December 2002

National Economic Trends

THE FEDERAL RESERVE BANK of ST. LOUIS

Die Another Day? Budget Deficits and Interest Rates

In January 2002, the Congressional Budget Office (CBO) projected that the federal government, operating under current fiscal policies, would run a cumulative budget surplus of about $2.25 trillion for fiscal years 2003-12. By August, this projected surplus had been cut in half, and the CBO now projects modest deficits (averaging less than 1 percent of GDP) through fiscal year 2005. (In fiscal year 2002, the unified budget deficit totaled $157 billion, with a deficit of $145 billion projected for 2003.)

The swing from projected budget surpluses to actual budget deficits has led some economists to warn of the economic consequences of a return to deficit financing. Indeed, Federal Reserve Chairman Greenspan has argued that larger budget deficits may lead to higher interest rates and, as a consequence, slower growth of investment and labor productivity.[1] These warnings are particularly relevant given proposed new legislation for a Medicare drug prescription plan and extension of the expiring tax provisions in the Economic Growth and Tax Relief Reconciliation Act of 2001.

The classic argument is that large deficits raise interest rates because government borrowing "crowds out" private borrowing. As the government competes with private borrowers to take a larger share of a fixed pool of saving, the *real* interest rate rises. Conversely, rising surpluses should be expected to lower interest rates.

Empirically, the linkage between budget deficits/surpluses and interest rates is weak, as a series of papers published in the 1980s showed.[2] However, most large macroeconometric forecasting models presume that larger deficits lead to higher interest rates. The past five years provide a natural experiment to test this hypothesis. After all, sharply larger surpluses were projected until 2001, with much smaller projected surpluses thereafter (and even modest-sized deficits over the near term).

The figure provides some countervailing evidence against the view that real interest rates move inversely to large changes in the federal government's projected budget balance. The figure plots the CBO's biannual 10-year cumulative surplus projections against the yield on 10-year (on-the-run) Treasury Inflation-Indexed Securities (TIIS), which the Treasury began issuing in 1997. As the figure shows, projections of ever larger budget surpluses from 1997:Q3 to 2001:Q1 were essentially associated with rising real interest rates, not falling rates. From 1997:Q1 to 2000:Q1, the yield on the 10-year TIIS rose from 3.36 percent to 4.23 percent. Since then, 10-year TIIS yields have fallen to just under 2.5 percent, as has the size of the projected cumulative budget surpluses.

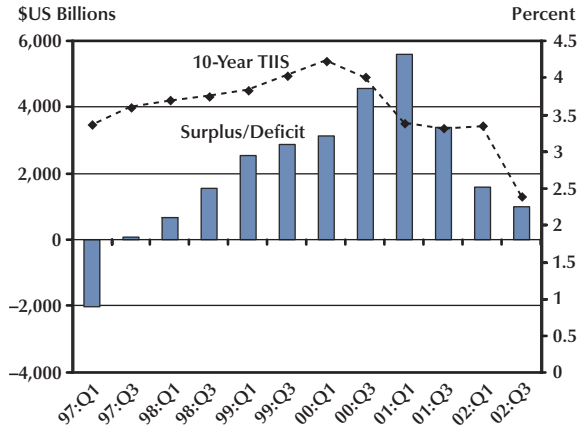
The evidence presented here suggests that changes in the economy's *expected* growth rate greatly affect both projected surpluses and real interest rates. When economic growth is expected to be strong, particularly labor productivity and investment, the return to capital (the real rate of interest) is thus high, as is the growth of taxable incomes (and hence tax receipts). When growth slows, the opposite tends to occur. Large budget deficits or surpluses may affect interest rates, but other factors appear to be more important.

—Kevin L. Kliesen

[1] Greenspan, Alan. "Current Fiscal Issues." Testimony before the Committee on the Budget, U.S. House of Representatives, 12 September 2002.

[2] Evans, Paul. "Do Large Deficits Produce High Interest Rates?" *American Economic Review*, March 1985, *75*(1), pp. 68-87.

Cumulative 10-Year Surplus/Deficit Projections and Yield on 10-Year TIIS



NOTE: TIIS yields are daily averages for the quarter indicated.

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

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Conventions used in this publication:

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

2. *Percent change* refers to simple percent changes. *Percent change from year ago* refers to the percent change from the same month or quarter 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:

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

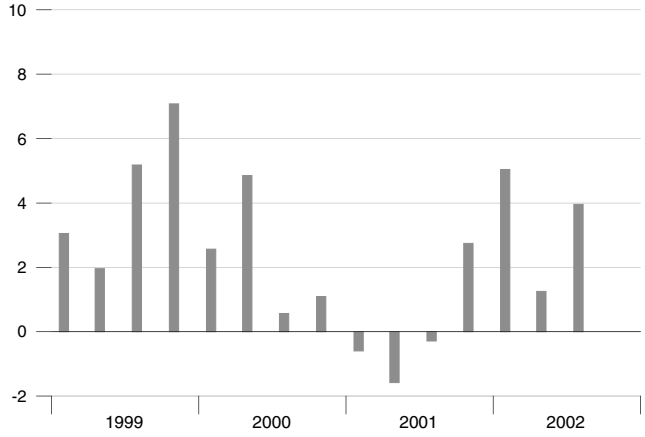
For monthly data replace 4 with 12.

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

National Economic Trends is published monthly by the Research Division of the Federal Reserve Bank of St. Louis. Single-copy subscriptions are available free of charge by writing to the Public Affairs Department, Federal Reserve Bank of St. Louis, P.O. Box 442, St. Louis, MO 63166-0442 or by calling (314) 444-8809. Subscription forms may also be completed online at www.stls.frb.org/research/order/pubform.html. For more information on data in this publication, please visit www.stls.frb.org/fred or call (314) 444-8573. The entire publication is also available on the Internet at www.stls.frb.org/publications/net.

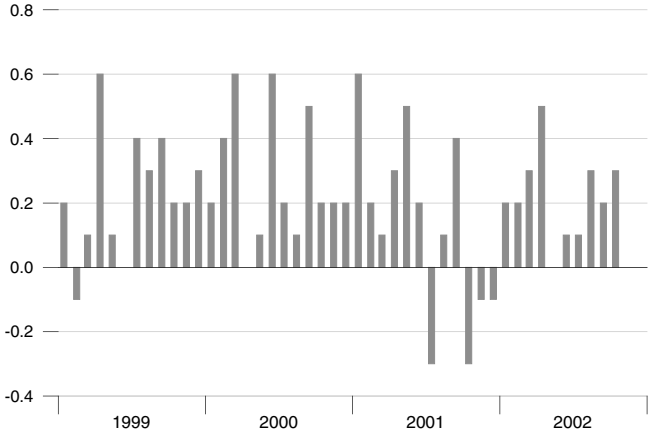
Real GDP Growth

Compounded annual rates of change



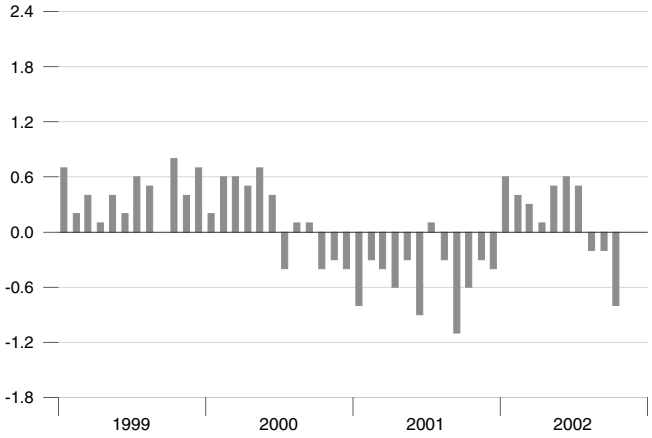
Consumer Price Index

Percent change



Industrial Production

Percent change

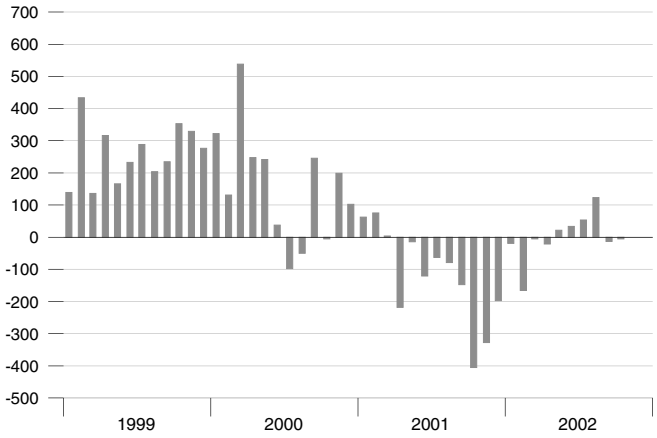


Interest Rates

Percent

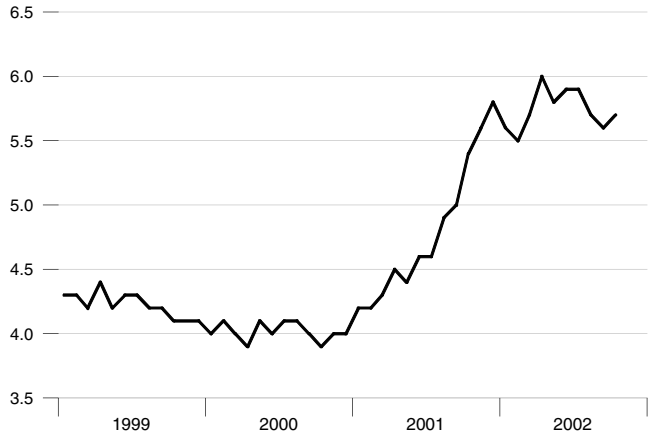
Change in Nonfarm Payrolls

Thousands



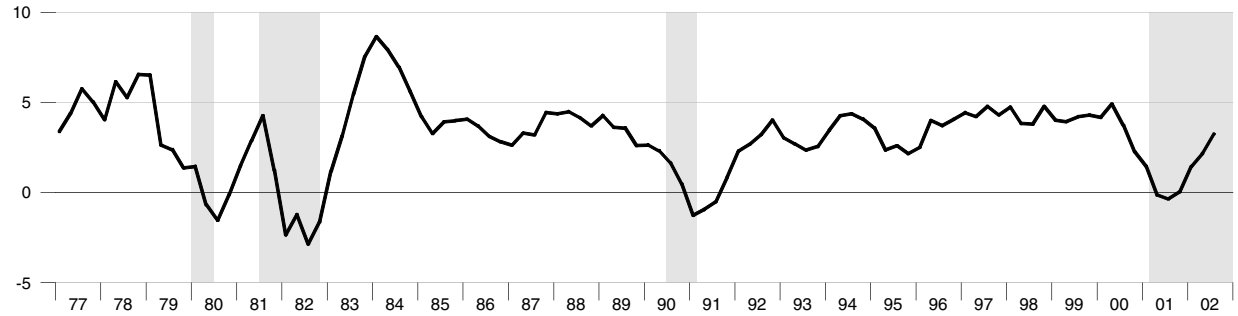
Unemployment Rate

Percent of labor force



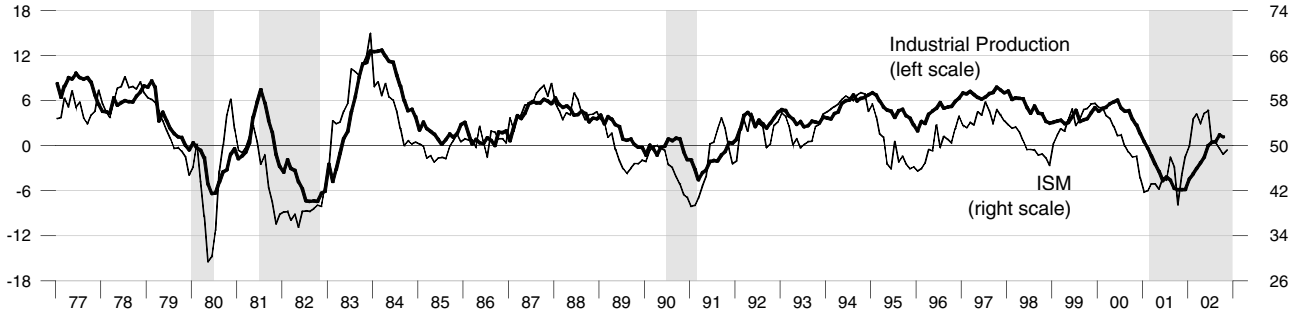
Real Gross Domestic Product

Percent change from year ago



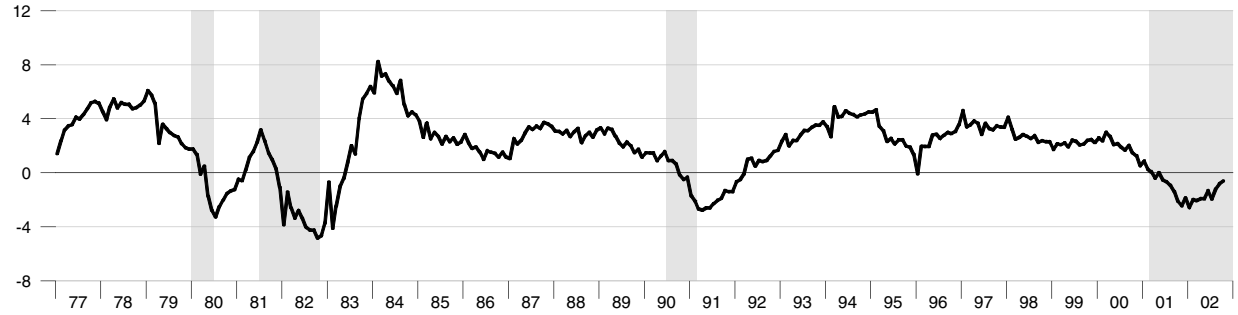
Industrial Production and Institute for Supply Management (ISM) Indexes

Percent change from year ago Index



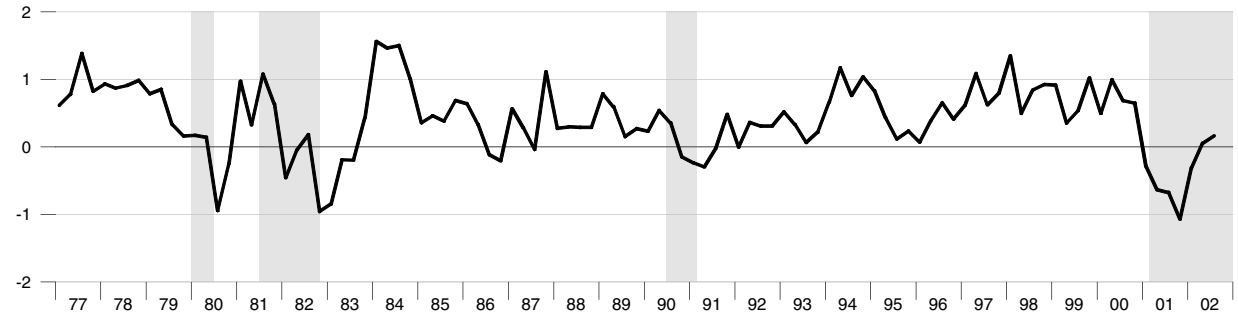
Aggregate Private Nonfarm Hours

Percent change from year ago



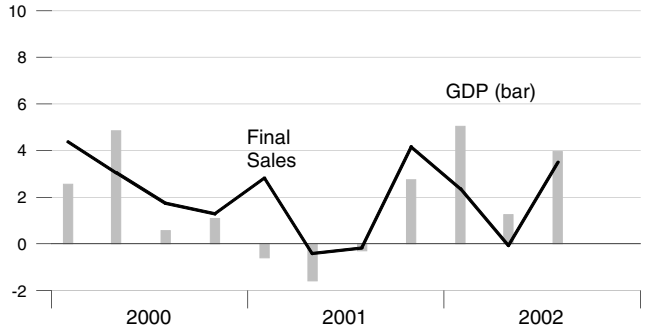
Real Change in Private Inventories

Percent of GDP



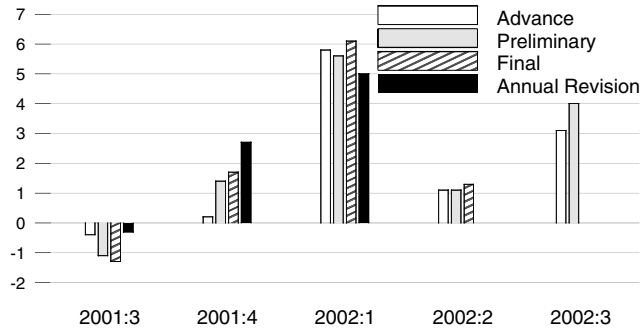
Real Final Sales and GDP

Compounded annual rates of change



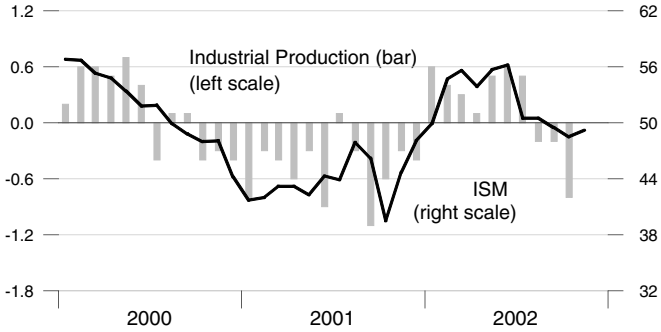
Real GDP Revisions

Compounded annual rates of change



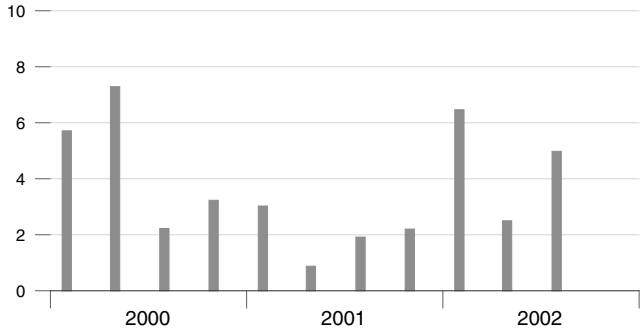
Industrial Production and ISM Index

Percent change Index



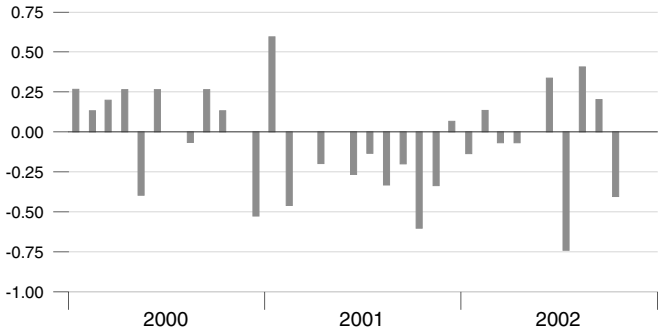
Nominal Gross Domestic Product

Compounded annual rates of change



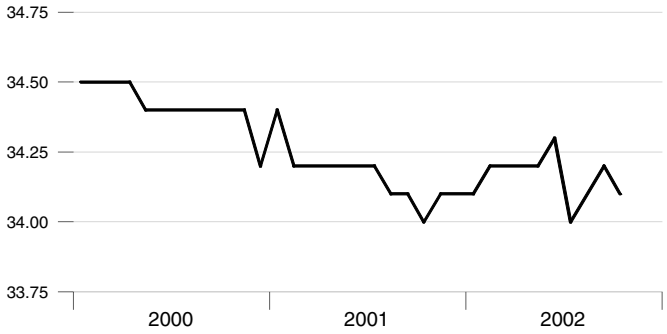
Aggregate Private Nonfarm Hours

Percent change



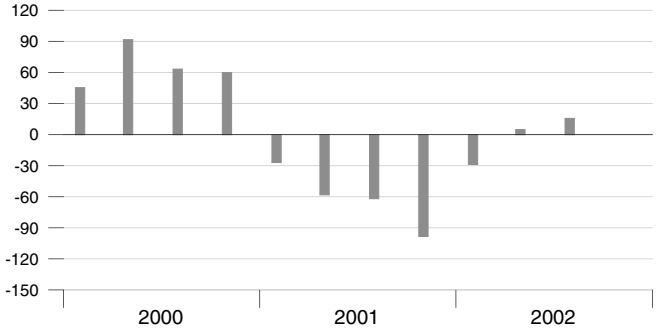
Average Weekly Private Nonfarm Hours

Hours



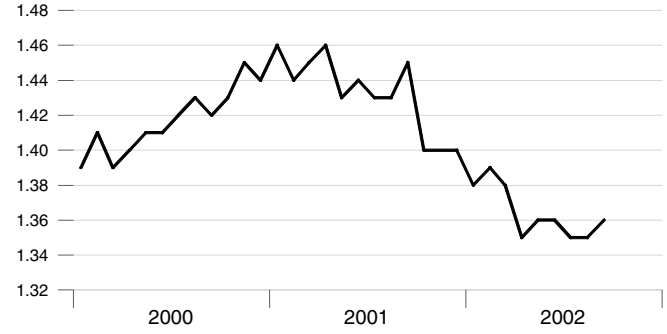
Real Change in Private Inventories

Billions of 1996 dollars



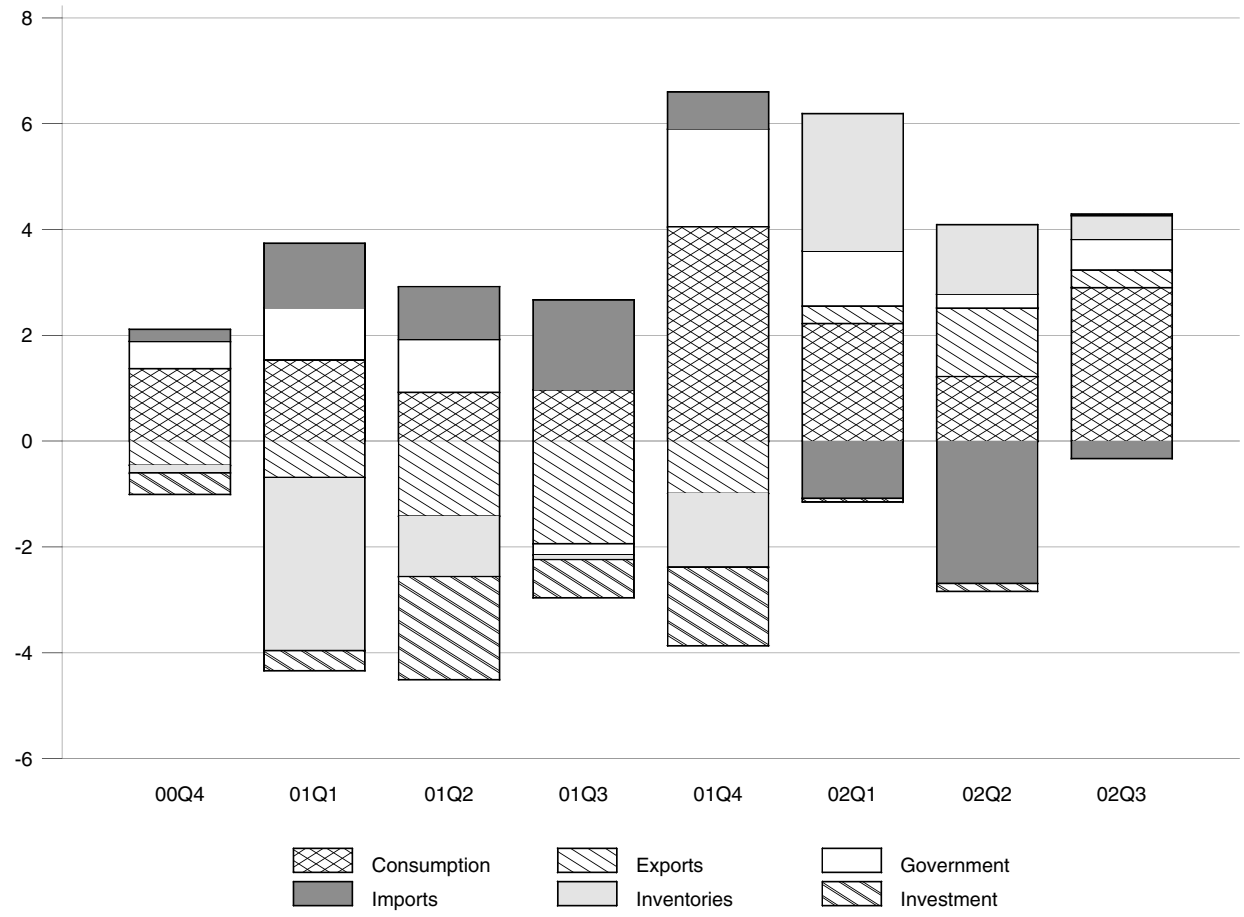
Inventory-Sales Ratio

Manufacturing and trade



Contribution of Components to Real GDP Growth

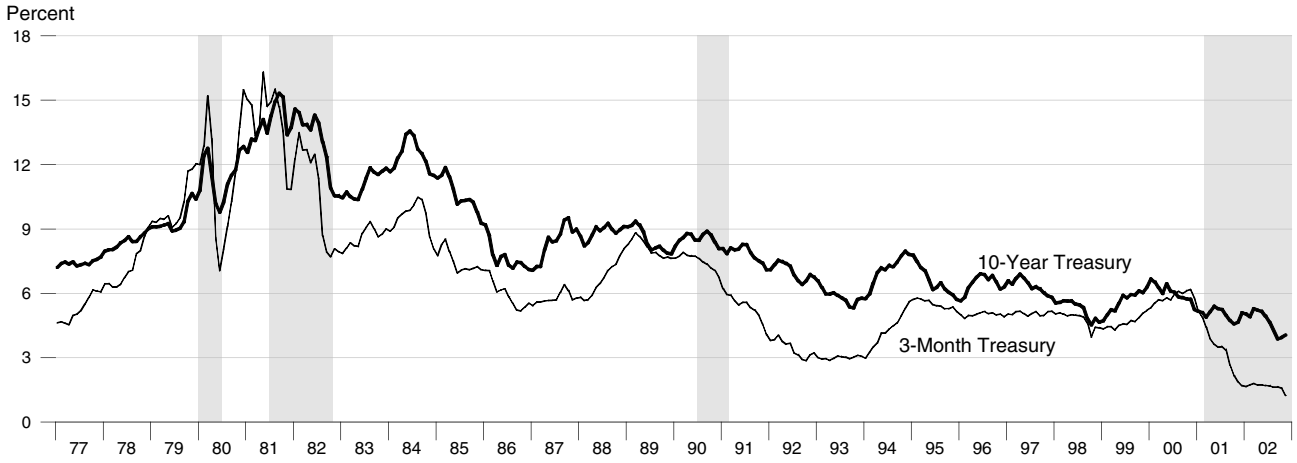
Percentage points at compounded annual rates



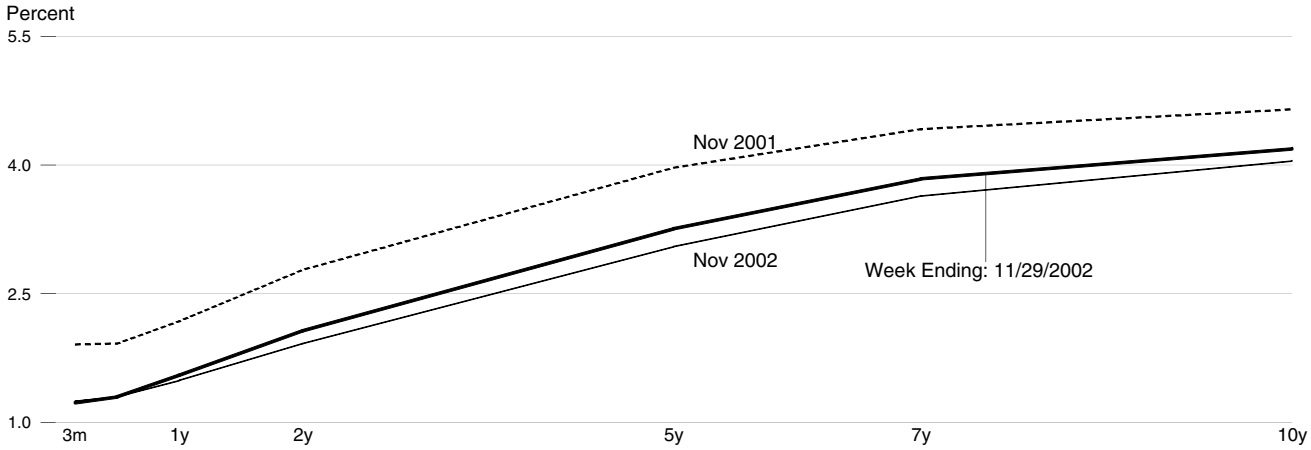
Contributions to Real GDP Growth Rate

	2000	2001				2002		
	4th	1st	2nd	3rd	4th	1st	2nd	3rd
Final Sales	1.23	2.67	-0.45	-0.20	4.13	2.44	-0.06	3.51
Change in Inventory	-0.14	-3.27	-1.14	-0.09	-1.39	2.60	1.31	0.45
Consumption	1.37	1.53	0.92	0.97	4.05	2.22	1.22	2.90
Fixed Investment	-0.41	-0.38	-1.95	-0.72	-1.49	-0.07	-0.15	0.03
Nonresidential	-0.41	-0.71	-1.93	-0.73	-1.33	-0.66	-0.27	-0.07
Residential	0.00	0.34	-0.02	0.02	-0.16	0.60	0.12	0.10
Government	0.51	0.99	1.00	-0.21	1.85	1.04	0.27	0.58
Federal	0.12	0.54	0.36	0.07	0.80	0.47	0.47	0.28
State and Local	0.39	0.45	0.64	-0.28	1.05	0.56	-0.21	0.30
Net Exports	-0.23	0.53	-0.42	-0.24	-0.28	-0.75	-1.40	0.00
Exports	-0.46	-0.69	-1.42	-1.94	-0.99	0.33	1.29	0.33
Imports	0.23	1.22	1.00	1.70	0.70	-1.08	-2.69	-0.33
Residual	0.06	0.45	0.50	0.07	0.42	-0.05	0.27	0.06
Real GDP Growth	1.09	-0.60	-1.59	-0.29	2.74	5.04	1.25	3.96

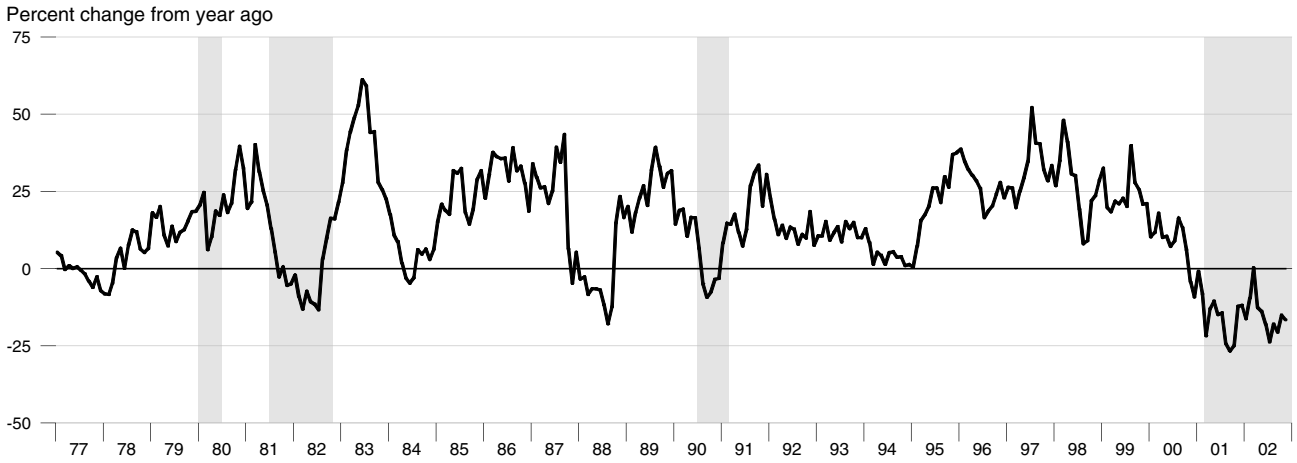
Interest Rates



Treasury Yield Curve

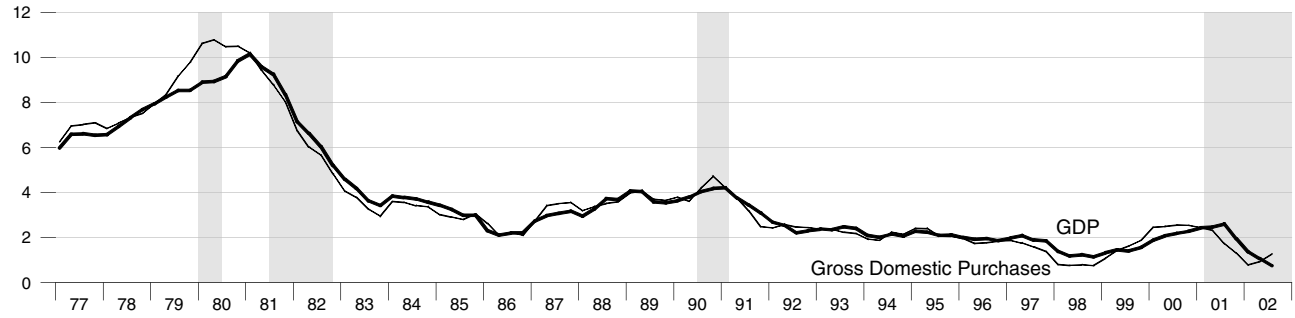


Standard and Poor's 500 Index with Reinvested Dividends



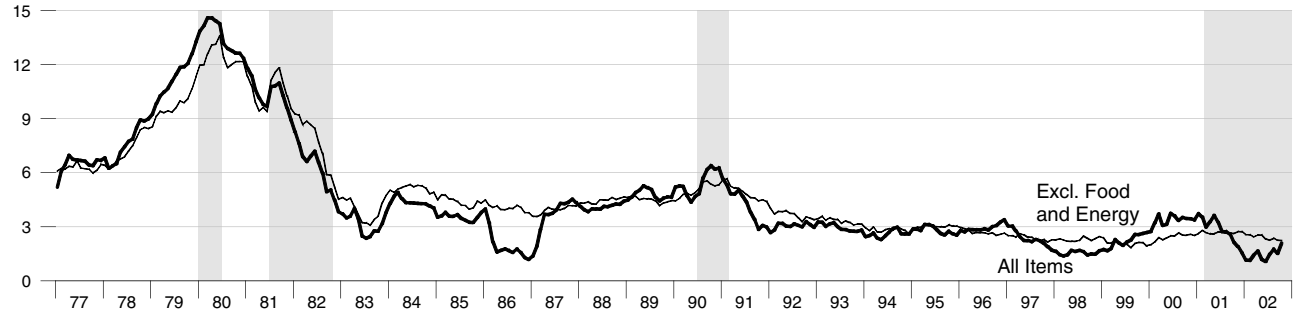
NIPA Chain Price Indexes

Percent change from year ago



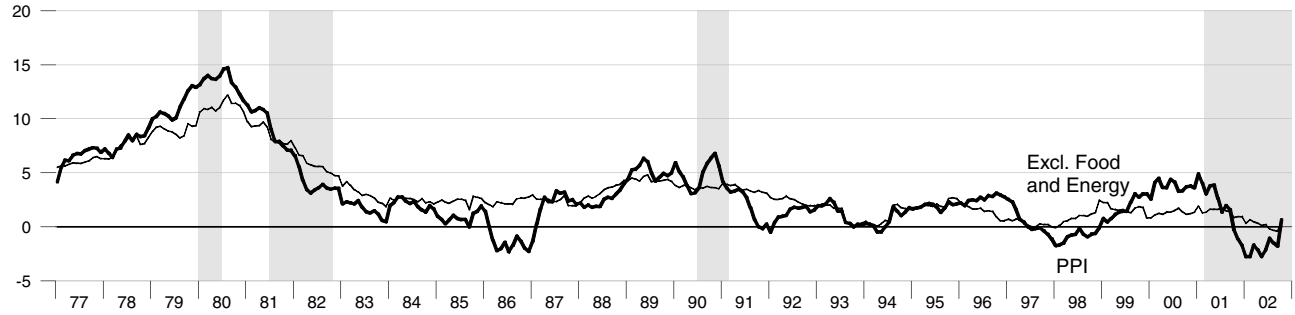
Consumer Price Index

Percent change from year ago



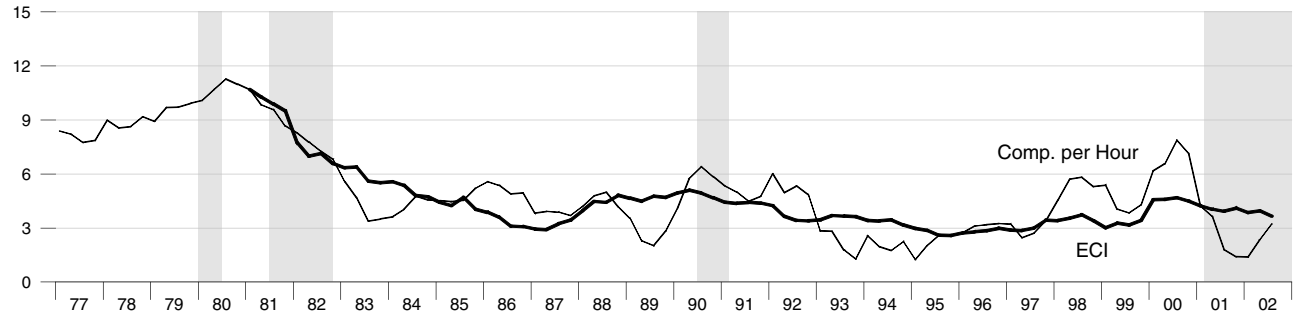
Producer Price Index, Finished Goods

Percent change from year ago



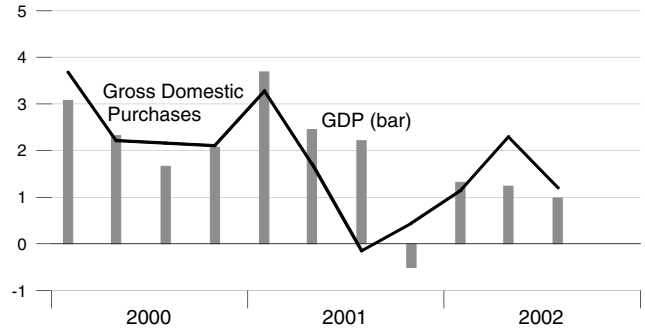
Employment Cost Index and Compensation per Hour

Percent change from year ago



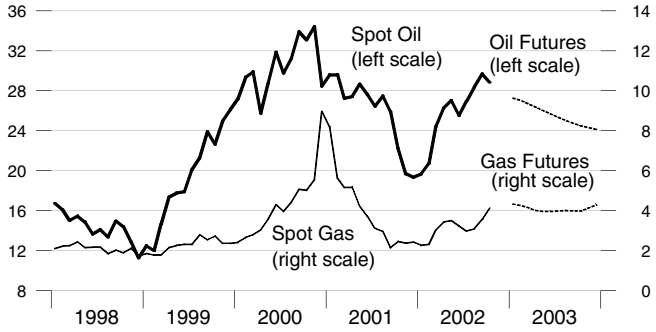
NIPA Chain Price Indexes

Compounded annual rates of change



Oil & Natural Gas Prices: Spot & Futures

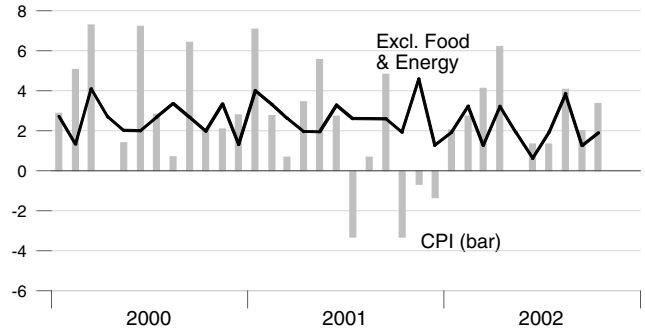
Dollars per barrel — Dollars per million btu



Note: Futures prices as of 12/02/2002

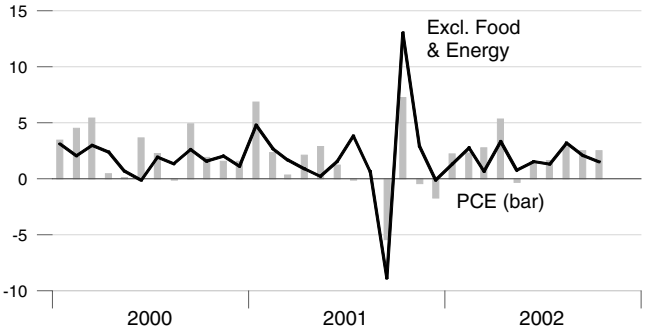
Consumer Price Index

Compounded annual rates of change



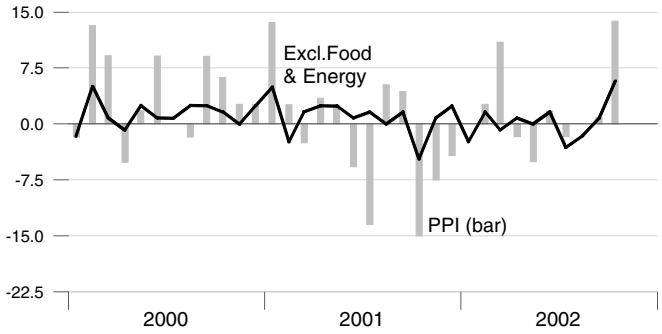
Consumption Chain Price Index

Compounded annual rates of change



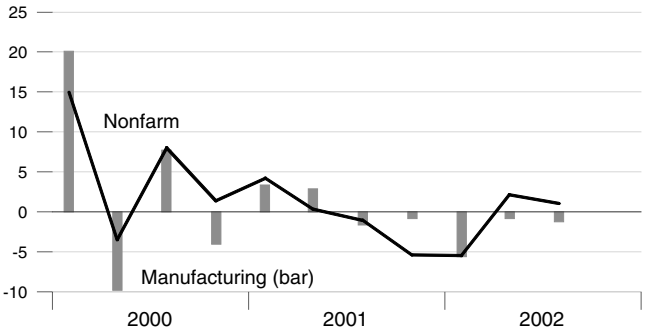
Producer Price Index, Finished Goods

Compounded annual rates of change



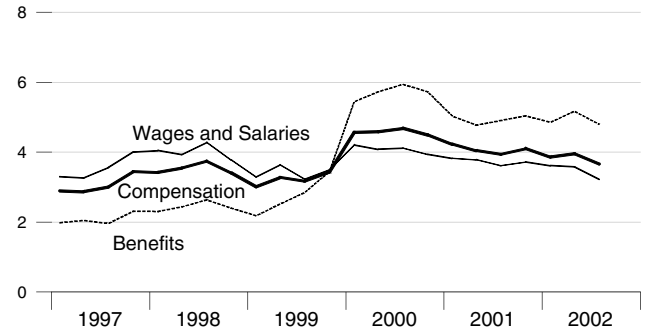
Unit Labor Cost

Compounded annual rates of change



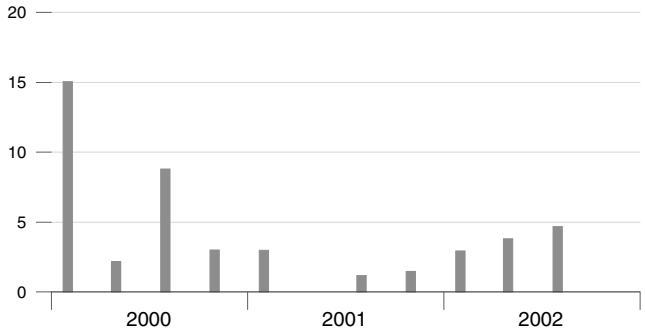
Employment Cost Index

Percent change from year ago

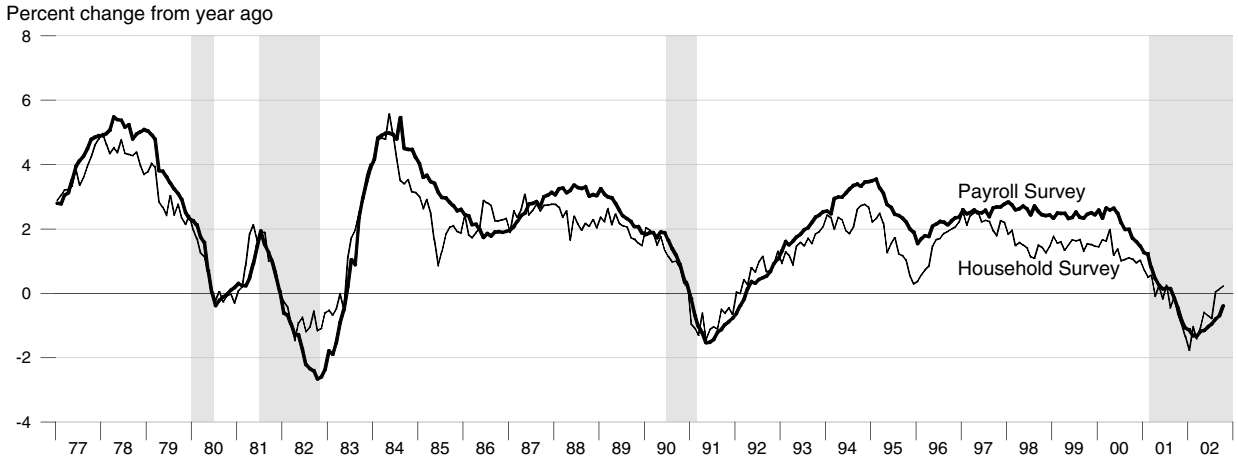


Compensation per Hour

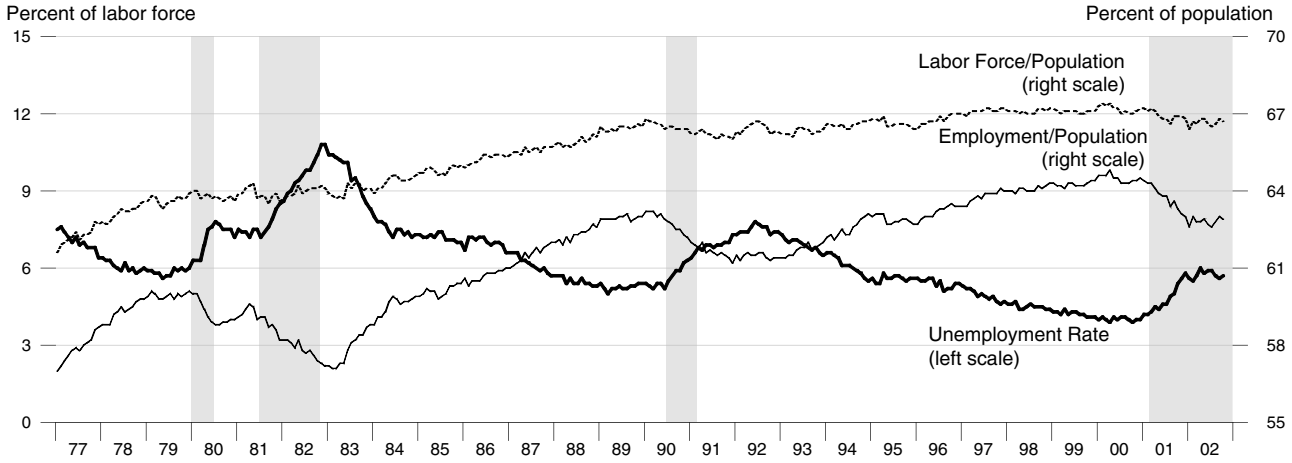
Compounded annual rates of change



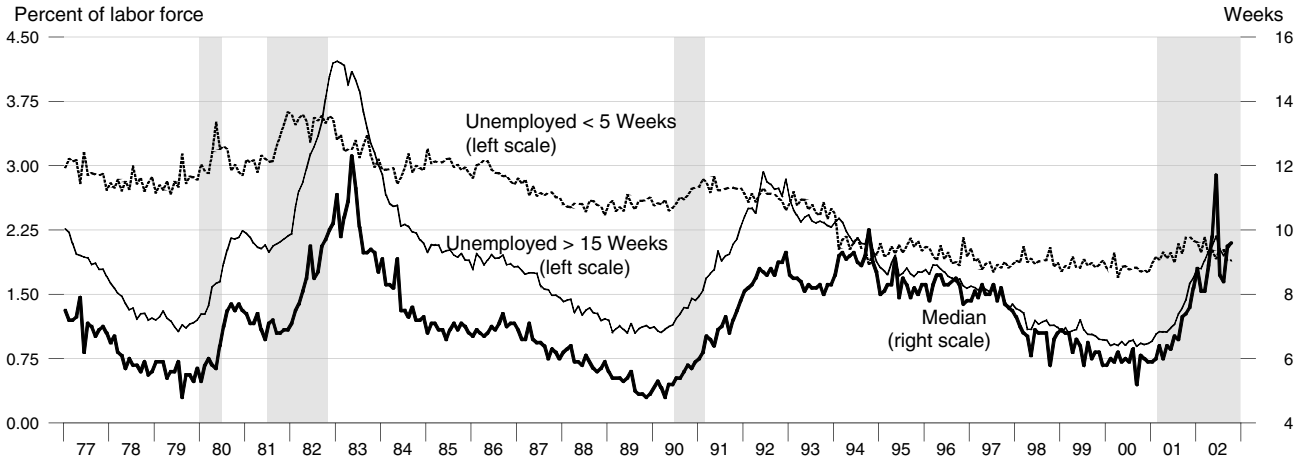
Employment



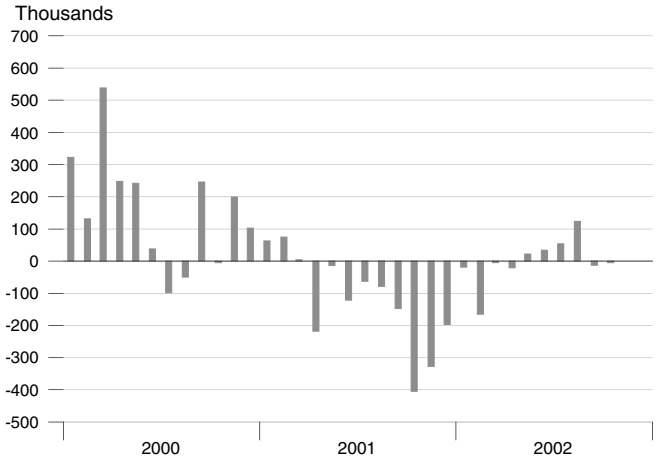
Unemployment, Labor Force Participation, and Employment Rates



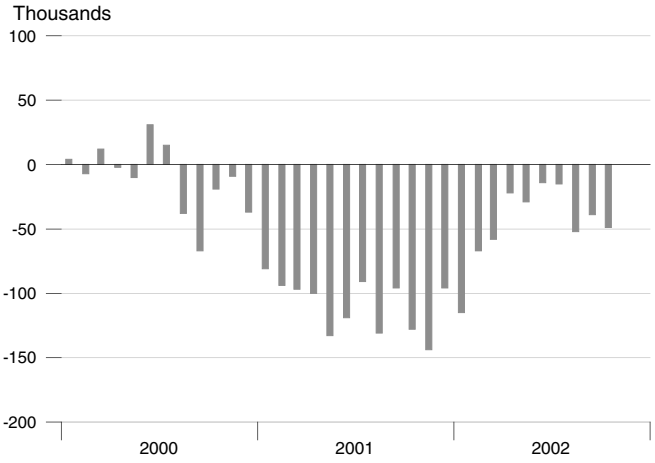
Duration of Unemployment



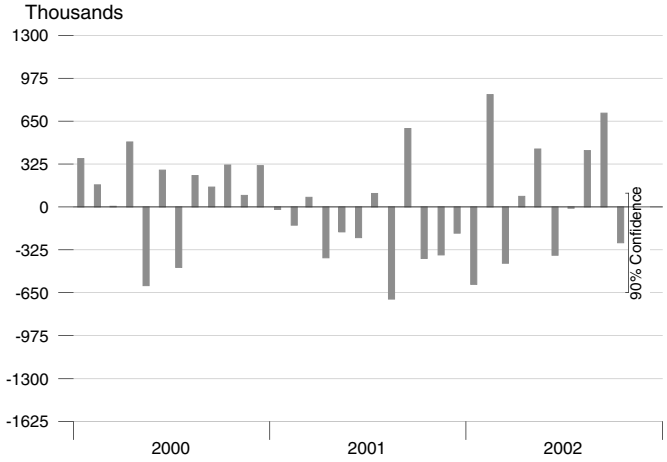
Change in Nonfarm Payrolls



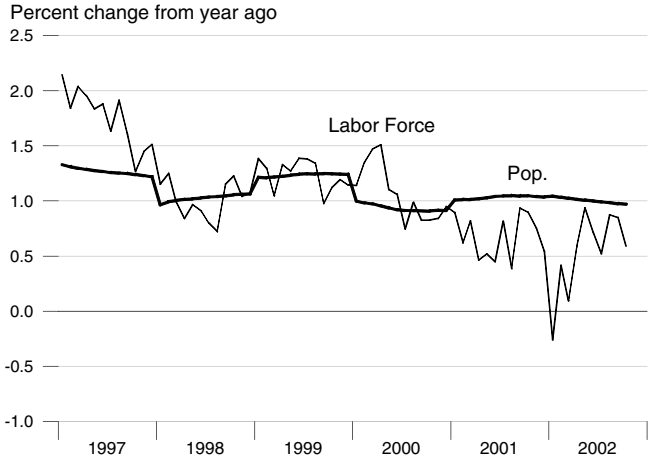
Change in Manufacturing Payrolls



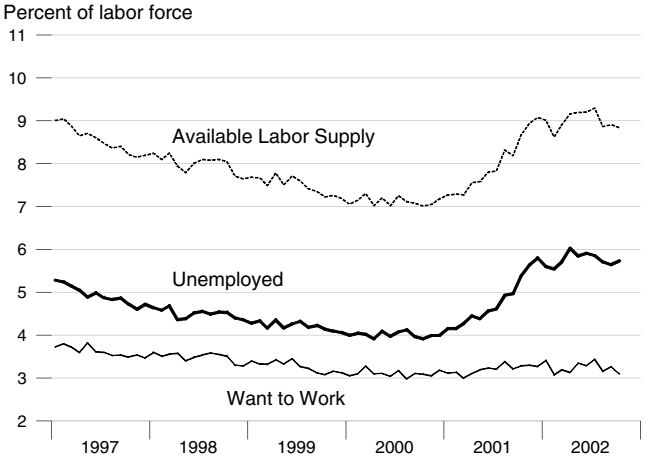
Change in Household Employment



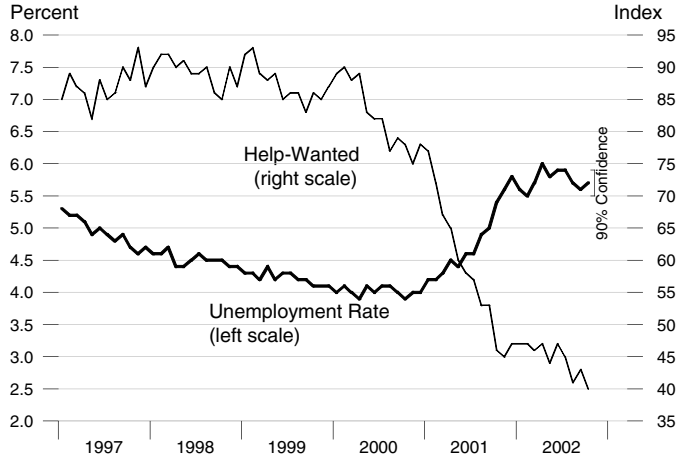
Labor Force and Population



Available Labor Supply and Components

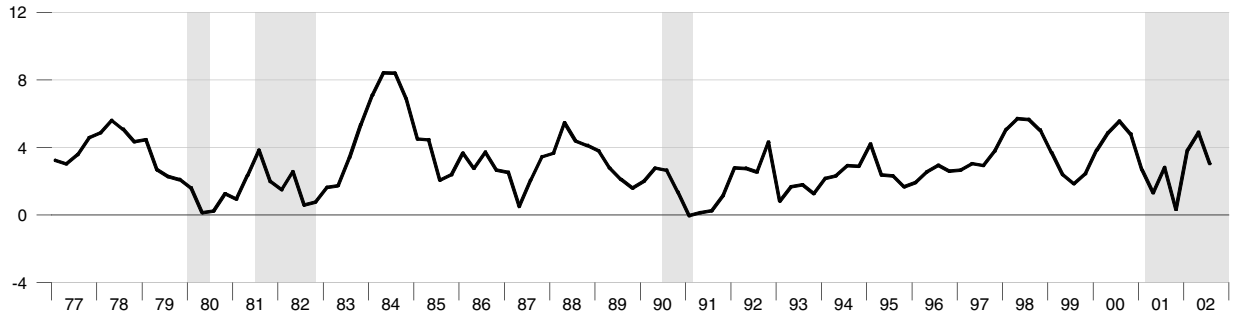


Unemployment Rate & Help-Wanted Index



Real Disposable Personal Income

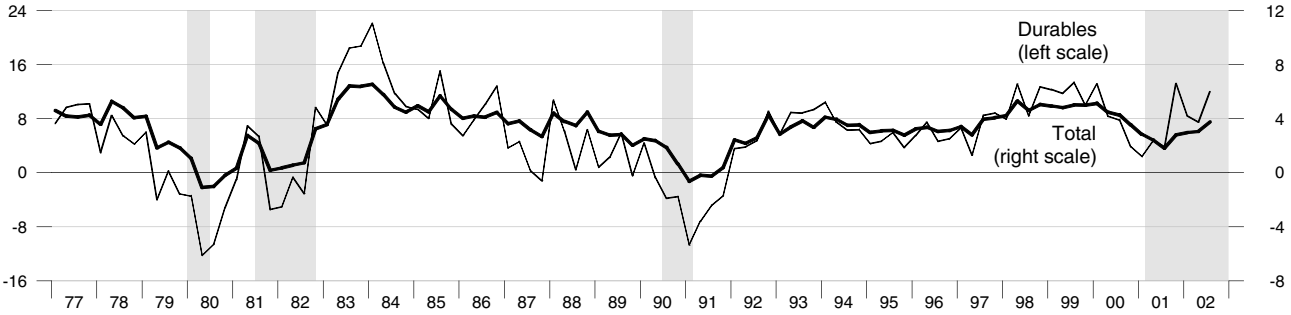
Percent change from year ago, quarterly data



Real Consumption

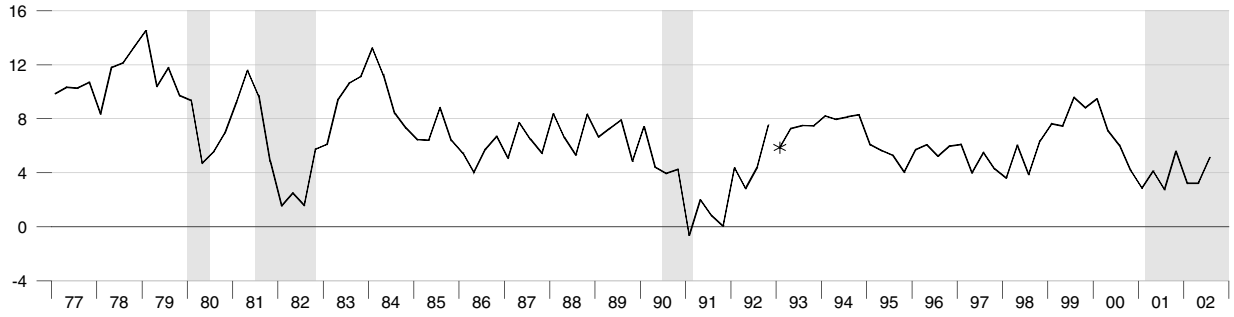
Percent change from year ago, quarterly data

Percent change from year ago, quarterly data



Retail and Food Services Sales

Percent change from year ago, quarterly average

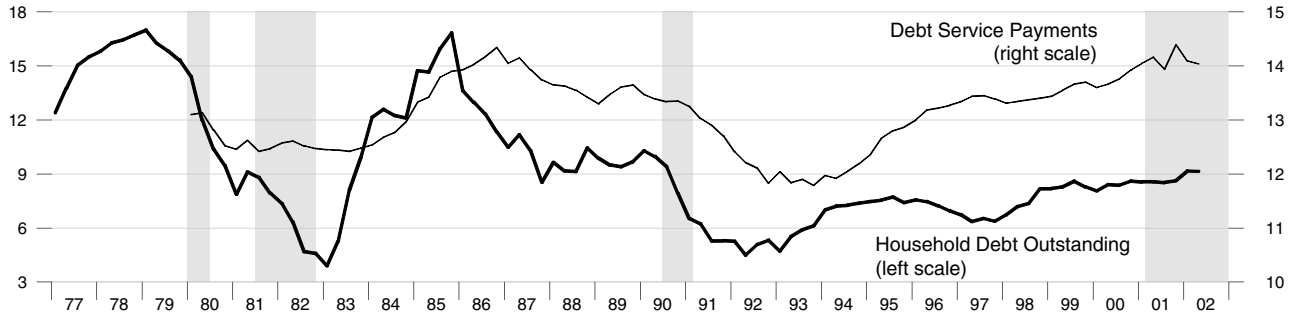


*Data before January 1992 are not strictly comparable (see End Notes).

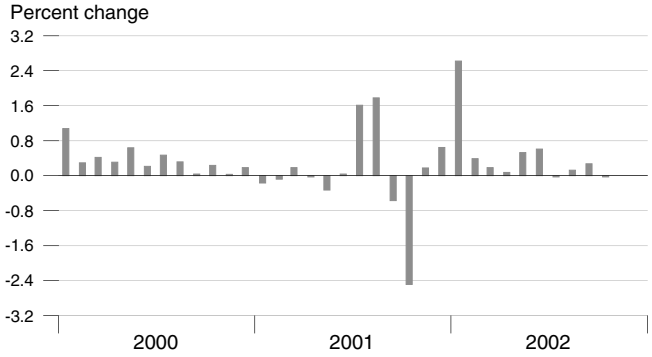
Debt Service Payments and Household Debt Outstanding

Percent change from year ago, quarterly data

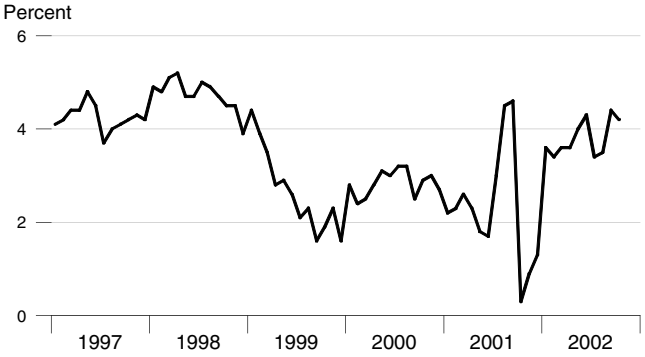
Percent of disposable personal income



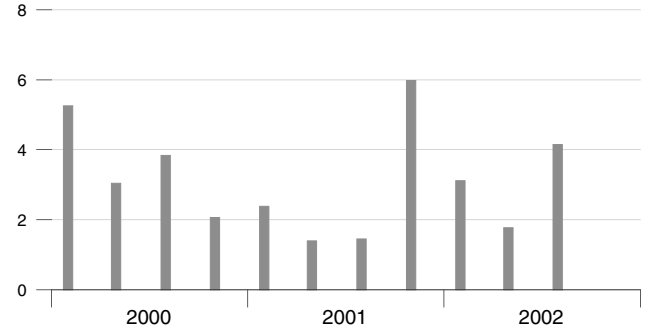
Real Disposable Personal Income



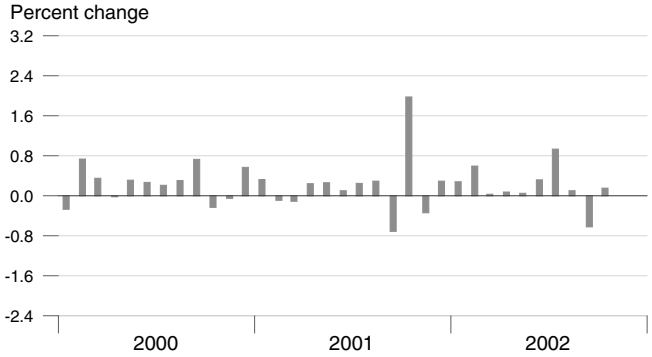
Personal Saving Rate



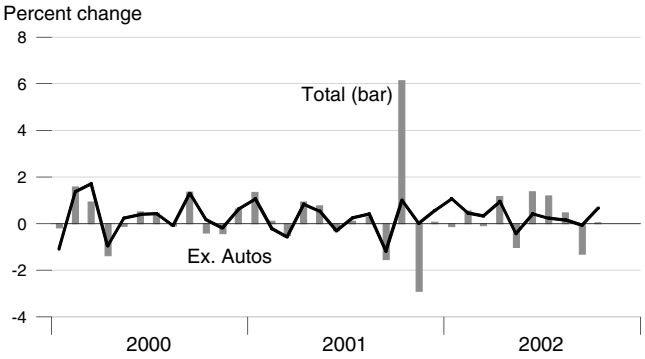
Real Consumption



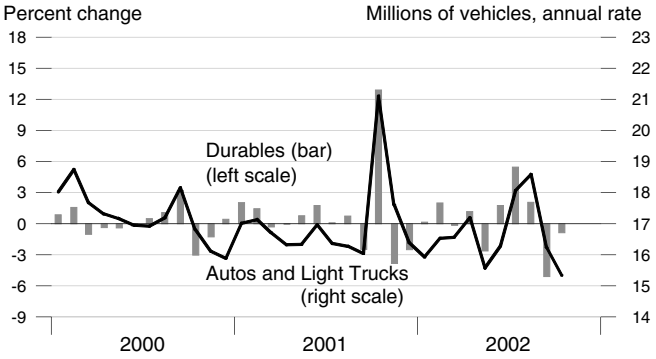
Real Consumption



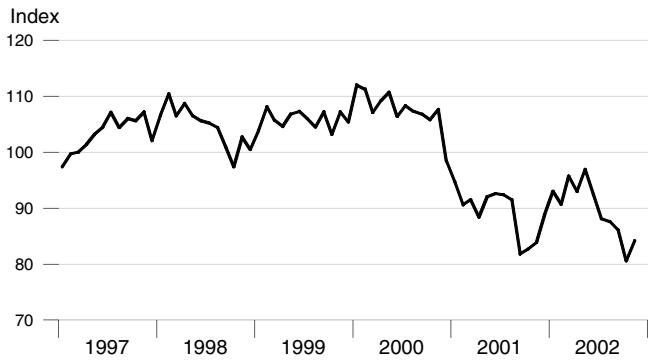
Retail & Food Services



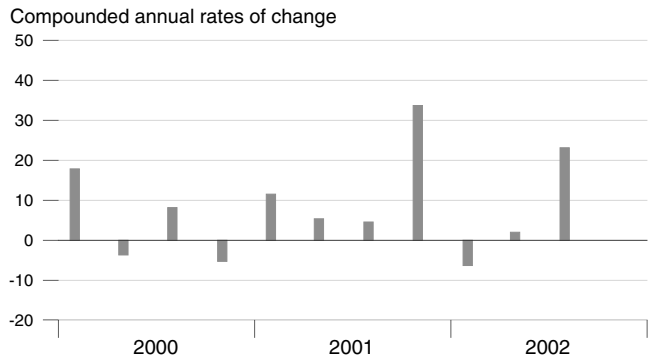
Real Durables Consumption & Vehicle Sales



Consumer Sentiment (U. of Michigan)

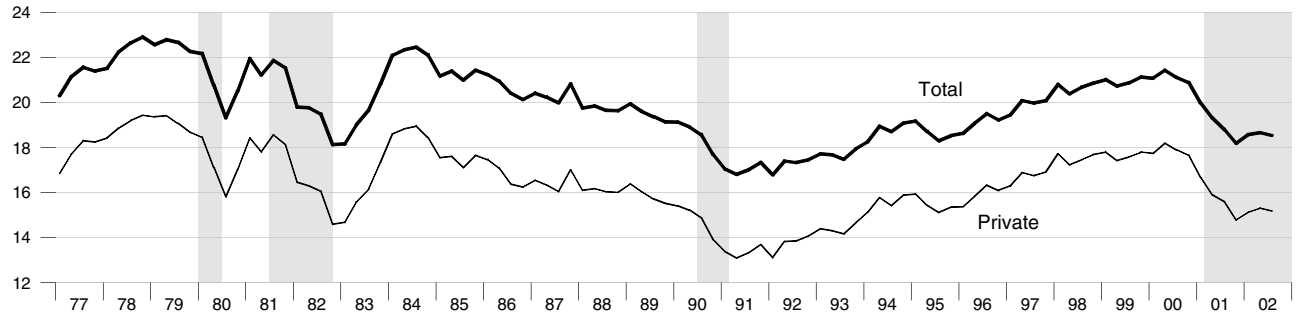


Real Durables Consumption



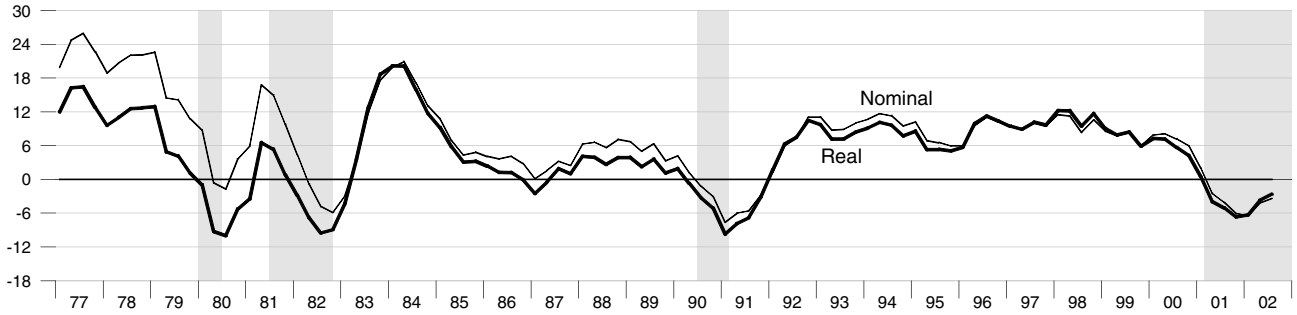
Investment

Percent of nominal GDP



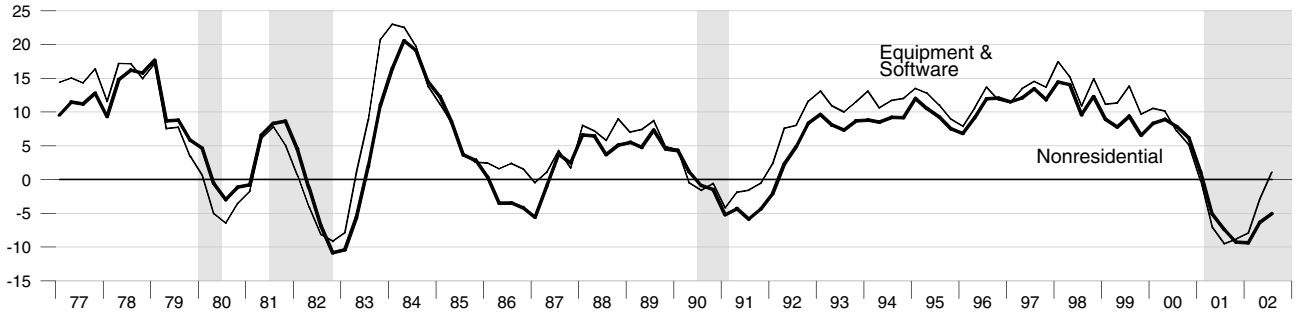
Private Fixed Investment

Percent change from year ago



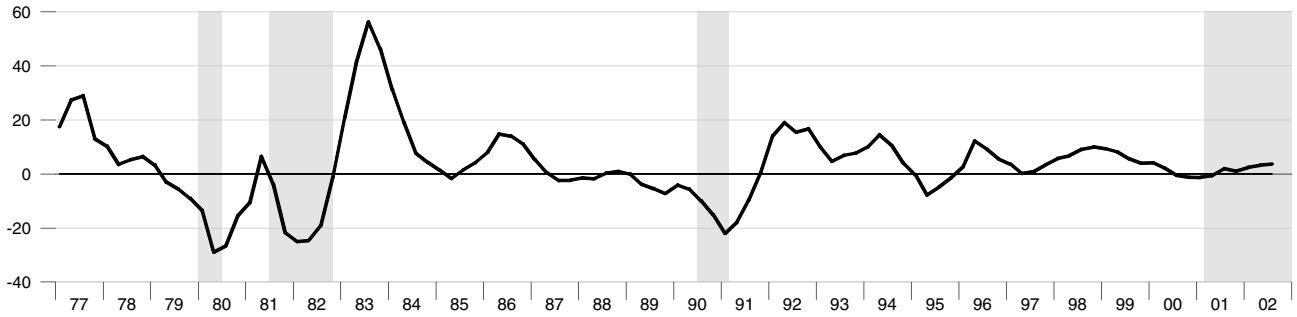
Real Nonresidential Fixed and Equipment & Software Investment

Percent change from year ago

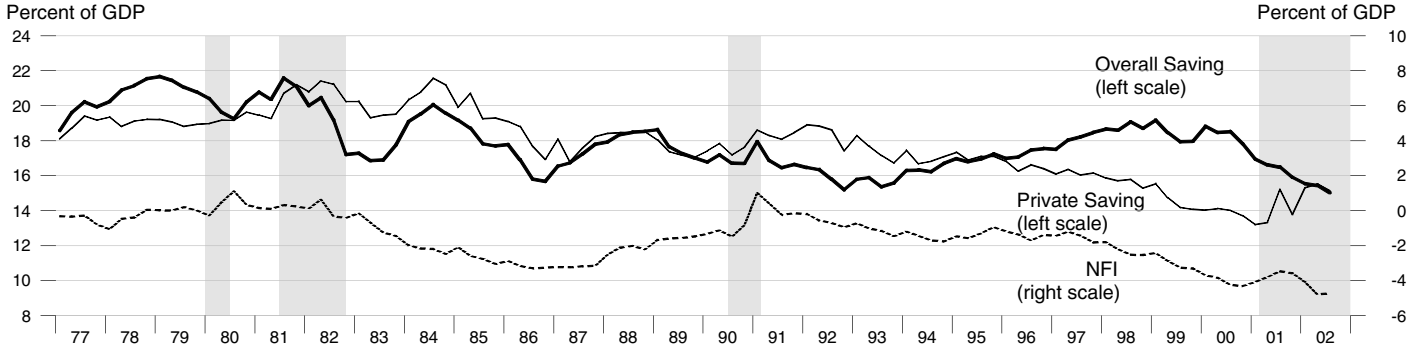


Real Residential Fixed Investment

Percent change from year ago

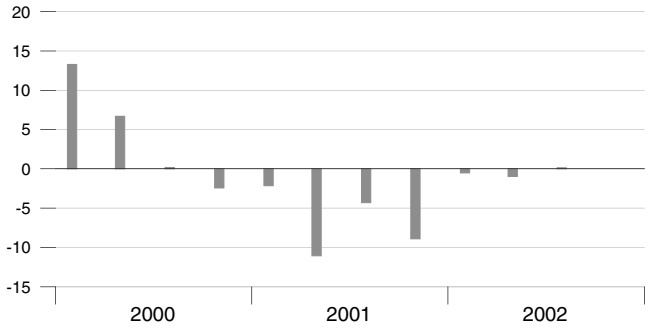


Gross Saving Rates and Net Foreign Investment



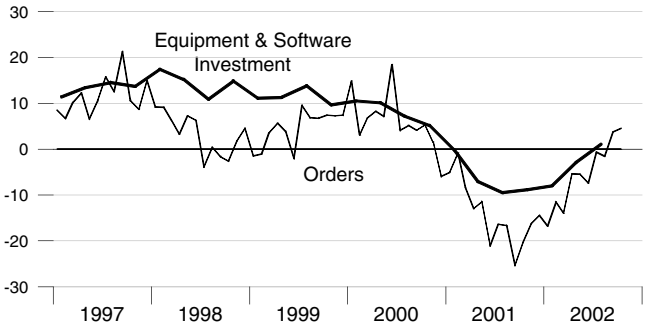
Real Private Fixed Investment

Compounded annual rates of change



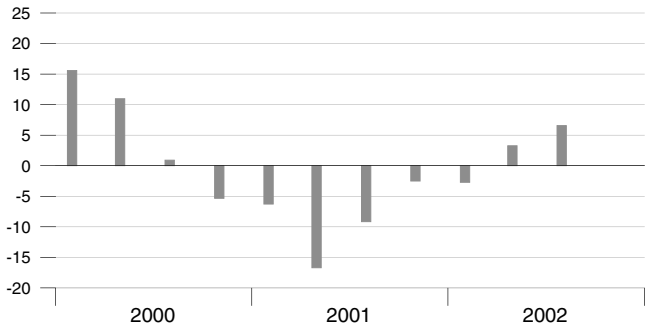
Nondefense Capital Goods Orders

Percent change from year ago, excluding aircraft



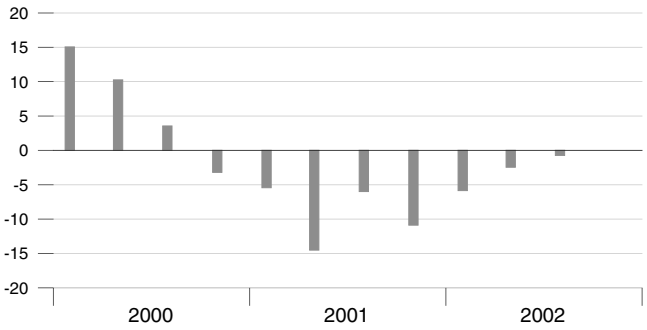
Real Equipment & Software Investment

Compounded annual rates of change



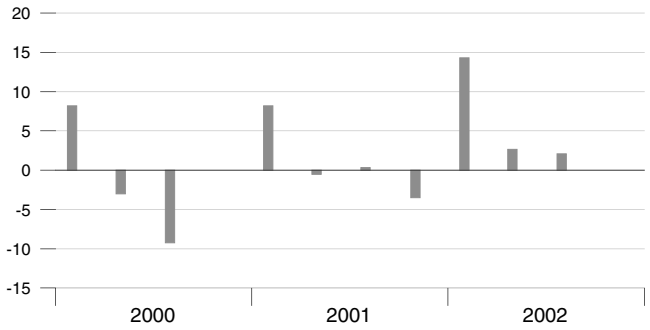
Real Nonresidential Fixed Investment

Compounded annual rates of change

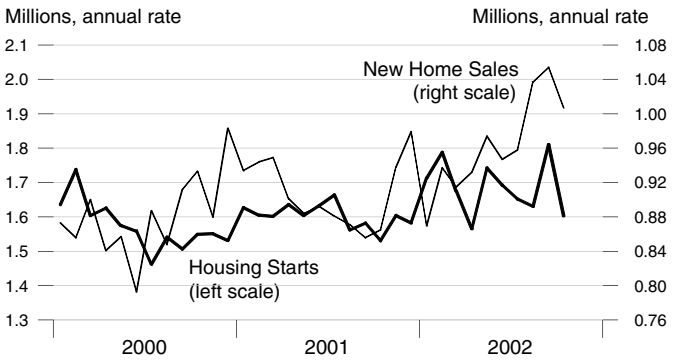


Real Residential Fixed Investment

Compounded annual rates of change

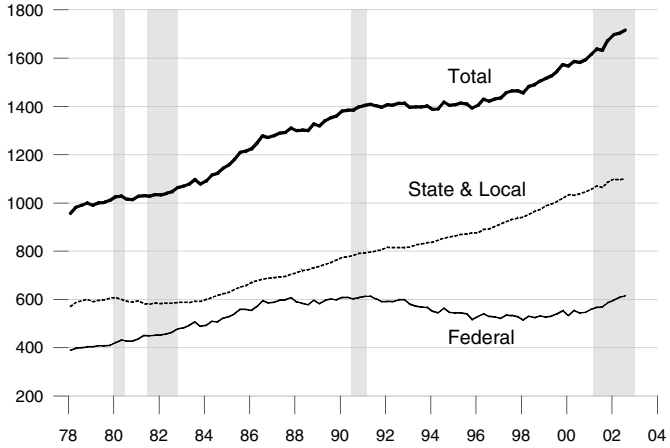


Housing Starts and New Home Sales



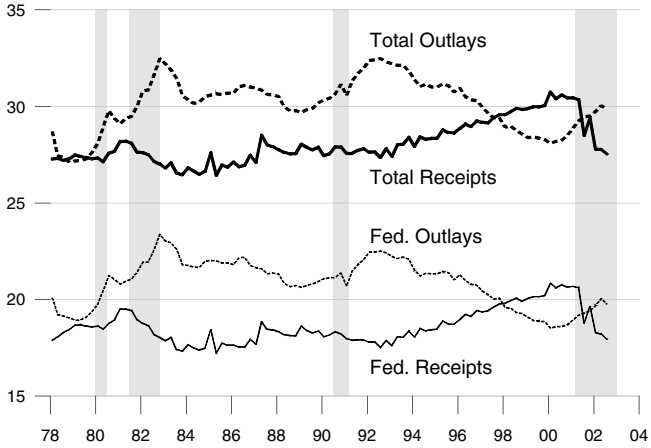
Govt. Consumption and Investment

Billions of 1996 dollars



Government Receipts and Outlays

Percent of GDP



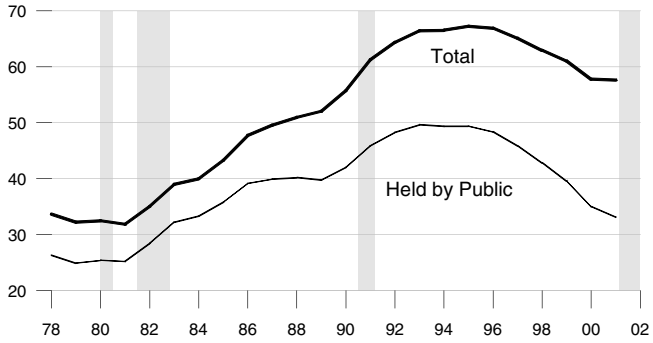
Government Budgets

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 (-)
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	1144.1	1105.8	38.3	1867.2	1755.3	111.9	1827.5	1701.9	125.5
2000	1214.2	1196.2	18.0	2033.9	1827.1	206.8	2025.2	1788.8	236.4
2001	1261.3	1292.6	-31.3	2008.4	1936.4	72.0	1991.0	1863.9	127.1
1999Q4	1179.1	1139.5	39.6	1922.4	1793.6	128.8	443.6	463.9	-20.3
2000Q1	1195.9	1163.2	32.7	2009.6	1786.4	223.2	433.7	448.7	-15.0
2000Q2	1204.7	1184.5	20.2	2022.9	1825.7	197.2	656.0	444.3	211.8
2000Q3	1225.4	1206.2	19.2	2049.1	1835.9	213.2	491.7	431.3	60.4
2000Q4	1230.8	1231.0	-0.2	2054.1	1860.3	193.8	462.0	464.3	-2.3
2001Q1	1247.3	1263.8	-16.5	2072.9	1899.1	173.8	459.8	482.2	-22.5
2001Q2	1261.1	1293.4	-32.3	2072.3	1927.8	144.5	660.3	466.5	193.7
2001Q3	1253.6	1299.8	-46.2	1896.0	1947.7	-51.7	409.0	450.7	-41.7
2001Q4	1283.2	1313.3	-30.1	1992.3	1971.0	21.3	466.3	501.7	-35.4
2002Q1	1273.3	1329.1	-55.8	1884.7	2030.5	-145.8	412.6	509.2	-96.6
2002Q2	1302.5	1347.6	-45.1	1889.0	2079.3	-190.3	522.6	506.9	15.6
2002Q3	1313.2	1365.1	-51.9	1884.8	2075.0	-190.2	451.8	493.2	-41.4

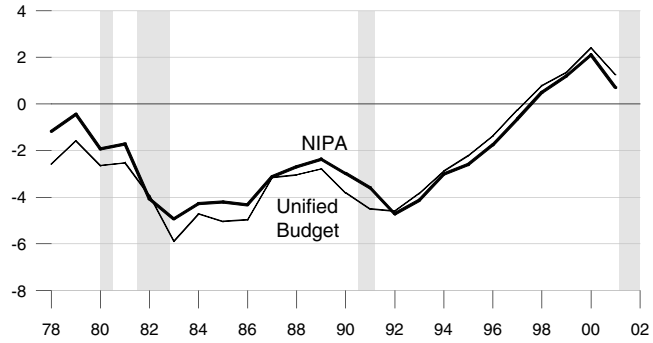
Federal Debt

Percent of GDP



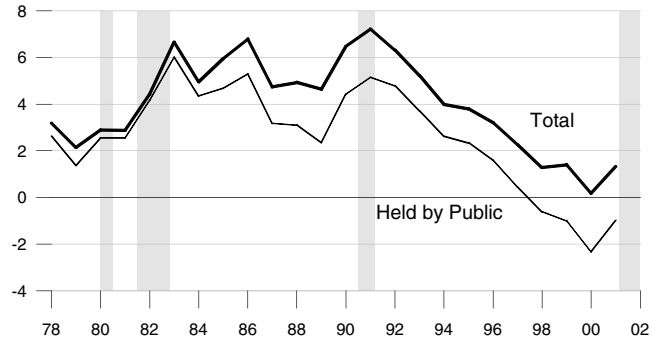
Federal Surplus (+) / Deficit (-)

Percent of GDP



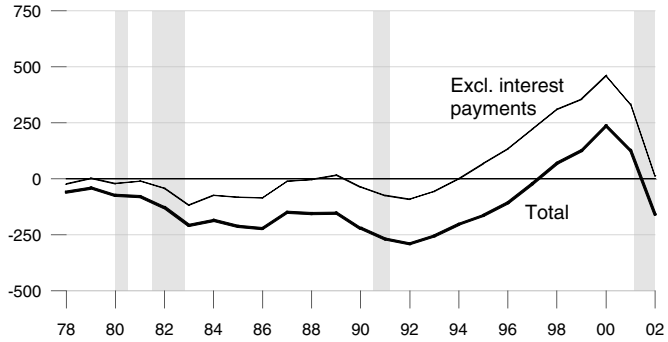
Change in Federal Debt

Percent of GDP



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

Billions of dollars, fiscal years

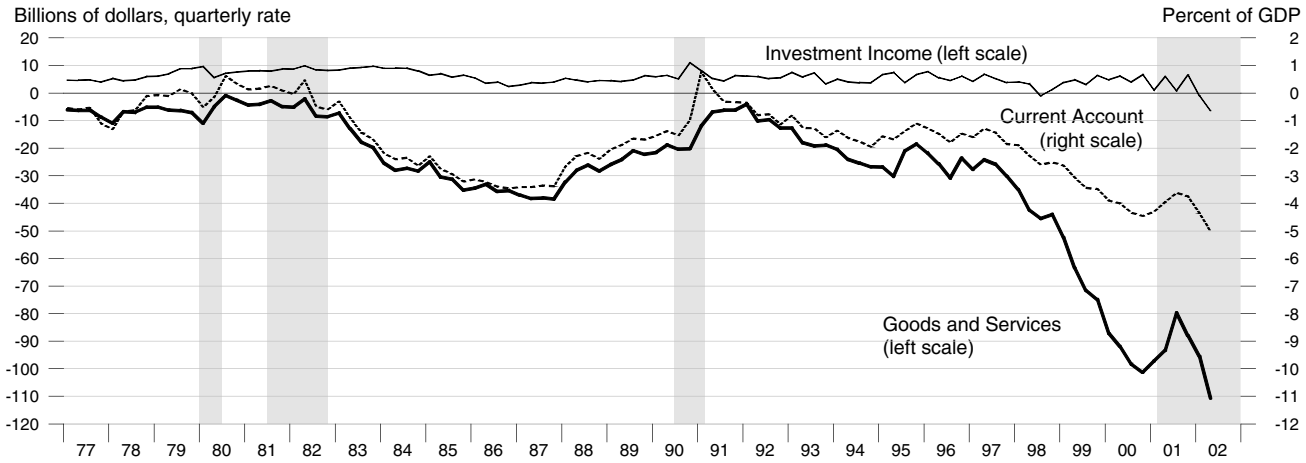


Federal Government Debt

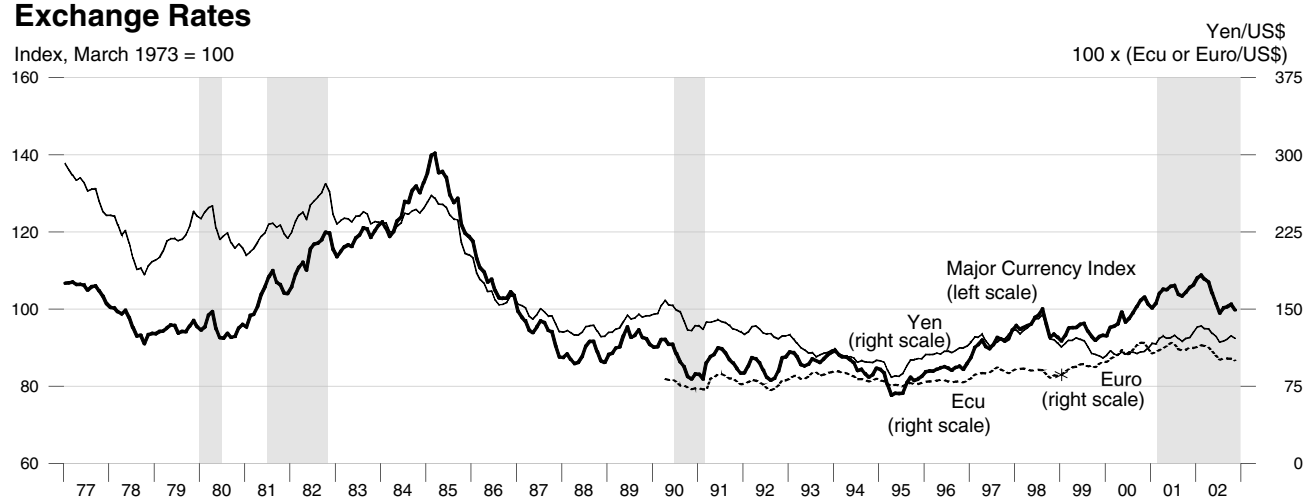
Billions of dollars, end of month or fiscal year
Excludes Agency-issued debt

				Held by Public		Held by Private Investors	
		Total Public Debt	Held by Agencies and Trusts	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	1057.9
2001		5807.5	2468.8	3338.7	534.1	2779.7	1004.3
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	1106.9
	June	5685.9	2190.2	3495.7	505.0	2987.4	1082.0
	September	5674.2	2235.7	3438.5	511.4	2936.2	1057.9
	December	5662.2	2248.7	3527.4	511.7	2880.4	1034.2
2001	March	5773.7	2339.4	3434.4	523.9	2892.9	1029.9
	June	5726.8	2452.6	3274.2	535.1	2722.6	1000.5
	September	5807.5	2468.8	3338.7	534.1	2779.7	1004.3
	December	5943.4	2549.7	3393.8	551.7	2819.5	1053.1
2002	March	6006.0	2562.4	3443.7	575.4	2849.5	1047.5
	June	6126.5	2662.9	3463.5	590.7	2819.8	1072.4

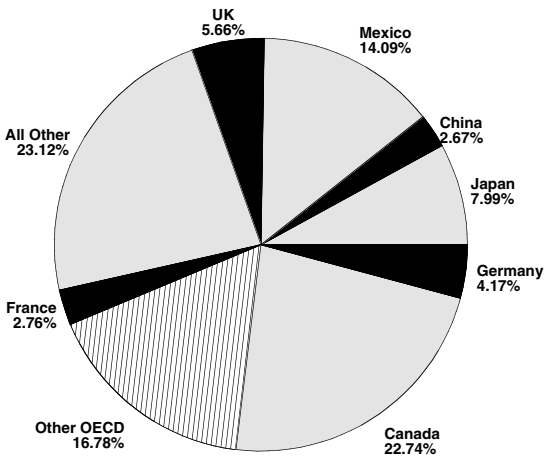
Current Account, Trade and Investment Income Balances



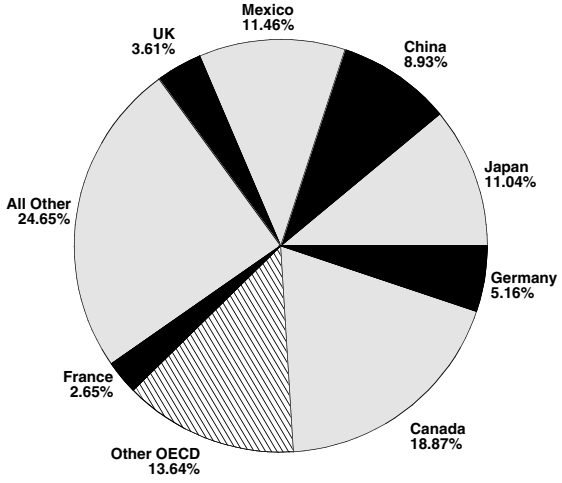
Exchange Rates



Goods Export Shares, 2001

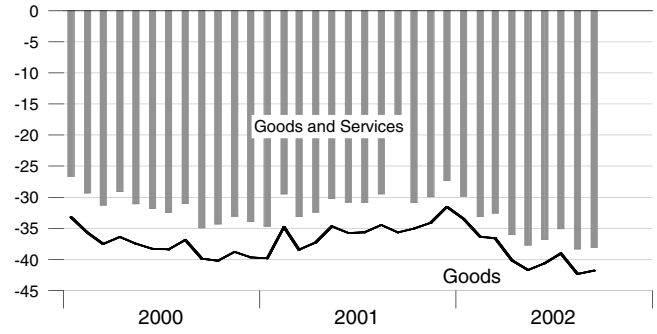


Goods Import Shares, 2001



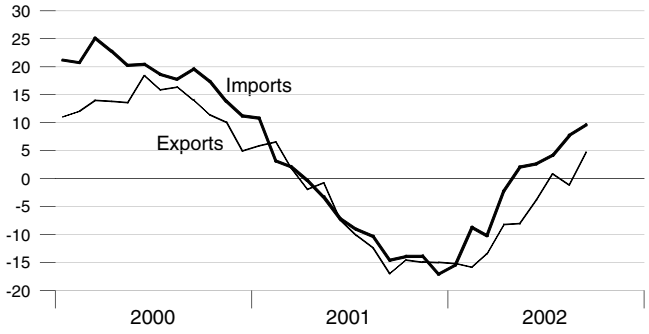
Trade Balance

Billions of dollars



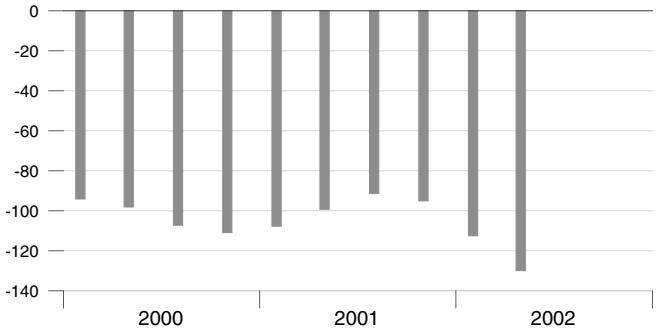
Goods Trade

Percent change from year ago



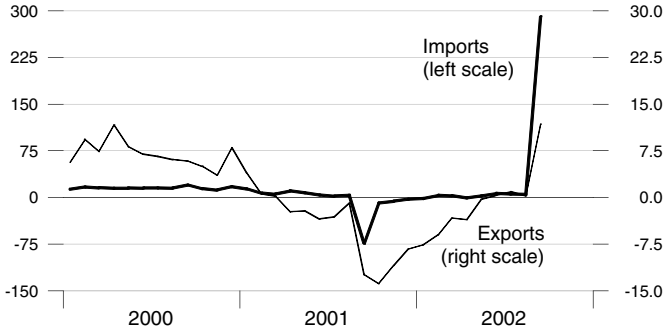
Current Account Balance

Billions of dollars



Services Trade

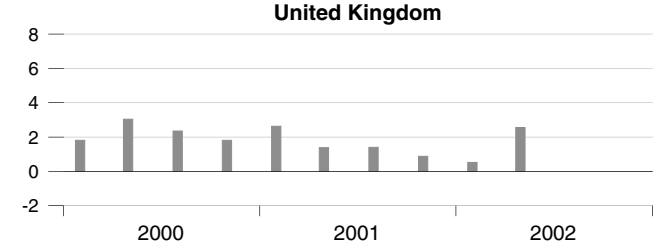
Percent change from year ago



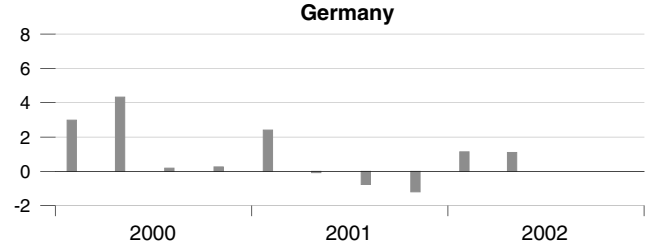
Real GDP Growth of Major Trading Partners

Compounded annual rates of change

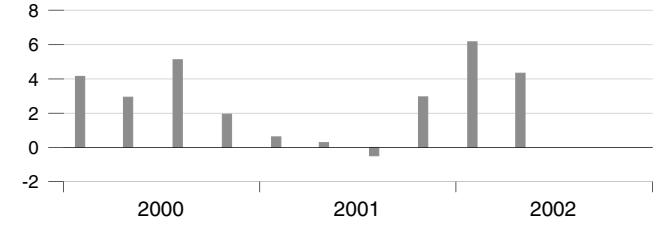
United Kingdom



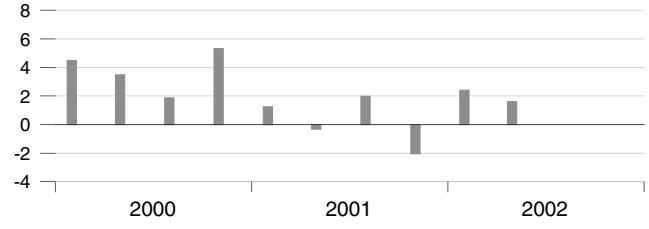
Germany



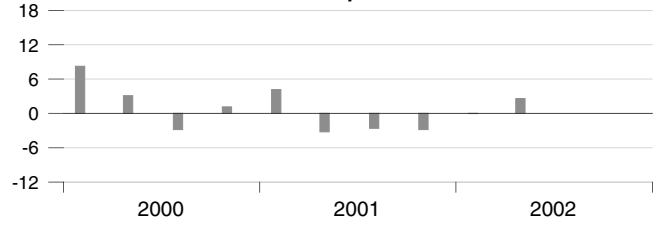
Canada



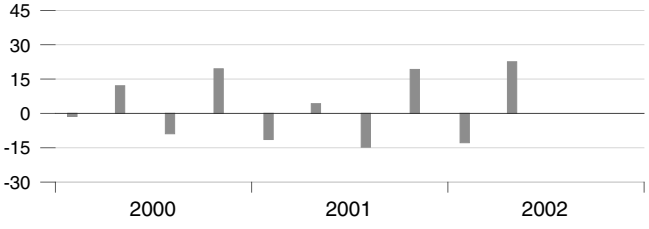
France



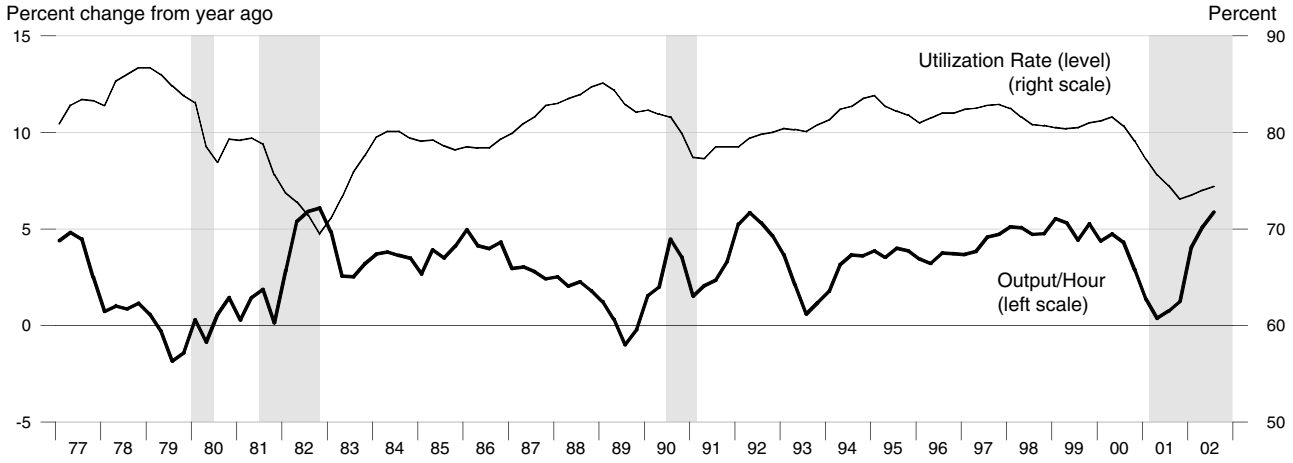
Japan



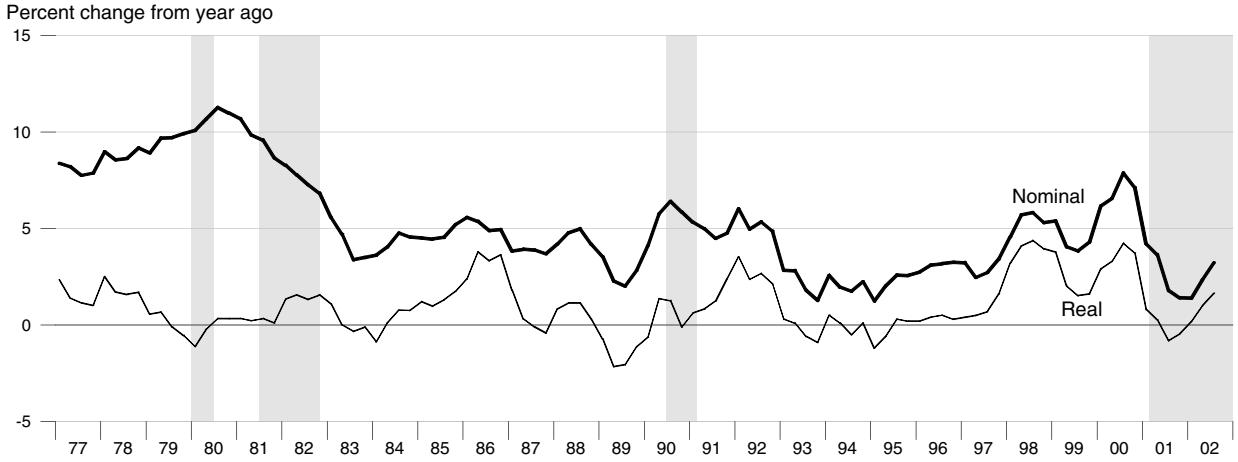
Mexico



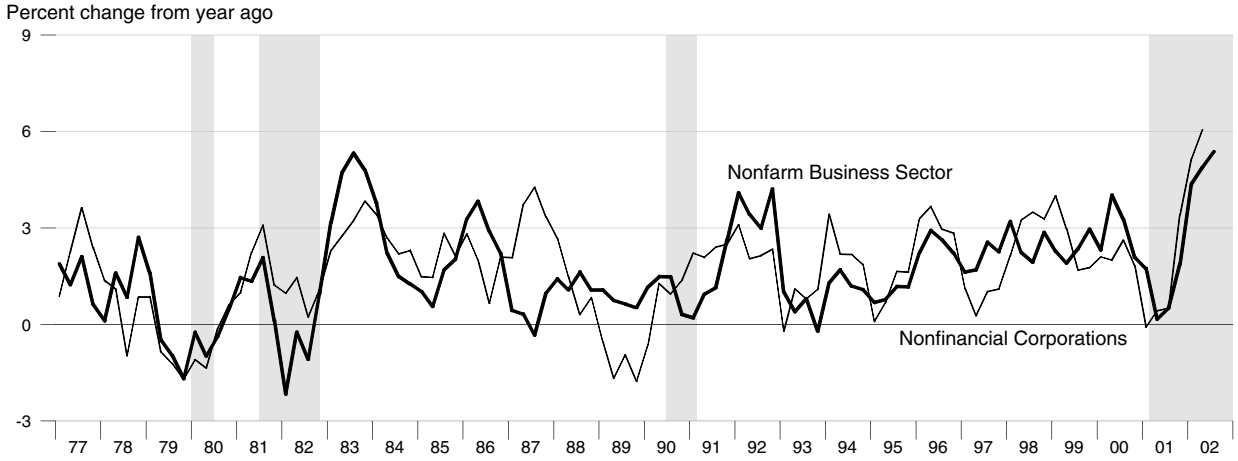
Output per Hour and Capacity Utilization, Manufacturing



Nonfarm Compensation per Hour

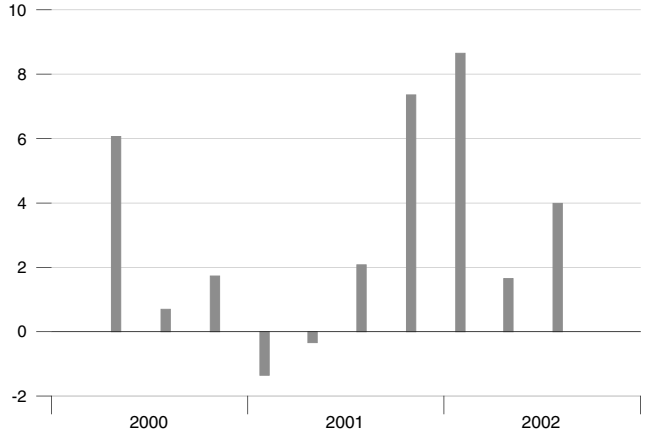


Output per Hour, Nonfarm Business and Nonfarm, Nonfinancial Corporations



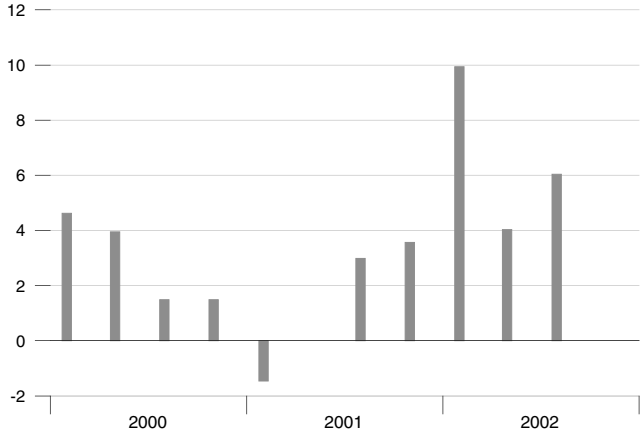
Nonfarm Output per Hour

Compounded annual rates of change

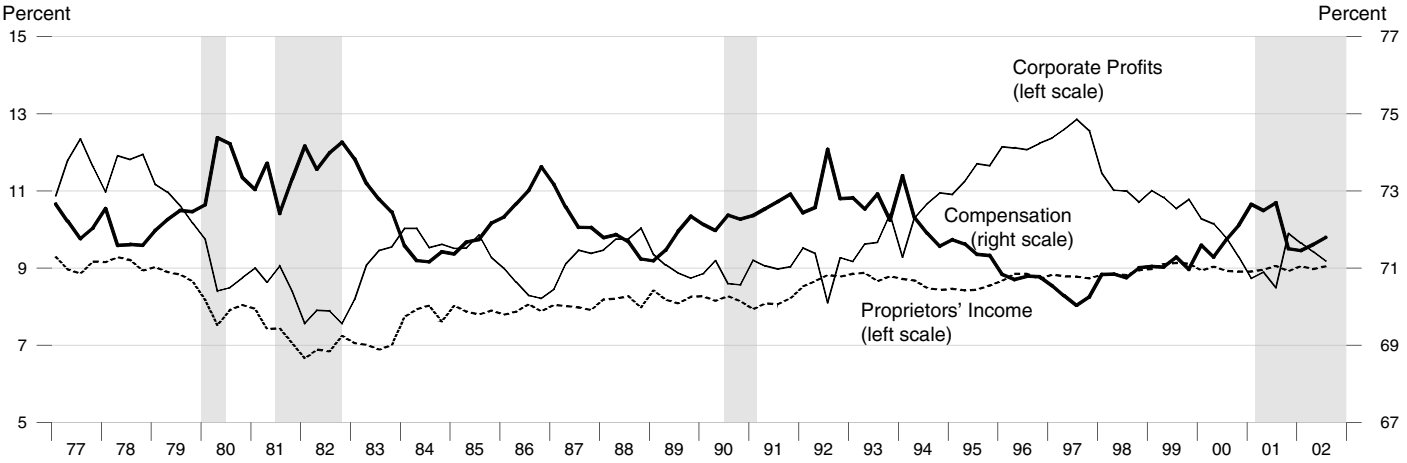


Manufacturing Output per Hour

Compounded annual rates of change

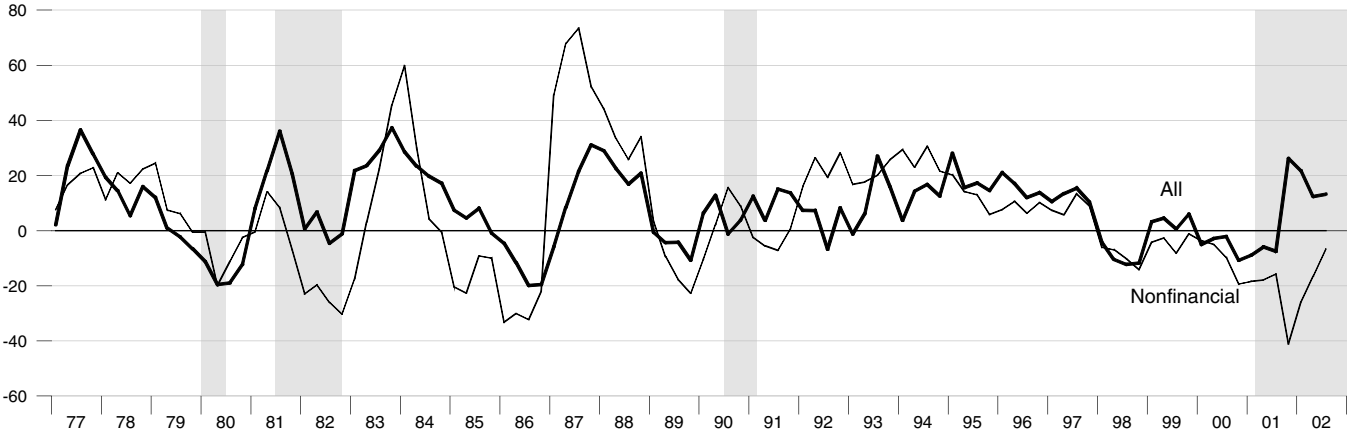


Selected Component Shares of National Income



Corporate Profits after Tax (with IVA and CCAdj)

Percent change from year ago



		Nominal GDP			Real GDP			Final Sales			Change in Private Inventories	
			Percent change			Percent change			Percent change		Billions of 1996 $	
		Billions of $	Annual rate	Year ago	Billions of 1996 $	Annual rate	Year ago	Billions of 1996 $	Annual rate	Year ago	Last qtr	Year/Year ago
1998		8781.5		5.6	8508.933		4.3	8431.826		4.2		76.727
1999		9274.3		5.6	8858.963		4.1	8793.899		4.3		62.755
2000		9824.6		5.9	9191.413		3.8	9121.104		3.7		64.976
2001		10082.2		2.6	9214.540		0.3	9258.399		1.5		-61.357
1999	1	9092.7	4.9	5.4	8733.171	3.0	4.0	8654.269	3.1	4.4	80.016	68.445
	2	9171.7	3.5	5.5	8775.518	2.0	3.9	8740.974	4.1	4.1	31.181	65.746
	3	9316.5	6.5	5.7	8886.934	5.2	4.2	8833.593	4.3	4.5	47.626	59.706
	4	9516.4	8.9	5.9	9040.072	7.1	4.3	8946.605	5.2	4.2	92.198	62.755
2000	1	9649.5	5.7	6.1	9097.421	2.6	4.2	9042.883	4.4	4.5	45.335	54.085
	2	9820.7	7.3	7.1	9205.711	4.8	4.9	9111.141	3.1	4.2	91.496	69.164
	3	9874.8	2.2	6.0	9218.681	0.6	3.7	9150.447	1.7	3.6	63.136	73.041
	4	9953.6	3.2	4.6	9243.840	1.1	2.3	9179.789	1.3	2.6	59.938	64.976
2001	1	10028.1	3.0	3.9	9229.932	-0.6	1.5	9243.767	2.8	2.2	-26.918	46.913
	2	10049.8	0.9	2.3	9193.054	-1.6	-0.1	9234.349	-0.4	1.4	-58.297	9.465
	3	10097.8	1.9	2.3	9186.413	-0.3	-0.4	9230.535	-0.2	0.9	-61.772	-21.762
	4	10152.9	2.2	2.0	9248.762	2.7	0.1	9324.945	4.2	1.6	-98.441	-61.357
2002	1	10313.1	6.5	2.8	9363.225	5.0	1.4	9379.350	2.4	1.5	-28.937	-61.862
	2	10376.9	2.5	3.3	9392.446	1.3	2.2	9377.871	-0.1	1.6	4.931	-46.055
	3	10503.7	5.0	4.0	9484.016	4.0	3.2	9458.816	3.5	2.5	15.460	-26.747

		Consumption			Durables Consumption			Private Fixed Investment			Nonresidential Fixed Investment		
			Percent change			Percent change			Percent change			Percent change	
		Billions of 1996 $	Annual rate	Year ago	Billions of 1996 $	Annual rate	Year ago	Billions of 1996 $	Annual rate	Year ago	Billions of 1996 $	Annual rate	Year ago
1998		5683.734		4.8	726.658		10.5	1479.986		11.4	1135.921		12.5
1999		5964.464		4.9	812.539		11.8	1595.205		7.8	1228.392		8.1
2000		6223.930		4.4	878.945		8.2	1691.893		6.1	1324.199		7.8
2001		6377.231		2.5	931.888		6.0	1627.414		-3.8	1255.132		-5.2
1999	1	5851.439	4.7	4.9	777.640	5.5	12.3	1560.473	7.7	9.0	1197.451	7.7	8.9
	2	5932.777	5.7	4.8	804.185	14.4	11.7	1587.565	7.1	7.9	1220.423	7.9	7.8
	3	6000.079	4.6	5.0	824.116	10.3	13.3	1610.569	5.9	8.4	1243.250	7.7	9.4
	4	6073.613	5.0	5.0	844.213	10.1	10.0	1622.199	2.9	5.9	1252.433	3.0	6.6
2000	1	6151.862	5.3	5.1	879.506	17.8	13.1	1673.617	13.3	7.3	1297.108	15.0	8.3
	2	6198.213	3.0	4.5	871.338	-3.7	8.4	1700.940	6.7	7.1	1329.083	10.2	8.9
	3	6256.821	3.8	4.3	888.464	8.1	7.8	1701.667	0.2	5.7	1340.677	3.5	7.8
	4	6288.822	2.1	3.5	876.479	-5.3	3.8	1691.347	-2.4	4.3	1329.929	-3.2	6.2
2001	1	6326.008	2.4	2.8	900.596	11.5	2.4	1682.070	-2.2	0.5	1311.445	-5.4	1.1
	2	6348.006	1.4	2.4	912.358	5.3	4.7	1633.538	-11.1	-4.0	1260.978	-14.5	-5.1
	3	6370.946	1.5	1.8	922.616	4.6	3.8	1615.663	-4.3	-5.1	1241.712	-6.0	-7.4
	4	6463.964	6.0	2.8	991.988	33.6	13.2	1578.384	-8.9	-6.7	1206.409	-10.9	-9.3
2002	1	6513.825	3.1	3.0	975.898	-6.3	8.4	1576.408	-0.5	-6.3	1188.412	-5.8	-9.4
	2	6542.422	1.8	3.1	980.664	2.0	7.5	1572.624	-1.0	-3.7	1181.099	-2.4	-6.3
	3	6609.200	4.1	3.7	1032.966	23.1	12.0	1573.085	0.1	-2.6	1179.004	-0.7	-5.1

	GDP Chain Price Index			Employment Cost Index			ECI: Wages			ECI: Benefits		
		Percent change			Percent change			Percent change			Percent change	
	Index	Annual rate	Year ago	Index	Annual rate	Year ago	Index	Annual rate	Year ago	Index	Annual rate	Year ago
1998	103.200		1.2	138.0		3.5	135.6		4.0	143.6		2.4
1999	104.690		1.4	142.4		3.2	140.3		3.4	147.6		2.8
2000	106.890		2.1	149.0		4.6	146.0		4.1	156.0		5.7
2001	109.420		2.4	155.0		4.1	151.4		3.7	163.7		4.9
1999 1	104.120	1.8	1.3	140.2	1.1	3.0	138.1	1.8	3.3	145.2	0.0	2.2
2	104.520	1.5	1.5	141.8	4.6	3.3	139.7	4.7	3.6	146.7	4.2	2.5
3	104.840	1.2	1.4	143.1	3.7	3.2	140.9	3.5	3.2	148.2	4.2	2.8
4	105.280	1.7	1.6	144.6	4.3	3.4	142.3	4.0	3.5	150.2	5.5	3.4
2000 1	106.080	3.1	1.9	146.6	5.6	4.6	143.9	4.6	4.2	153.1	7.9	5.4
2	106.690	2.3	2.1	148.3	4.7	4.6	145.4	4.2	4.1	155.1	5.3	5.7
3	107.130	1.7	2.2	149.8	4.1	4.7	146.7	3.6	4.1	157.0	5.0	5.9
4	107.680	2.1	2.3	151.1	3.5	4.5	147.9	3.3	3.9	158.8	4.7	5.7
2001 1	108.660	3.7	2.4	152.8	4.6	4.2	149.4	4.1	3.8	160.8	5.1	5.0
2	109.320	2.5	2.5	154.3	4.0	4.0	150.9	4.1	3.8	162.5	4.3	4.8
3	109.920	2.2	2.6	155.7	3.7	3.9	152.0	2.9	3.6	164.7	5.5	4.9
4	109.780	-0.5	2.0	157.3	4.2	4.1	153.4	3.7	3.7	166.8	5.2	5.0
2002 1	110.140	1.3	1.4	158.7	3.6	3.9	154.8	3.7	3.6	168.6	4.4	4.9
2	110.480	1.2	1.1	160.4	4.4	4.0	156.3	3.9	3.6	170.9	5.6	5.2
3	110.750	1.0	0.8	161.4	2.5	3.7	156.9	1.5	3.2	172.6	4.0	4.8

	Exports			Imports			Nonfarm Output per Hour			Nonfarm Compensation per Hour		
		Percent change			Percent change			Percent change			Percent change	
	Billions of 1996 $	Annual rate	Year ago	Billions of 1996 $	Annual rate	Year ago	Index	Annual rate	Year ago	Index	Annual rate	Year ago
1998	1002.420		2.1	1223.500		11.8	110.3		2.6	119.1		5.3
1999	1036.329		3.4	1356.816		10.9	112.9		2.4	124.3		4.4
2000	1137.199		9.7	1535.958		13.2	116.2		2.9	133.0		7.0
2001	1076.121		-5.4	1492.010		-2.9	117.5		1.1	136.6		2.7
1999 1	1007.490	-6.9	0.4	1290.659	8.4	9.0	112.1	2.5	2.3	123.2	7.1	5.4
2	1018.076	4.3	2.5	1337.698	15.4	10.0	111.9	-0.7	1.9	123.4	0.7	4.0
3	1044.100	10.6	5.7	1383.736	14.5	12.6	112.9	3.6	2.4	124.5	3.6	3.8
4	1075.631	12.6	4.9	1415.153	9.4	11.9	114.7	6.5	3.0	126.3	5.9	4.3
2000 1	1095.781	7.7	8.8	1464.619	14.7	13.5	114.7	0.0	2.3	130.8	15.0	6.2
2	1133.877	14.6	11.4	1528.465	18.6	14.3	116.4	6.1	4.0	131.5	2.2	6.6
3	1165.469	11.6	11.6	1578.615	13.8	14.1	116.6	0.7	3.3	134.3	8.8	7.9
4	1153.668	-4.0	7.3	1572.152	-1.6	11.1	117.1	1.7	2.1	135.3	3.0	7.1
2001 1	1135.809	-6.0	3.7	1540.311	-7.9	5.2	116.7	-1.4	1.7	136.3	3.0	4.2
2	1098.832	-12.4	-3.1	1513.594	-6.8	-1.0	116.6	-0.3	0.2	136.3	0.0	3.7
3	1048.017	-17.3	-10.1	1466.988	-11.8	-7.1	117.2	2.1	0.5	136.7	1.2	1.8
4	1021.827	-9.6	-11.4	1447.158	-5.3	-8.0	119.3	7.4	1.9	137.2	1.5	1.4
2002 1	1030.560	3.5	-9.3	1477.140	8.5	-4.1	121.8	8.6	4.4	138.2	2.9	1.4
2	1065.526	14.3	-3.0	1552.919	22.2	2.6	122.3	1.7	4.9	139.5	3.8	2.3
3	1074.250	3.3	2.5	1561.760	2.3	6.5	123.5	4.0	5.4	141.1	4.7	3.2

		Household Survey Employment				Nonfarm Payroll Employment				Nonfarm Aggregate Hours			
				Percent change				Percent change			Percent change		
		Thousands	Change	Annual rate	Year ago	Thousands	Change	Annual rate	Year ago	Index	Monthly rate	Annual rate	Year ago
	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
	2	134149	255	0.8	-0.8	130706	-53	-0.2	-1.1	148.3	0.0	0.2	-1.7
	3	134568	419	1.3	-0.2	130868	162	0.5	-0.8	148.0	-0.2	-0.7	-1.3
2000	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	130680	-21	-0.2	-1.2	148.1	-0.1	-0.8	-1.9
	May	134417	441	4.0	-0.6	130702	22	0.2	-1.2	148.1	0.0	0.0	-1.9
	Jun	134053	-364	-3.2	-0.7	130736	34	0.3	-1.0	148.6	0.3	4.1	-1.3
	Jul	134045	-8	-0.1	-0.8	130790	54	0.5	-1.0	147.5	-0.7	-8.5	-1.9
	Aug	134474	429	3.9	0.0	130913	123	1.1	-0.8	148.1	0.4	5.0	-1.2
	Sep	135185	711	6.5	0.1	130900	-13	-0.1	-0.7	148.4	0.2	2.5	-0.8
	Oct	134914	-271	-2.4	0.2	130895	-5	-0.0	-0.4	147.8	-0.4	-4.7	-0.6

		Unempl. Rate	Retail and Food Services Sales				Industrial Production				Treasury Yields	
			Billions of dollars	Percent change Monthly/ quarterly	Annual rate	Year ago	Index	Percent change Monthly/ quarterly	Annual rate	Year ago	3-mo Percent	10-yr Percent
	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	3489.613			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	868.614	1.0	4.2	4.1	141.309	-1.5	-5.9	-3.5	3.66	5.27
	3	4.8	867.084	-0.2	-0.7	2.8	139.606	-1.2	-4.7	-4.8	3.17	4.98
	4	5.6	894.139	3.1	13.1	5.6	137.197	-1.7	-6.7	-5.9	1.91	4.77
2002	1	5.6	887.519	-0.7	-2.9	3.2	138.090	0.7	2.6	-3.7	1.72	5.08
	2	5.9	896.843	1.1	4.3	3.2	139.503	1.0	4.2	-1.3	1.72	5.10
	3	5.7	911.427	1.6	6.7	5.1	140.720	0.9	3.5	0.8	1.64	4.26
2000	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	290.567	0.8	9.6	4.7	141.595	-0.3	-3.4	-3.4	3.62	5.39
	Jun	4.6	289.681	-0.3	-3.6	3.9	140.326	-0.9	-10.2	-4.7	3.49	5.28
	Jul	4.6	289.971	0.1	1.2	3.5	140.402	0.1	0.7	-4.2	3.51	5.24
	Aug	4.9	290.791	0.3	3.4	3.9	139.954	-0.3	-3.8	-4.6	3.36	4.97
	Sep	5.0	286.322	-1.5	-17.0	0.9	138.461	-1.1	-12.1	-5.7	2.64	4.73
	Oct	5.4	303.871	6.1	104.2	7.6	137.670	-0.6	-6.6	-5.9	2.16	4.57
	Nov	5.6	295.036	-2.9	-29.8	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	138.589	0.3	4.1	-3.0	1.79	5.28
	Apr	6.0	299.642	1.2	14.9	3.9	138.777	0.1	1.6	-2.3	1.72	5.21
	May	5.8	296.567	-1.0	-11.6	2.1	139.419	0.5	5.7	-1.5	1.73	5.16
	Jun	5.9	300.634	1.4	17.8	3.8	140.313	0.6	8.0	-0.0	1.70	4.93
	Jul	5.9	304.218	1.2	15.3	4.9	141.020	0.5	6.2	0.4	1.68	4.65
	Aug	5.7	305.616	0.5	5.7	5.1	140.716	-0.2	-2.6	0.5	1.62	4.26
	Sep	5.6	301.593	-1.3	-14.7	5.3	140.425	-0.2	-2.5	1.4	1.63	3.87
	Oct	5.7	301.695	0.0	0.4	-0.7	139.293	-0.8	-9.3	1.2	1.58	3.94
	Nov										1.23	4.05

		Consumer Price Index					Consumer Price Index less Food and Energy					Producer Price Index Finished Goods			
			Percent change					Percent change					Percent change		
		Index	Monthly/ quarterly	Annual rate	Year ago	Year to date	Index	Monthly/ quarterly	Annual rate	Year ago	Year to date	Index	Monthly/ quarterly	Annual rate	Year ago
	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	138.4	-0.0	-0.1	-2.4
	2	179.6	0.8	3.4	1.3	2.4	190.0	0.5	2.2	2.5	2.2	138.8	0.3	1.1	-2.3
	3	180.4	0.5	1.9	1.6	2.2	191.0	0.5	2.0	2.3	2.2	138.5	-0.2	-0.7	-1.4
2000	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	139.3	0.9	10.9	-1.7
	Apr	179.5	0.5	6.2	1.6	3.8	189.8	0.3	3.2	2.5	2.4	139.1	-0.1	-1.7	-2.1
	May	179.5	0.0	0.0	1.2	3.0	190.1	0.2	1.9	2.5	2.3	138.5	-0.4	-5.1	-2.7
	Jun	179.7	0.1	1.3	1.1	2.7	190.2	0.1	0.6	2.3	2.0	138.7	0.1	1.7	-2.1
	Jul	179.9	0.1	1.3	1.5	2.5	190.5	0.2	1.9	2.3	2.0	138.5	-0.1	-1.7	-1.1
	Aug	180.5	0.3	4.1	1.7	2.7	191.1	0.3	3.8	2.4	2.2	138.5	0.0	0.0	-1.5
	Sep	180.8	0.2	2.0	1.5	2.6	191.3	0.1	1.3	2.2	2.1	138.6	0.1	0.9	-1.8
	Oct	181.3	0.3	3.4	2.1	2.7	191.6	0.2	1.9	2.2	2.1	140.1	1.1	13.8	0.6

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 & 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. The 90 percent confidence intervals for the unemployment rate (± 0.2 percentage points) and change in household survey employment (± 376,000) measure uncertainty due to sample size. The **available labor supply** is the sum of the unemployed and those persons not in the labor force but who want to work now. Because the household survey was changed in January 1994, data prior to this date are not strictly comparable.

Page 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 pp. 16-17). **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)