



Subject to Revision

The overall state of the economy is often judged by economic statistics such as inflation, unemployment, and, of course, gross domestic product (GDP). Many of these economic statistics undergo substantial revisions. This is especially true for GDP, which is revised twice in the first three months after its initial release. In the month after each quarter, the Bureau of Economic Analysis releases an advance estimate of GDP. In the two subsequent months, the BEA updates this estimate with preliminary and then final estimates. The initial estimates garner quite a bit of attention in the financial world, but how well do they reflect the true state of the economy? How well do they predict final GDP?

The advance estimate of GDP is calculated with incomplete data from the quarter including business inventories, housing, retail sales, and automobile sales. The preliminary estimate is released a month later and incorporates more data from the last month of the quarter. Even final GDP is subject to annual revisions, which have resulted in changes to prior GDP growth rates by more than 1.5 percentage points.¹

Economists Karen Dynan and Douglas Elmendorf report that, from 1968 to 2001, the average revision of GDP growth from the advance to the final estimate was 0.67 percentage points. During the same period, revisions around peaks and troughs of the business cycle varied greatly. Near business cycle peaks, revisions were—on average—similar in magnitude to those during the rest of the business cycle. Near troughs, however, estimates were revised quite a bit more. When it comes to detecting the end of a recession, therefore, current GDP estimates may not be the best indicator.

The magnitude of the revisions to GDP makes it unclear whether or not the most recent recession will conform to the rule of thumb that a recession includes at least two consecutive quarters of negative GDP growth.

Advance and preliminary GDP estimates for the third quarter of 2001 were -0.4 percent and -1.1 percent, respectively. Final GDP growth was revised down to -1.3 percent. Fourth quarter numbers were revised upward by 1.5 percentage points from the advance (0.2 percent) to the final estimate (1.7 percent). These revisions make it increasingly likely that the third quarter of 2001 was the only quarter in the recession with negative growth.

Revisions aside, from 1978 to 1991, 88 percent of the time the advance estimate correctly established the direction of quarterly change in real GDP growth.² Since total revisions do not tend to change the direction of the estimates, the initial numbers may be helpful when determining the direction in which GDP is heading, if not by how much. However, advance and preliminary estimates of GDP around business cycle turning points may be less accurate measures of output. One may take heart, though, that revisions to GDP appear to have gotten smaller (see accompanying figure) during two extended expansions.

—Abbigail J. Chiodo and Michael T. Owyang

¹Dynan, Karen E. and Elmendorf, Douglas W. “Do Provisional Estimates of Output Miss Economic Turning Points?” Working Paper 2001-51, Federal Reserve Board of Governors, November 2001.

²Young, Allan H. “Reliability and Accuracy of the Quarterly Estimates of GDP.” *Survey of Current Business*, October 1993, pp. 29-43.

Revisions from Advance to Current Estimate of GDP Growth (in Percentage Points)

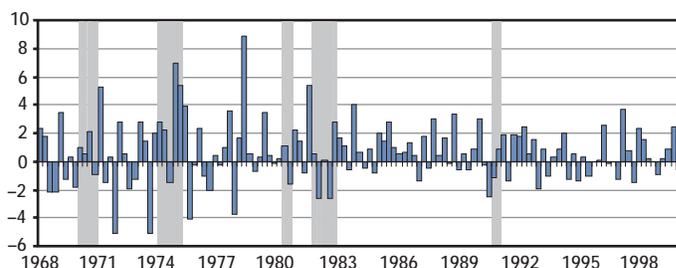


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Conventions used in this publication:

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 during the previous year. *Compounded annual rate of change* 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 compounded annual rate of change of x between the previous quarter $t-1$ and the current quarter t is:

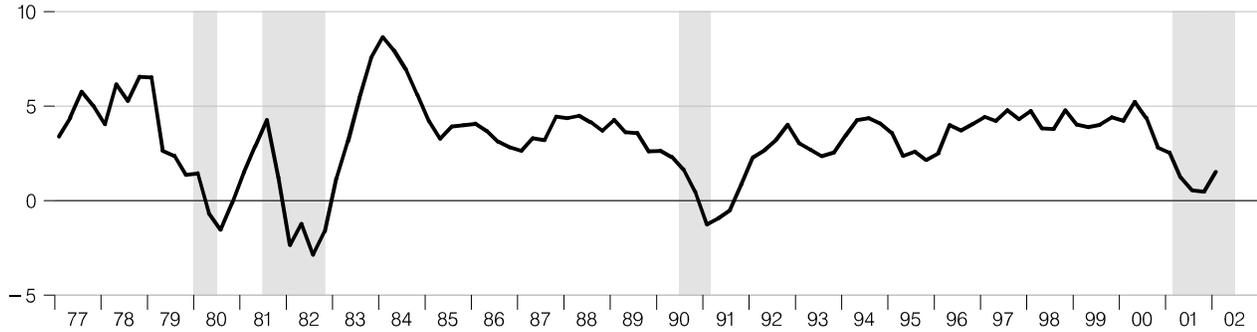
$$100 \times \left[\left(\frac{x_t}{x_{t-1}} \right)^4 - 1 \right]$$

For monthly data replace 4 with 12.

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

Real Gross Domestic Product

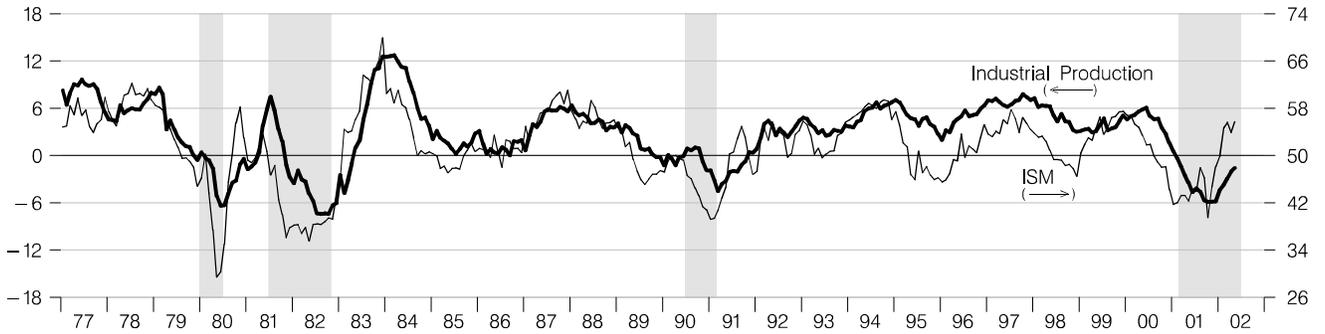
Percent change from year ago



Industrial Production and Institute for Supply Management (ISM) Indexes

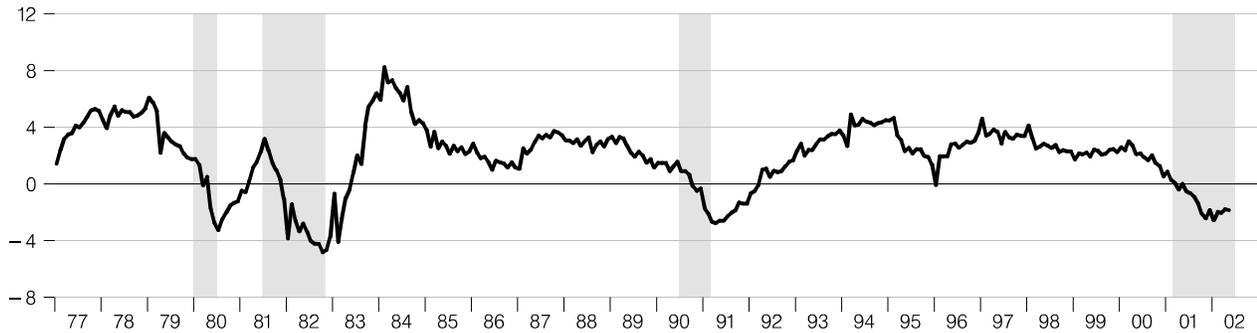
Percent change from year ago

Index



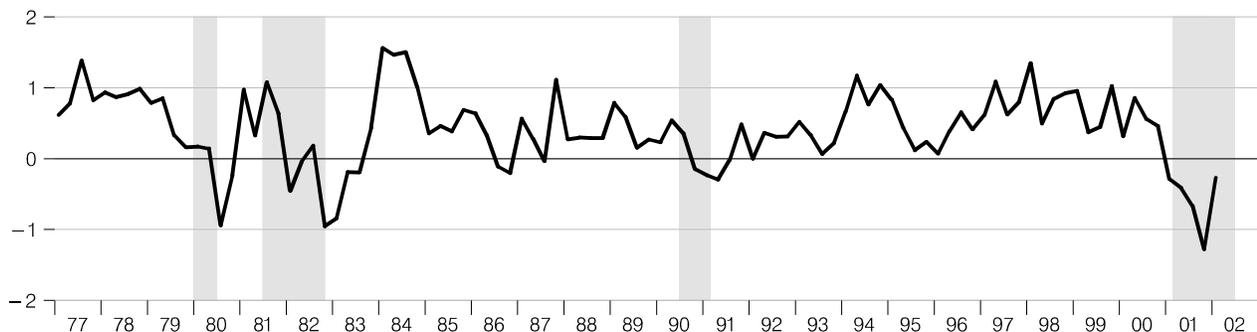
Aggregate Private Nonfarm Hours

Percent change from year ago

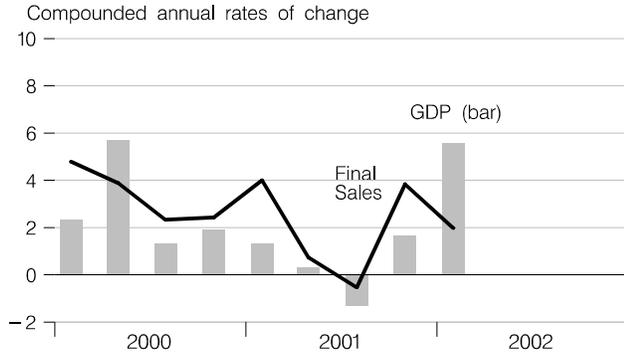


Real Change in Private Inventories

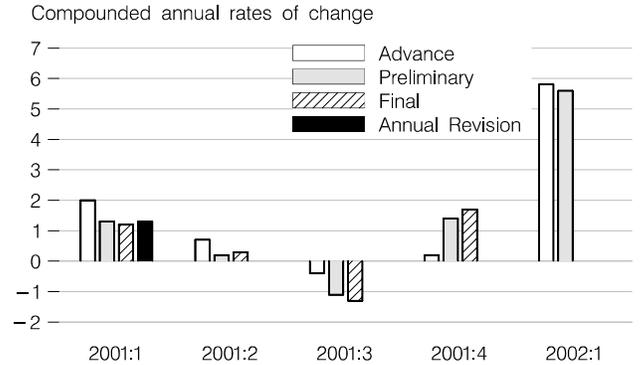
Percent of GDP



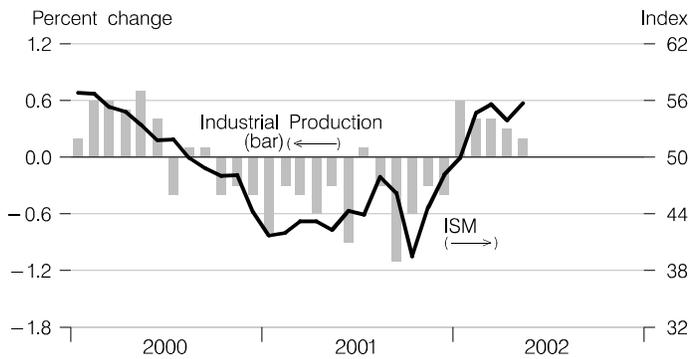
Real Final Sales and GDP



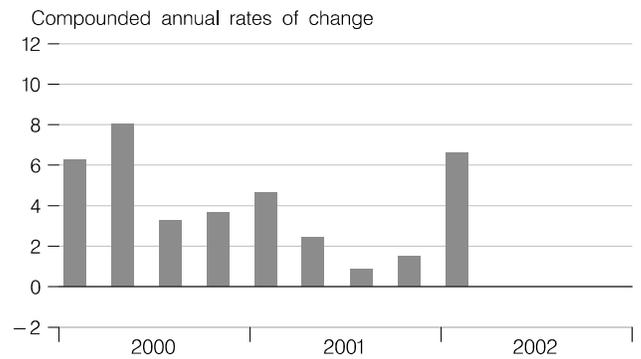
Real GDP Revisions



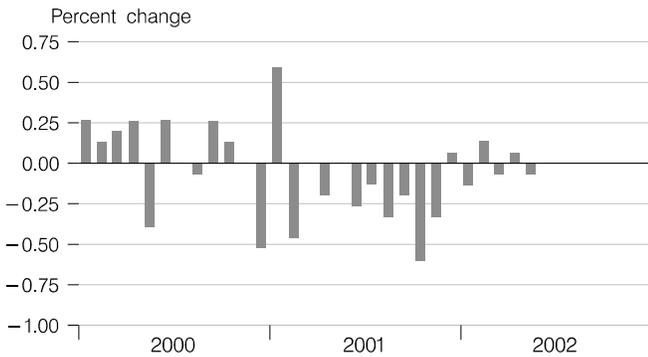
Industrial Production and ISM Index



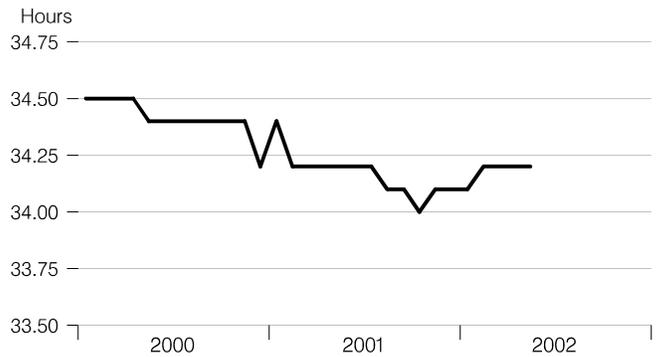
Nominal Gross Domestic Product



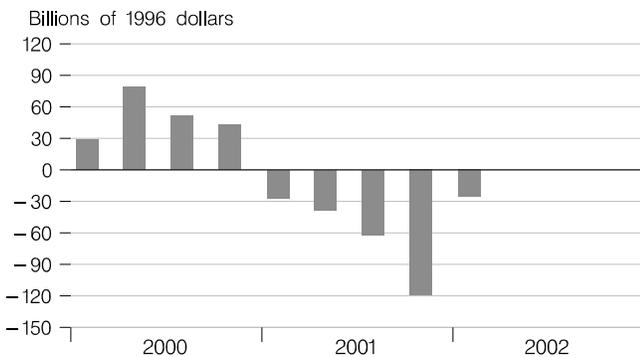
Aggregate Private Nonfarm Hours



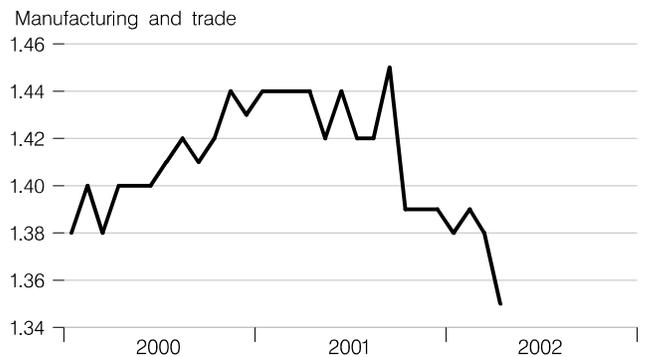
Average Weekly Private Nonfarm Hours



Real Change in Private Inventories

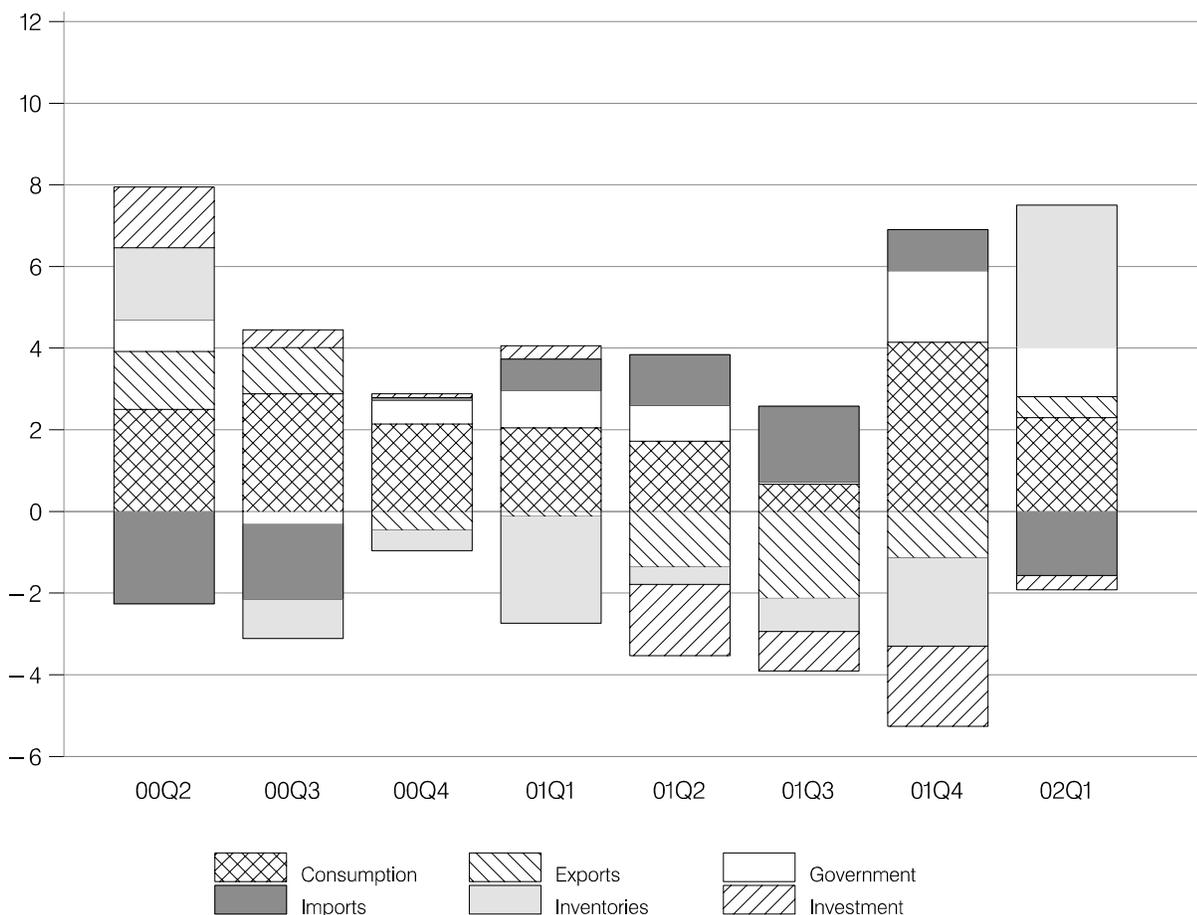


Inventory-Sales Ratio



Contribution of Components to Real GDP Growth

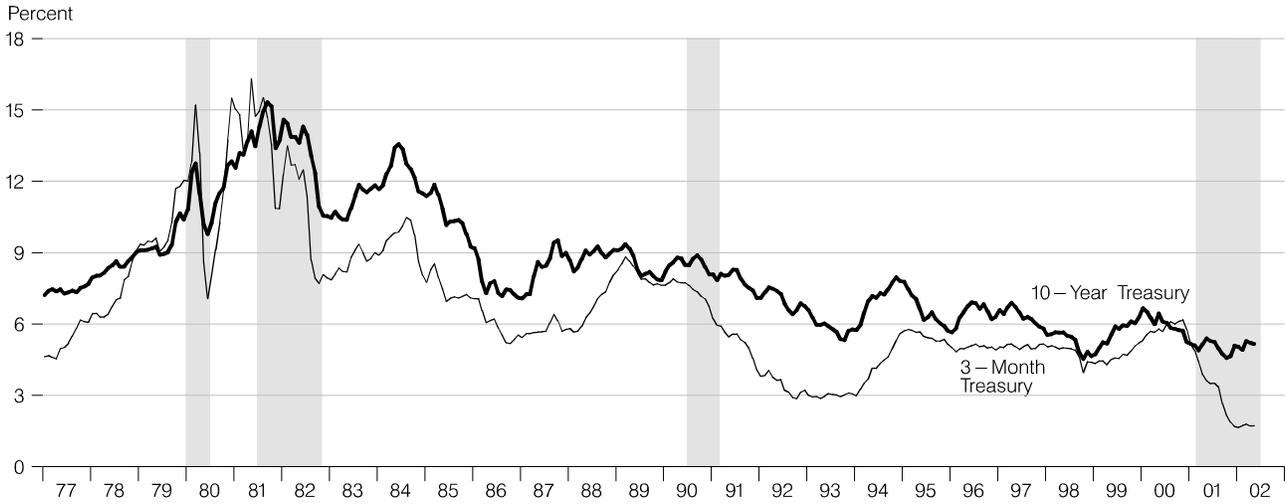
Percentage points at compounded annual rates



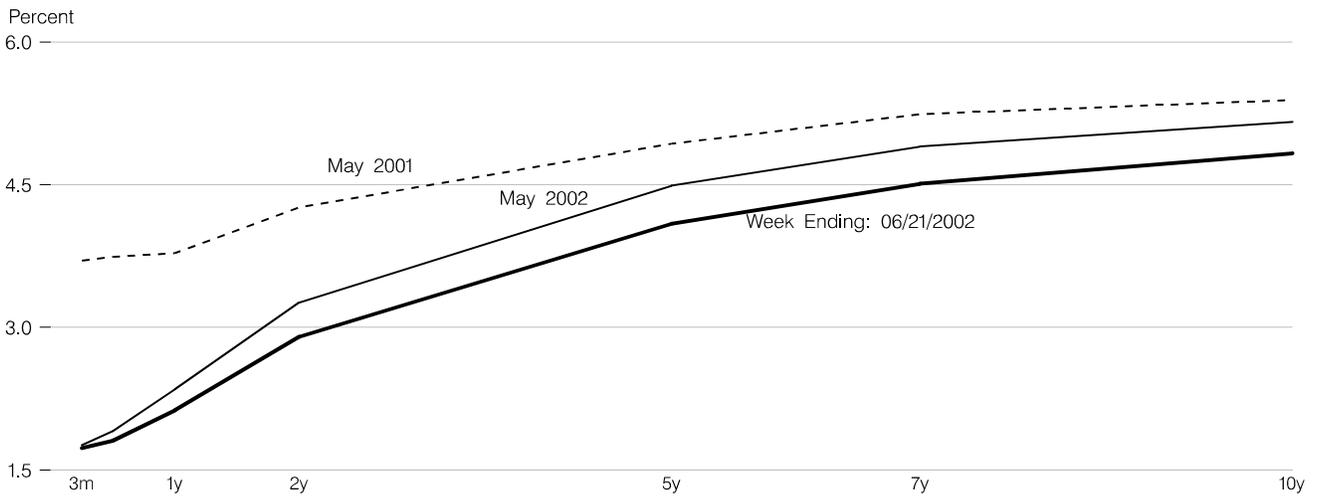
Contributions to Real GDP Growth Rate

	2000			2001				2002
	2nd	3rd	4th	1st	2nd	3rd	4th	1st
Final Sales	3.93	2.29	2.41	3.93	0.73	-0.52	3.81	2.11
Change in Inventory	1.76	-0.95	-0.50	-2.61	-0.42	-0.81	-2.16	3.47
Consumption	2.50	2.88	2.14	2.05	1.72	0.67	4.14	2.30
Fixed Investment	1.49	0.44	0.09	0.33	-1.74	-0.97	-1.96	-0.35
Nonresidential	1.52	0.91	0.13	-0.02	-1.99	-1.08	-1.75	-0.96
Residential	-0.03	-0.47	-0.05	0.35	0.25	0.10	-0.21	0.61
Government	0.78	-0.32	0.58	0.92	0.87	0.05	1.76	1.22
Federal	0.90	-0.66	0.27	0.19	0.11	0.21	0.66	0.69
State and Local	-0.12	0.34	0.31	0.73	0.76	-0.16	1.10	0.53
Net Exports	-0.84	-0.70	-0.39	0.63	-0.12	-0.27	-0.14	-1.06
Exports	1.42	1.13	-0.46	-0.13	-1.37	-2.13	-1.14	0.51
Imports	-2.26	-1.84	0.07	0.76	1.25	1.86	1.00	-1.57
Residual	-0.47	0.22	-0.08	0.39	0.38	0.28	0.54	-0.03
Real GDP Growth	5.69	1.34	1.91	1.32	0.31	-1.33	1.65	5.58

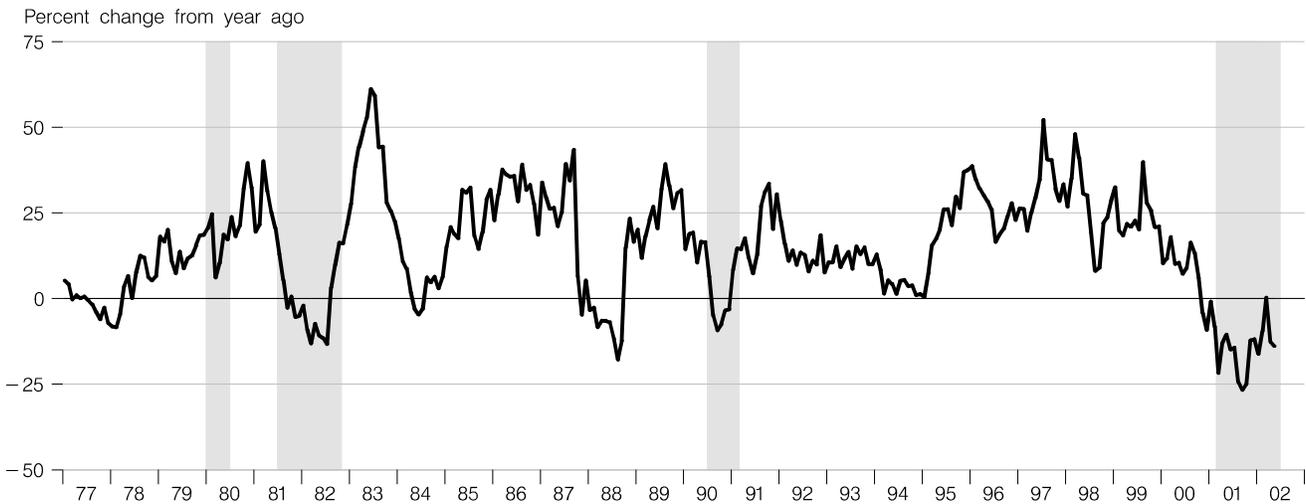
Interest Rates



Treasury Yield Curve

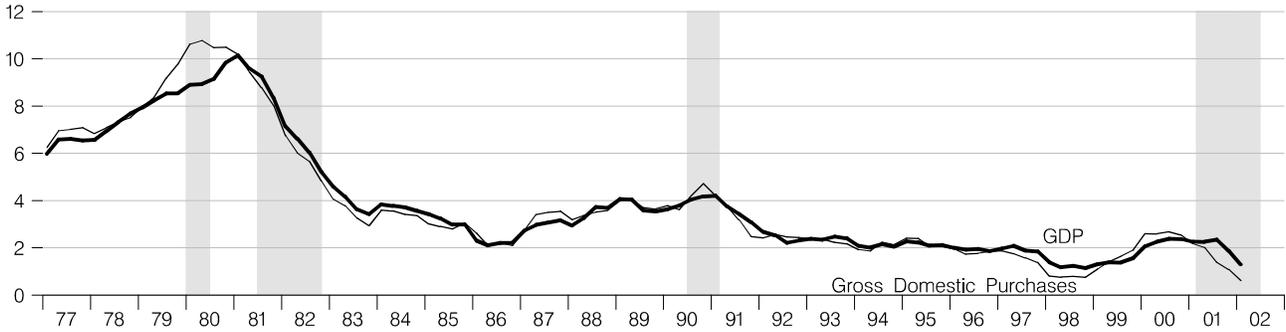


Standard and Poor's 500 Index with Reinvested Dividends



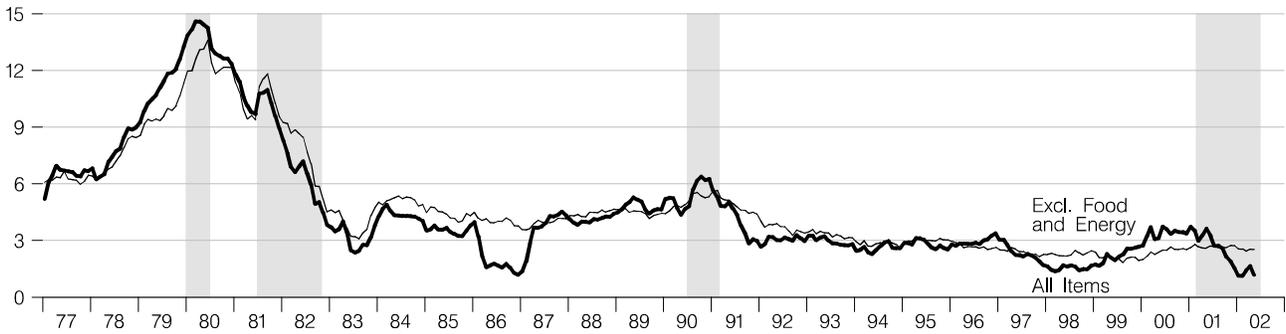
NIPA Chain Price Indexes

Percent change from year ago



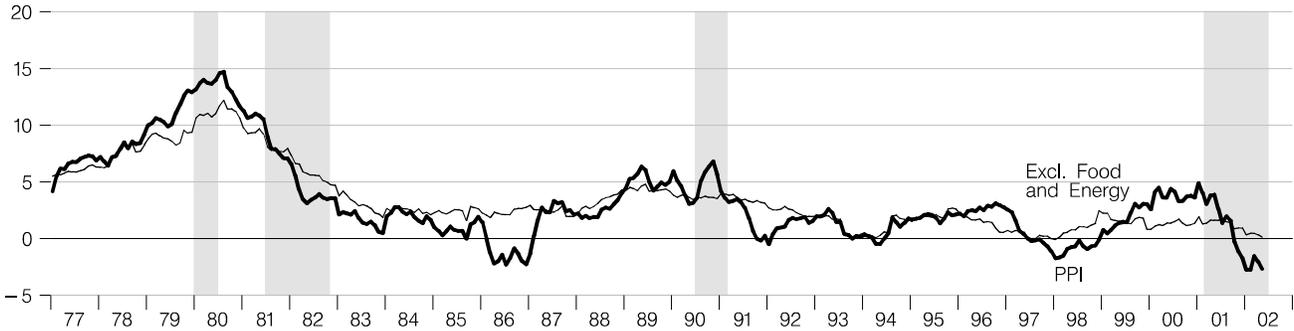
Consumer Price Index

Percent change from year ago



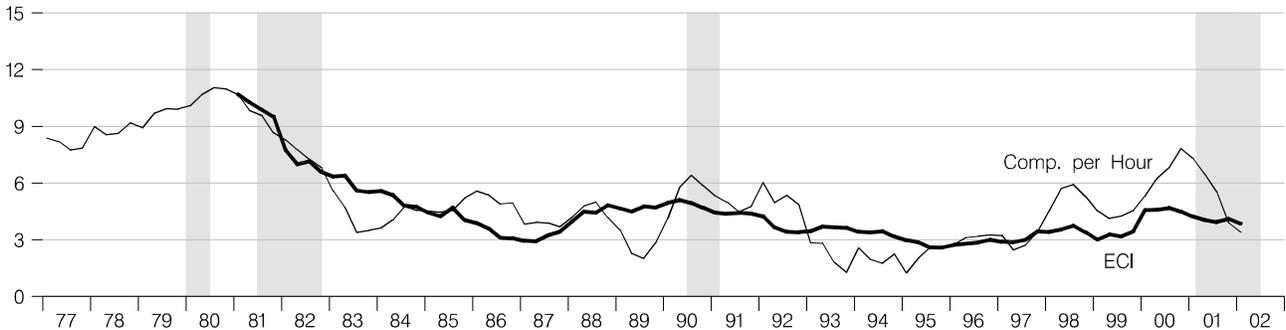
Producer Price Index, Finished Goods

Percent change from year ago

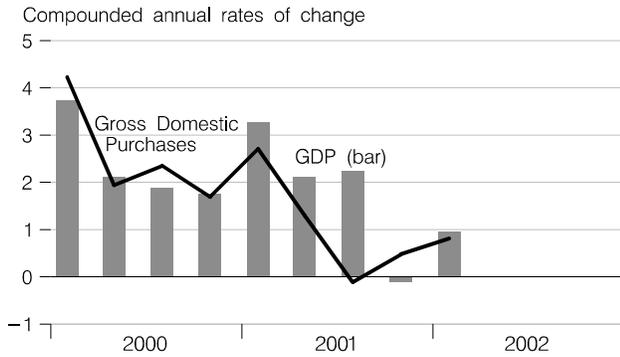


Employment Cost Index and Compensation per Hour

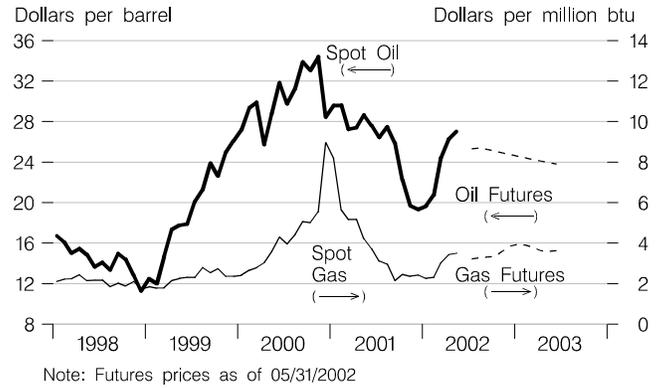
Percent change from year ago



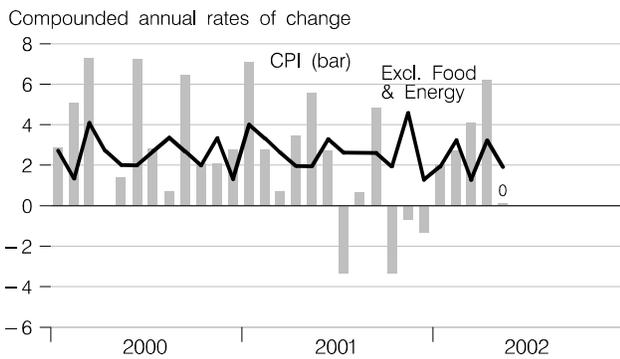
NIPA Chain Price Indexes



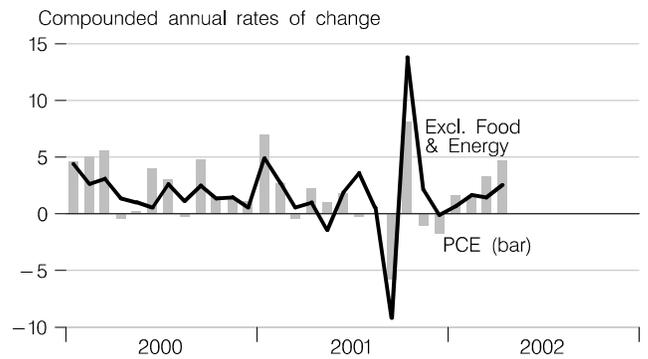
Crude Oil and Natural Gas Prices: Spot and Futures



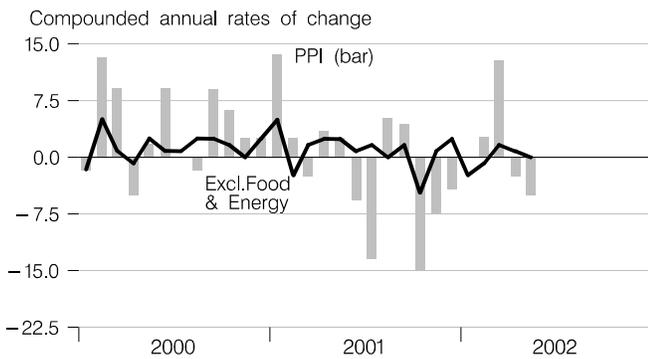
Consumer Price Index



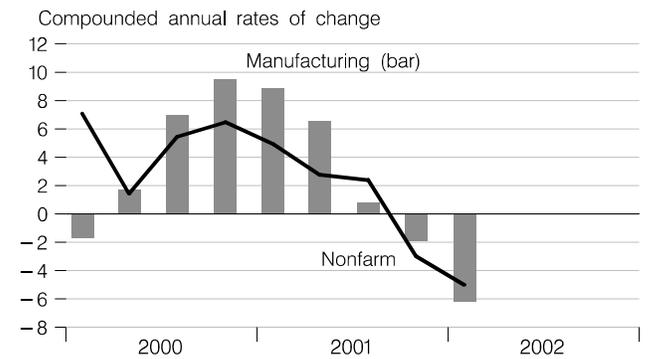
Consumption Chain Price Index



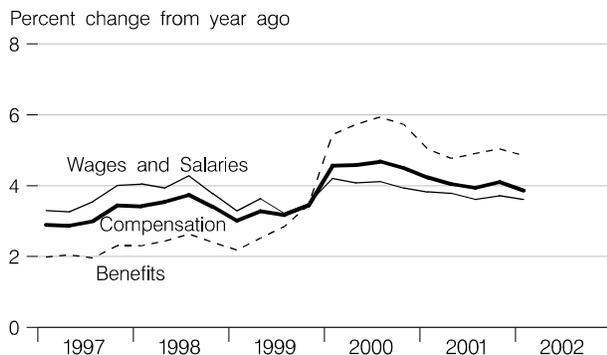
Producer Price Index, Finished Goods



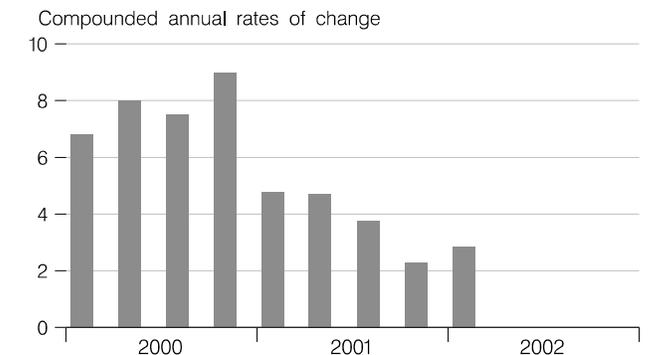
Unit Labor Cost



Employment Cost Index

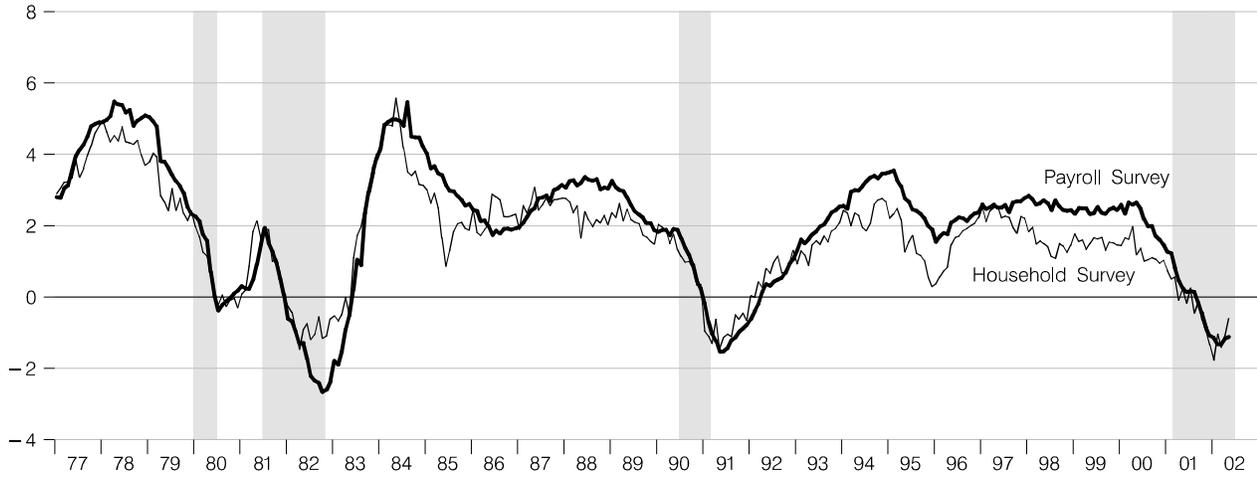


Compensation per Hour



Employment

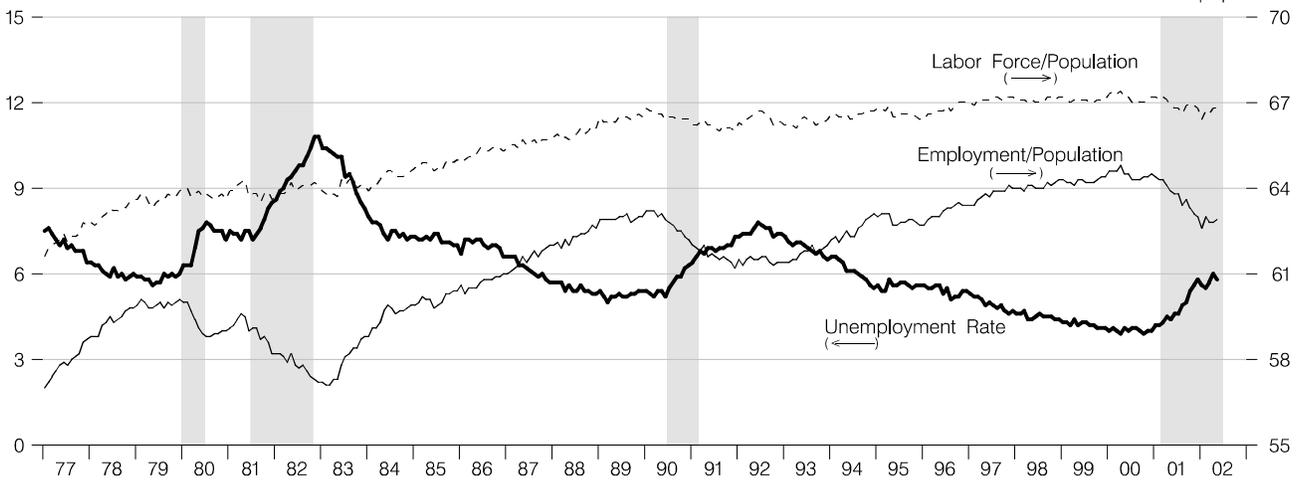
Percent change from year ago



Unemployment, Labor Force Participation and Employment Rates

Percent of labor force

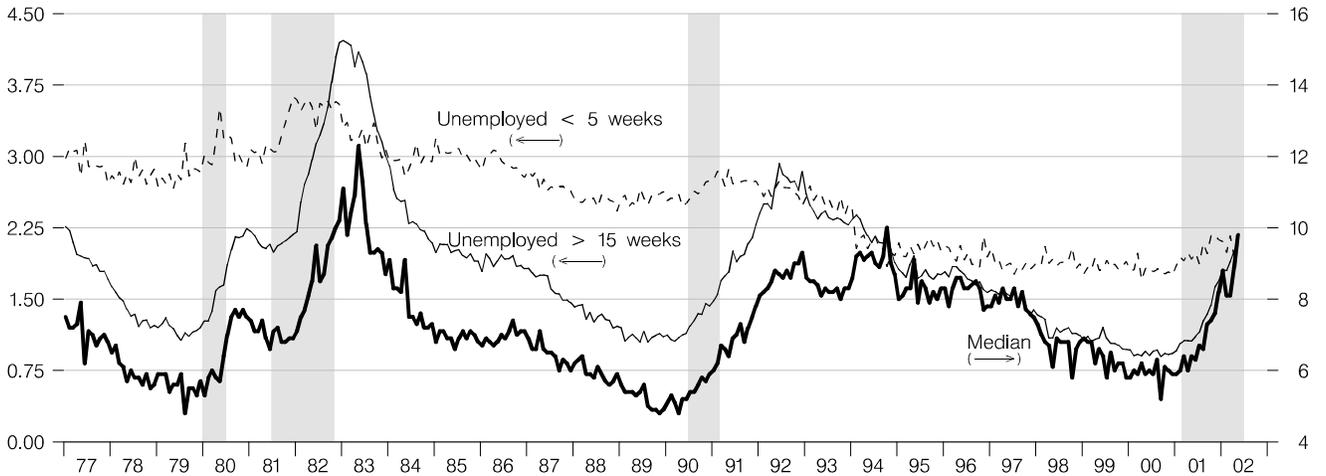
Percent of population



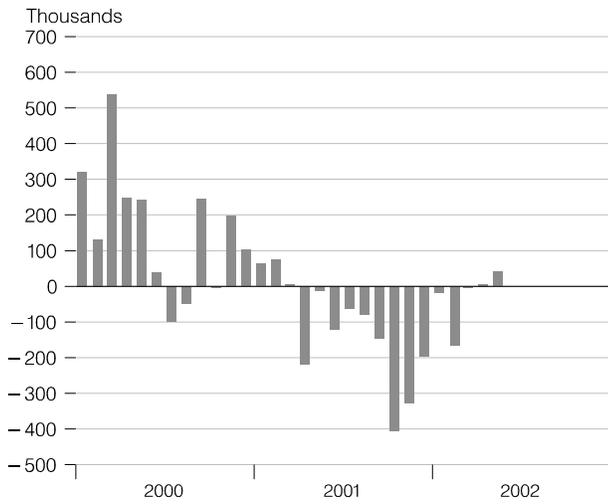
Duration of Unemployment

Percent of labor force

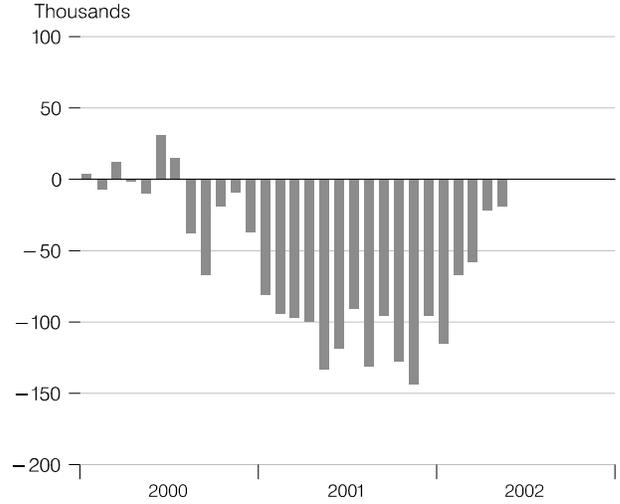
Weeks



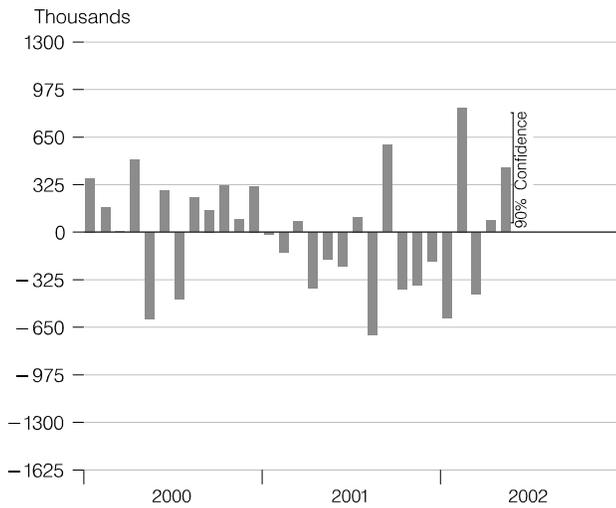
Change in Nonfarm Payrolls



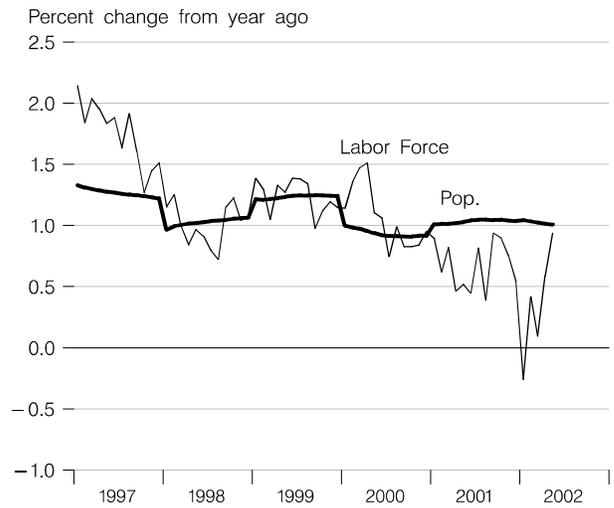
Change in Manufacturing Payrolls



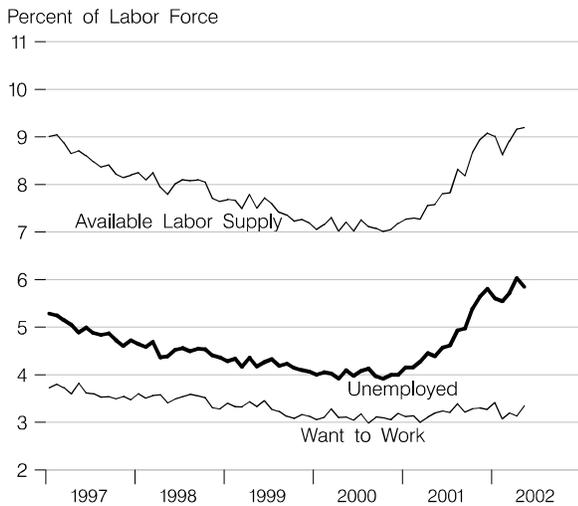
Change in Household Employment



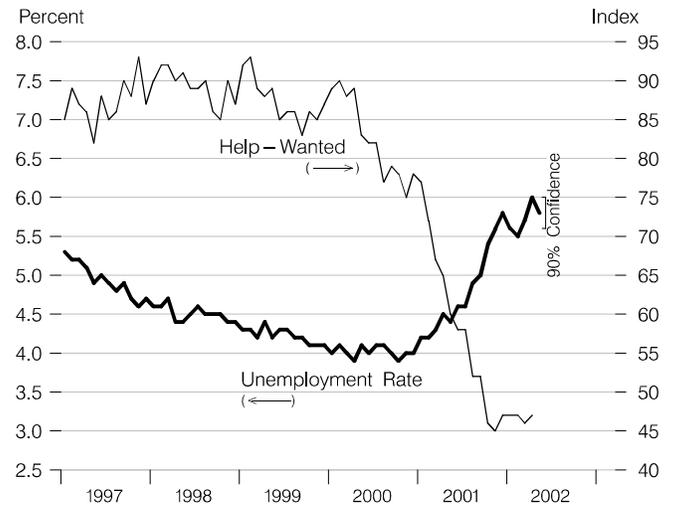
Labor Force and Population



Available Labor Supply and Components

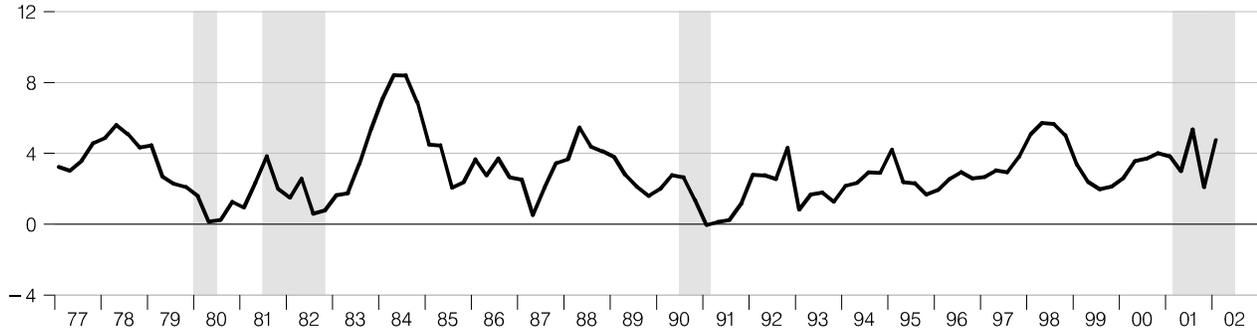


Unemployment Rate and Help-Wanted Advertising Index



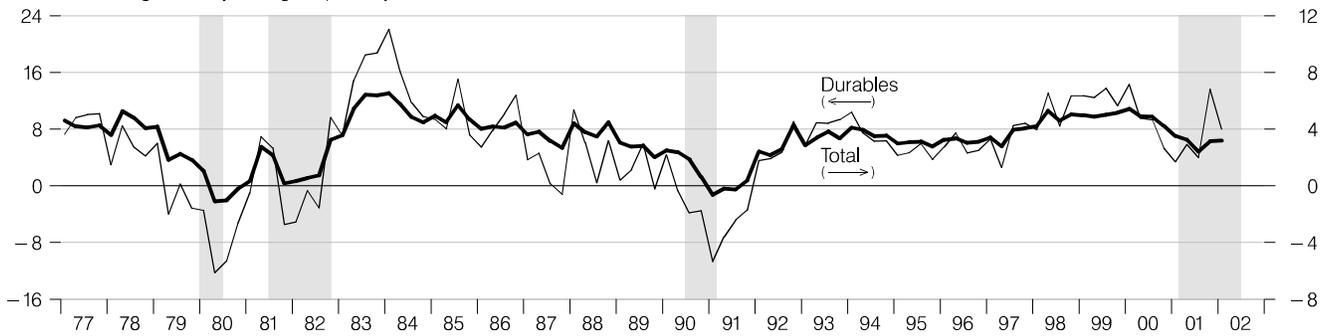
Real Disposable Personal Income

Percent change from year ago, quarterly data



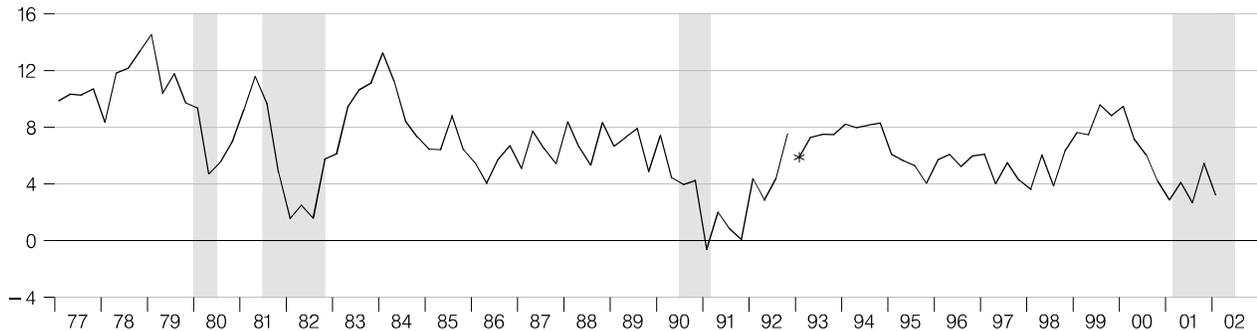
Real Consumption

Percent change from year ago, quarterly data



Retail and Food Services Sales

Percent change from year ago, quarterly average

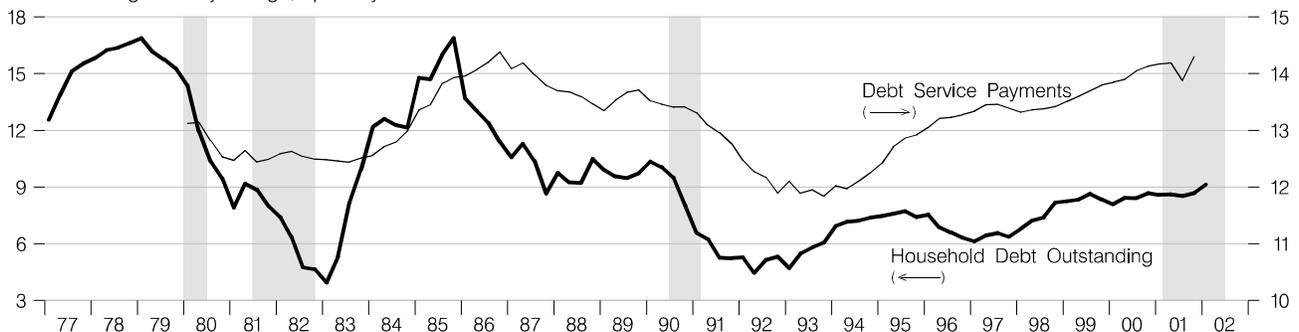


*Data before January 1992 are not strictly comparable (see End Notes).

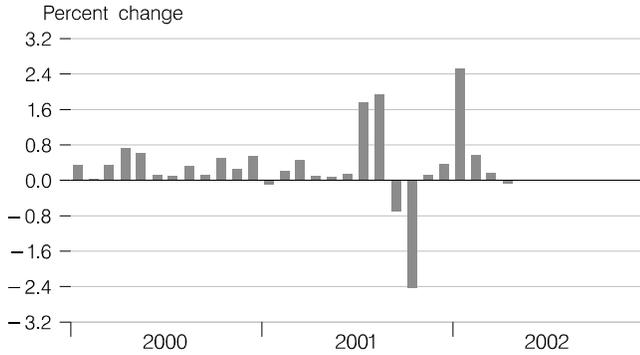
Debt Service Payments as a Percent of Disposable Income and Household Debt Outstanding

Percent change from year ago, quarterly data

Percent



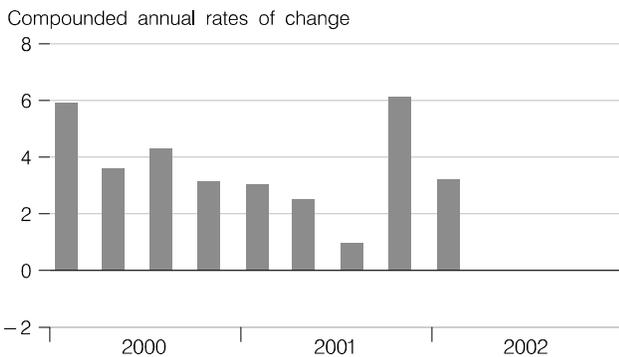
Real Disposable Personal Income



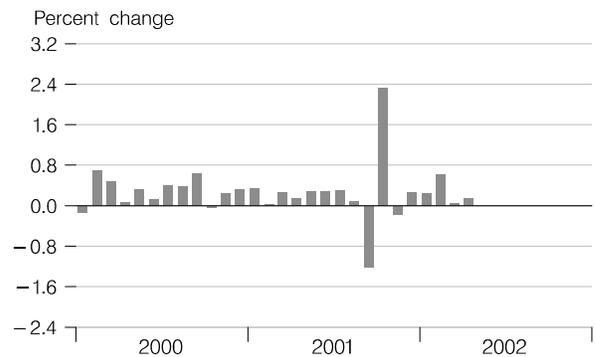
Personal Saving Rate



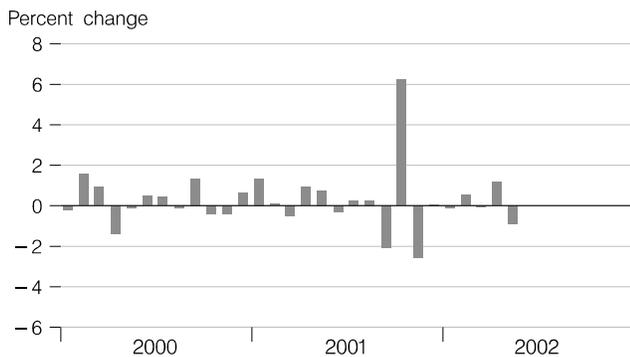
Real Consumption



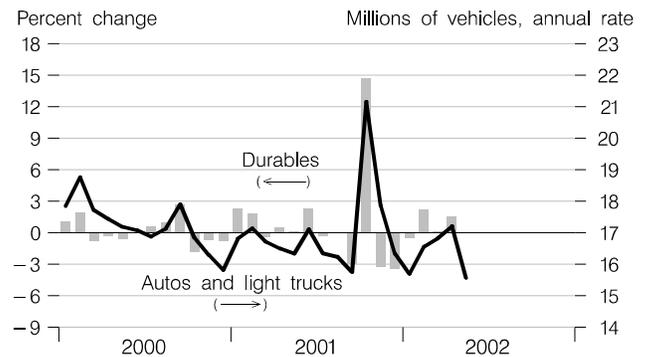
Real Consumption



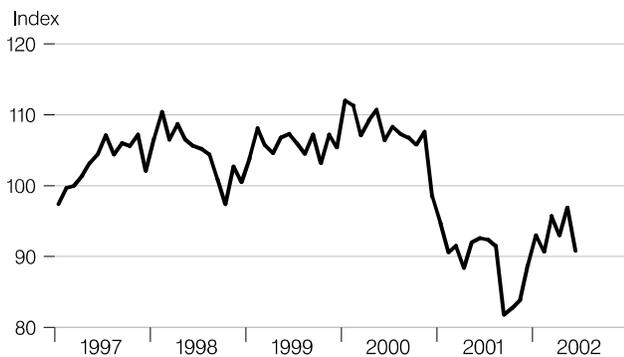
Retail and Food Services Sales



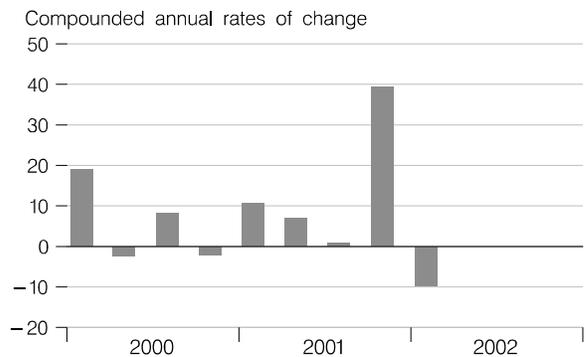
Real Durables Consumption and Vehicle Sales



Consumer Sentiment (U. of Michigan)

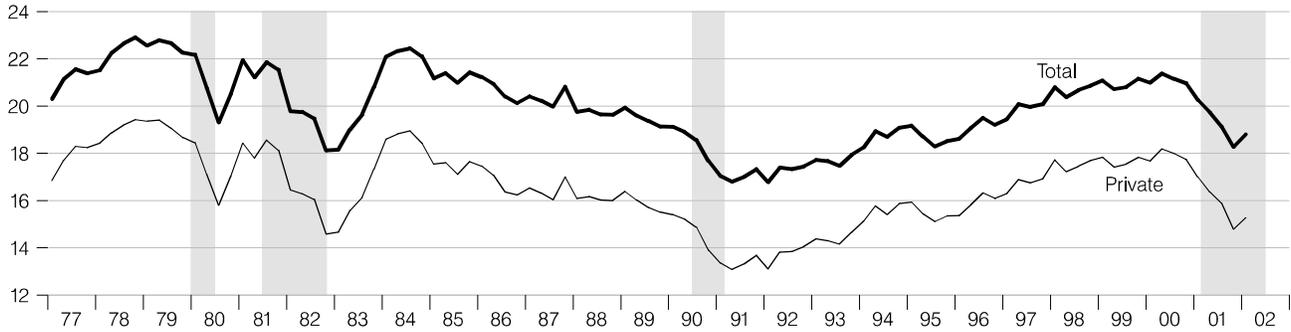


Real Durables Consumption



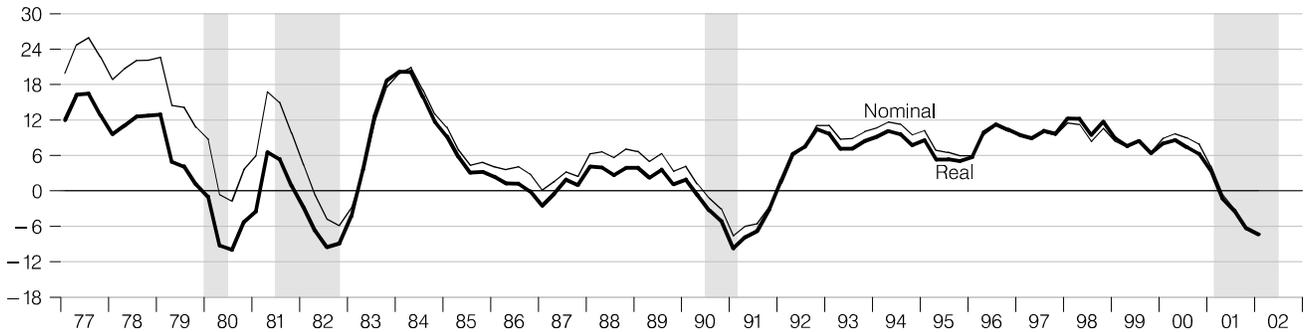
Investment

Percent of Nominal GDP



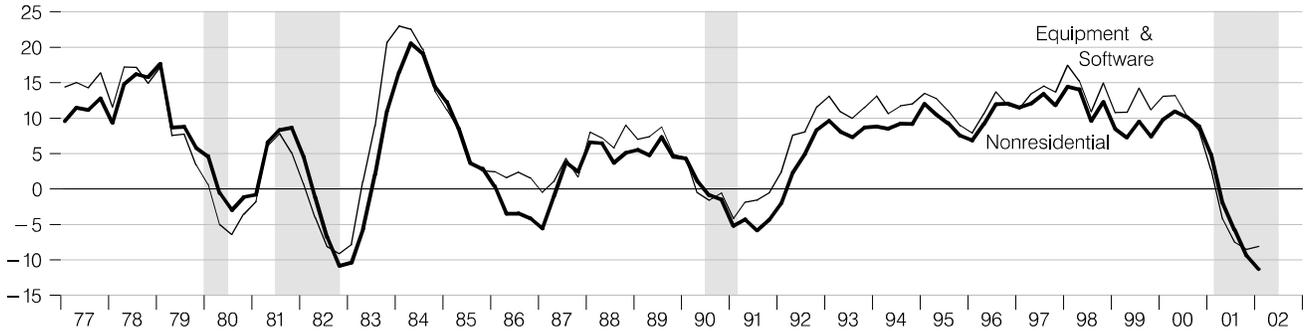
Private Fixed Investment

Percent change from year ago



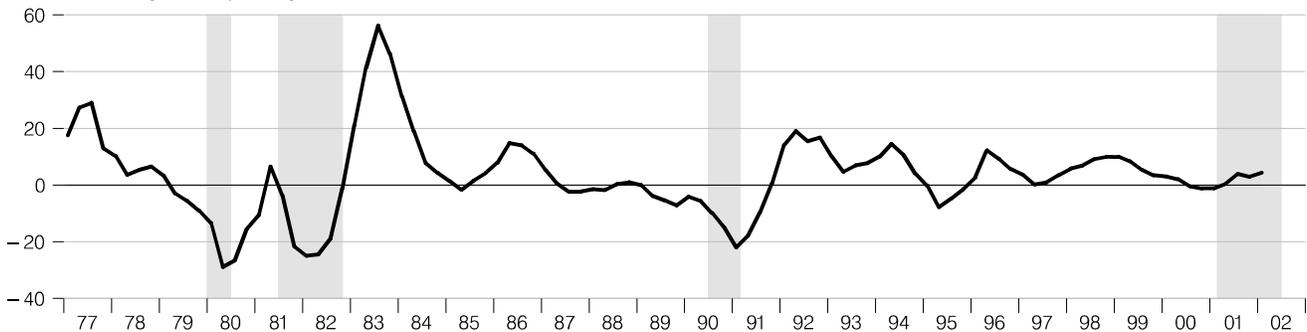
Real Nonresidential Fixed and Equipment & Software Investment

Percent change from year ago

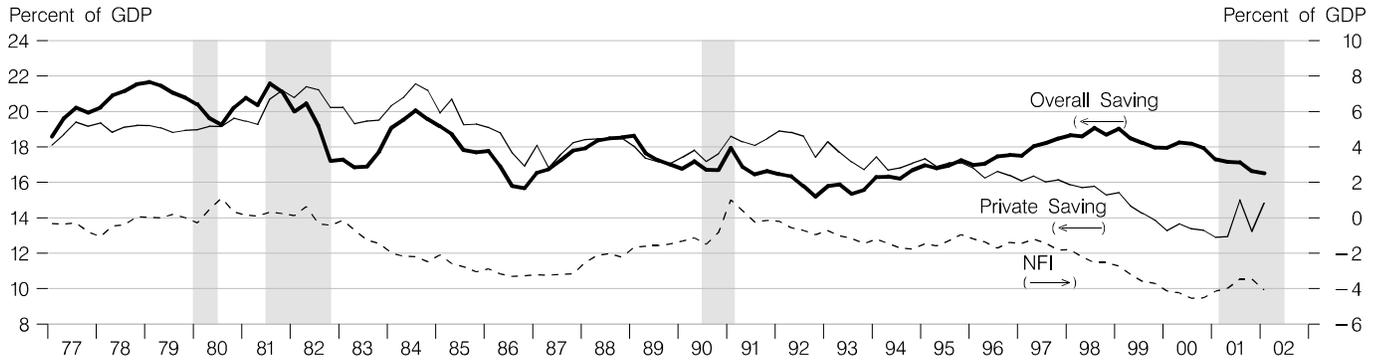


Real Residential Fixed Investment

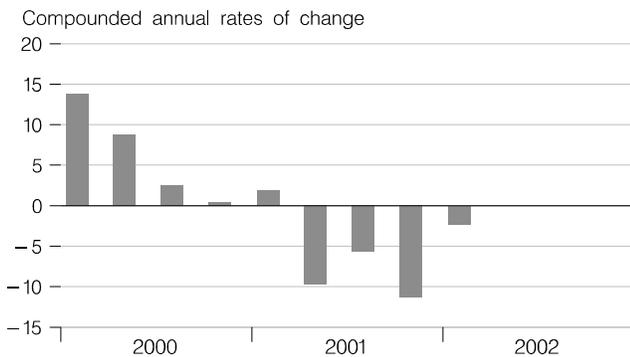
Percent change from year ago



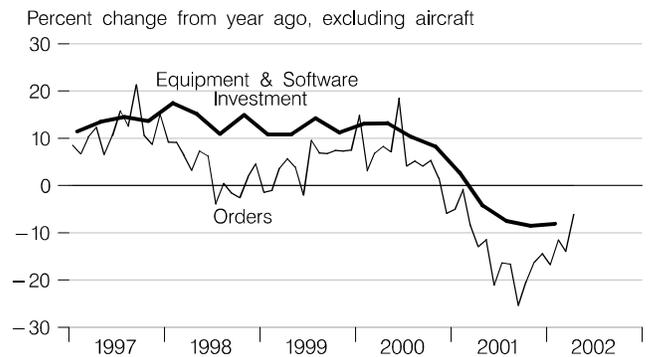
Gross Saving Rates and Net Foreign Investment



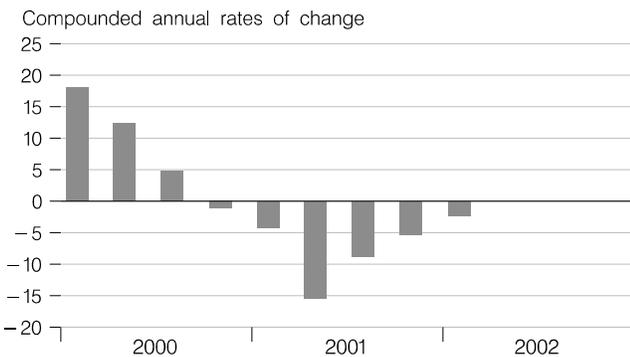
Real Private Fixed Investment



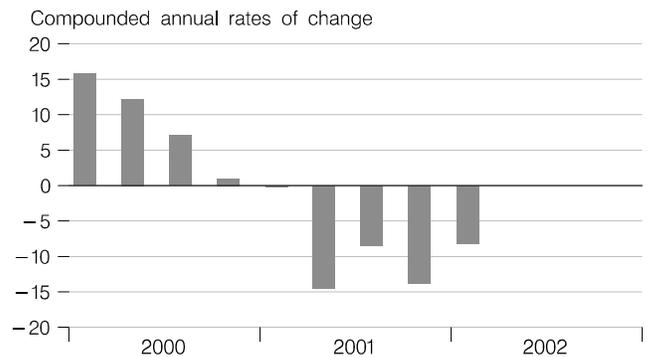
Nondefense Capital Goods Orders



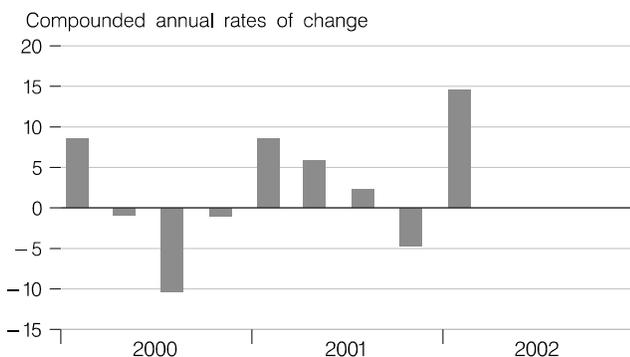
Real Equipment & Software Investment



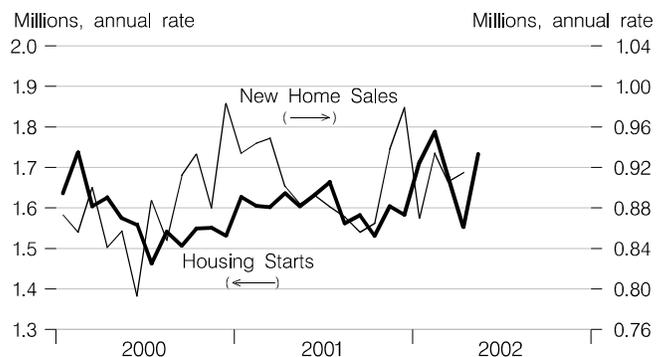
Real Nonresidential Fixed Investment



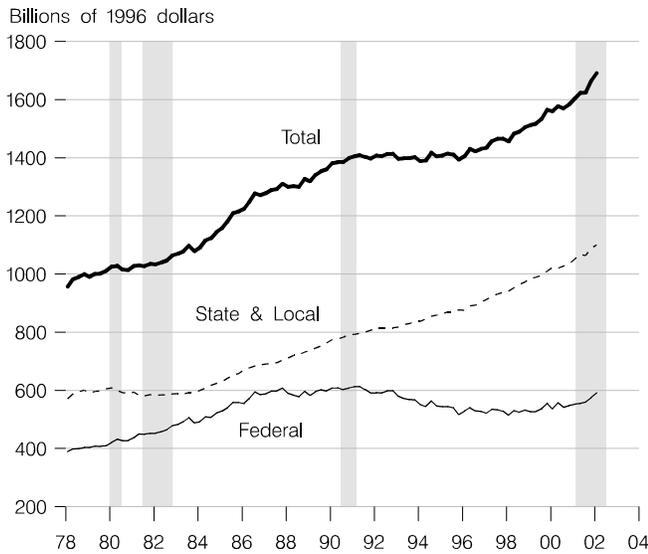
Real Residential Fixed Investment



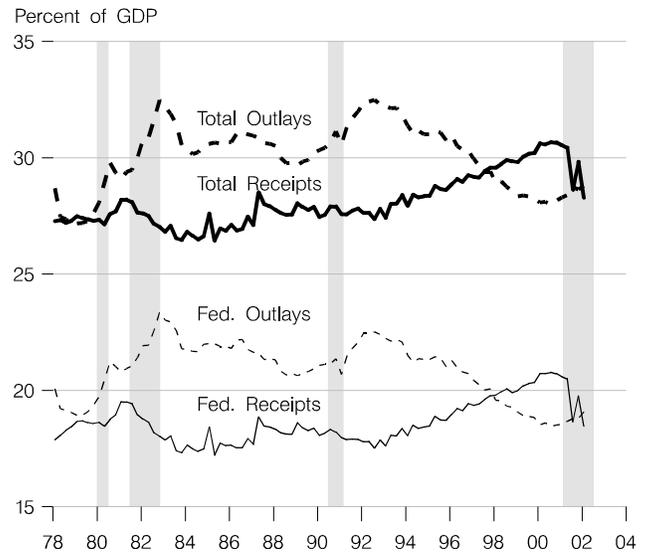
Housing Starts and New Home Sales



Govt. Consumption and Investment



Government Receipts and Outlays



Government Budgets

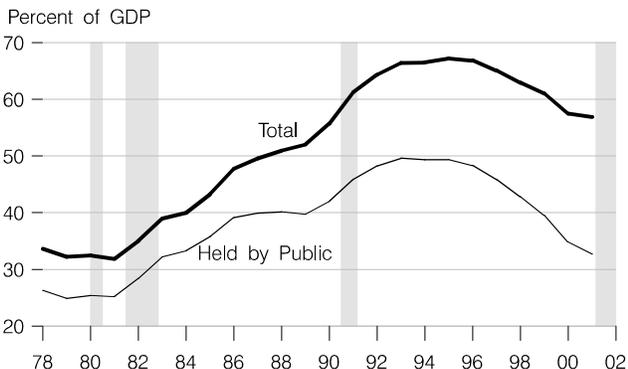
Billions of dollars

National Income Accounts Calendar Years

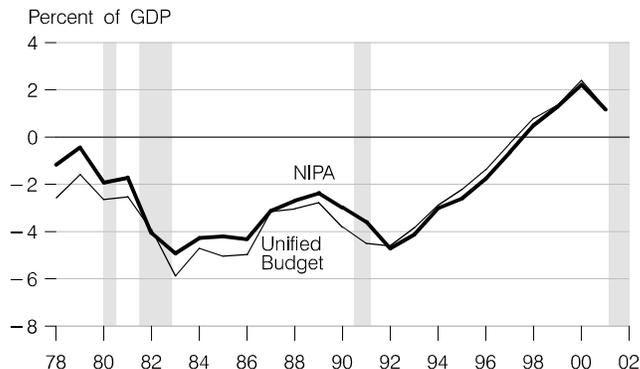
Unified Budget Fiscal Years

	State and Local			Federal			Federal		
	Receipts	Expenditures	Surplus or Deficit(-)	Receipts	Expenditures	Surplus or Deficit(-)	Receipts	Outlays	Surplus or Deficit(-)
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	1701.9	125.5
2000	1222.6	1189.8	32.8	2046.8	1828.3	218.5	2025.2	1788.8	236.4
2001	1293.3	1275.8	17.5	2028.2	1909.2	119.0	1991.0	1863.9	127.1
1999Q2	1126.5	1090.2	36.3	1849.5	1733.0	116.5	564.4	421.3	143.1
1999Q3	1151.4	1113.1	38.3	1886.9	1754.9	132.0	448.7	418.6	30.1
1999Q4	1178.8	1133.9	44.9	1936.5	1793.4	143.1	443.6	463.9	-20.3
2000Q1	1194.4	1161.2	33.2	2003.0	1790.2	212.8	433.7	448.7	-15.0
2000Q2	1215.5	1180.8	34.7	2042.5	1833.4	209.1	656.0	444.3	211.8
2000Q3	1234.3	1199.5	34.8	2064.3	1834.4	229.9	491.7	431.3	60.4
2000Q4	1246.4	1217.8	28.6	2077.5	1855.0	222.5	462.0	464.3	-2.3
2001Q1	1273.4	1251.1	22.3	2087.4	1882.1	205.3	459.8	482.2	-22.5
2001Q2	1294.3	1273.0	21.3	2091.5	1904.7	186.8	660.3	466.5	193.7
2001Q3	1286.6	1284.7	1.9	1907.1	1920.7	-13.6	409.0	450.9	-41.9
2001Q4	1319.1	1294.3	24.8	2026.7	1929.3	97.4	466.3	503.4	-37.1
2002Q1	1318.3	1307.9	10.4	1925.0	1989.4	-64.4	412.6	509.2	-96.6

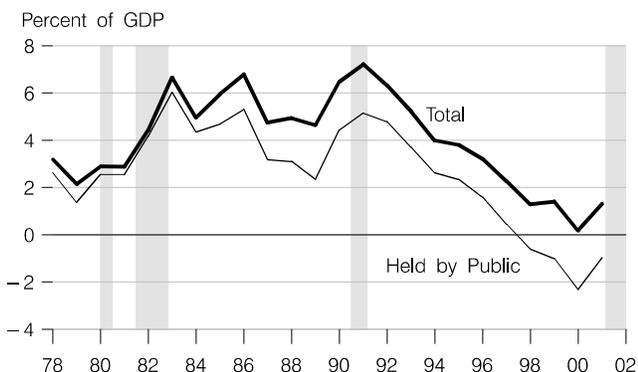
Federal Debt



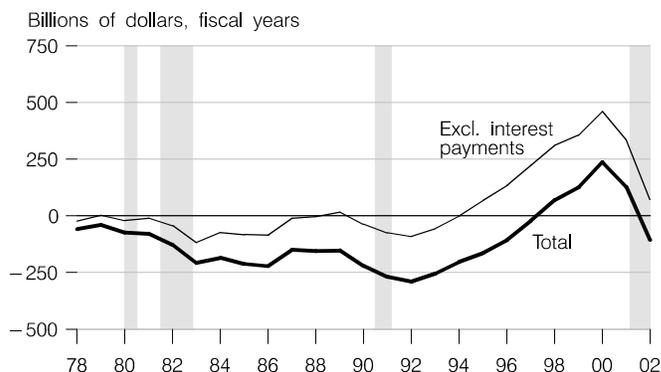
Federal Surplus (+) / Deficit (-)



Change in Federal Debt



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

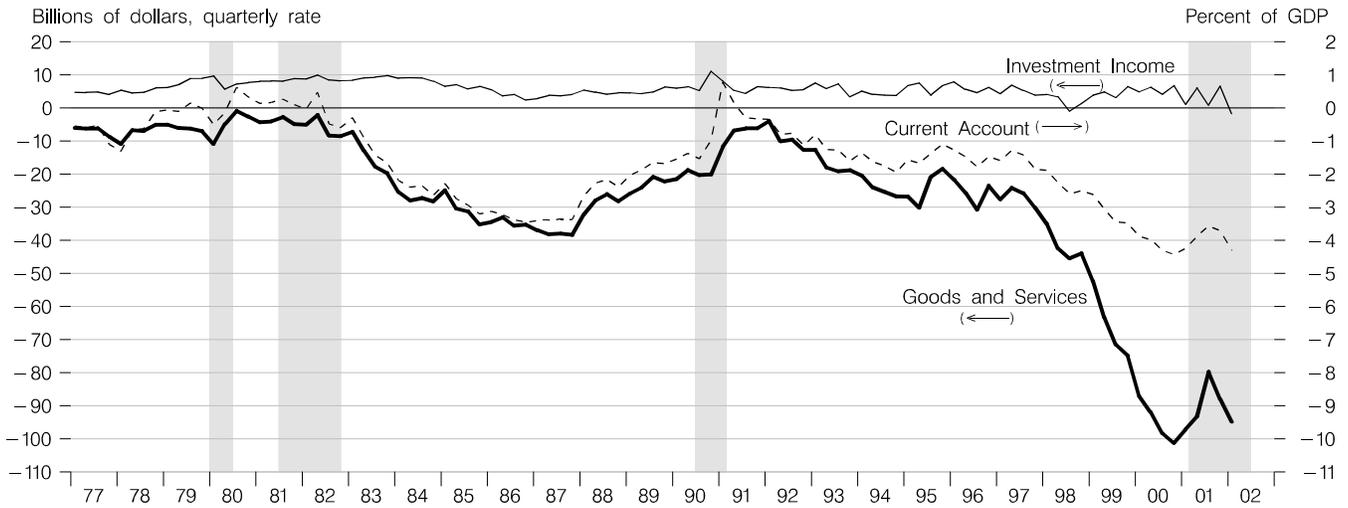


Federal Government Debt

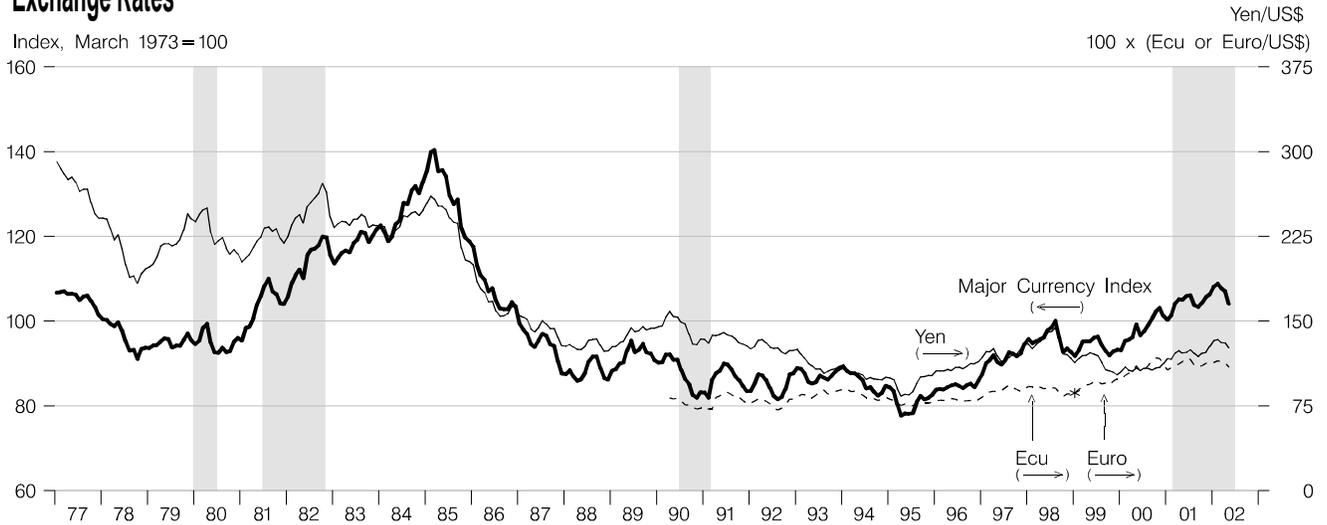
Billions of dollars, end of month or fiscal year, excluding agency-issued debt

		Total Public Debt	Held by Agencies and Trusts	Held by Public		Held by Private Investors	
				Total	Federal Reserve Banks	Total	Foreign and International
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
2001		5807.5	2468.8	3338.7	534.1	2779.7	1170.1
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	1196.8
	June	5726.8	2452.6	3274.2	535.1	2722.6	1167.4
	September	5807.5	2468.8	3338.7	534.1	2779.7	1170.1
	December	5943.4	2549.7	3393.8	551.7	2819.5	1218.1
2002	March	6006.0	2562.4	3443.7	575.4	2849.5	1214.1

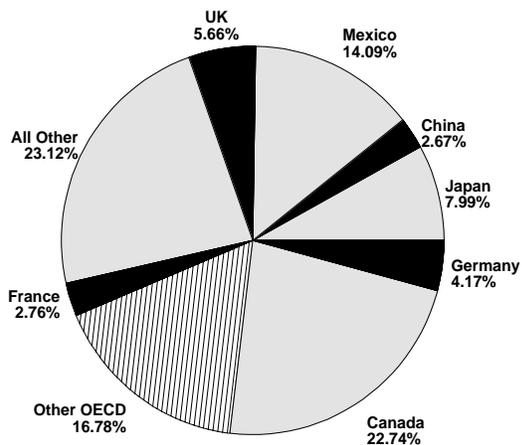
Current Account, Trade and Investment Income Balances



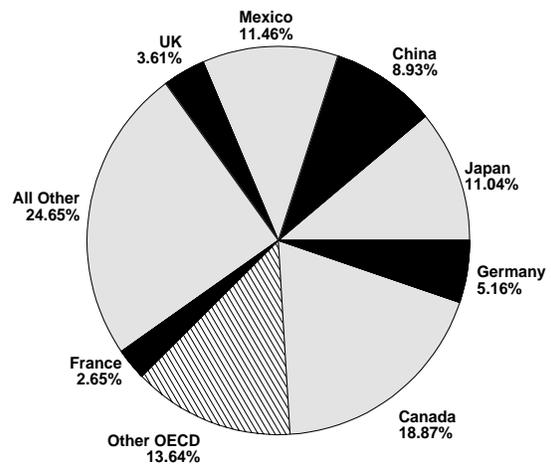
Exchange Rates



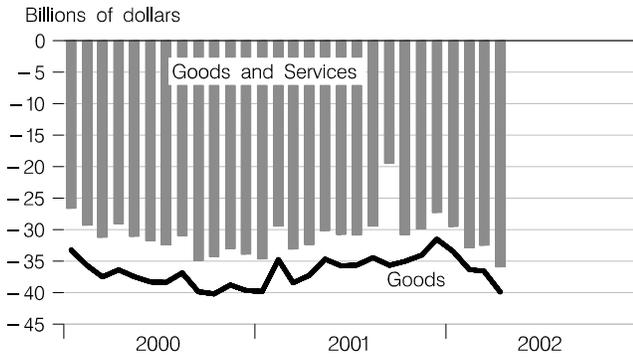
Goods Export Shares, 2001



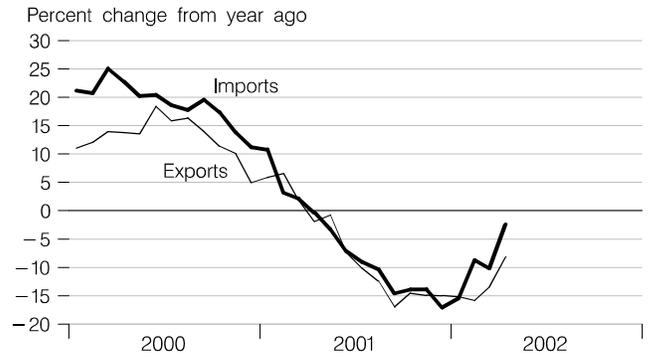
Goods Import Shares, 2001



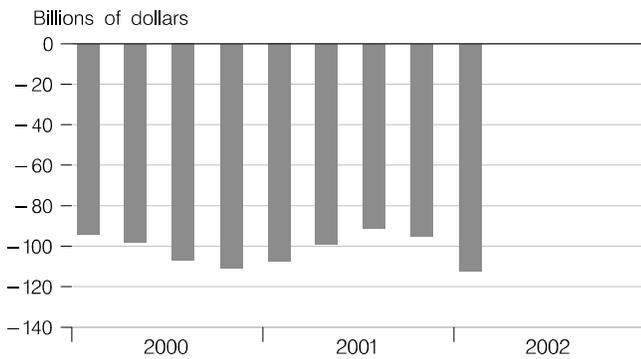
Trade Balance



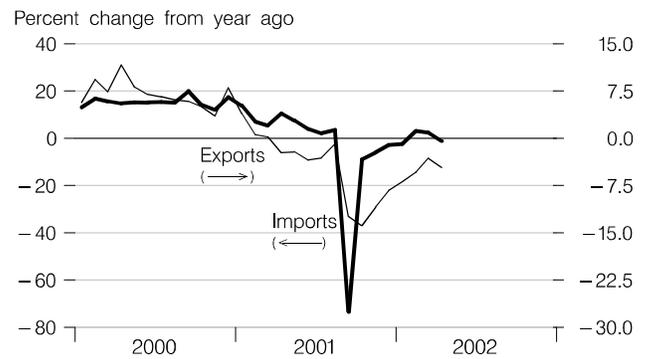
Goods Trade



Current Account Balance



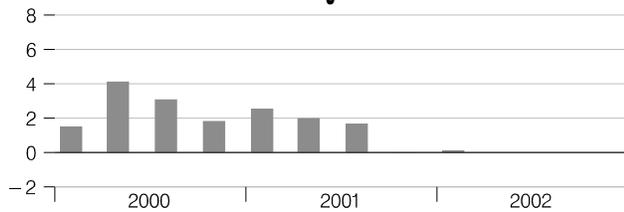
Services Trade



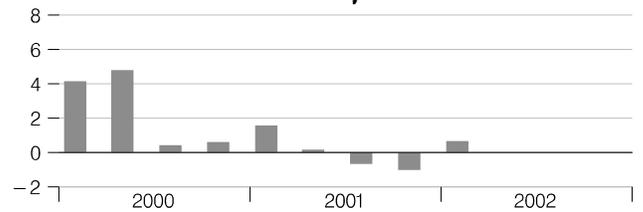
Real GDP Growth of Major Trading Partners

Compounded annual rates of change

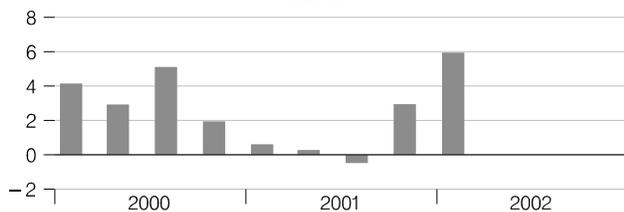
United Kingdom



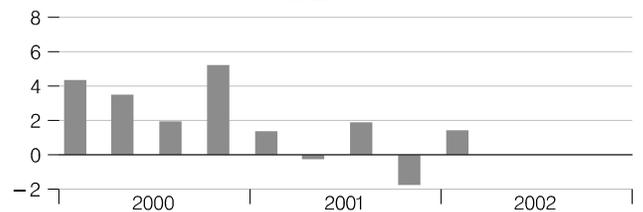
Germany



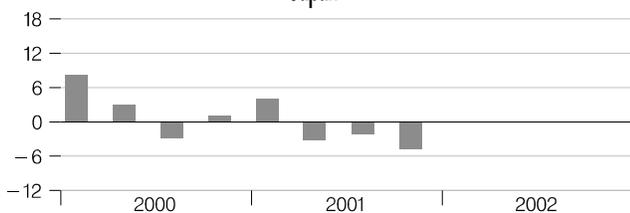
Canada



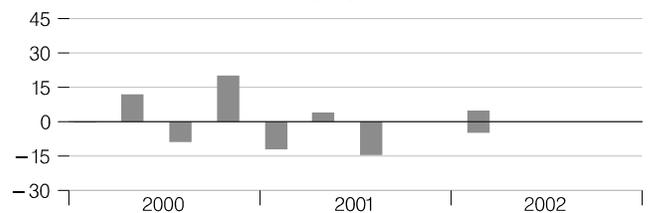
France



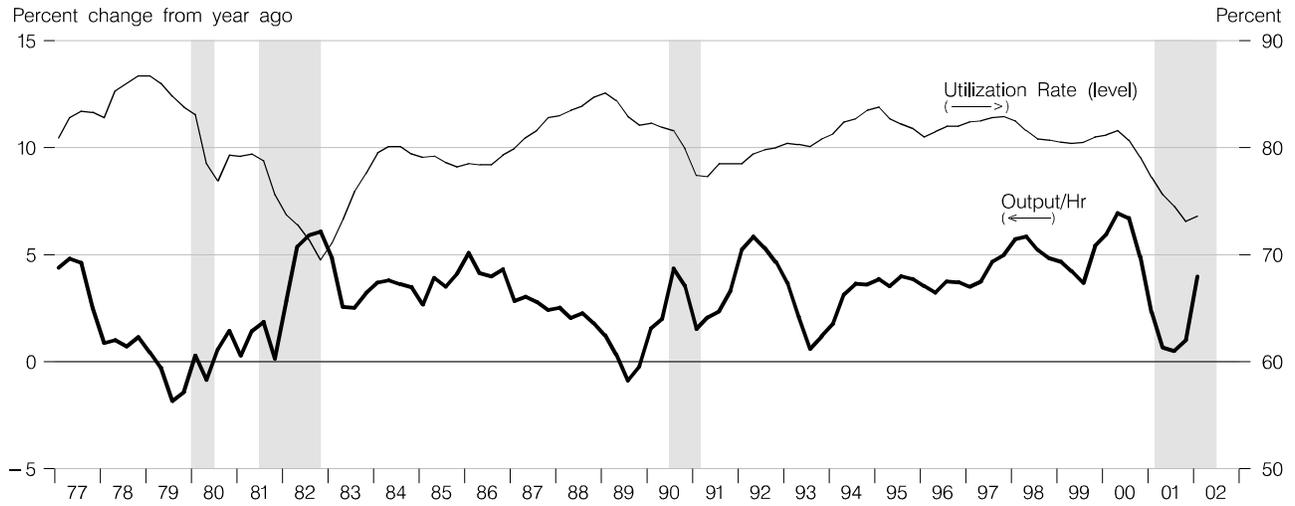
Japan



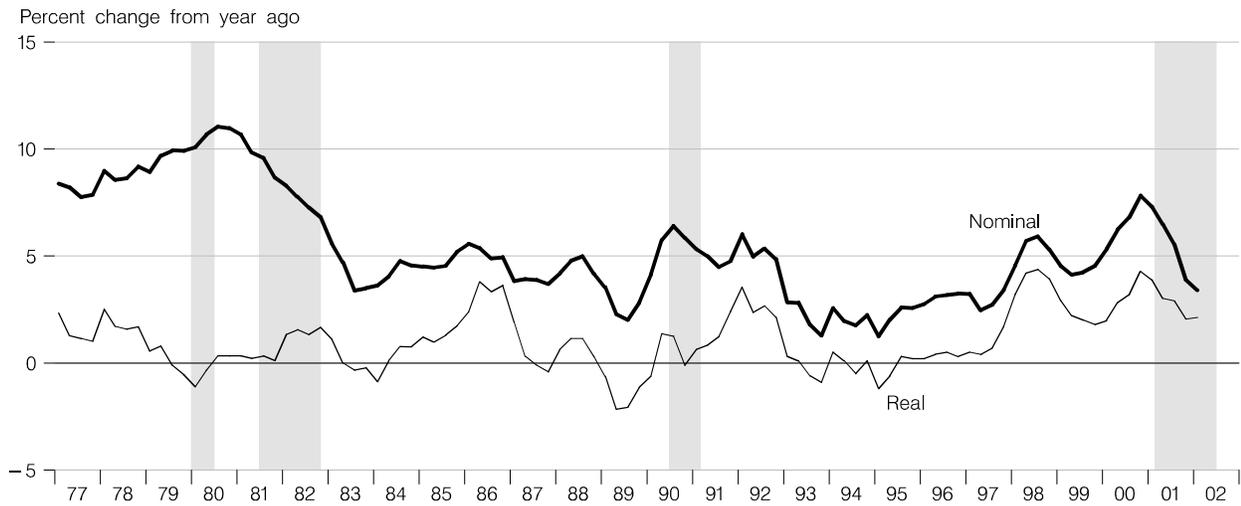
Mexico



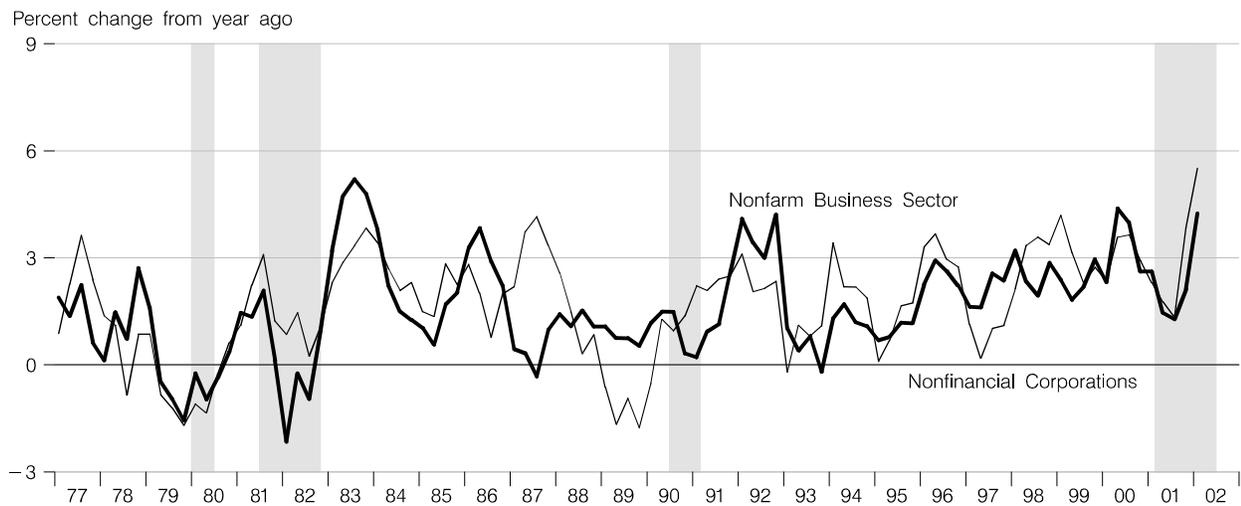
Output per Hour and Capacity Utilization, Manufacturing



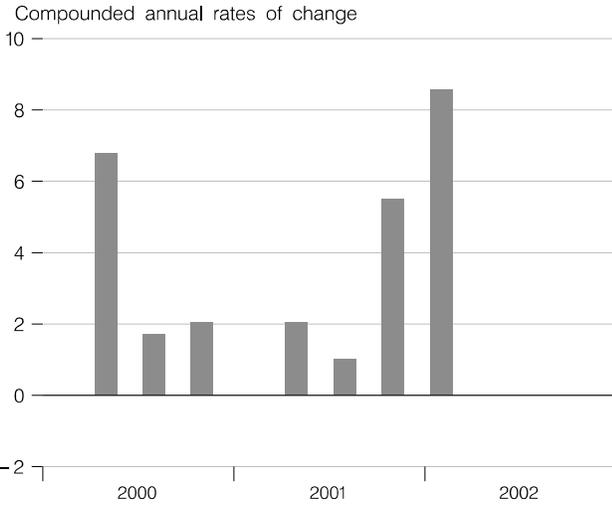
Nonfarm Compensation per Hour



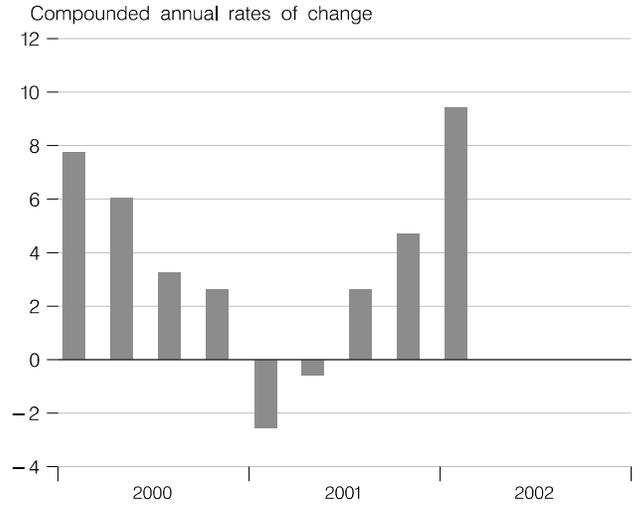
Output per Hour, Nonfarm Business and Nonfarm, Nonfinancial Corporations



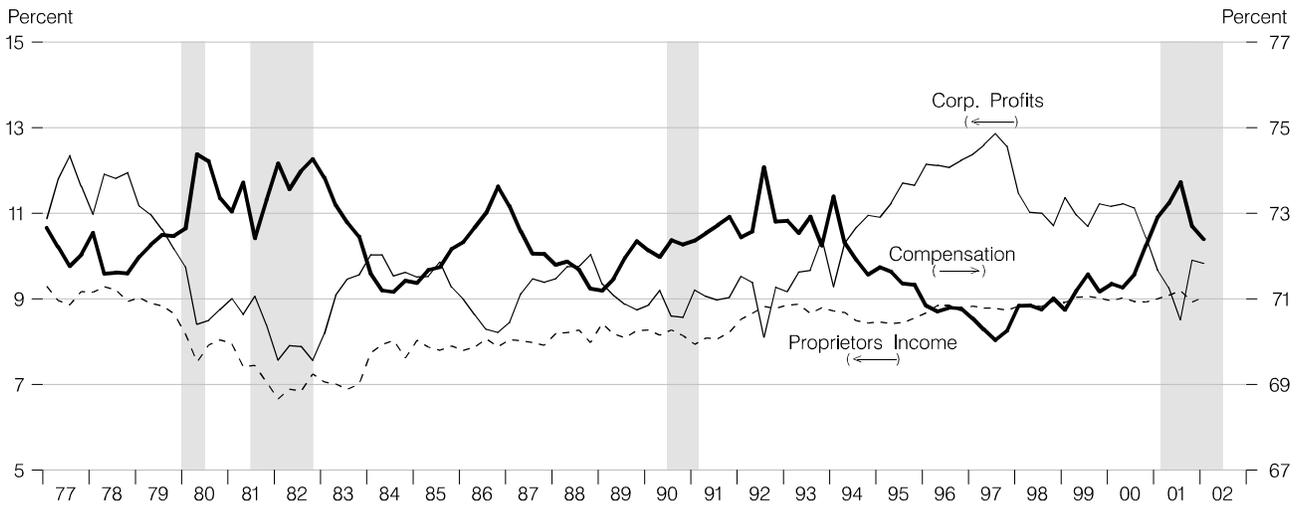
Nonfarm Output per Hour



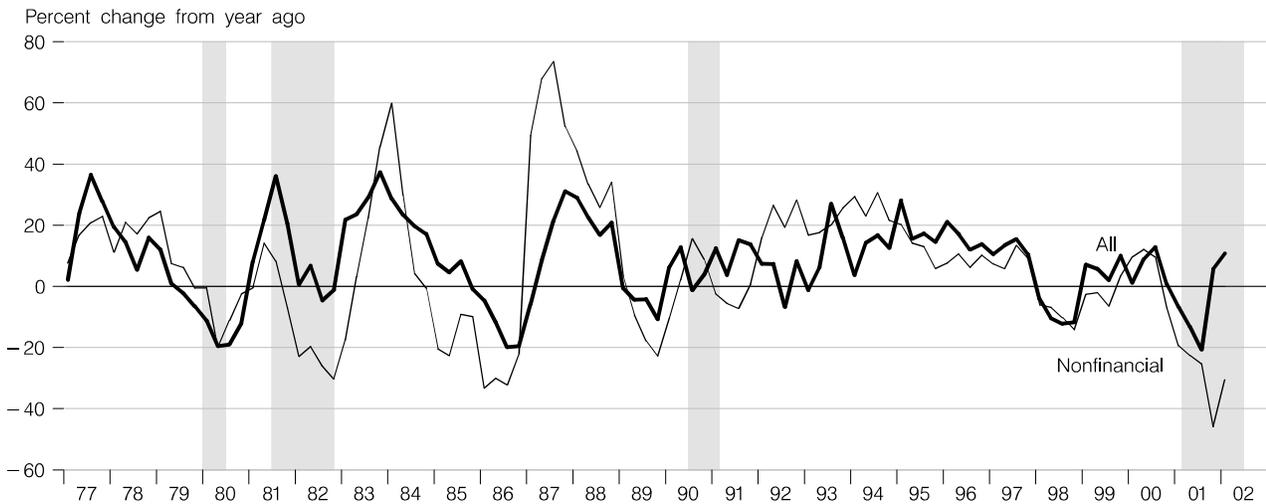
Manufacturing Output per Hour



Selected Component Shares of National Income



Corporate Profits after Tax (with IVA and CCAAdj)



	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	
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
2001	10208.1		3.4	9333.808		1.2	9376.509		2.3		-61.650
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	10224.9	0.9	2.9	9310.408	-1.3	0.5	9352.498	-0.5	1.6	-61.923	-21.140
4	10263.3	1.5	2.3	9348.614	1.7	0.5	9440.915	3.8	2.0	-119.277	-61.650
2002 1	10428.8	6.6	2.8	9476.281	5.6	1.5	9487.380	2.0	1.5	-25.681	-61.292

	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	
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
2001	6450.255		3.1	955.598		6.7	1682.555		-2.0	1307.973		-3.2
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	6443.852	1.0	2.4	940.192	0.9	4.0	1671.592	-5.7	-3.4	1292.018	-8.5	-5.8
4	6540.275	6.1	3.1	1021.659	39.4	13.6	1621.908	-11.4	-6.4	1245.040	-13.8	-9.4
2002 1	6592.126	3.2	3.2	996.137	-9.6	8.0	1612.558	-2.3	-7.3	1218.651	-8.2	-11.3

	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
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	149.0		4.6	146.0		4.1	156.0		5.7
2001	109.370		2.2	155.0		4.1	151.4		3.7	163.7		4.9
1999 1	104.100	1.7	1.3	140.2	1.1	3.0	138.1	1.8	3.3	145.2	0.0	2.2
2	104.450	1.4	1.4	141.8	4.6	3.3	139.7	4.7	3.6	146.7	4.2	2.5
3	104.810	1.4	1.4	143.1	3.7	3.2	140.9	3.5	3.2	148.2	4.2	2.8
4	105.280	1.8	1.6	144.6	4.3	3.4	142.3	4.0	3.5	150.2	5.5	3.4
2000 1	106.250	3.7	2.1	146.6	5.6	4.6	143.9	4.6	4.2	153.1	7.9	5.4
2	106.810	2.1	2.3	148.3	4.7	4.6	145.4	4.2	4.1	155.1	5.3	5.7
3	107.310	1.9	2.4	149.8	4.1	4.7	146.7	3.6	4.1	157.0	5.0	5.9
4	107.780	1.8	2.4	151.1	3.5	4.5	147.9	3.3	3.9	158.8	4.7	5.7
2001 1	108.650	3.3	2.3	152.8	4.6	4.2	149.4	4.1	3.8	160.8	5.1	5.0
2	109.220	2.1	2.3	154.3	4.0	4.0	150.9	4.1	3.8	162.5	4.3	4.8
3	109.830	2.3	2.3	155.7	3.7	3.9	152.0	2.9	3.6	164.7	5.5	4.9
4	109.800	-0.1	1.9	157.3	4.2	4.1	153.4	3.7	3.7	166.8	5.2	5.0
2002 1	110.060	1.0	1.3	158.7	3.6	3.9	154.8	3.7	3.6	168.6	4.4	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
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	116.6		3.3	132.5		6.5
2001	1081.691		-4.5	1490.433		-2.7	118.8		1.9	140.1		5.7
1999 1	1007.560	-6.8	0.4	1290.592	8.4	9.0	112.2	2.5	2.4	122.2	3.7	4.5
2	1018.015	4.2	2.5	1331.390	13.3	9.5	111.8	-1.4	1.8	123.5	4.3	4.1
3	1041.766	9.7	5.5	1375.106	13.8	11.9	112.7	3.3	2.2	125.1	5.3	4.2
4	1072.056	12.1	4.5	1409.808	10.5	11.5	114.8	7.7	3.0	126.6	4.9	4.5
2000 1	1095.457	9.0	8.7	1466.565	17.1	13.6	114.8	0.0	2.3	128.7	6.8	5.3
2	1130.581	13.5	11.1	1523.380	16.4	14.4	116.7	6.8	4.4	131.2	8.0	6.2
3	1159.306	10.6	11.3	1570.554	13.0	14.2	117.2	1.7	4.0	133.6	7.5	6.8
4	1147.470	-4.0	7.0	1568.541	-0.5	11.3	117.8	2.1	2.6	136.5	9.0	7.8
2001 1	1144.061	-1.2	4.4	1548.585	-5.0	5.6	117.8	0.0	2.6	138.1	4.8	7.3
2	1108.299	-11.9	-2.0	1515.039	-8.4	-0.5	118.4	2.1	1.5	139.7	4.7	6.5
3	1052.230	-18.8	-9.2	1463.194	-13.0	-6.8	118.7	1.0	1.3	141.0	3.8	5.5
4	1022.176	-10.9	-10.9	1434.916	-7.5	-8.5	120.3	5.5	2.1	141.8	2.3	3.9
2002 1	1035.385	5.3	-9.5	1479.047	12.9	-4.5	122.8	8.6	4.2	142.8	2.9	3.4

	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	
1997	129572	2852		2.3	122671	3082		2.6	141.4			3.5	
1998	131472	1900		1.5	125851	3180		2.6	145.2			2.7	
1999	133503	2031		1.5	128904	3053		2.4	148.4			2.2	
2000	135219	1716		1.3	131719	2814		2.2	151.3			2.0	
2001	135043	-176		-0.1	131925	207		0.2	150.2			-0.8	
2000	1	134995	703	2.1	1.6	130995	882	2.7	2.5	150.9	0.6	2.5	2.7
	2	135246	251	0.7	1.5	131819	824	2.5	2.6	151.3	0.3	1.1	2.3
	3	134987	-259	-0.8	1.1	131876	57	0.2	2.1	151.5	0.1	0.4	1.9
	4	135649	662	2.0	1.0	132185	309	0.9	1.6	151.6	0.1	0.4	1.1
2001	1	135804	155	0.5	0.6	132433	249	0.8	1.1	151.5	-0.1	-0.3	0.4
	2	135221	-583	-1.7	-0.0	132193	-240	-0.7	0.3	150.9	-0.4	-1.7	-0.3
	3	134839	-381	-1.1	-0.1	131943	-250	-0.8	0.1	150.0	-0.6	-2.4	-1.0
	4	134308	-532	-1.6	-1.0	131130	-813	-2.4	-0.8	148.4	-1.0	-4.1	-2.1
2002	1	133894	-414	-1.2	-1.4	130759	-371	-1.1	-1.3	148.2	-0.1	-0.5	-2.2
2000	May	134954	-595	-5.1	1.2	131887	242	2.2	2.6	151.0	-0.4	-4.6	2.1
	Jun	135235	281	2.5	1.4	131925	38	0.3	2.5	151.4	0.3	3.2	2.2
	Jul	134777	-458	-4.0	1.0	131827	-98	-0.9	2.2	151.4	0.0	0.0	1.9
	Aug	135016	239	2.1	1.0	131777	-50	-0.5	2.0	151.3	-0.1	-0.8	1.7
	Sep	135167	151	1.4	1.1	132023	246	2.3	2.0	151.7	0.3	3.2	2.0
	Oct	135485	318	2.9	1.1	132018	-5	-0.0	1.7	151.9	0.1	1.6	1.5
	Nov	135573	88	0.8	0.9	132217	199	1.8	1.6	151.9	0.0	0.0	1.3
	Dec	135888	315	2.8	1.0	132319	102	0.9	1.5	151.1	-0.5	-6.1	0.5
2001	Jan	135870	-18	-0.2	0.7	132382	63	0.6	1.3	152.0	0.6	7.4	0.9
	Feb	135734	-136	-1.2	0.5	132457	75	0.7	1.2	151.3	-0.5	-5.4	0.3
	Mar	135808	74	0.7	0.6	132461	4	0.0	0.8	151.3	0.0	0.0	0.1
	Apr	135424	-384	-3.3	-0.1	132243	-218	-2.0	0.5	151.0	-0.2	-2.4	-0.4
	May	135235	-189	-1.7	0.2	132229	-14	-0.1	0.3	151.0	0.0	0.0	0.0
	Jun	135003	-232	-2.0	-0.2	132108	-121	-1.1	0.1	150.6	-0.3	-3.1	-0.5
	Jul	135106	103	0.9	0.2	132045	-63	-0.6	0.2	150.4	-0.1	-1.6	-0.7
	Aug	134408	-698	-6.0	-0.5	131966	-79	-0.7	0.1	149.9	-0.3	-3.9	-0.9
	Sep	135004	596	5.5	-0.1	131819	-147	-1.3	-0.2	149.6	-0.2	-2.4	-1.4
	Oct	134615	-389	-3.4	-0.6	131414	-405	-3.6	-0.5	148.7	-0.6	-7.0	-2.1
	Nov	134253	-362	-3.2	-1.0	131087	-327	-2.9	-0.9	148.2	-0.3	-4.0	-2.4
	Dec	134055	-198	-1.8	-1.3	130890	-197	-1.8	-1.1	148.3	0.1	0.8	-1.9
2002	Jan	133468	-587	-5.1	-1.8	130871	-19	-0.2	-1.1	148.1	-0.1	-1.6	-2.6
	Feb	134319	851	7.9	-1.0	130706	-165	-1.5	-1.3	148.3	0.1	1.6	-2.0
	Mar	133894	-425	-3.7	-1.4	130701	-5	-0.0	-1.3	148.2	-0.1	-0.8	-2.0
	Apr	133976	82	0.7	-1.1	130707	6	0.1	-1.2	148.3	0.1	0.8	-1.8
	May	134417	441	4.0	-0.6	130748	41	0.4	-1.1	148.2	-0.1	-0.8	-1.9

	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			
1997	4.9	2769.532			5.0	127.944			6.9	5.06	6.35	
1998	4.5	2907.356			5.0	134.504			5.1	4.78	5.26	
1999	4.2	3151.004			8.4	139.447			3.7	4.64	5.64	
2000	4.0	3360.754			6.7	145.732			4.5	5.82	6.03	
2001	4.8	3487.693			3.8	140.392			-3.7	3.39	5.02	
2000	1	4.0	835.780	2.8	11.7	9.5	144.033	1.4	5.8	4.9	5.52	6.48
	2	4.0	834.314	-0.2	-0.7	7.1	146.480	1.7	7.0	5.8	5.71	6.18
	3	4.1	843.734	1.1	4.6	6.1	146.686	0.1	0.6	4.8	6.02	5.89
	4	4.0	846.926	0.4	1.5	4.2	145.730	-0.7	-2.6	2.6	6.02	5.57
2001	1	4.2	859.776	1.5	6.2	2.9	143.457	-1.6	-6.1	-0.4	4.82	5.05
	2	4.5	868.481	1.0	4.1	4.1	141.309	-1.5	-5.9	-3.5	3.66	5.27
	3	4.8	866.398	-0.2	-1.0	2.7	139.606	-1.2	-4.7	-4.8	3.17	4.98
	4	5.6	893.038	3.1	12.9	5.4	137.197	-1.7	-6.7	-5.9	1.91	4.77
2002	1	5.6	887.519	-0.6	-2.4	3.2	138.138	0.7	2.8	-3.7	1.72	5.08
2000	May	4.1	277.533	-0.1	-1.4	6.6	146.617	0.7	8.4	5.8	5.79	6.44
	Jun	4.0	278.919	0.5	6.2	6.8	147.188	0.4	4.8	6.1	5.69	6.10
	Jul	4.1	280.178	0.5	5.6	6.4	146.532	-0.4	-5.2	5.0	5.96	6.05
	Aug	4.1	279.891	-0.1	-1.2	5.4	146.700	0.1	1.4	4.6	6.09	5.83
	Sep	4.0	283.665	1.3	17.4	6.4	146.826	0.1	1.0	4.7	6.00	5.80
	Oct	3.9	282.524	-0.4	-4.7	5.7	146.266	-0.4	-4.5	3.5	6.11	5.74
	Nov	4.0	281.316	-0.4	-5.0	4.0	145.789	-0.3	-3.8	2.7	6.17	5.72
	Dec	4.0	283.086	0.6	7.8	2.8	145.135	-0.4	-5.3	1.6	5.77	5.24
2001	Jan	4.2	286.878	1.3	17.3	4.4	143.934	-0.8	-9.5	0.5	5.15	5.16
	Feb	4.2	287.182	0.1	1.3	2.9	143.509	-0.3	-3.5	-0.4	4.88	5.10
	Mar	4.3	285.716	-0.5	-6.0	1.4	142.928	-0.4	-4.8	-1.3	4.42	4.89
	Apr	4.5	288.366	0.9	11.7	3.8	142.007	-0.6	-7.5	-2.5	3.87	5.14
	May	4.4	290.536	0.8	9.4	4.7	141.595	-0.3	-3.4	-3.4	3.62	5.39
	Jun	4.6	289.579	-0.3	-3.9	3.8	140.326	-0.9	-10.2	-4.7	3.49	5.28
	Jul	4.6	290.319	0.3	3.1	3.6	140.402	0.1	0.7	-4.2	3.51	5.24
	Aug	4.9	291.073	0.3	3.2	4.0	139.954	-0.3	-3.8	-4.6	3.36	4.97
	Sep	5.0	285.006	-2.1	-22.3	0.5	138.461	-1.1	-12.1	-5.7	2.64	4.73
	Oct	5.4	302.770	6.2	106.6	7.2	137.670	-0.6	-6.6	-5.9	2.16	4.57
	Nov	5.6	295.036	-2.6	-26.7	4.9	137.240	-0.3	-3.7	-5.9	1.87	4.65
	Dec	5.8	295.232	0.1	0.8	4.3	136.682	-0.4	-4.8	-5.8	1.69	5.09
2002	Jan	5.6	294.852	-0.1	-1.5	2.8	137.557	0.6	8.0	-4.4	1.65	5.04
	Feb	5.5	296.468	0.5	6.8	3.2	138.125	0.4	5.1	-3.8	1.73	4.91
	Mar	5.7	296.199	-0.1	-1.1	3.7	138.733	0.4	5.4	-2.9	1.79	5.28
	Apr	6.0	299.674	1.2	15.0	3.9	139.097	0.3	3.2	-2.0	1.72	5.21
	May	5.8	297.029	-0.9	-10.1	2.2	139.334	0.2	2.1	-1.6	1.73	5.16

	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	
1997	160.5			2.3		169.5			2.4		131.8			0.4	
1998	163.0			1.5		173.4			2.3		130.7			-0.9	
1999	166.6			2.2		177.0			2.1		133.0			1.8	
2000	172.2			3.4		181.3			2.4		138.0			3.7	
2001	177.1			2.8		186.1			2.7		140.7			2.0	
2000	1	170.1	1.0	3.9	3.2	3.9	179.5	0.6	2.4	2.2	2.4	136.4	1.1	4.4	3.7
	2	171.5	0.8	3.3	3.3	3.6	180.7	0.6	2.6	2.4	2.5	137.4	0.7	3.0	3.9
	3	173.0	0.9	3.5	3.5	3.6	181.9	0.6	2.6	2.6	2.5	138.3	0.7	2.7	3.6
	4	174.2	0.7	3.0	3.4	3.4	183.0	0.6	2.5	2.5	2.5	139.9	1.2	4.7	3.7
2001	1	175.9	1.0	3.9	3.4	3.9	184.4	0.7	3.0	2.7	3.0	141.8	1.4	5.5	4.0
	2	177.3	0.8	3.1	3.4	3.5	185.5	0.6	2.4	2.6	2.7	142.1	0.2	0.8	3.4
	3	177.6	0.2	0.8	2.7	2.6	186.7	0.7	2.7	2.7	2.7	140.6	-1.1	-4.2	1.6
	4	177.5	-0.1	-0.3	1.9	1.9	187.9	0.7	2.7	2.7	2.7	138.4	-1.5	-5.9	-1.0
2002	1	178.1	0.3	1.4	1.2	1.4	189.0	0.6	2.3	2.5	2.3	138.5	0.0	0.1	-2.4
2000	May	171.2	0.1	1.4	3.1	3.3	180.7	0.2	2.0	2.4	2.6	137.1	0.1	1.8	3.6
	Jun	172.2	0.6	7.2	3.7	3.9	181.0	0.2	2.0	2.5	2.5	138.1	0.7	9.1	4.4
	Jul	172.6	0.2	2.8	3.6	3.8	181.4	0.2	2.7	2.5	2.5	138.1	0.0	0.0	4.1
	Aug	172.7	0.1	0.7	3.4	3.4	181.9	0.3	3.4	2.7	2.6	137.9	-0.1	-1.7	3.3
	Sep	173.6	0.5	6.4	3.5	3.7	182.3	0.2	2.7	2.5	2.6	138.9	0.7	9.1	3.3
	Oct	173.9	0.2	2.1	3.5	3.6	182.6	0.2	2.0	2.5	2.6	139.6	0.5	6.2	3.7
	Nov	174.2	0.2	2.1	3.4	3.4	183.1	0.3	3.3	2.6	2.6	139.9	0.2	2.6	3.8
	Dec	174.6	0.2	2.8	3.4	3.4	183.3	0.1	1.3	2.5	2.5	140.2	0.2	2.6	3.6
2001	Jan	175.6	0.6	7.1	3.7	7.1	183.9	0.3	4.0	2.6	4.0	141.7	1.1	13.6	4.9
	Feb	176.0	0.2	2.8	3.5	4.9	184.4	0.3	3.3	2.8	3.7	142.0	0.2	2.6	4.0
	Mar	176.1	0.1	0.7	3.0	3.5	184.8	0.2	2.6	2.7	3.3	141.7	-0.2	-2.5	3.1
	Apr	176.6	0.3	3.5	3.3	3.5	185.1	0.2	2.0	2.6	3.0	142.1	0.3	3.4	3.8
	May	177.4	0.5	5.6	3.6	3.9	185.4	0.2	2.0	2.6	2.8	142.4	0.2	2.6	3.9
	Jun	177.8	0.2	2.7	3.3	3.7	185.9	0.3	3.3	2.7	2.9	141.7	-0.5	-5.7	2.6
	Jul	177.3	-0.3	-3.3	2.7	2.7	186.3	0.2	2.6	2.7	2.8	140.0	-1.2	-13.5	1.4
	Aug	177.4	0.1	0.7	2.7	2.4	186.7	0.2	2.6	2.6	2.8	140.6	0.4	5.3	2.0
	Sep	178.1	0.4	4.8	2.6	2.7	187.1	0.2	2.6	2.6	2.8	141.1	0.4	4.4	1.6
	Oct	177.6	-0.3	-3.3	2.1	2.1	187.4	0.2	1.9	2.6	2.7	139.2	-1.3	-15.0	-0.3
	Nov	177.5	-0.1	-0.7	1.9	1.8	188.1	0.4	4.6	2.7	2.9	138.3	-0.6	-7.5	-1.1
	Dec	177.3	-0.1	-1.3	1.5	1.5	188.3	0.1	1.3	2.7	2.7	137.8	-0.4	-4.3	-1.7
2002	Jan	177.6	0.2	2.0	1.1	2.0	188.6	0.2	1.9	2.6	1.9	137.8	0.0	0.0	-2.8
	Feb	178.0	0.2	2.7	1.1	2.4	189.1	0.3	3.2	2.5	2.6	138.1	0.2	2.6	-2.7
	Mar	178.6	0.3	4.1	1.4	3.0	189.3	0.1	1.3	2.4	2.1	139.5	1.0	12.9	-1.6
	Apr	179.5	0.5	6.2	1.6	3.8	189.8	0.3	3.2	2.5	2.4	139.2	-0.2	-2.6	-2.0
	May	179.5	0.0	0.0	1.2	3.0	190.1	0.2	1.9	2.5	2.3	138.6	-0.4	-5.1	-2.7

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 **ISM** (formerly 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. All rates used in the yield curves are adjusted to constant maturity. The 30-year constant maturity series was discontinued by the Treasury Department as of Feb. 18, 2002. **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) spot and futures **prices** are listed in the *Wall Street Journal*. Spot prices are monthly averages of daily prices; futures prices are usually taken from the last trading day of the month. **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. Because the household survey was changed in January 1994, data prior to this date are not strictly comparable.

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.

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 based on the North American Industry Classification System (NAICS). Before January 1992, data 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)