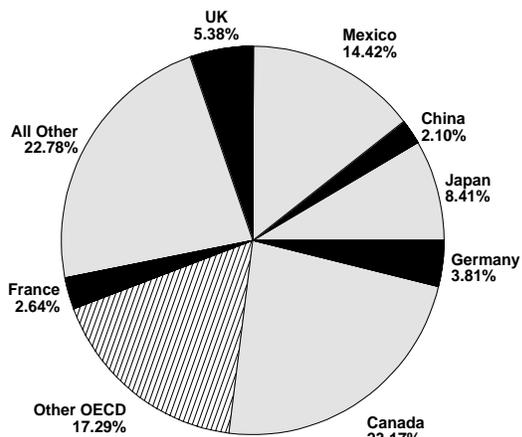
Current Account, Trade and Investment Income Balances



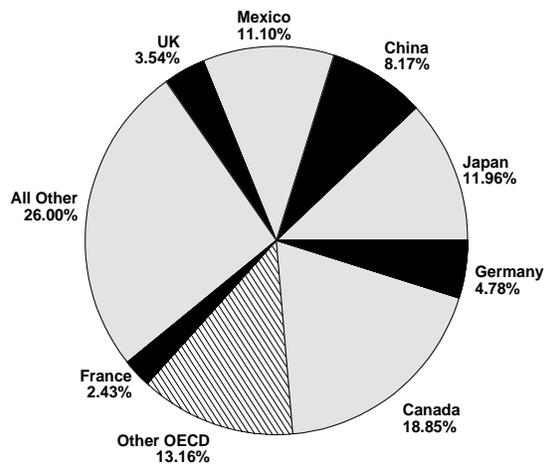
Exchange Rates



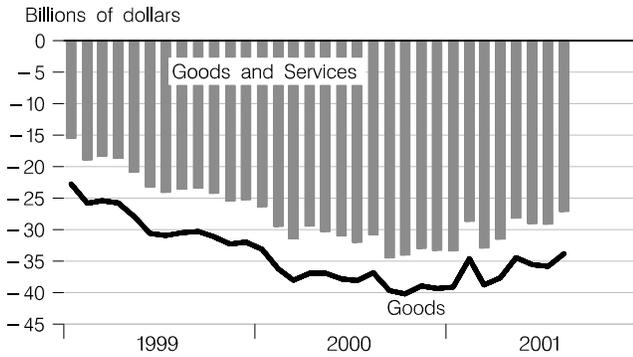
Goods Export Shares, 2000



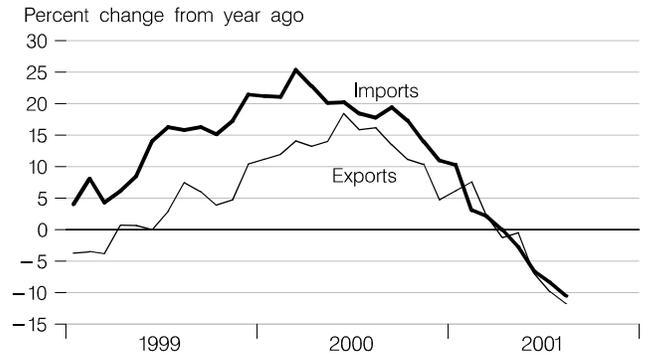
Goods Import Shares, 2000



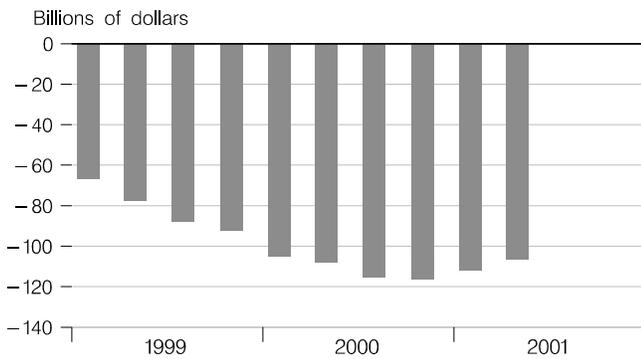
Trade Balance



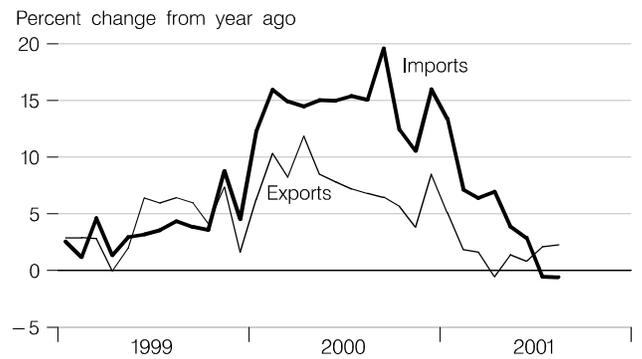
Goods Trade



Current Account Balance



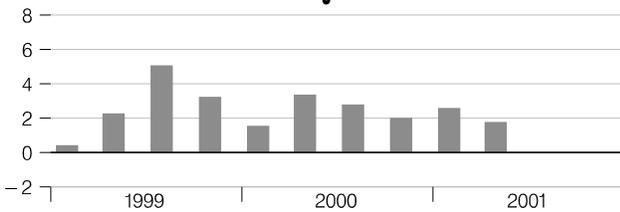
Services Trade



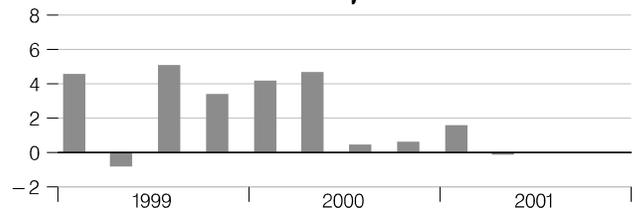
Real GDP Growth of Major Trading Partners

Percent change at annual rate

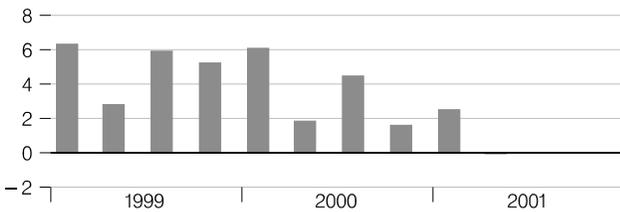
United Kingdom



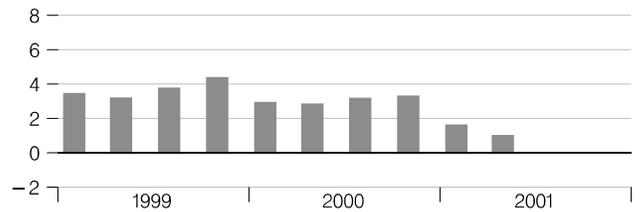
Germany



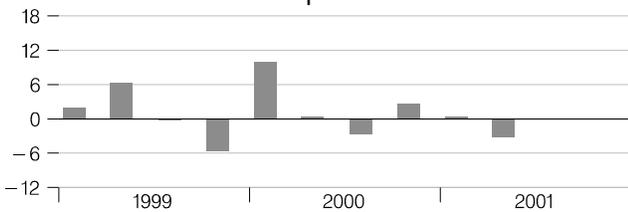
Canada



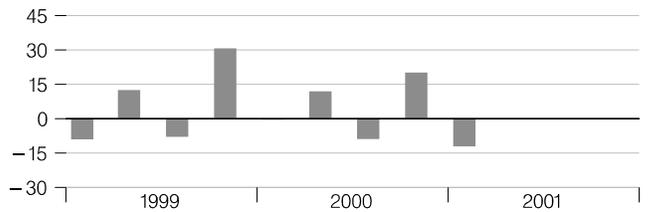
France



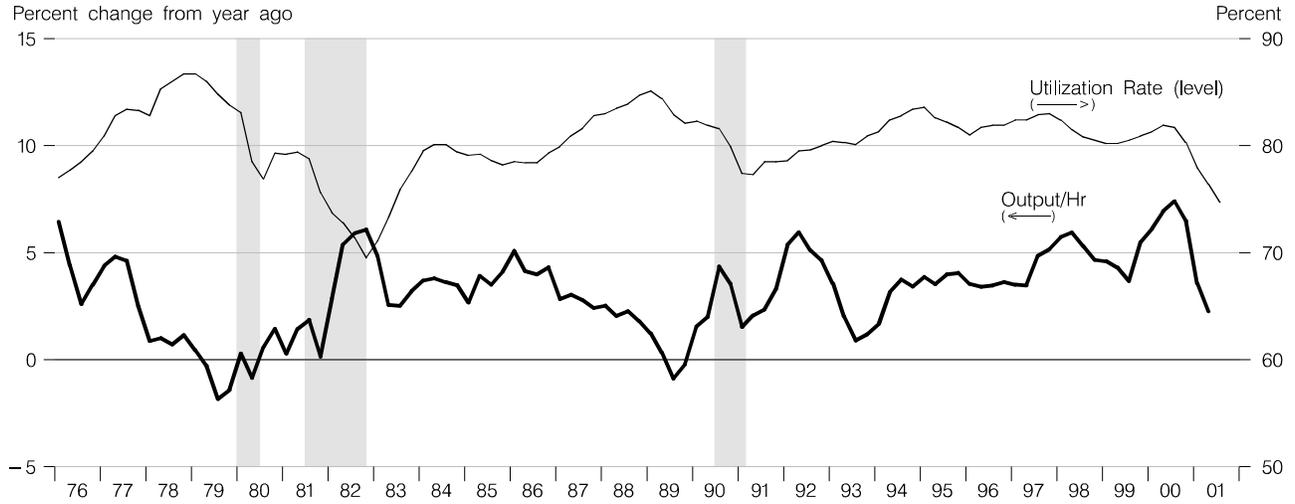
Japan



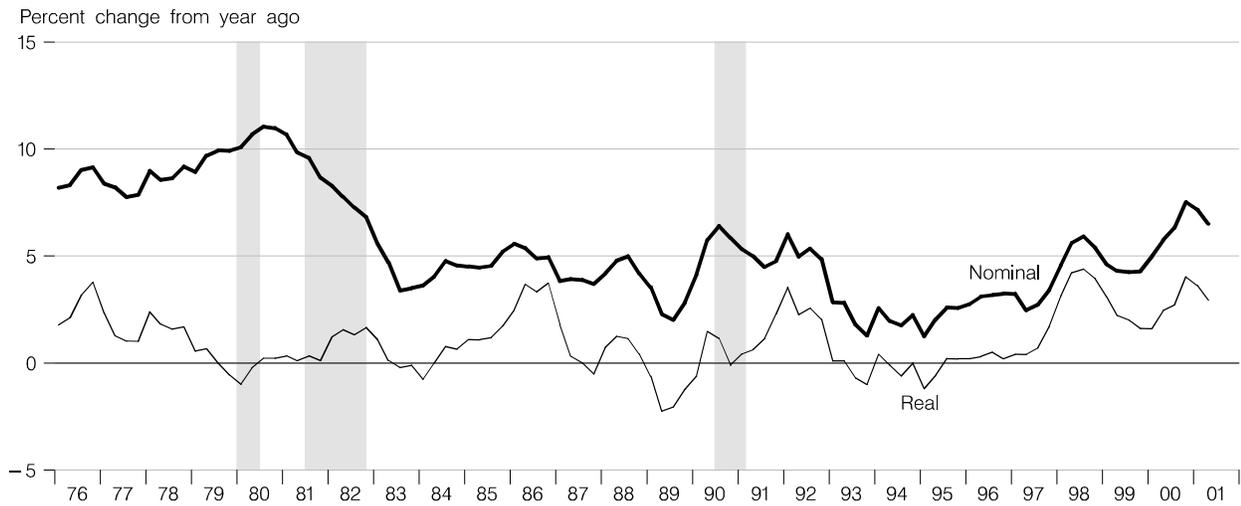
Mexico



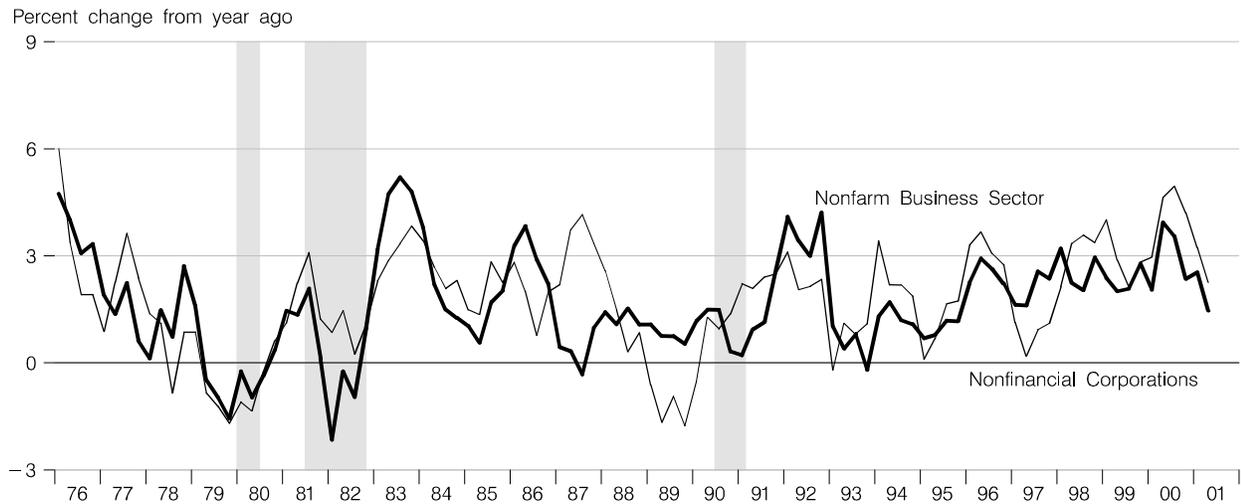
Output per Hour and Capacity Utilization, Manufacturing



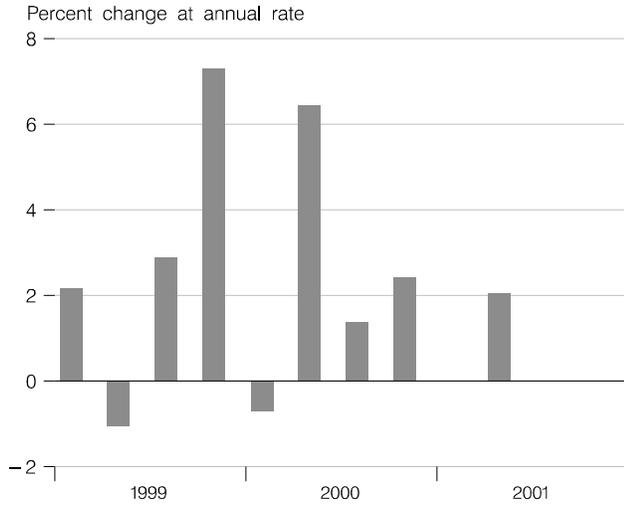
Nonfarm Compensation per Hour



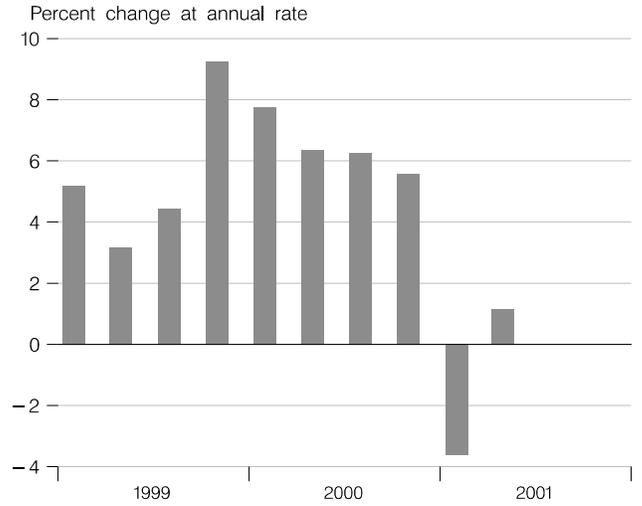
Output per Hour, Nonfarm Business and Nonfarm, Nonfinancial Corporations



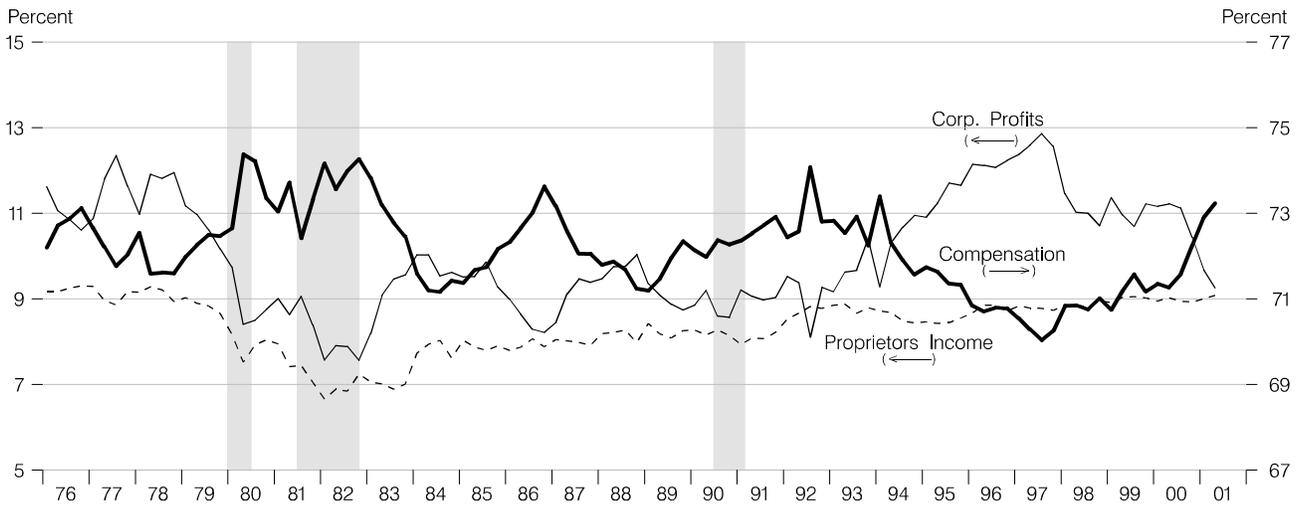
Nonfarm Output per Hour



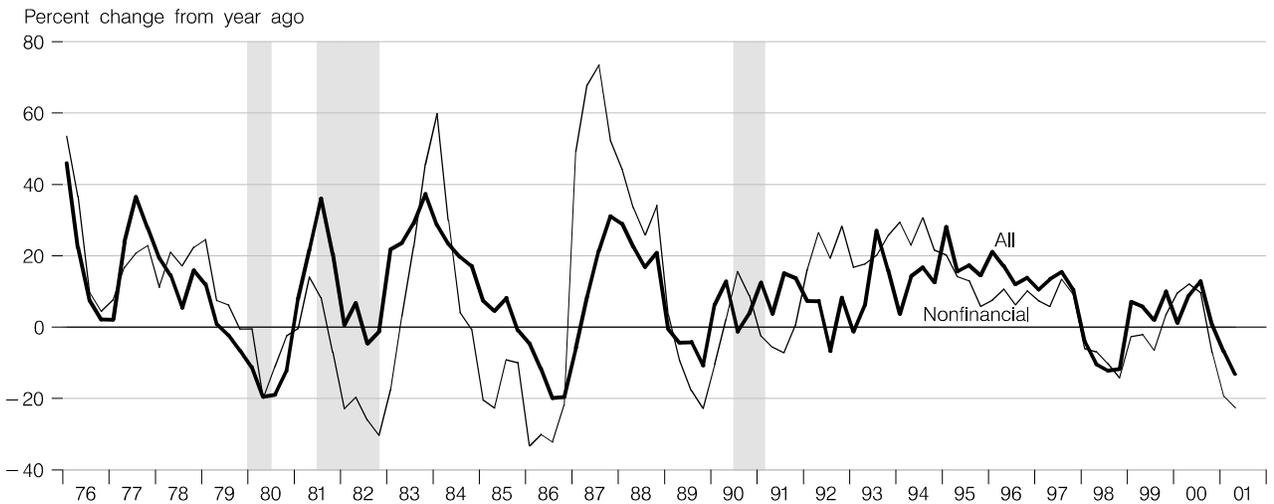
Manufacturing Output per Hour



Selected Component Shares of National Income



Corporate Profits after Tax (with IVA and CCAdj)



	Nominal GDP			Real GDP			Final Sales			Change in Private Inventories	
	Billions of \$	Percent change		Billions of 1996 \$	Percent change		Billions of 1996 \$	Percent change		Billions of 1996 \$	
		Annual rate	Year ago		Annual rate	Year ago		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	8781.5		5.6	8508.933		4.3	8431.826		4.2		76.727
1999	9268.6		5.5	8856.541		4.1	8792.031		4.3		62.106
2000	9872.9		6.5	9223.994		4.1	9167.025		4.3		50.587
1998 1	8627.8	7.2	6.2	8396.345	6.1	4.7	8286.592	4.0	4.0	113.143	79.722
2	8697.3	3.3	5.0	8442.912	2.2	3.8	8397.191	5.4	4.4	41.975	68.139
3	8816.5	5.6	5.1	8528.466	4.1	3.8	8454.942	2.8	3.6	71.789	73.252
4	8984.5	7.8	6.0	8667.853	6.7	4.8	8588.501	6.5	4.7	79.999	76.727
1999 1	9093.1	4.9	5.4	8733.483	3.1	4.0	8651.156	3.0	4.4	83.378	69.285
2	9161.4	3.0	5.3	8771.221	1.7	3.9	8735.136	3.9	4.0	32.737	66.976
3	9297.4	6.1	5.5	8871.464	4.7	4.0	8825.577	4.2	4.4	39.558	58.918
4	9522.5	10.0	6.0	9049.917	8.3	4.4	8956.256	6.1	4.3	92.749	62.106
2000 1	9668.7	6.3	6.3	9102.499	2.3	4.2	9061.640	4.8	4.7	28.917	48.490
2	9857.6	8.0	7.6	9229.385	5.7	5.2	9148.501	3.9	4.7	78.942	60.042
3	9937.5	3.3	6.9	9260.091	1.3	4.4	9201.271	2.3	4.3	51.725	63.083
4	10027.9	3.7	5.3	9303.923	1.9	2.8	9256.687	2.4	3.4	42.765	50.587
2001 1	10141.7	4.6	4.9	9334.472	1.3	2.5	9347.828	4.0	3.2	-27.113	36.580
2	10202.6	2.4	3.5	9341.739	0.3	1.2	9364.795	0.7	2.4	-38.287	7.273
3	10247.7	1.8	3.1	9333.378	-0.4	0.8	9365.184	0.0	1.8	-50.381	-18.254

	Consumption			Durables Consumption			Private Fixed Investment			Nonresidential Fixed Investment		
	Billions of 1996 \$	Percent change		Billions of 1996 \$	Percent change		Billions of 1996 \$	Percent change		Billions of 1996 \$	Percent change	
		Annual rate	Year ago		Annual rate	Year ago		Annual rate	Year ago		Annual rate	Year ago
1997	5423.902		3.6	657.347		6.6	1328.630		9.6	1009.344		12.2
1998	5683.734		4.8	726.658		10.5	1479.986		11.4	1135.921		12.5
1999	5968.444		5.0	817.834		12.5	1595.386		7.8	1228.634		8.2
2000	6257.816		4.8	895.529		9.5	1716.207		7.6	1350.670		9.9
1998 1	5576.260	5.1	4.2	692.530	7.0	8.0	1431.442	18.7	12.2	1099.458	21.6	14.4
2	5660.165	6.2	5.3	719.710	16.6	13.1	1471.449	11.7	12.2	1132.260	12.5	14.1
3	5713.745	3.8	4.6	727.101	4.2	8.4	1485.359	3.8	9.5	1136.578	1.5	9.6
4	5784.661	5.1	5.0	767.283	24.0	12.7	1531.720	13.1	11.7	1175.370	14.4	12.3
1999 1	5853.953	4.9	5.0	780.519	7.1	12.7	1558.242	7.1	8.9	1192.630	6.0	8.5
2	5936.129	5.7	4.9	809.499	15.7	12.5	1582.823	6.5	7.6	1214.882	7.7	7.3
3	6000.026	4.4	5.0	827.161	9.0	13.8	1610.836	7.3	8.4	1244.626	10.2	9.5
4	6083.617	5.7	5.2	854.151	13.7	11.3	1629.669	4.8	6.4	1262.408	5.8	7.4
2000 1	6171.712	5.9	5.4	892.126	19.0	14.3	1683.440	13.9	8.0	1309.449	15.8	9.8
2	6226.286	3.6	4.9	886.460	-2.5	9.5	1719.215	8.8	8.6	1347.656	12.2	10.9
3	6292.122	4.3	4.9	904.104	8.2	9.3	1730.056	2.5	7.4	1371.096	7.1	10.2
4	6341.092	3.1	4.2	899.419	-2.1	5.3	1732.106	0.5	6.3	1374.460	1.0	8.9
2001 1	6388.492	3.0	3.5	922.425	10.6	3.4	1740.340	1.9	3.4	1373.911	-0.2	4.9
2	6428.402	2.5	3.2	938.115	7.0	5.8	1696.380	-9.7	-1.3	1320.925	-14.6	-2.0
3	6447.780	1.2	2.5	941.968	1.7	4.2	1659.502	-8.4	-4.1	1279.848	-11.9	-6.7

	GDP Chain Price Index			Employment Cost Index			ECI: Wages			ECI: Benefits		
	Index	Percent change		Index	Percent change		Index	Percent change		Index	Percent change	
		Annual rate	Year ago		Annual rate	Year ago		Annual rate	Year ago		Annual rate	Year ago
1997	101.950		2.0	133.3		3.1	130.4		3.5	140.2		2.1
1998	103.200		1.2	138.0		3.5	135.6		4.0	143.6		2.4
1999	104.660		1.4	142.4		3.2	140.3		3.4	147.6		2.8
2000	107.040		2.3	148.9		4.6	146.0		4.1	156.0		5.7
1998 1	102.760	1.1	1.4	136.2	3.0	3.5	133.7	4.0	4.0	142.2	1.1	2.4
2	103.020	1.0	1.2	137.3	3.3	3.5	134.8	3.3	3.9	143.1	2.6	2.4
3	103.380	1.4	1.2	138.8	4.4	3.8	136.5	5.1	4.3	144.1	2.8	2.6
4	103.660	1.1	1.1	139.7	2.6	3.3	137.5	3.0	3.9	145.1	2.8	2.3
1999 1	104.100	1.7	1.3	140.2	1.4	2.9	138.1	1.8	3.3	145.3	0.6	2.2
2	104.450	1.4	1.4	141.8	4.6	3.3	139.7	4.7	3.6	146.7	3.9	2.5
3	104.810	1.4	1.4	143.0	3.4	3.0	140.9	3.5	3.2	148.2	4.2	2.8
4	105.280	1.8	1.6	144.6	4.6	3.5	142.3	4.0	3.5	150.2	5.5	3.5
2000 1	106.250	3.7	2.1	146.6	5.6	4.6	143.9	4.6	4.2	153.2	8.2	5.4
2	106.810	2.1	2.3	148.3	4.7	4.6	145.4	4.2	4.1	155.1	5.1	5.7
3	107.310	1.9	2.4	149.7	3.8	4.7	146.7	3.6	4.1	157.0	5.0	5.9
4	107.780	1.8	2.4	151.0	3.5	4.4	147.9	3.3	3.9	158.7	4.4	5.7
2001 1	108.650	3.3	2.3	152.7	4.6	4.2	149.5	4.4	3.9	161.0	5.9	5.1
2	109.220	2.1	2.3	154.2	4.0	4.0	150.9	3.8	3.8	162.5	3.8	4.8
3	109.800	2.1	2.3	155.6	3.7	3.9	152.0	2.9	3.6	164.7	5.5	4.9

	Exports			Imports			Nonfarm Output per Hour			Nonfarm Compensation/Hr		
	Billions of 1996 \$	Percent change		Billions of 1996 \$	Percent change		Index	Percent change		Index	Percent change	
		Annual rate	Year ago		Annual rate	Year ago		Annual rate	Year ago		Annual rate	Year ago
1997	981.458		12.3	1094.778		13.7	107.5		2.0	113.1		3.0
1998	1002.420		2.1	1223.500		11.8	110.3		2.6	119.2		5.4
1999	1034.852		3.2	1351.721		10.5	112.9		2.4	124.4		4.4
2000	1133.204		9.5	1532.260		13.4	116.2		2.9	132.0		6.1
1998 1	1003.364	0.5	6.7	1184.176	15.9	14.5	109.6	4.5	3.2	116.9	6.8	4.6
2	993.110	-4.0	1.4	1216.171	11.3	12.6	109.7	0.4	2.2	118.5	5.6	5.6
3	987.612	-2.2	-1.7	1228.855	4.2	9.4	110.4	2.6	2.0	120.0	5.2	5.9
4	1025.577	16.3	2.3	1264.818	12.2	10.8	111.6	4.4	3.0	121.2	4.1	5.4
1999 1	1007.560	-6.8	0.4	1290.592	8.4	9.0	112.2	2.2	2.4	122.3	3.7	4.6
2	1018.015	4.2	2.5	1331.390	13.3	9.5	111.9	-1.1	2.0	123.6	4.3	4.3
3	1041.766	9.7	5.5	1375.106	13.8	11.9	112.7	2.9	2.1	125.1	4.9	4.2
4	1072.056	12.1	4.5	1409.808	10.5	11.5	114.7	7.3	2.8	126.4	4.2	4.3
2000 1	1095.457	9.0	8.7	1466.565	17.1	13.6	114.5	-0.7	2.0	128.4	6.5	5.0
2	1130.581	13.5	11.1	1523.380	16.4	14.4	116.3	6.4	3.9	130.7	7.4	5.7
3	1159.306	10.6	11.3	1570.554	13.0	14.2	116.7	1.4	3.5	133.0	7.2	6.3
4	1147.470	-4.0	7.0	1568.541	-0.5	11.3	117.4	2.4	2.4	135.9	9.0	7.5
2001 1	1144.061	-1.2	4.4	1548.585	-5.0	5.6	117.4	0.0	2.5	137.6	5.1	7.2
2	1108.299	-11.9	-2.0	1515.039	-8.4	-0.5	118.0	2.1	1.5	139.2	4.7	6.5
3	1059.040	-16.6	-8.6	1454.025	-15.2	-7.4						

	Household Survey Employment				Nonfarm Payroll Employment				Nonfarm Aggregate Hours				
	Thousands	Change	Percent change		Thousands	Change	Percent change		Index	Percent change			
			Annual rate	Year ago			Annual rate	Year ago		Monthly rate	Annual rate	Year ago	
1996	126720	1812		1.5	119589	2402		2.0	136.6			2.4	
1997	129572	2852		2.3	122676	3087		2.6	141.4			3.5	
1998	131471	1898		1.5	125845	3168		2.6	145.2			2.7	
1999	133501	2030		1.5	128901	3056		2.4	148.4			2.2	
2000	135215	1714		1.3	131757	2857		2.2	151.4			2.1	
1999	1	132923	632	1.9	1.7	127775	801	2.5	2.4	147.0	0.3	1.4	1.9
	2	133192	269	0.8	1.5	128503	727	2.3	2.4	147.9	0.6	2.6	2.2
	3	133627	435	1.3	1.6	129217	715	2.2	2.4	148.7	0.5	2.1	2.2
	4	134263	636	1.9	1.5	130107	890	2.8	2.5	149.9	0.8	3.4	2.3
2000	1	135036	774	2.3	1.6	130984	877	2.7	2.5	151.0	0.7	3.0	2.7
	2	135181	145	0.4	1.5	131854	870	2.7	2.6	151.5	0.3	1.2	2.4
	3	135049	-132	-0.4	1.1	131927	74	0.2	2.1	151.5	0.0	0.2	1.9
	4	135593	544	1.6	1.0	132264	336	1.0	1.7	151.6	0.0	0.2	1.1
2001	1	135865	272	0.8	0.6	132559	295	0.9	1.2	152.0	0.2	1.0	0.6
	2	135130	-735	-2.1	-0.0	132483	-76	-0.2	0.5	151.4	-0.4	-1.5	-0.0
	3	134984	-145	-0.4	-0.0	132342	-141	-0.4	0.3	150.3	-0.7	-3.0	-0.8
1999	Oct	134049	254	2.3	1.5	129863	453	4.3	2.5	149.6	0.6	7.5	2.3
	Nov	134241	192	1.7	1.5	130093	230	2.1	2.5	149.9	0.2	2.4	2.5
	Dec	134498	257	2.3	1.4	130365	272	2.5	2.4	150.2	0.2	2.4	2.2
2000	Jan	134976	478	4.3	1.5	130668	303	2.8	2.5	150.7	0.3	4.1	2.8
	Feb	135120	144	1.3	1.7	130843	175	1.6	2.3	150.9	0.1	1.6	2.4
	Mar	135013	-107	-0.9	1.6	131441	598	5.6	2.7	151.4	0.3	4.0	3.1
	Apr	135517	504	4.6	2.0	131683	242	2.2	2.6	151.8	0.3	3.2	2.8
	May	134843	-674	-5.8	1.2	131909	226	2.1	2.7	151.1	-0.5	-5.4	2.2
	Jun	135183	340	3.1	1.3	131969	60	0.5	2.5	151.5	0.3	3.2	2.2
	Jul	134898	-285	-2.5	1.0	131899	-70	-0.6	2.2	151.6	0.1	0.8	2.0
	Aug	134939	41	0.4	1.0	131837	-62	-0.6	2.0	151.3	-0.2	-2.3	1.7
	Sep	135310	371	3.3	1.1	132046	209	1.9	2.0	151.7	0.3	3.2	2.0
	Oct	135464	154	1.4	1.1	132145	99	0.9	1.8	151.8	0.1	0.8	1.5
	Nov	135478	14	0.1	0.9	132279	134	1.2	1.7	151.8	0.0	0.0	1.3
	Dec	135836	358	3.2	1.0	132367	88	0.8	1.5	151.2	-0.4	-4.6	0.7
2001	Jan	135999	163	1.4	0.8	132428	61	0.6	1.3	152.2	0.7	8.2	1.0
	Feb	135815	-184	-1.6	0.5	132595	167	1.5	1.3	151.7	-0.3	-3.9	0.5
	Mar	135780	-35	-0.3	0.6	132654	59	0.5	0.9	152.0	0.2	2.4	0.4
	Apr	135354	-426	-3.7	-0.1	132489	-165	-1.5	0.6	151.5	-0.3	-3.9	-0.2
	May	135103	-251	-2.2	0.2	132530	41	0.4	0.5	151.5	0.0	0.0	0.3
	Jun	134932	-171	-1.5	-0.2	132431	-99	-0.9	0.4	151.2	-0.2	-2.4	-0.2
	Jul	135379	447	4.0	0.4	132449	18	0.2	0.4	150.8	-0.3	-3.1	-0.5
	Aug	134393	-986	-8.4	-0.4	132395	-54	-0.5	0.4	150.1	-0.5	-5.4	-0.8
	Sep	135181	788	7.3	-0.1	132182	-213	-1.9	0.1	149.9	-0.1	-1.6	-1.2
	Oct	134562	-619	-5.4	-0.7	131767	-415	-3.7	-0.3	148.8	-0.7	-8.5	-2.0

	Unempl. Rate	Retail and Food Services Sales				Industrial Production				Treasury Yields		
		Billions of dollars	Percent change			Index	Percent change			3-mo	10-yr	
			Monthly/ quarterly	Annual rate	Year ago		Monthly/ quarterly	Annual rate	Year ago			
1996	5.4	2638.816			5.8	119.556			4.6	5.01	6.44	
1997	5.0	2769.378			4.9	127.586			6.7	5.06	6.35	
1998	4.5	2906.996			5.0	133.669			4.8	4.78	5.26	
1999	4.2	3146.523			8.2	139.203			4.1	4.64	5.64	
2000	4.0	3385.615			7.6	146.989			5.6	5.82	6.03	
1999	1	4.3	761.800	2.0	8.4	7.4	136.506	1.0	3.9	3.3	4.41	4.98
	2	4.3	777.546	2.1	8.5	7.2	138.137	1.2	4.9	3.8	4.45	5.54
	3	4.2	794.178	2.1	8.8	9.4	140.114	1.4	5.8	4.4	4.65	5.88
	4	4.1	812.999	2.4	9.8	8.9	142.056	1.4	5.7	5.1	5.04	6.14
2000	1	4.0	839.058	3.2	13.5	10.1	144.365	1.6	6.7	5.8	5.52	6.48
	2	4.0	842.109	0.4	1.5	8.3	147.130	1.9	7.9	6.5	5.71	6.18
	3	4.0	851.995	1.2	4.8	7.3	148.406	0.9	3.5	5.9	6.02	5.89
	4	4.0	852.453	0.1	0.2	4.9	148.055	-0.2	-0.9	4.2	6.02	5.57
2001	1	4.2	863.401	1.3	5.2	2.9	145.481	-1.7	-6.8	0.8	4.82	5.05
	2	4.5	874.458	1.3	5.2	3.8	143.868	-1.1	-4.4	-2.2	3.66	5.27
	3	4.8	872.178	-0.3	-1.0	2.4	141.581	-1.6	-6.2	-4.6	3.17	4.98
1999	Oct	4.1	267.076	0.4	5.0	8.1	141.481	0.8	9.7	4.4	4.86	6.11
	Nov	4.1	270.712	1.4	17.6	8.8	141.879	0.3	3.4	5.1	5.07	6.03
	Dec	4.1	275.211	1.7	21.9	9.7	142.808	0.7	8.1	5.7	5.20	6.28
2000	Jan	4.0	275.864	0.2	2.9	9.6	143.569	0.5	6.6	5.6	5.32	6.66
	Feb	4.1	279.909	1.5	19.1	10.0	144.291	0.5	6.2	5.9	5.55	6.52
	Mar	4.0	283.285	1.2	15.5	10.8	145.234	0.7	8.1	5.8	5.69	6.26
	Apr	4.0	279.961	-1.2	-13.2	8.9	146.266	0.7	8.9	6.4	5.66	5.99
	May	4.1	280.447	0.2	2.1	7.9	147.228	0.7	8.2	6.4	5.79	6.44
	Jun	4.0	281.701	0.4	5.5	8.1	147.896	0.5	5.6	6.7	5.69	6.10
	Jul	4.0	283.035	0.5	5.8	7.8	147.595	-0.2	-2.4	5.7	5.96	6.05
	Aug	4.1	282.905	-0.0	-0.5	6.5	148.650	0.7	8.9	6.0	6.09	5.83
	Sep	3.9	286.055	1.1	14.2	7.5	148.973	0.2	2.6	6.1	6.00	5.80
	Oct	3.9	285.070	-0.3	-4.1	6.7	148.660	-0.2	-2.5	5.1	6.11	5.74
	Nov	4.0	283.648	-0.5	-5.8	4.8	148.206	-0.3	-3.6	4.5	6.17	5.72
	Dec	4.0	283.735	0.0	0.4	3.1	147.300	-0.6	-7.1	3.1	5.77	5.24
2001	Jan	4.2	288.054	1.5	19.9	4.4	146.013	-0.9	-10.0	1.7	5.15	5.16
	Feb	4.2	288.245	0.1	0.8	3.0	145.443	-0.4	-4.6	0.8	4.88	5.10
	Mar	4.3	287.102	-0.4	-4.7	1.3	144.987	-0.3	-3.7	-0.2	4.42	4.89
	Apr	4.5	291.116	1.4	18.1	4.0	144.607	-0.3	-3.1	-1.1	3.87	5.14
	May	4.4	291.691	0.2	2.4	4.0	144.227	-0.3	-3.1	-2.0	3.62	5.39
	Jun	4.5	291.651	-0.0	-0.2	3.5	142.771	-1.0	-11.5	-3.5	3.49	5.28
	Jul	4.5	292.228	0.2	2.4	3.2	142.689	-0.1	-0.7	-3.3	3.51	5.24
	Aug	4.9	293.435	0.4	5.1	3.7	141.754	-0.7	-7.6	-4.6	3.36	4.97
	Sep	4.9	286.515	-2.4	-24.9	0.2	140.300	-1.0	-11.6	-5.8	2.64	4.73
	Oct	5.4									2.16	4.57

	Consumer Price Index					Consumer Price Index less Food and Energy					Producer Price Index Finished Goods				
	Index	Percent change				Index	Percent change				Index	Percent change			
		Monthly/ quarterly	Annual rate	Year ago	Year to date		Monthly/ quarterly	Annual rate	Year ago	Year to date		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	141.6	1.3	5.3	3.9
	2	177.4	0.8	3.1	3.4	3.6	185.8	0.6	2.6	2.7	2.9	142.1	0.4	1.4	3.4
	3	177.7	0.2	0.7	2.7	2.6	187.0	0.6	2.5	2.7	2.8	140.9	-0.9	-3.4	1.8
1999	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	141.7	0.1	0.9	4.0
	Mar	176.3	0.1	0.7	3.0	4.0	185.1	0.2	2.6	2.7	3.5	141.6	-0.1	-0.8	3.0
	Apr	176.8	0.3	3.5	3.3	3.8	185.5	0.2	2.6	2.7	3.3	142.3	0.5	6.1	3.8
	May	177.5	0.4	4.9	3.6	4.0	185.7	0.1	1.3	2.6	2.9	142.4	0.1	0.8	3.9
	Jun	177.9	0.2	2.7	3.3	3.8	186.3	0.3	3.9	2.8	3.1	141.7	-0.5	-5.7	2.5
	Jul	177.4	-0.3	-3.3	2.7	2.8	186.6	0.2	1.9	2.7	2.9	140.4	-0.9	-10.5	1.6
	Aug	177.5	0.1	0.7	2.7	2.5	187.0	0.2	2.6	2.7	2.9	140.9	0.4	4.4	2.1
	Sep	178.2	0.4	4.8	2.6	2.8	187.4	0.2	2.6	2.6	2.8	141.4	0.4	4.3	1.7

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. **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: For information on how to calculate the **contribution** of a component to the overall GDP growth rate, 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) 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. 90 percent confidence intervals for the unemployment rate (± 0.2 percentage points) and change in household survey employment ($\pm 376,000$) 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 $\%(C)$ 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.

NOTE: Measures of retail sales (pp. 12-13), manufacturers' orders, shipments and inventories (p. 15), and the total business inventory-to-sales ratio (p. 5) are now based on the North American Industry Classification System (NAICS). Data from January 1992 onward are on a NAICS basis, while data before that are on the old Standard Industrial Classification (SIC) system. For more information, see <http://www.census.gov/epcd/www/naics.html>

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)