

A Case for Oil?

As economic growth slowed during the first half of 2003, many analysts again focused on increases in the price of oil. In the United States, increases in the price of oil generally have preceded business-cycle downturns since World War II.¹ In late February, oil prices were close to \$40 as oil supplies were throttled in Venezuela and Nigeria and the world anticipated war in the Middle East. Some analysts feared prices could reach \$50 if the war in Iraq bogged down into an urban guerilla conflict or spread to other nearby oil-producing nations. At the same time, nuclear power-supply troubles in Japan and unusually cold weather in the United States boosted demand. Fears of further sharp oil price increases seemed well-founded.

An extensive economics literature has explored the various mechanisms whereby higher oil prices affect economic activity.² One of the more plausible mechanisms operates by means of the postponement effect. In this scenario, increases in the current price of oil increase uncertainty about future oil prices which, in turn, causes households and businesses to postpone purchases of durable goods and equipment. Unraveling the economy's recent performance depends, at least in part, on understanding the extent to which businesses and consumers believed that this year's oil price increases would be reversed in the near future. If this belief was widely held, then oil prices might have affected business and consumer spending very little—and the economy's slow growth might have been signaling broader underlying weakness.

It seems plausible that many firms and households judged world events during 2002-03 by comparing them to those that surrounded the first Gulf War. Looking back, oil price movements during 2002-03 in fact were quite similar to those during the 1990-91 Iraqi invasion of Kuwait and subsequent Gulf War, albeit with somewhat different timing. The figure shows the spot price for benchmark Texas-type light, sweet crude oil before and

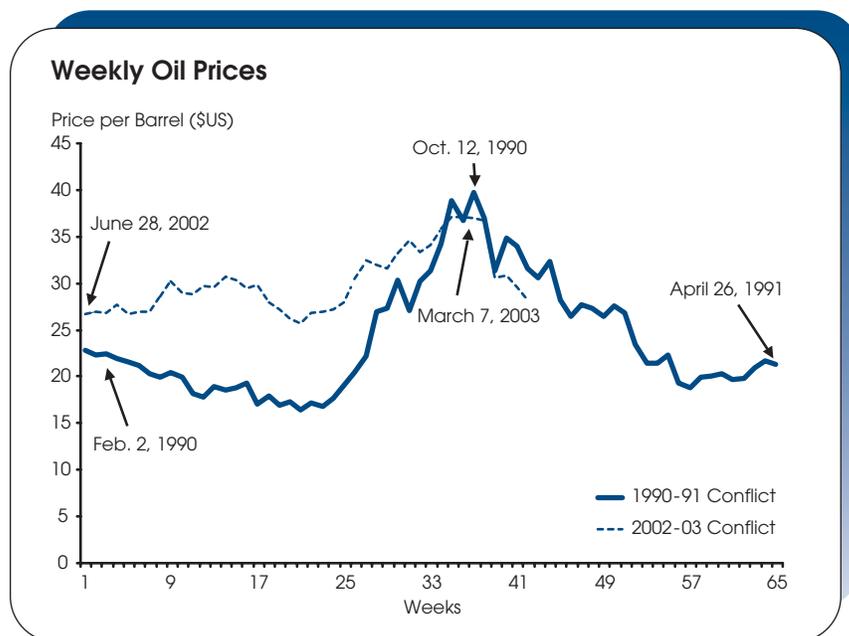
after the peak price observed during each period. (We aligned the prices based on the peak price because of the differing timing of events.) In 1990, prices peaked after the Kuwait invasion but well before the beginning of the American liberation of Kuwait. In 2003, similarly, prices rose sharply during the military buildup, when uncertainty regarding war was high, and then decreased after the degree of uncertainty was reduced by the American entry into Iraq. During both episodes, oil futures prices (not shown) moved in similar patterns; indeed, even during 2003, futures prices generally remained below the spot price, suggesting that the price run-up would be short-lived.

The similarity of oil price movements during 1990-91 and 2002-03 suggests that the slow pace of economic activity during this year's first-half should not be attributed to higher oil prices. It also suggests that the recent retreat of oil prices to more normal levels may provide no more than a small boost to economic growth later this year.

—Richard G. Anderson and Michelle T. Meisch

¹See Kevin L. Kliesen, "Rising Oil Prices and Economic Turmoil," Federal Reserve Bank of St. Louis *Regional Economist*, January 2001. <<http://www.stls.frb.org/publications/re/2001/a/pages/lead-article.html>>

²Many of these mechanisms are discussed in James D. Hamilton, "What Is an Oil Shock?" *Journal of Econometrics*, April 2003, Vol. 113, pp. 363-98.



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Conventions used in this publication:

1. Except where otherwise noted, solid shading indicates recessions, as determined by the National Bureau of Economic Research. The NBER has not yet determined the end of the recession that began in March 2001; however, the hatched shading indicates this recession ended in November 2001, as determined by a statistical model for dating business cycle turning points developed by Marcelle Chauvet (“An Econometric Characterization of Business Cycle Dynamics with Factor Structure and Regime Switching,” *International Economic Review*, November 1998, pp. 969-96) and discussed by Marcelle Chauvet and Jeremy Piger (“Identifying Business Cycle Turning Points in Real Time,” *Federal Reserve Bank of St. Louis Review*, March/April 2003, pp. 47-62).
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: $[(x_t/x_{t-1})^4 - 1] \times 100$. For monthly data replace 4 with 12.
3. All data with significant seasonal patterns are adjusted accordingly, unless labeled NSA.

We welcome your comments addressed to:

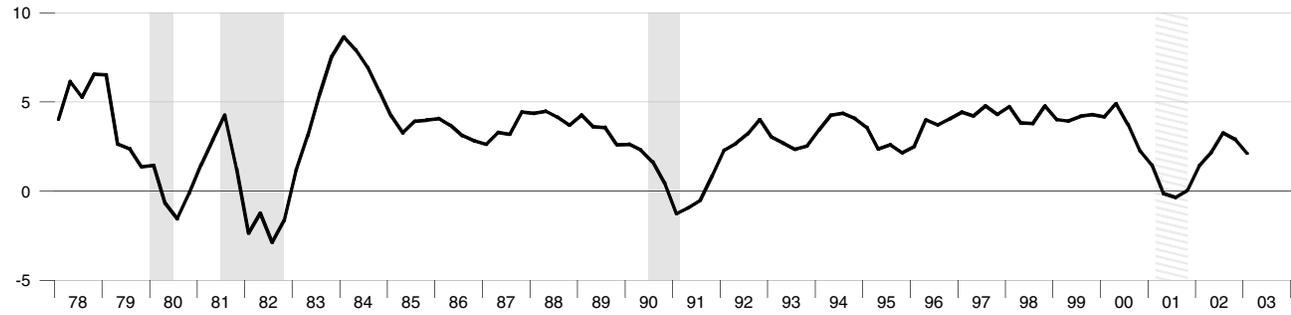
Editor, *National Economic Trends*
Research Division
Federal Reserve Bank of St. Louis
P.O. Box 442
St. Louis, MO 63166-0442

or to:

stlsFRED@stls.frb.org

Real Gross Domestic Product

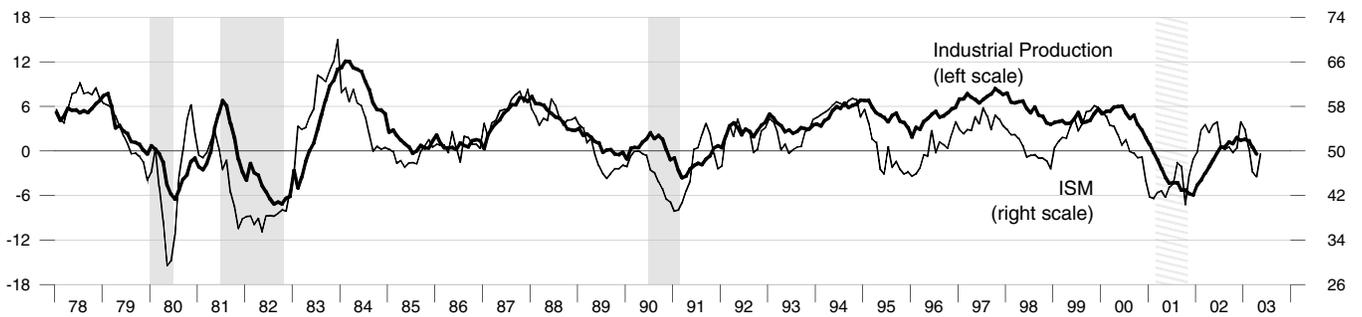
Percent change from year ago



Industrial Production and Institute for Supply Management (ISM) Indexes

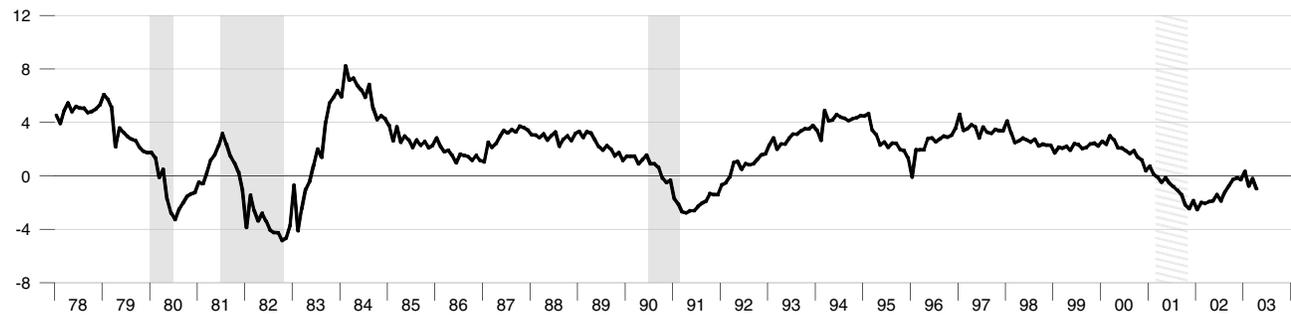
Percent change from year ago

Index



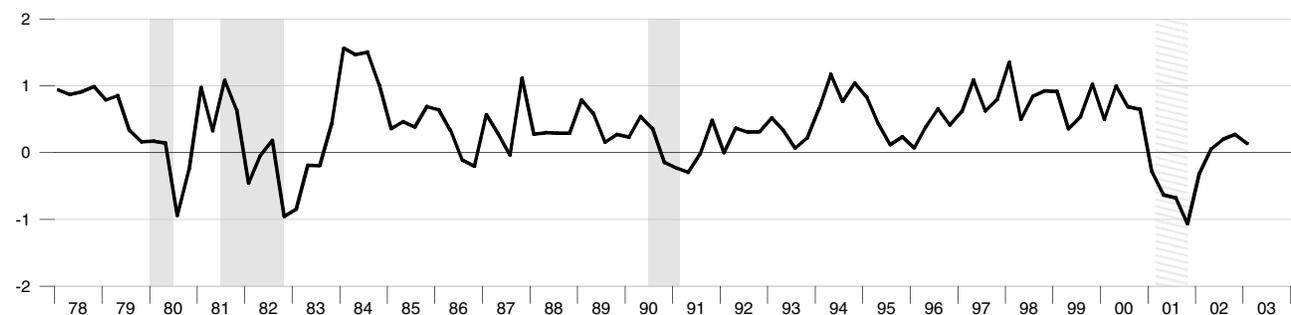
Aggregate Private Nonfarm Hours

Percent change from year ago

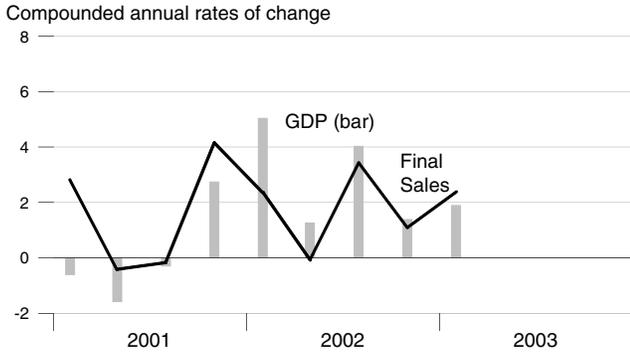


Real Change in Private Inventories

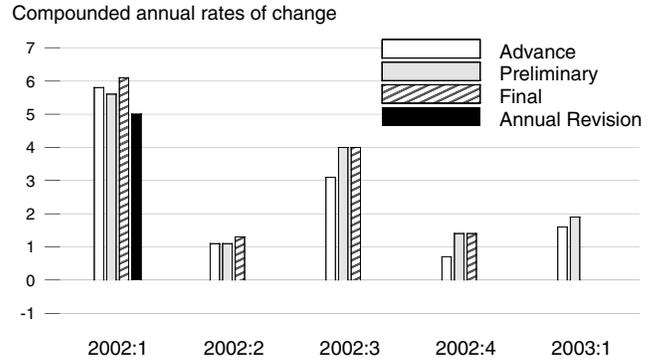
Percent of GDP



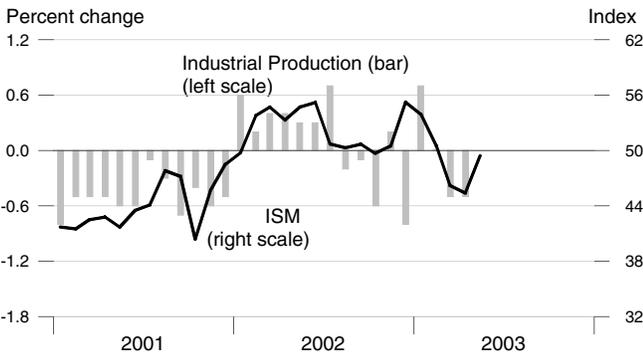
Real Final Sales and GDP



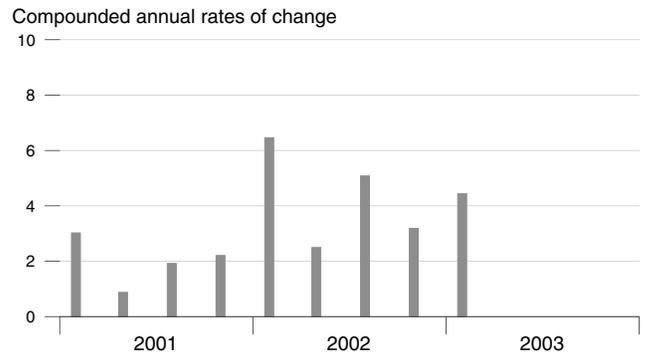
Real GDP Revisions



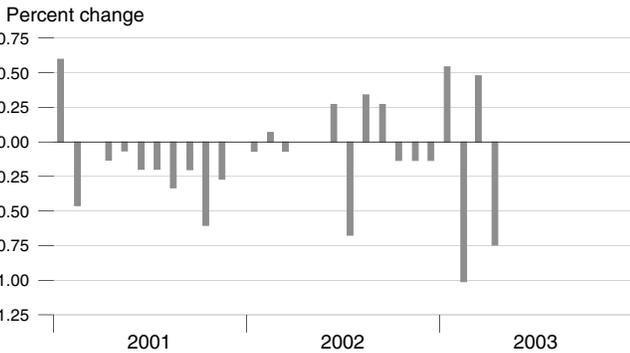
Industrial Production and ISM Index



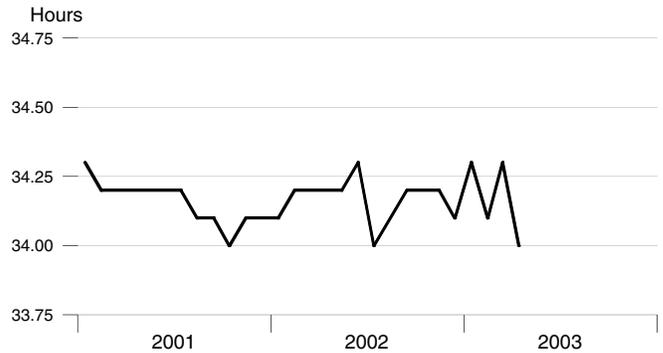
Nominal Gross Domestic Product



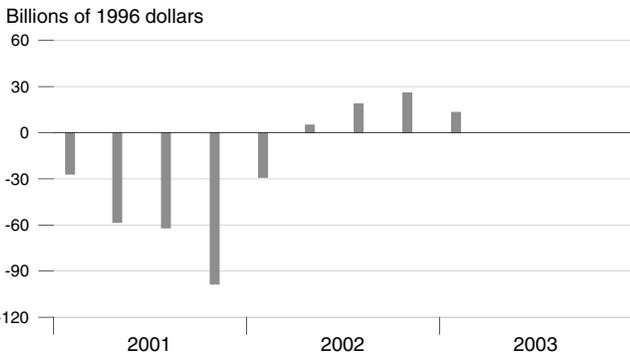
Aggregate Private Nonfarm Hours



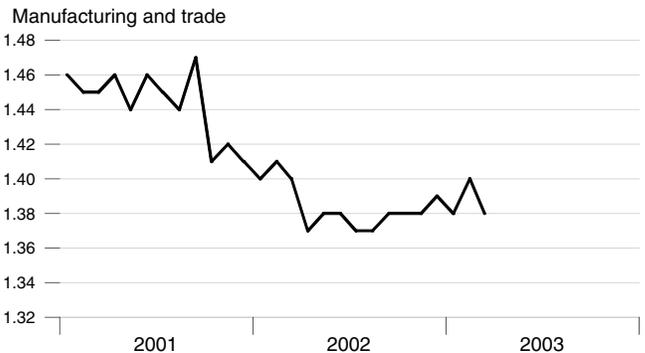
Average Weekly Private Nonfarm Hours



Real Change in Private Inventories

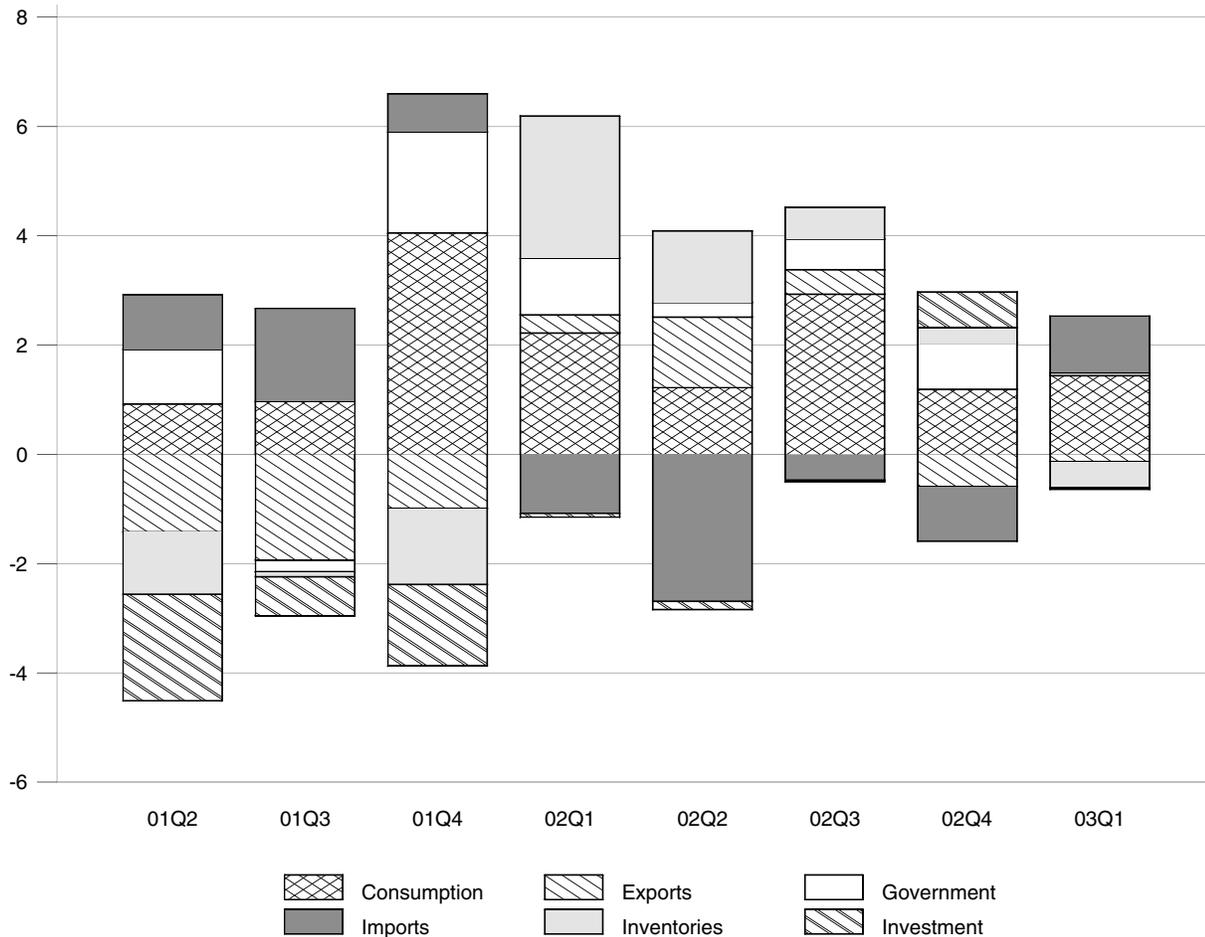


Inventory-Sales Ratio



Contribution of Components to Real GDP Growth

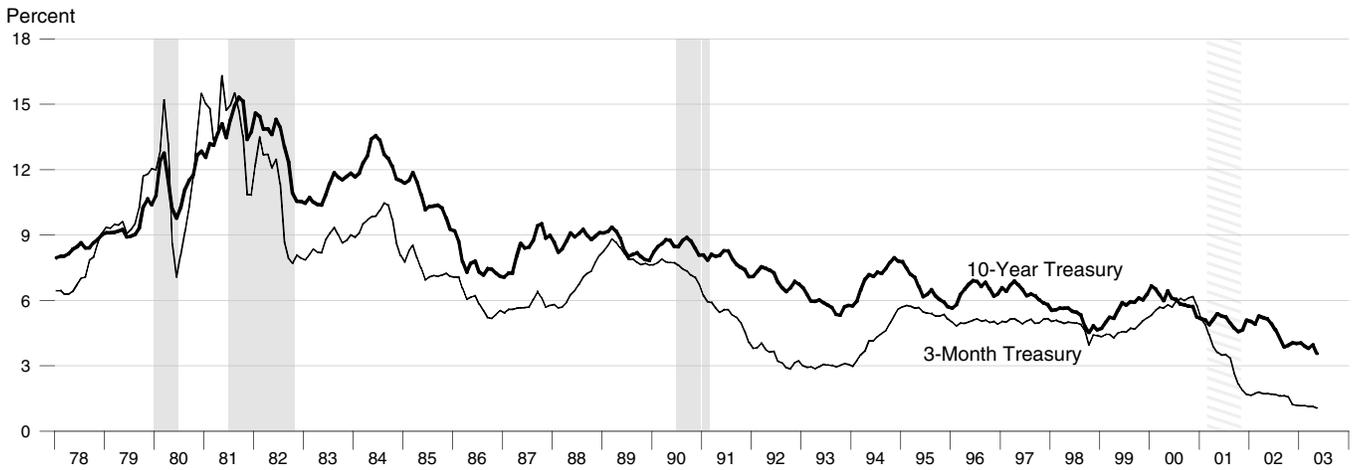
Percentage points at compounded annual rates



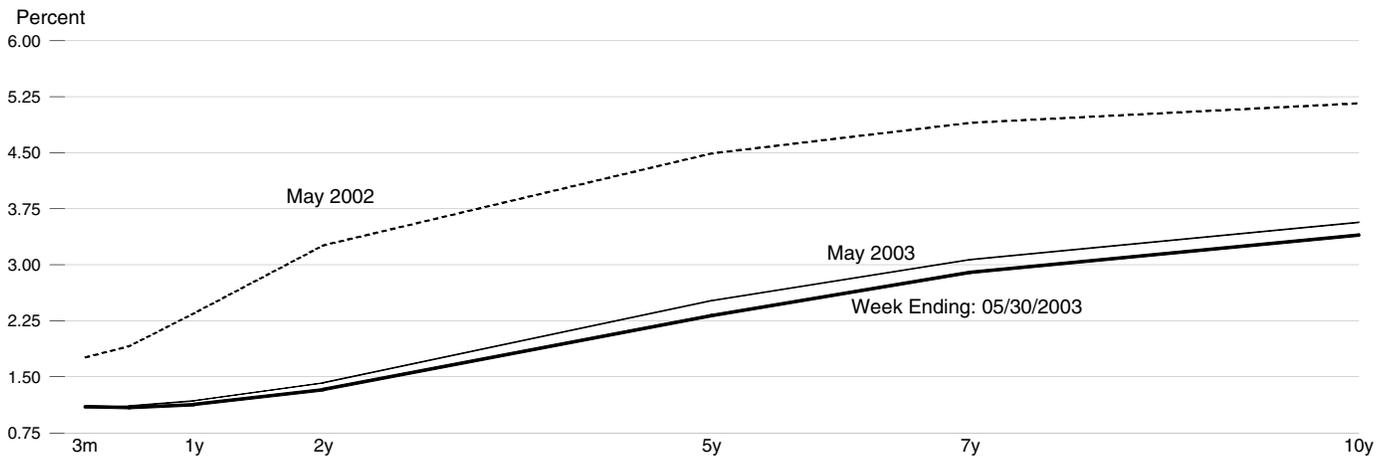
Contributions to Real GDP Growth Rate

	2001			2002				2003
	2nd	3rd	4th	1st	2nd	3rd	4th	1st
Final Sales	-0.45	-0.20	4.13	2.44	-0.06	3.45	1.10	2.37
Change in Inventory	-1.14	-0.09	-1.39	2.60	1.31	0.58	0.28	-0.48
Consumption	0.92	0.97	4.05	2.22	1.22	2.93	1.19	1.44
Fixed Investment	-1.95	-0.72	-1.49	-0.07	-0.15	-0.03	0.65	-0.03
Nonresidential	-1.93	-0.73	-1.33	-0.66	-0.27	-0.08	0.24	-0.52
Residential	-0.02	0.02	-0.16	0.60	0.12	0.05	0.41	0.49
Government	1.00	-0.21	1.85	1.04	0.27	0.56	0.85	0.05
Federal	0.36	0.07	0.80	0.47	0.47	0.29	0.70	0.06
State and Local	0.64	-0.28	1.05	0.56	-0.21	0.27	0.15	-0.01
Net Exports	-0.42	-0.24	-0.28	-0.75	-1.40	-0.01	-1.59	0.91
Exports	-1.42	-1.94	-0.99	0.33	1.29	0.45	-0.59	-0.13
Imports	1.00	1.70	0.70	-1.08	-2.69	-0.47	-1.00	1.04
Residual	0.50	0.07	0.42	-0.05	0.27	0.06	0.28	0.05
Real GDP Growth	-1.59	-0.29	2.74	5.04	1.25	4.03	1.38	1.89

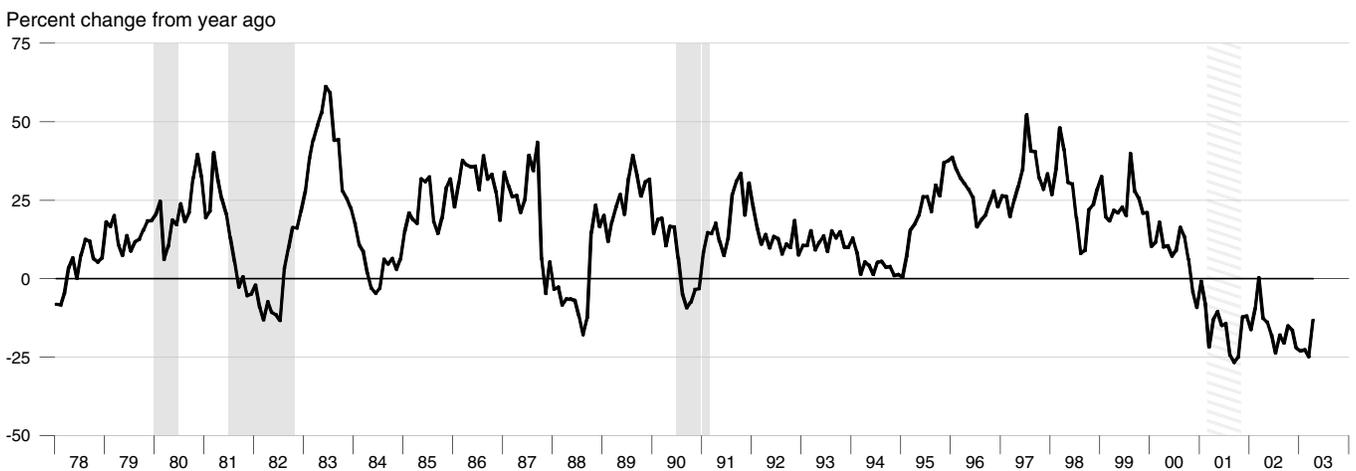
Interest Rates



Treasury Yield Curve

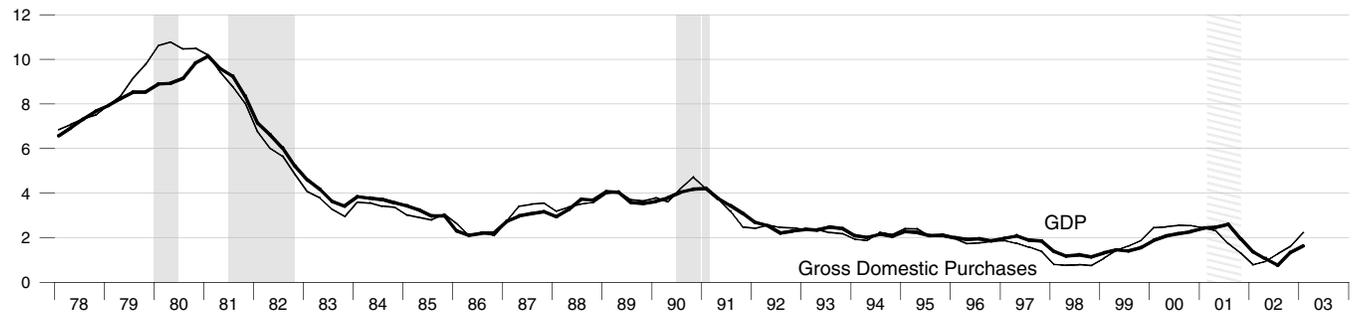


Standard and Poor's 500 Index with Reinvested Dividends



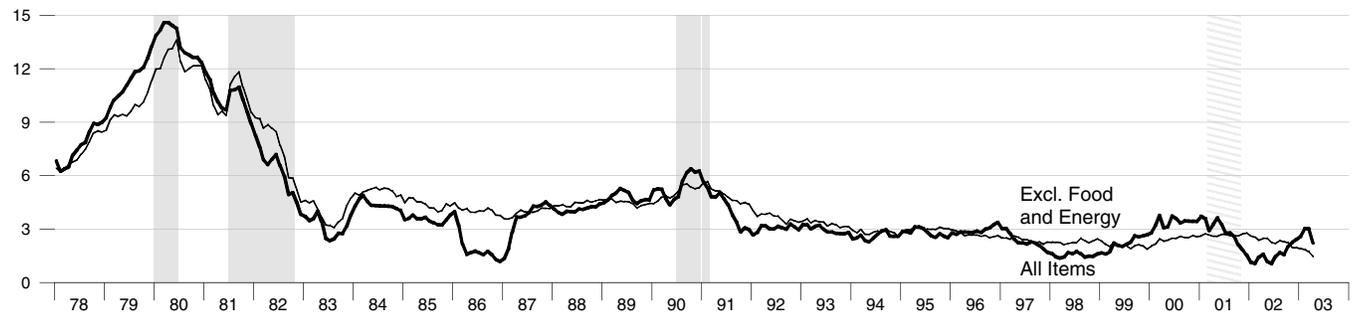
NIPA Chain Price Indexes

Percent change from year ago



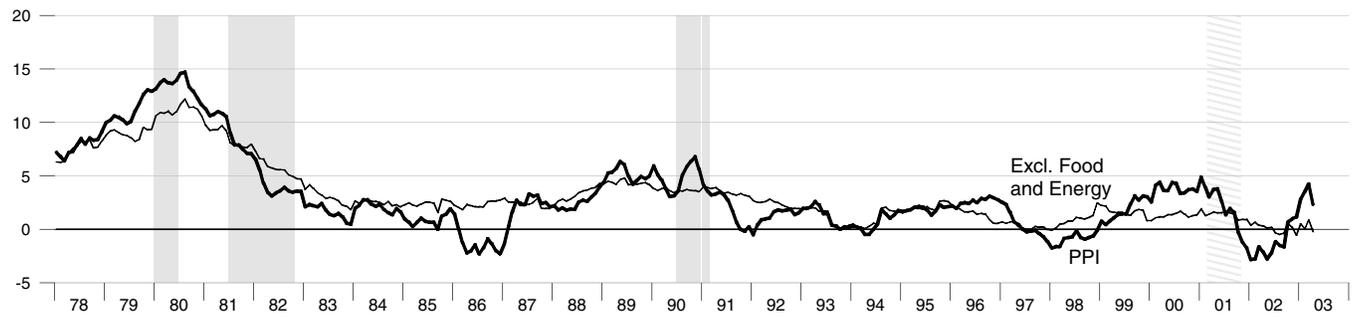
Consumer Price Index

Percent change from year ago



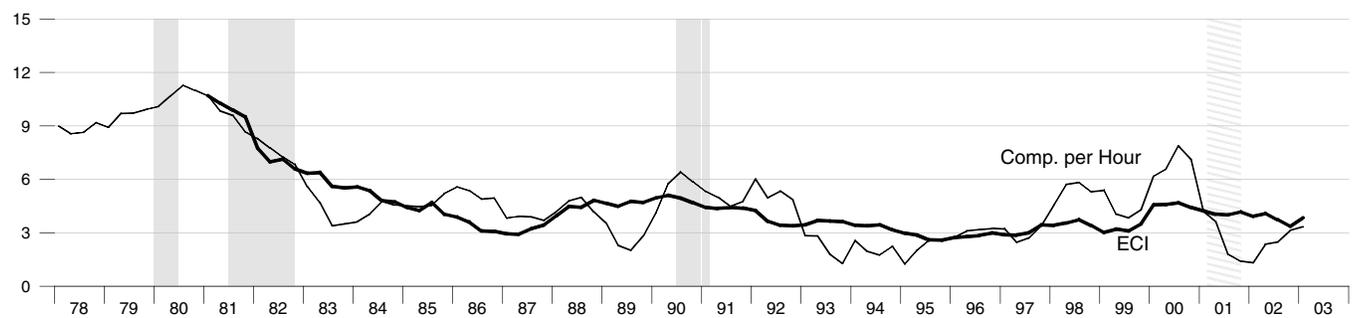
Producer Price Index, Finished Goods

Percent change from year ago

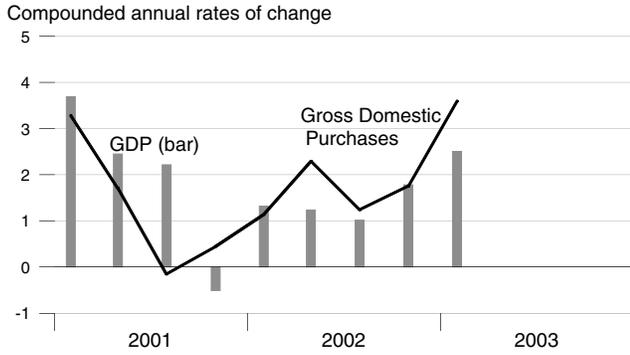


Employment Cost Index and Compensation per Hour

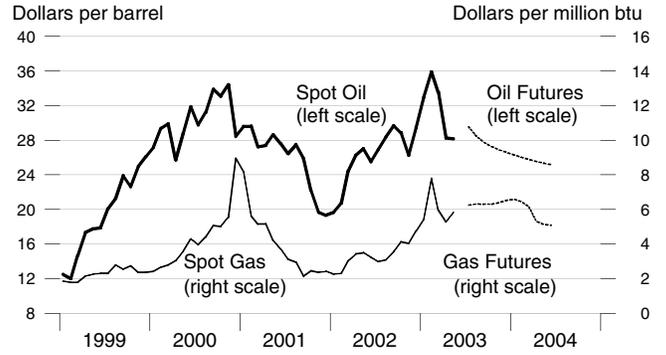
Percent change from year ago



NIPA Chain Price Indexes

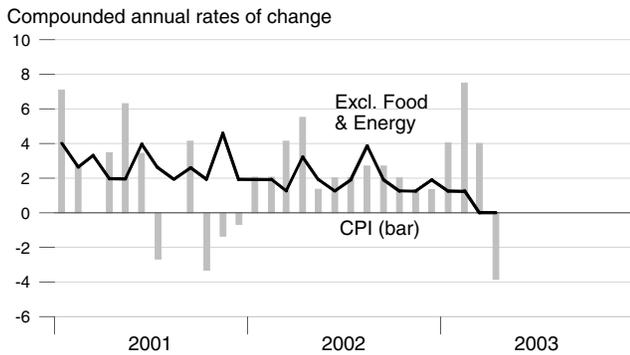


Oil & Natural Gas Prices: Spot & Futures

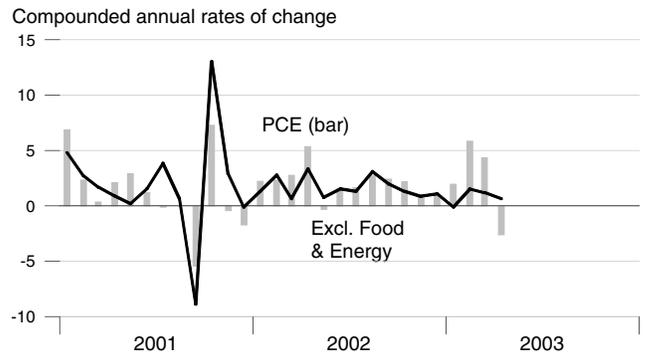


Note: Futures prices as of 5/30/2003.

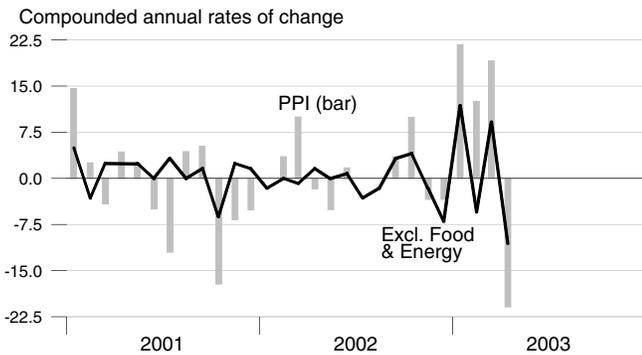
Consumer Price Index



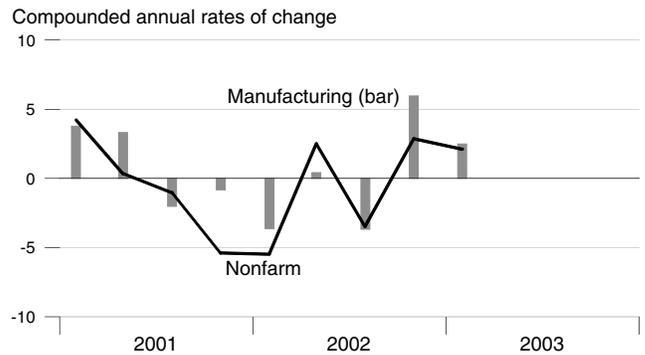
Consumption Chain Price Index



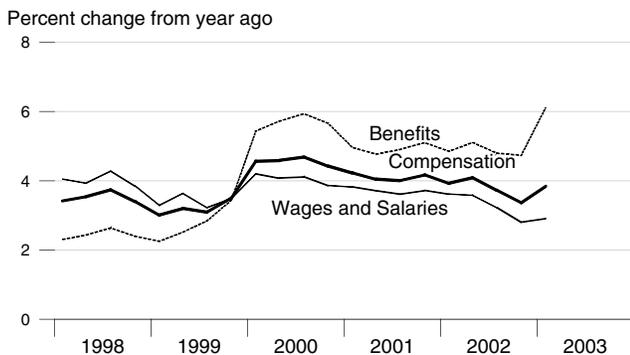
Producer Price Index, Finished Goods



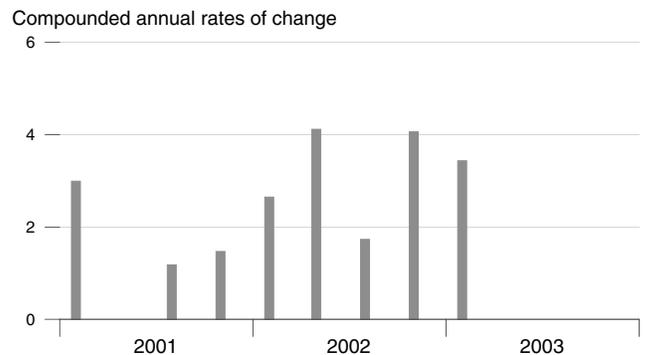
Unit Labor Cost



Employment Cost Index

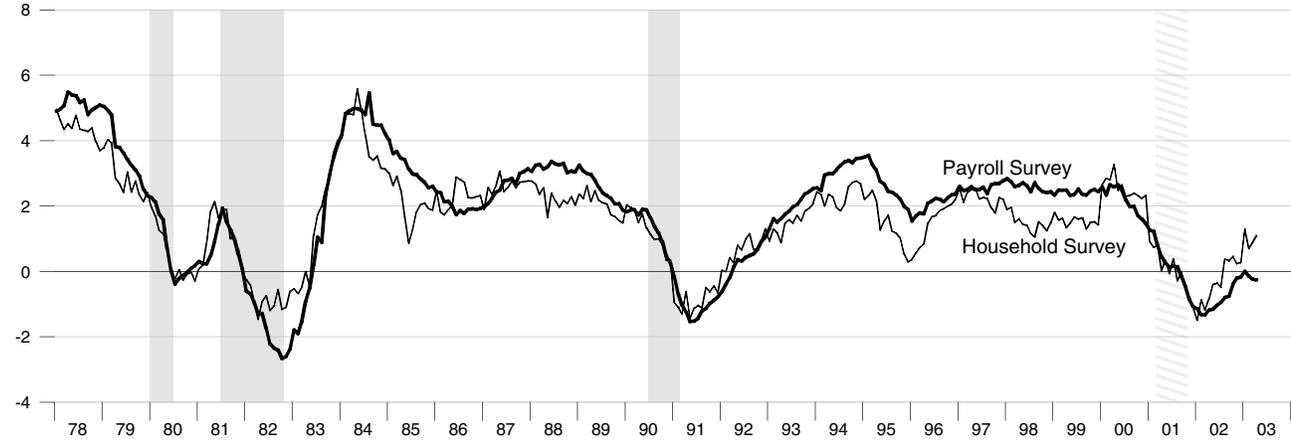


Compensation per Hour



Employment

Percent change from year ago

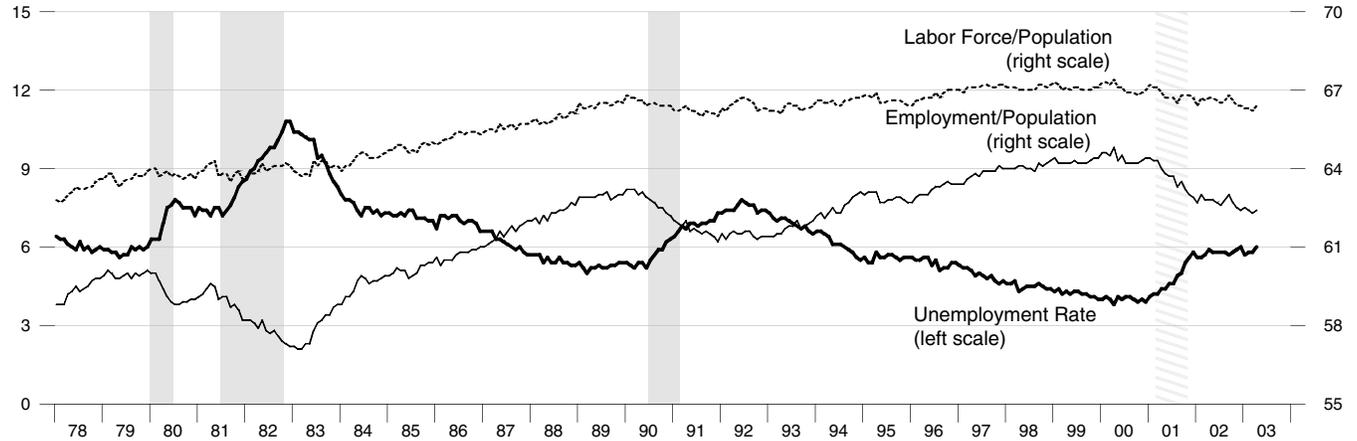


See the Notes section at the end of this publication for the Feb. 7, 2003, revisions to the Household Survey.

Unemployment, Labor Force Participation, and Employment Rates

Percent of labor force

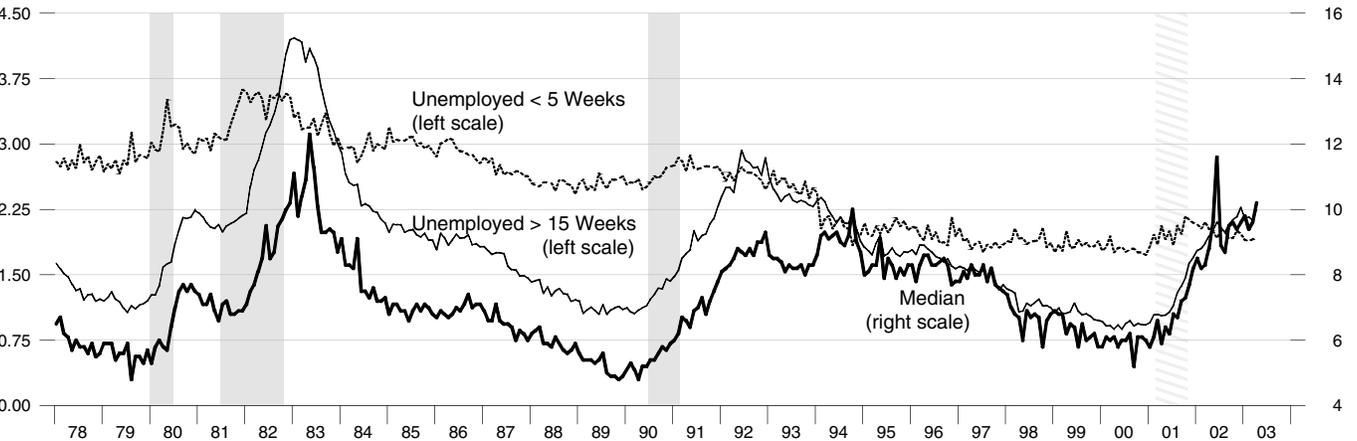
Percent of population



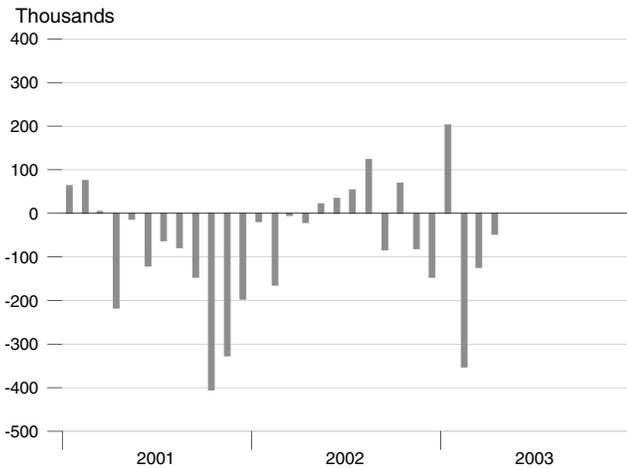
Duration of Unemployment

Percent of labor force

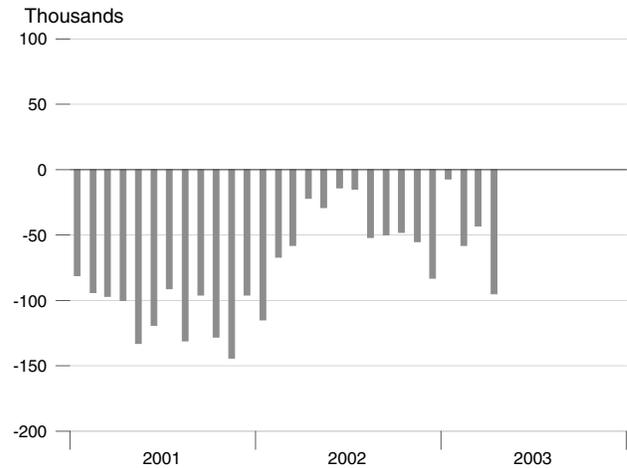
Weeks



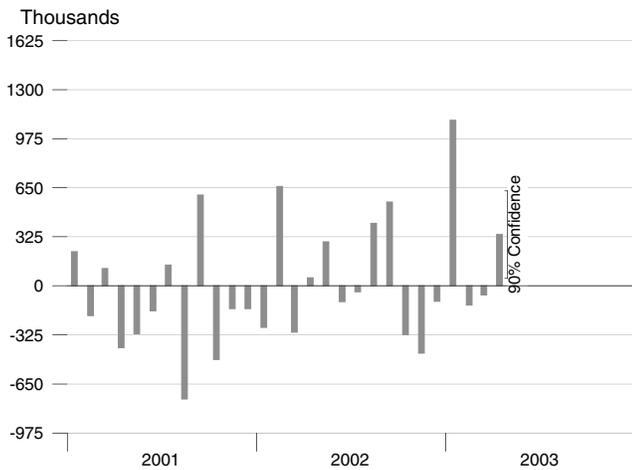
Change in Nonfarm Payrolls



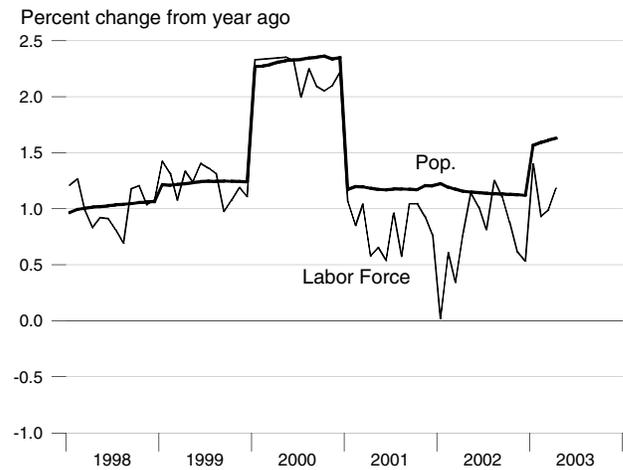
Change in Manufacturing Payrolls



Change in Household Employment



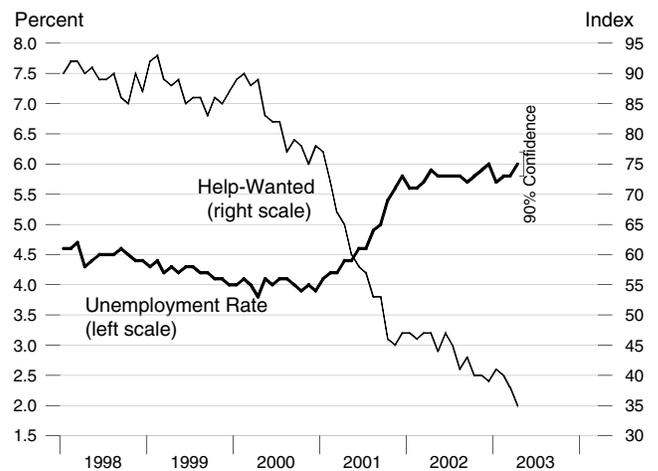
Labor Force and Population



Available Labor Supply and Components

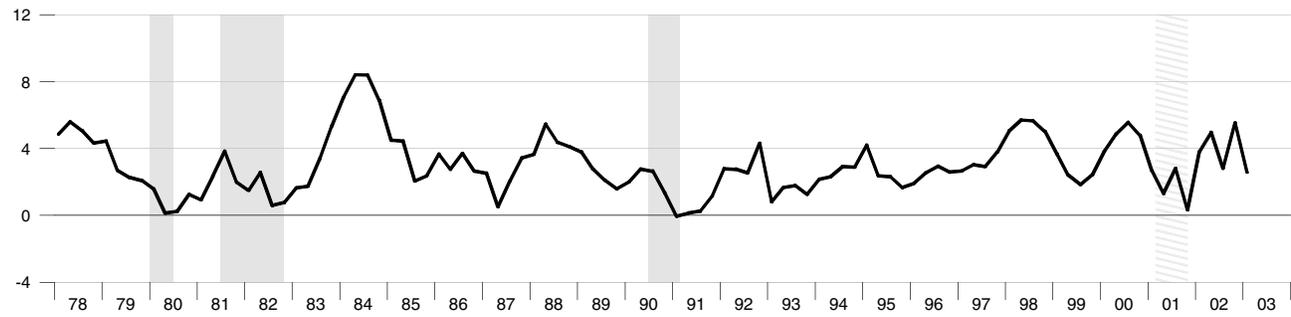


Unemployment Rate & Help-Wanted Index



Real Disposable Personal Income

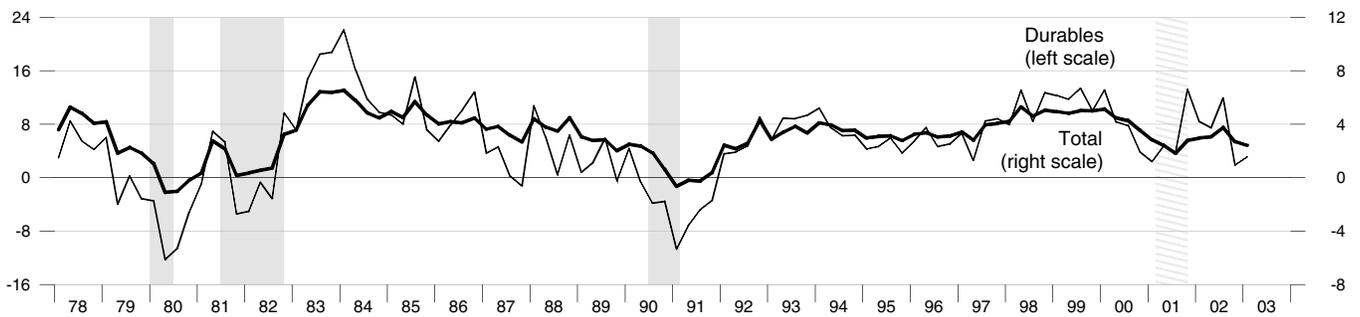
Percent change from year ago, quarterly data



Real Consumption

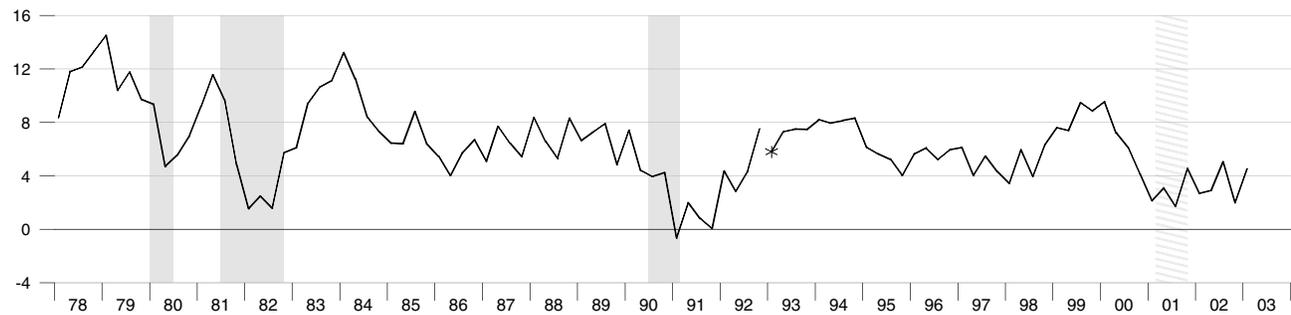
Percent change from year ago, quarterly data

Percent change from year ago, quarterly data



Retail and Food Services Sales

Percent change from year ago, quarterly average

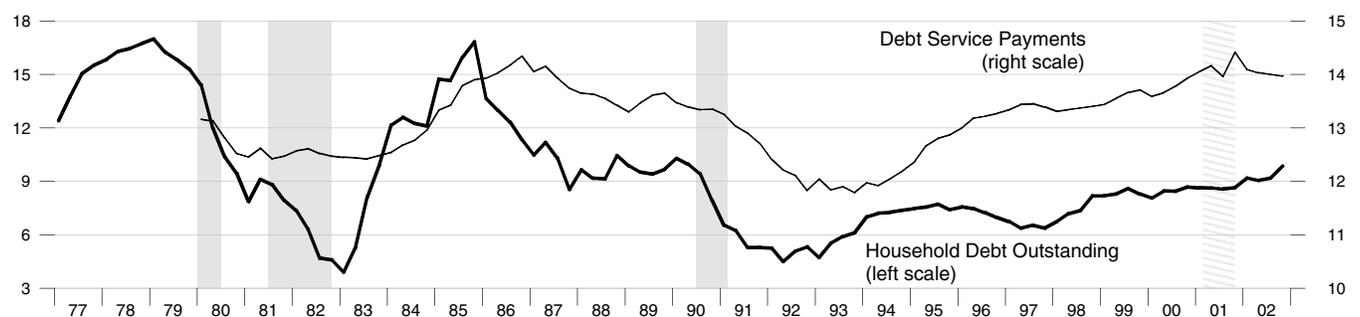


*Data before January 1992 are not strictly comparable (see End Notes).

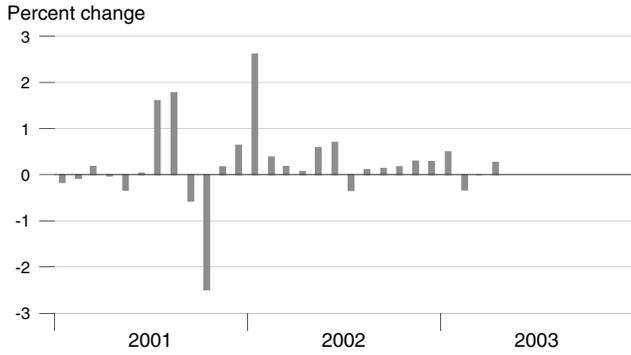
Debt Service Payments and Household Debt Outstanding

Percent change from year ago, quarterly data

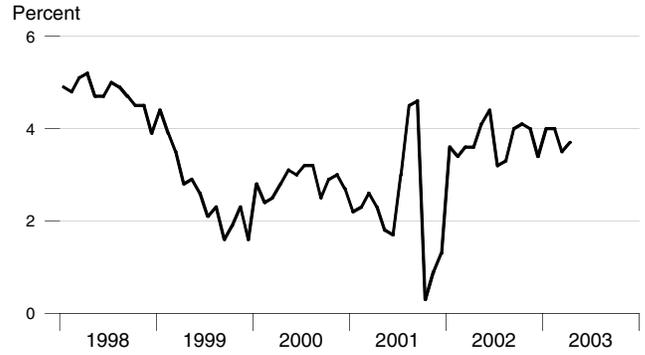
Percent of disposable personal income



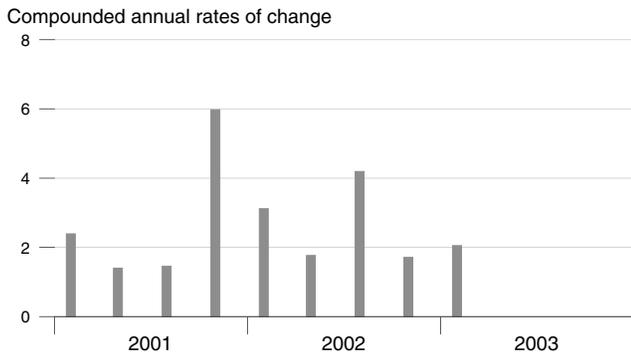
Real Disposable Personal Income



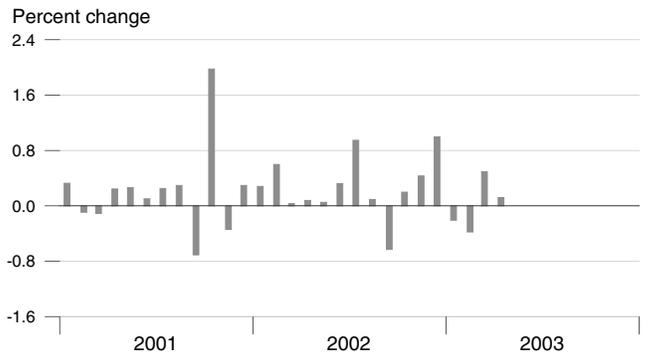
Personal Saving Rate



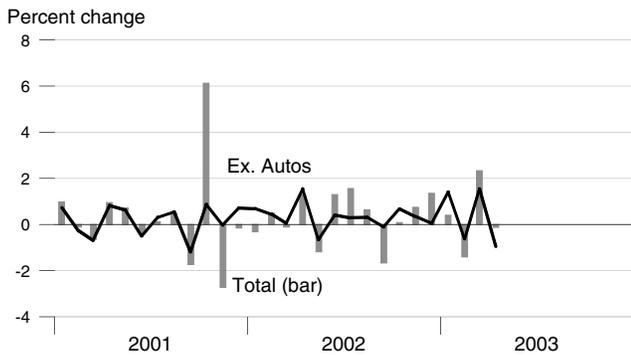
Real Consumption



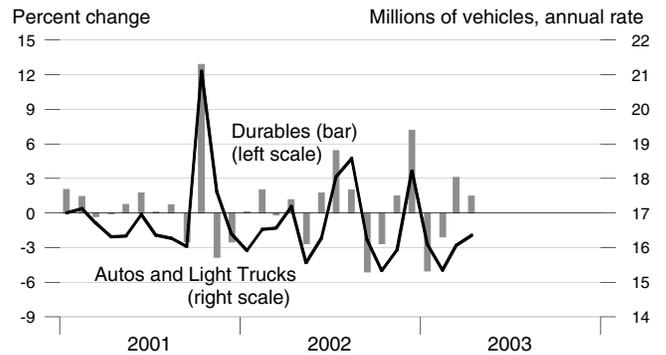
Real Consumption



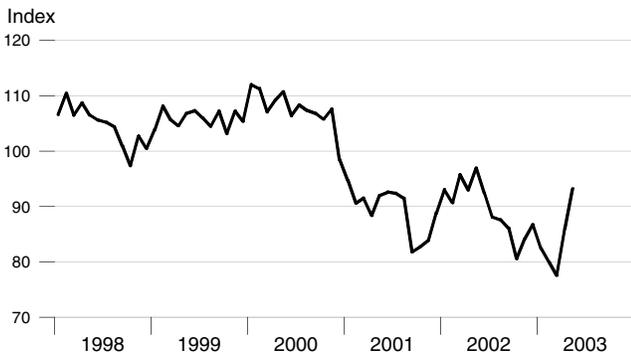
Retail & Food Services



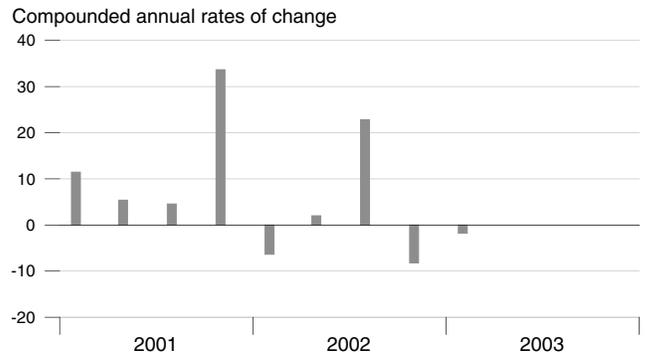
Real Durables Consumption & Vehicle Sales



Consumer Sentiment (U. of Michigan)

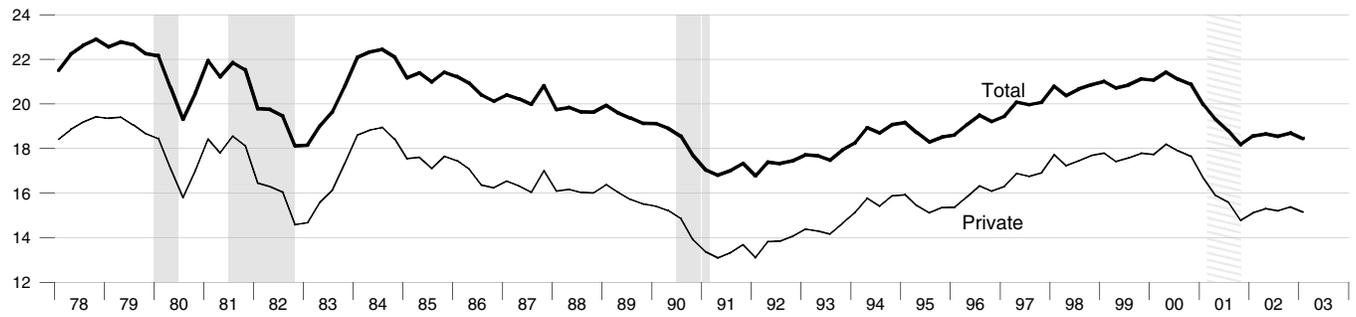


Real Durables Consumption



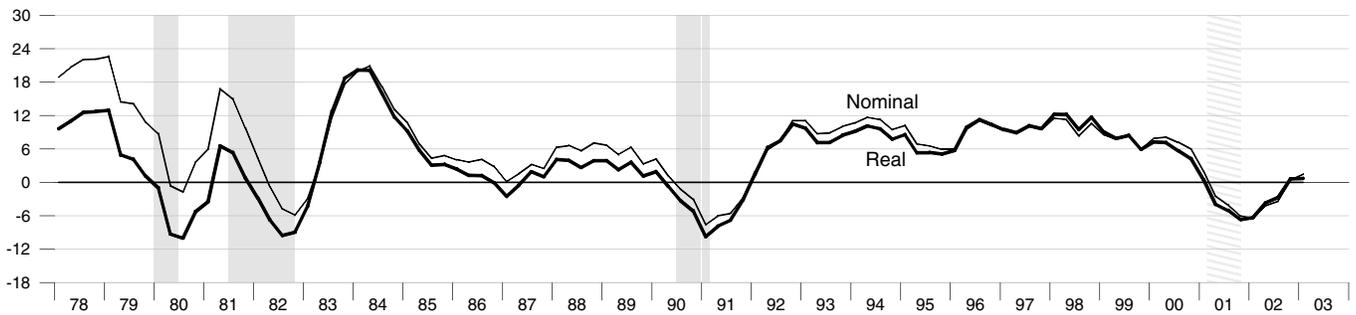
Investment

Percent of nominal GDP



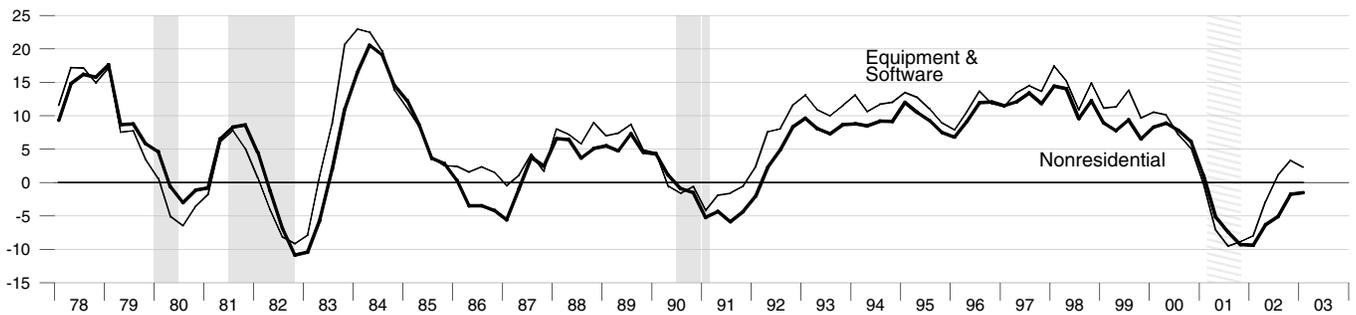
Private Fixed Investment

Percent change from year ago



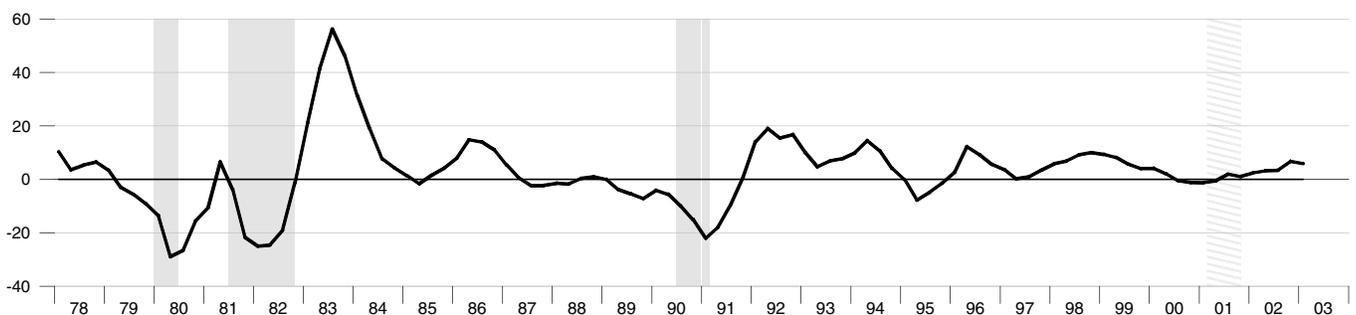
Real Nonresidential Fixed and Equipment & Software Investment

Percent change from year ago

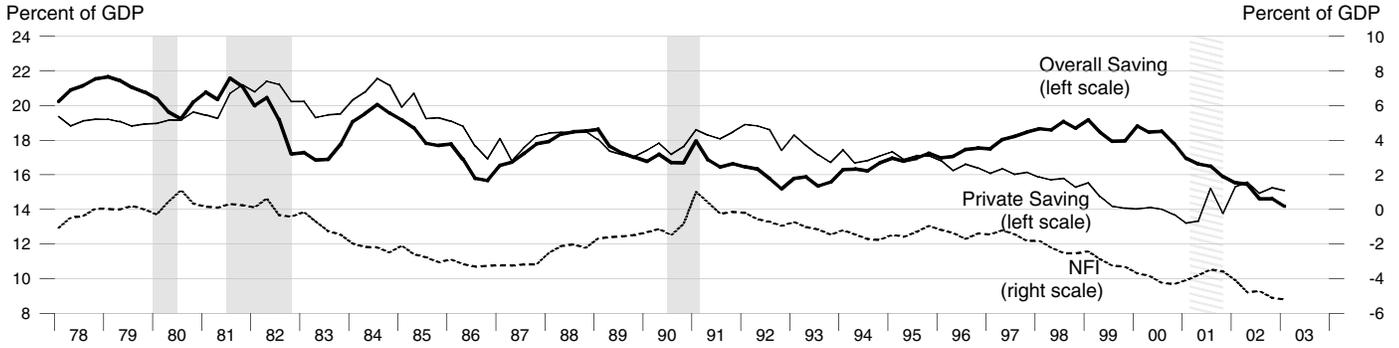


Real Residential Fixed Investment

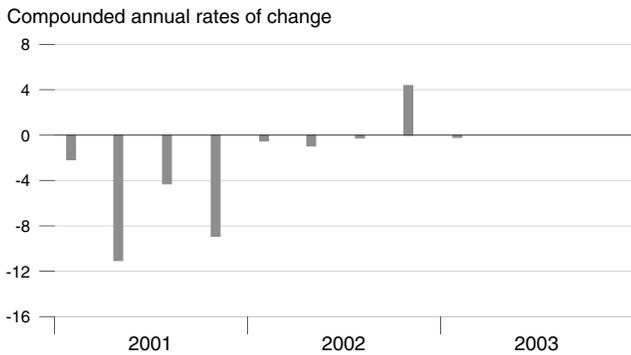
Percent change from year ago



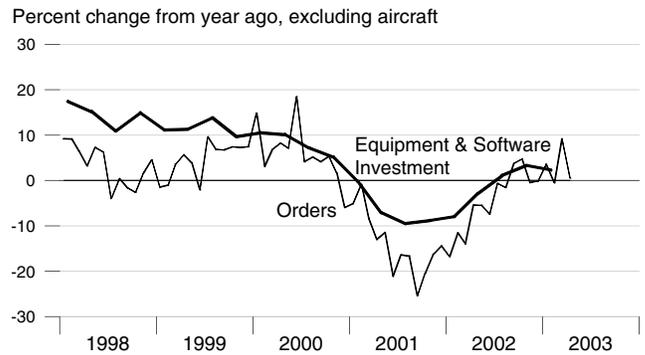
Gross Saving Rates and Net Foreign Investment



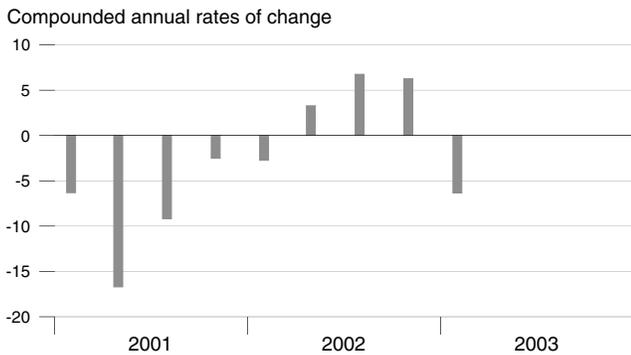
Real Private Fixed Investment



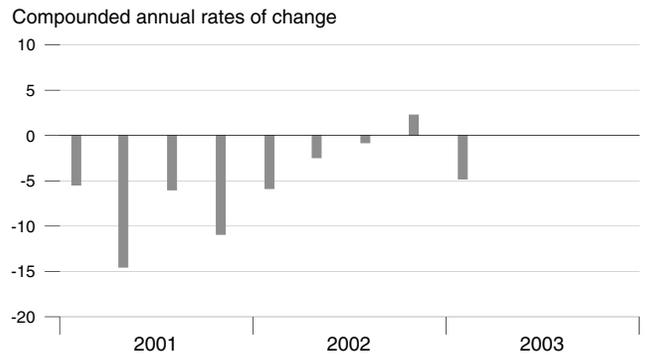
Nondefense Capital Goods Orders



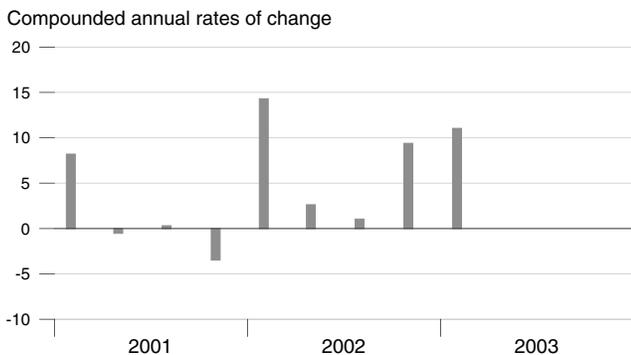
Real Equipment & Software Investment



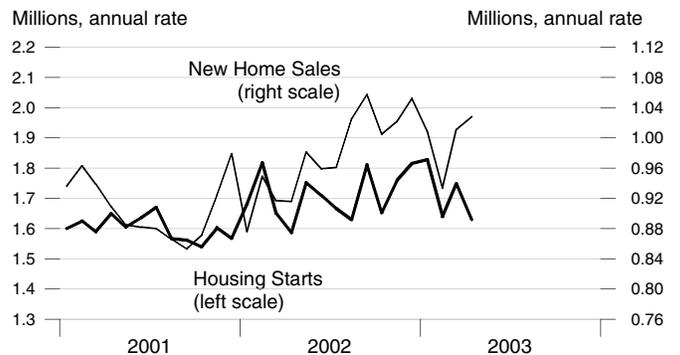
Real Nonresidential Fixed Investment



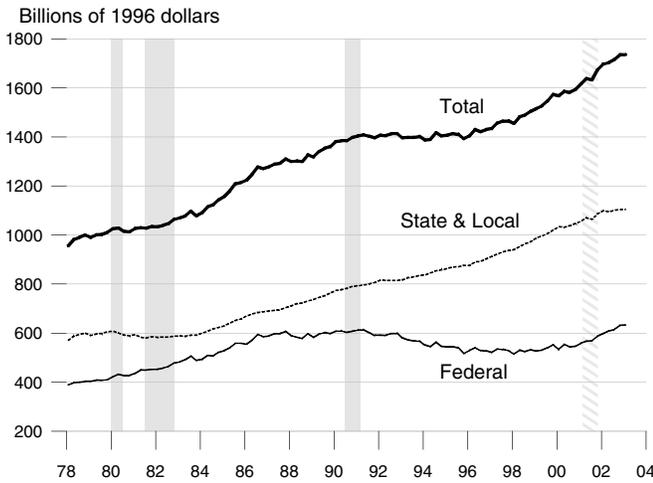
Real Residential Fixed Investment



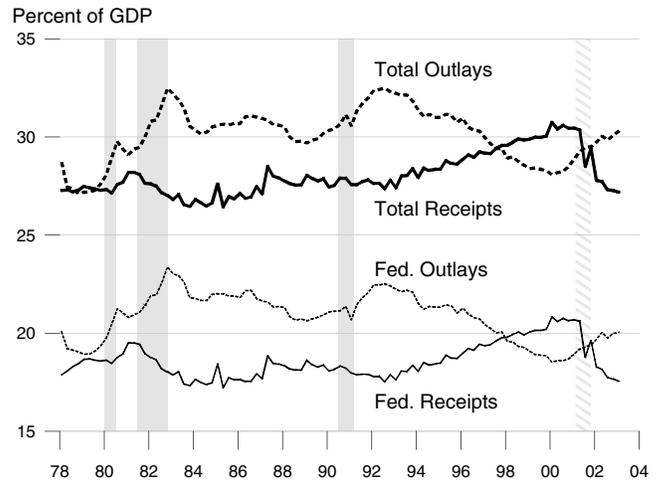
Housing Starts and New Home Sales



Govt. Consumption and Investment



Government Receipts and Outlays



Government Budgets

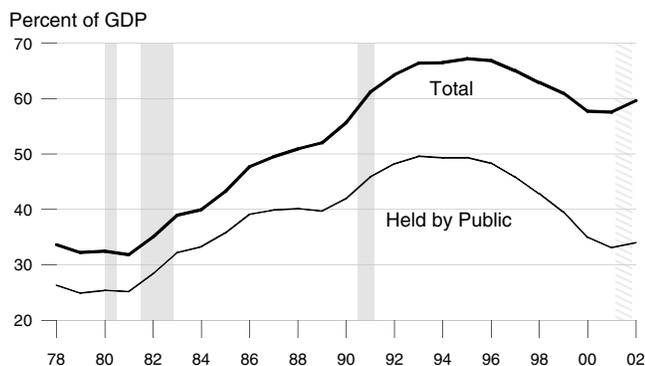
Billions of dollars

National Income Accounts
Calendar Years

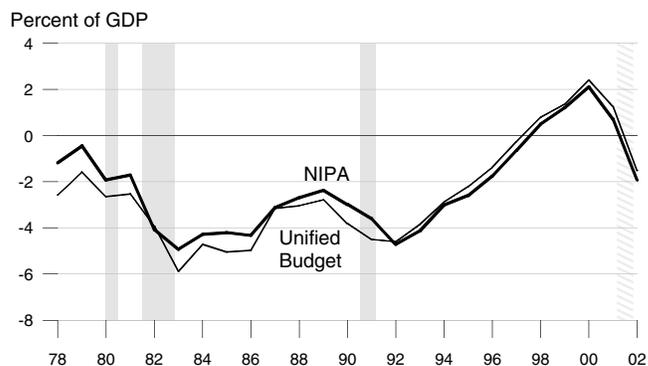
Unified Budget
Fiscal Years

	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	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
2002	1304.9	1356.4	-51.5	1875.6	2075.5	-199.9	1853.2	2011.0	-157.8
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	1883.7	2079.3	-195.6	522.6	506.9	15.6
2002Q3	1310.3	1365.0	-54.7	1864.1	2074.6	-210.5	451.7	493.2	-41.5
2002Q4	1333.4	1384.0	-50.6	1869.7	2117.4	-247.7	427.4	536.1	-108.7
2003Q1	1345.0	1411.9	-66.9	1878.5	2144.6	-266.1	397.8	541.7	-143.9

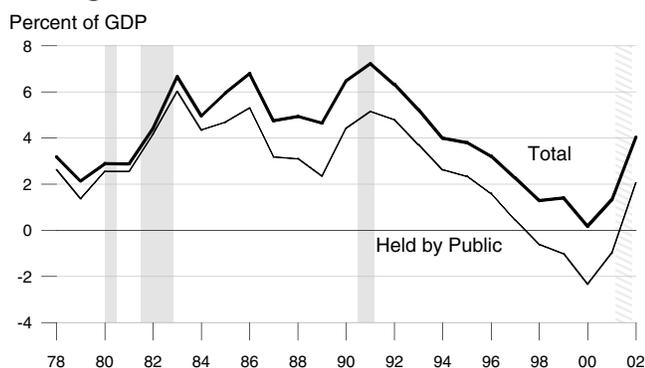
Federal Debt



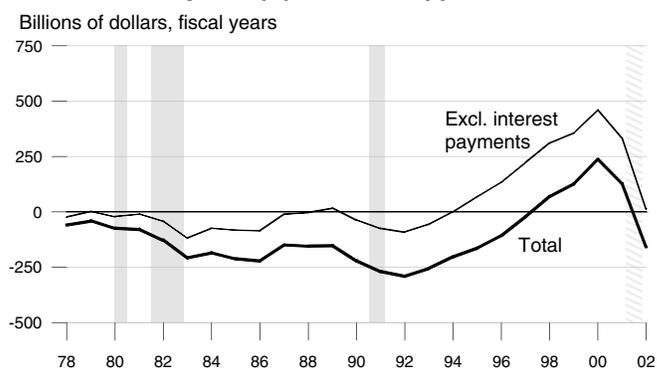
Federal Surplus (+) / Deficit (-)



Change in Federal Debt



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

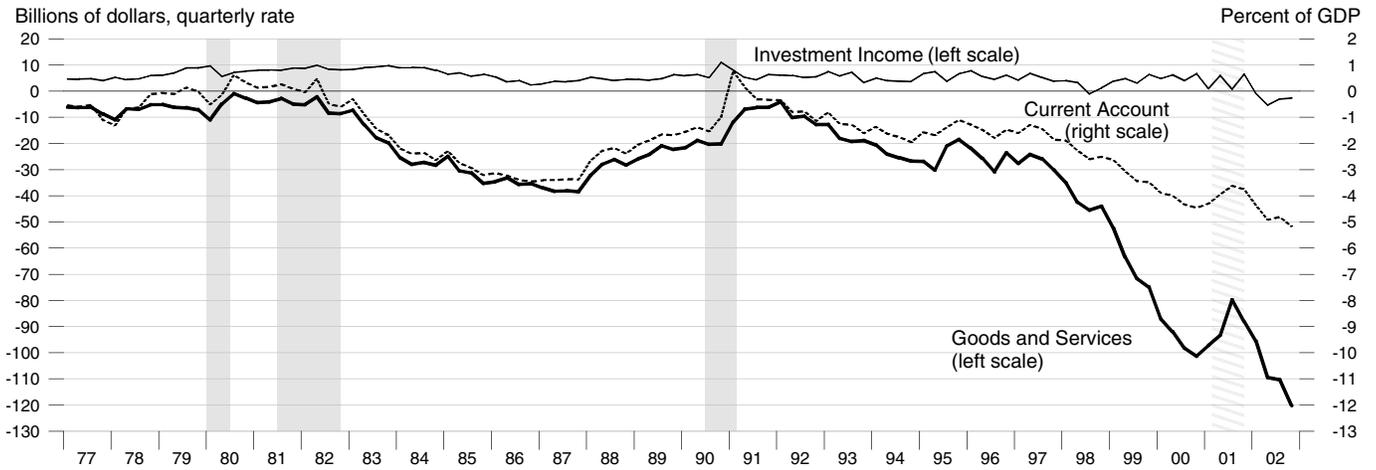


Federal Government Debt

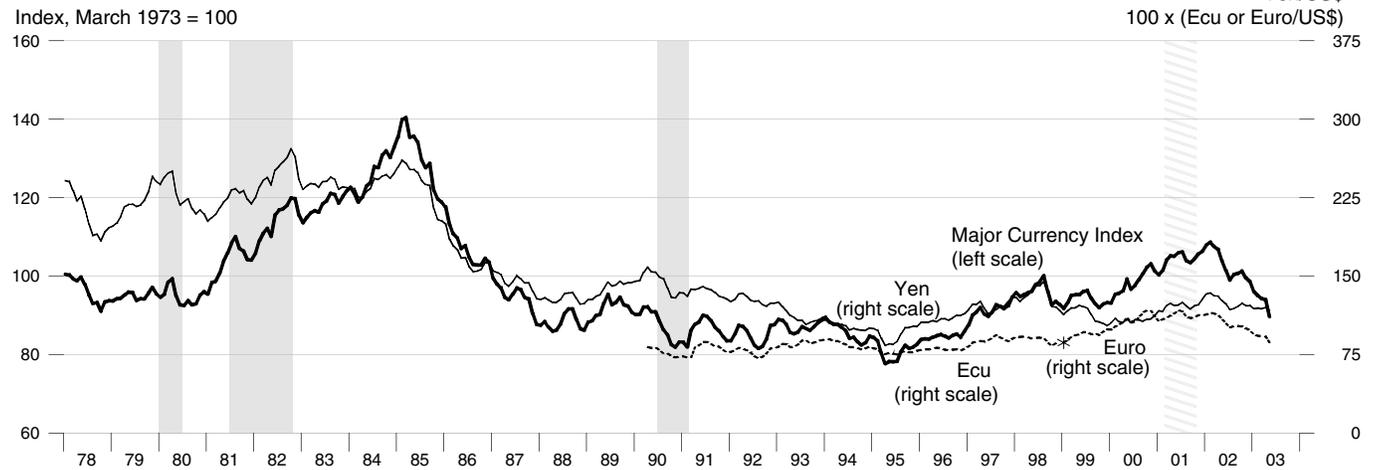
Billions of dollars, end of month or fiscal year
Excludes Agency-issued debt

		Total Public Debt	Held by Agencies and Trusts	Held by Public		Held by Private Investors	
				Total	Federal Reserve Banks	Total	Foreign and International
2000		5674.2	2235.7	3438.5	511.4	2936.2	1057.9
2001		5807.5	2468.8	3338.7	534.1	2779.7	1005.5
2002		6228.2	2675.6	3552.6	604.2	2924.8	1128.6
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	1005.5
	December	5943.4	2549.7	3393.8	551.7	2819.5	1053.1
2002	March	6006.0	2562.4	3443.7	575.4	2849.2	1056.5
	June	6126.5	2662.9	3463.5	590.7	2849.8	1068.1
	September	6228.2	2675.6	3552.6	604.2	2924.8	1128.6
	December	6405.7	2758.3	3647.4	629.4	3018.5	1174.2

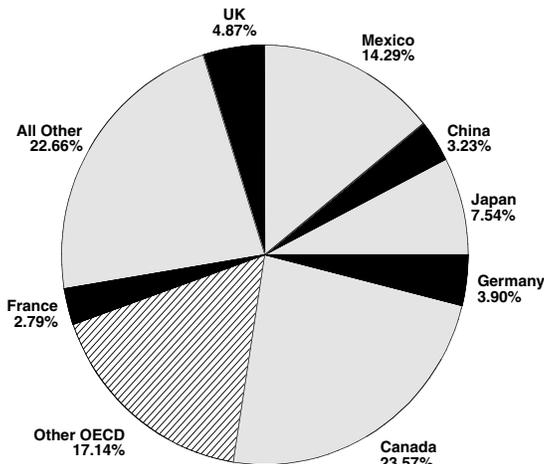
Current Account, Trade and Investment Income Balances



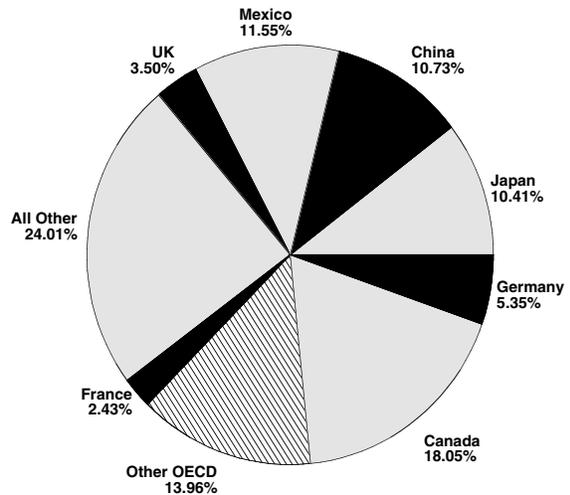
Exchange Rates



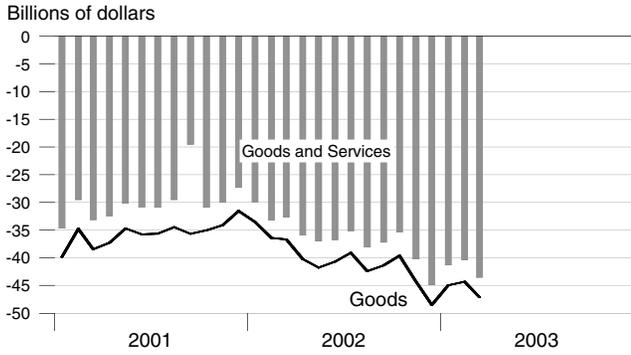
Goods Export Shares, 2002



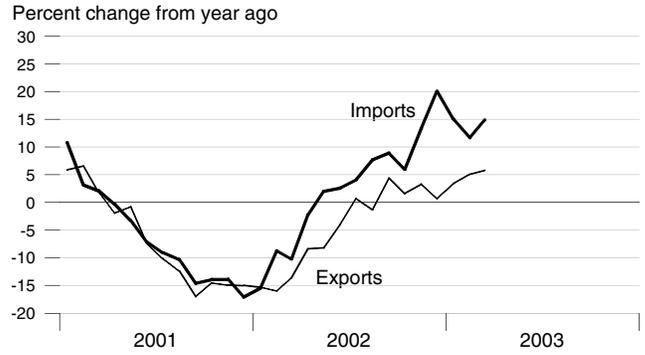
Goods Import Shares, 2002



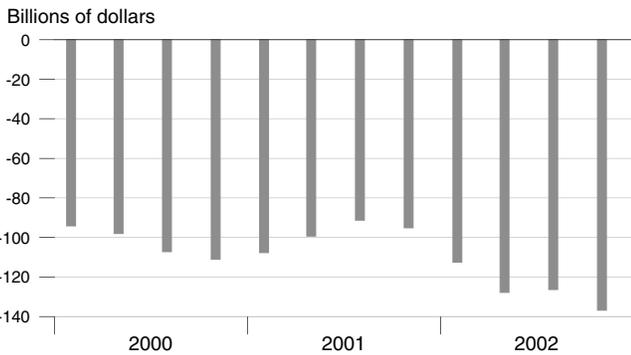
Trade Balance



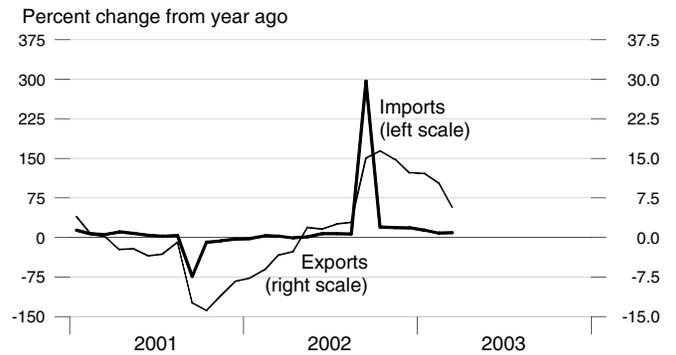
Goods Trade



Current Account Balance

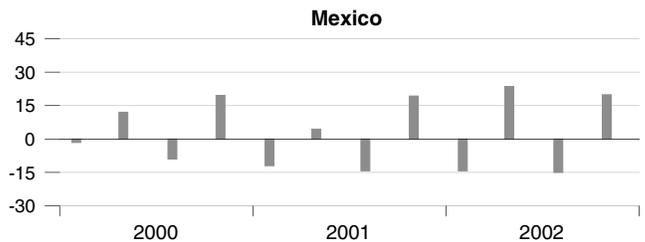
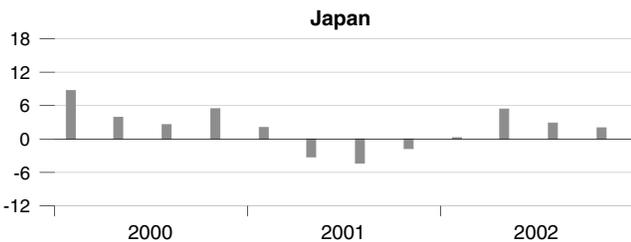
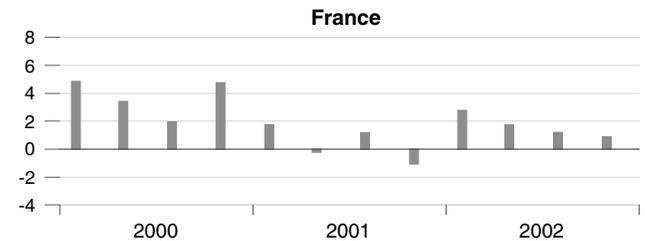
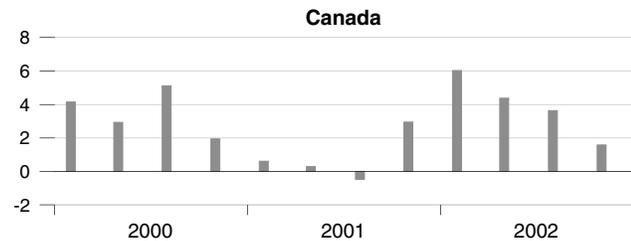
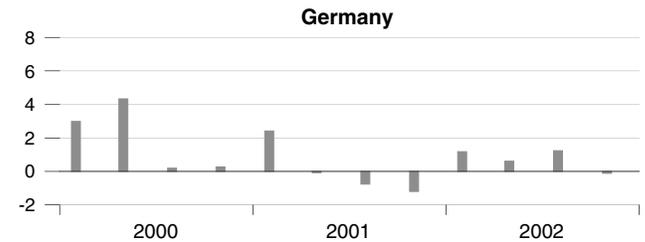
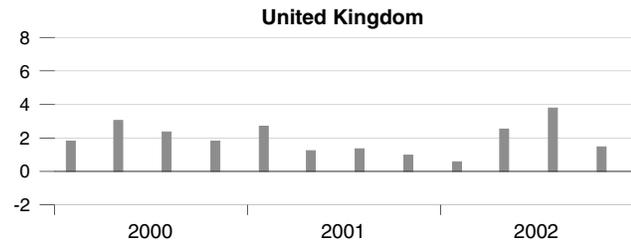


Services Trade

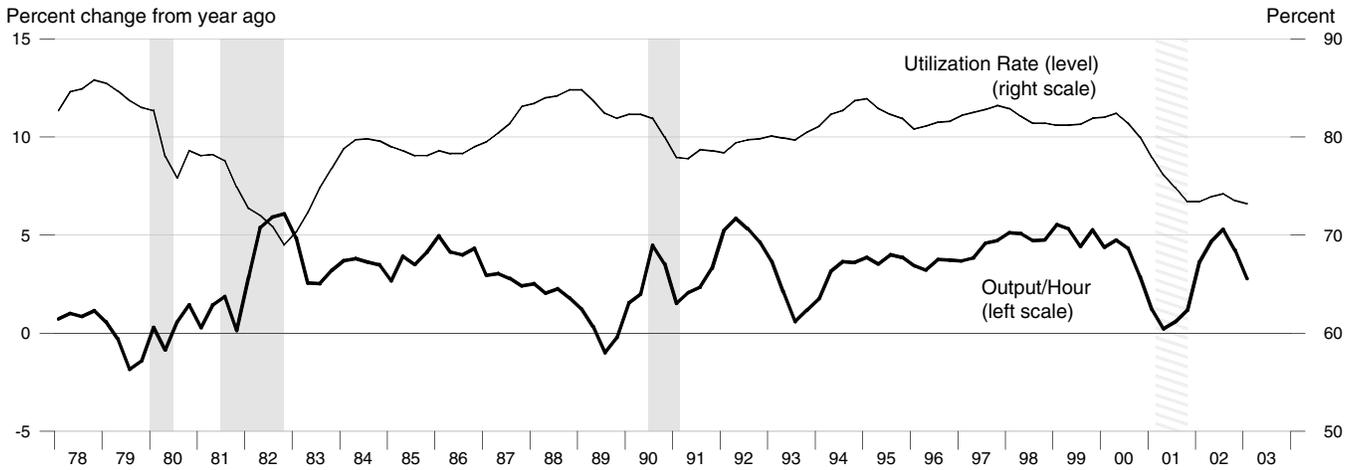


Real GDP Growth of Major Trading Partners

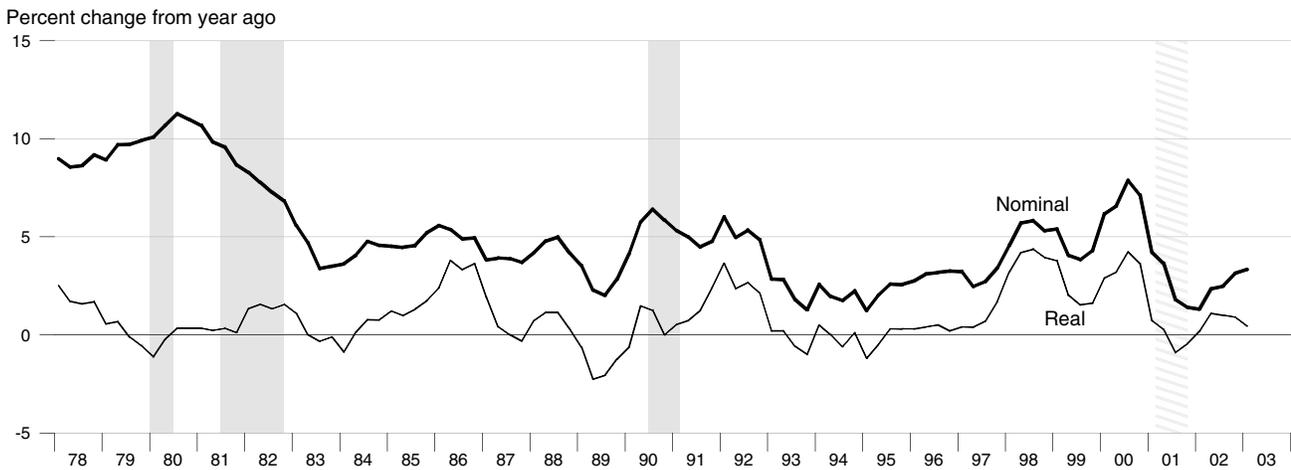
Compounded annual rates of change



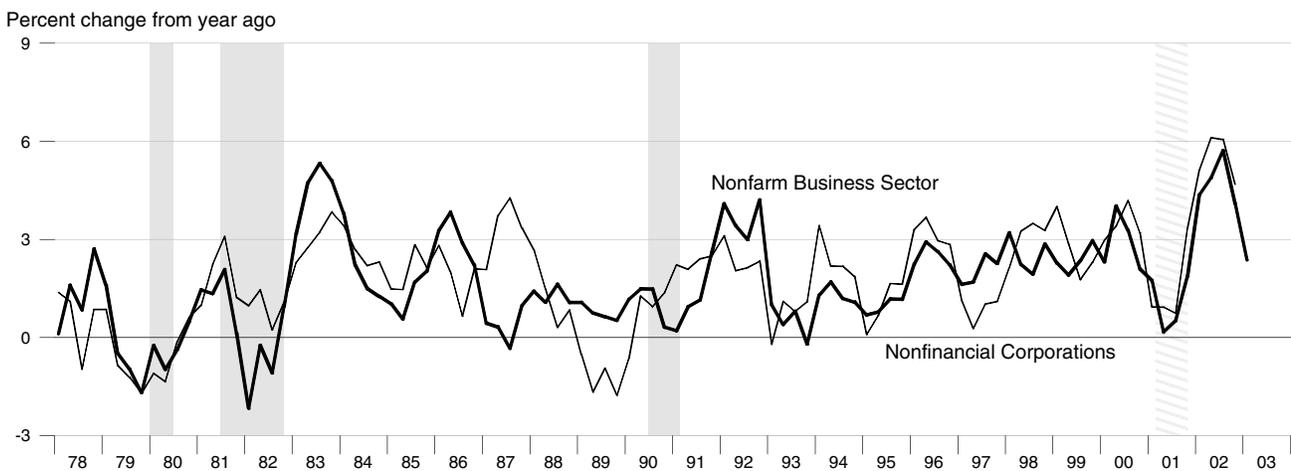
Output per Hour and Capacity Utilization, Manufacturing



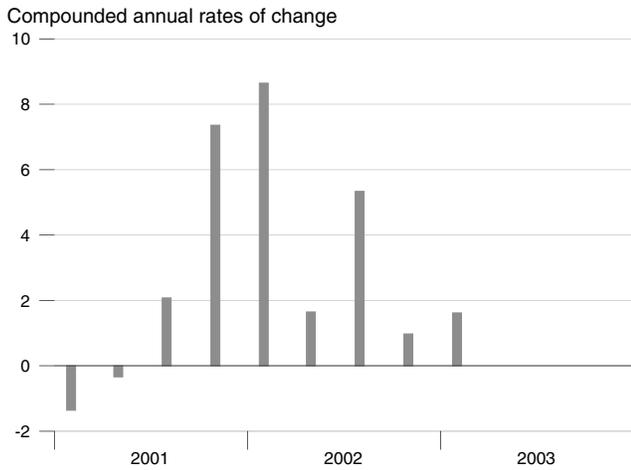
Nonfarm Compensation per Hour



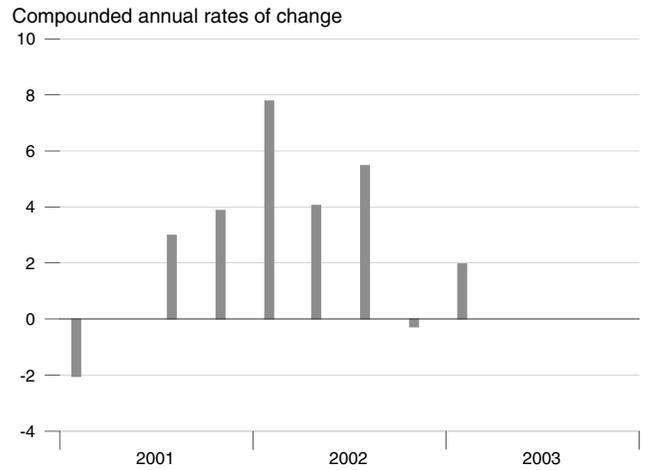
Output per Hour, Nonfarm Business and Nonfarm, Nonfinancial Corporations



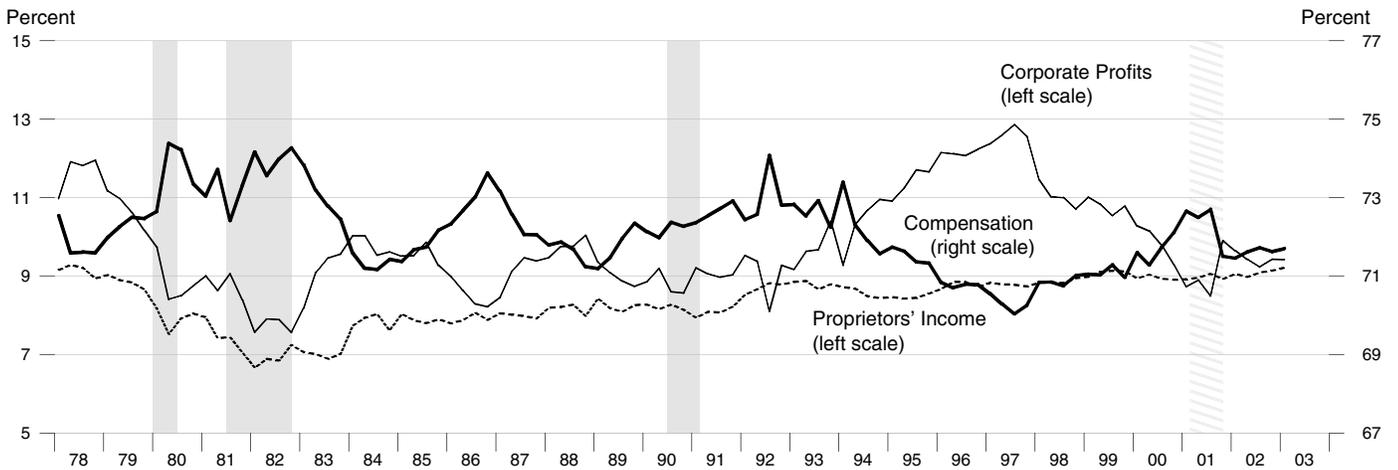
Nonfarm Output per Hour



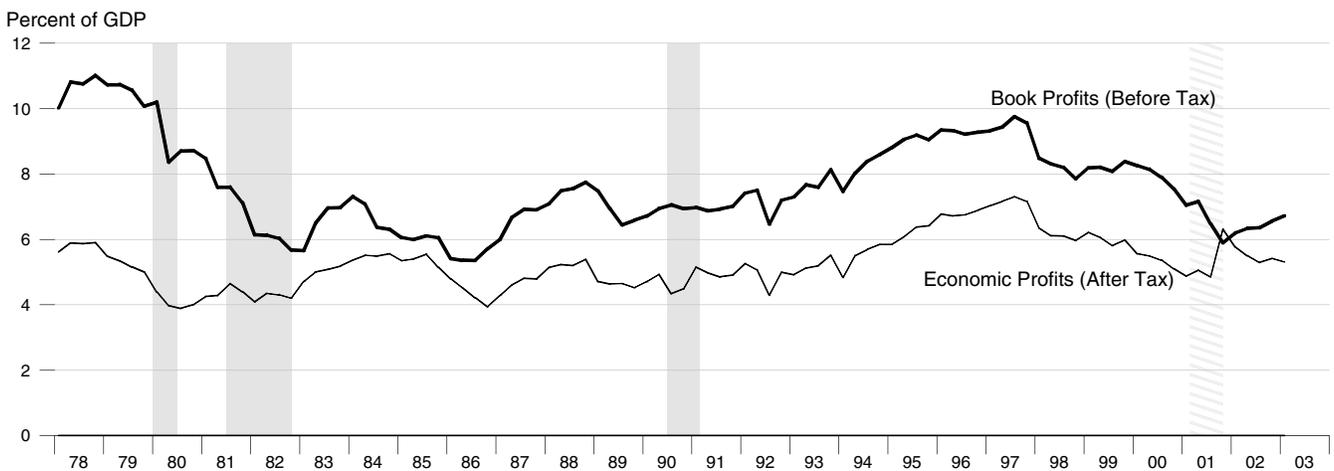
Manufacturing Output per Hour



Selected Component Shares of National Income



Corporate Profits



Note: Economic Profits include IVA and CCAAdj; Book Profits exclude them (see Notes).

		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
	1998	131476	1904		1.5	125851	3180		2.6	145.2			2.7
	1999	133498	2022		1.5	128904	3053		2.4	148.4			2.2
	2000	136899	3401		2.5	131719	2814		2.2	151.3			1.9
	2001	136941	42		0.0	131925	207		0.2	150.0			-0.8
	2002	136486	-455		-0.3	130776	-1149		-0.9	148.0			-1.4
2001	1	137752	424	1.2	0.8	132433	249	0.8	1.1	151.3	-0.1	-0.4	0.3
	2	137086	-666	-1.9	0.1	132193	-240	-0.7	0.3	150.7	-0.4	-1.6	-0.4
	3	136707	-379	-1.1	0.0	131943	-250	-0.8	0.1	149.8	-0.6	-2.5	-1.1
	4	136218	-488	-1.4	-0.8	131130	-813	-2.4	-0.8	148.2	-1.0	-4.0	-2.2
2002	1	136128	-90	-0.3	-1.2	130759	-371	-1.1	-1.3	148.0	-0.1	-0.5	-2.2
	2	136355	227	0.7	-0.5	130706	-53	-0.2	-1.1	148.1	0.1	0.3	-1.7
	3	136804	449	1.3	0.1	130844	138	0.4	-0.8	147.9	-0.2	-0.7	-1.3
	4	136656	-148	-0.4	0.3	130795	-49	-0.1	-0.3	147.9	0.0	0.1	-0.2
2003	1	137431	774	2.3	1.0	130596	-199	-0.6	-0.1	147.7	-0.1	-0.4	-0.2
2001	Apr	137353	-410	-3.5	0.0	132243	-218	-2.0	0.5	150.9	-0.1	-1.6	-0.5
	May	137036	-317	-2.7	0.3	132229	-14	-0.1	0.3	150.8	-0.1	-0.8	-0.1
	Jun	136869	-167	-1.5	-0.1	132108	-121	-1.1	0.1	150.5	-0.2	-2.4	-0.5
	Jul	137006	137	1.2	0.4	132045	-63	-0.6	0.2	150.2	-0.2	-2.4	-0.8
	Aug	136256	-750	-6.4	-0.3	131966	-79	-0.7	0.1	149.7	-0.3	-3.9	-1.1
	Sep	136858	602	5.4	-0.0	131819	-147	-1.3	-0.2	149.4	-0.2	-2.4	-1.4
	Oct	136370	-488	-4.2	-0.5	131414	-405	-3.6	-0.5	148.5	-0.6	-7.0	-2.2
	Nov	136218	-152	-1.3	-0.8	131087	-327	-2.9	-0.9	148.1	-0.3	-3.2	-2.4
	Dec	136067	-151	-1.3	-1.1	130890	-197	-1.8	-1.1	148.1	0.0	0.0	-1.9
2002	Jan	135791	-276	-2.4	-1.5	130871	-19	-0.2	-1.1	148.0	-0.1	-0.8	-2.5
	Feb	136450	659	6.0	-0.9	130706	-165	-1.5	-1.3	148.1	0.1	0.8	-2.0
	Mar	136143	-307	-2.7	-1.2	130701	-5	-0.0	-1.3	148.0	-0.1	-0.8	-2.1
	Apr	136196	53	0.5	-0.8	130680	-21	-0.2	-1.2	148.0	0.0	0.0	-1.9
	May	136487	291	2.6	-0.4	130702	22	0.2	-1.2	148.0	0.0	0.0	-1.9
	Jun	136383	-104	-0.9	-0.4	130736	34	0.3	-1.0	148.4	0.3	3.3	-1.4
	Jul	136343	-40	-0.4	-0.5	130790	54	0.5	-1.0	147.4	-0.7	-7.8	-1.9
	Aug	136757	414	3.7	0.4	130913	123	1.1	-0.8	147.9	0.3	4.1	-1.2
	Sep	137312	555	5.0	0.3	130829	-84	-0.8	-0.8	148.3	0.3	3.3	-0.7
	Oct	136988	-324	-2.8	0.5	130898	69	0.6	-0.4	148.1	-0.1	-1.6	-0.3
	Nov	136542	-446	-3.8	0.2	130817	-81	-0.7	-0.2	147.9	-0.1	-1.6	-0.1
	Dec	136439	-103	-0.9	0.3	130670	-147	-1.3	-0.2	147.7	-0.1	-1.6	-0.3
2003	Jan	137536	1097	10.1	1.3	130873	203	1.9	0.0	148.5	0.5	6.7	0.3
	Feb	137408	-128	-1.1	0.7	130520	-353	-3.2	-0.1	147.0	-1.0	-11.5	-0.7
	Mar	137348	-60	-0.5	0.9	130396	-124	-1.1	-0.2	147.7	0.5	5.9	-0.2
	Apr	137687	339	3.0	1.1	130348	-48	-0.4	-0.3	146.6	-0.7	-8.6	-0.9

		Unempl. Rate	Retail and Food Services Sales				Industrial Production				Treasury Yields	
			Billions of dollars	Percent change			Index	Percent change			(Percent)	
				Monthly/ quarterly	Annual rate	Year ago			Monthly/ quarterly	Annual rate	Year ago	3-mo
1998		4.5	2918.226			4.9	105.622			5.6	4.78	5.26
1999		4.2	3161.948			8.4	110.131			4.3	4.64	5.64
2000		4.0	3374.243			6.7	115.252			4.7	5.82	6.03
2001		4.8	3471.756			2.9	111.229			-3.5	3.39	5.02
2002		5.8	3581.652			3.2	110.381			-0.8	1.60	4.61
2001	1	4.2	856.706	0.8	3.0	2.2	113.631	-1.6	-6.1	-0.2	4.82	5.05
	2	4.5	863.764	0.8	3.3	3.1	111.847	-1.6	-6.1	-3.4	3.66	5.27
	3	4.8	862.246	-0.2	-0.7	1.7	110.542	-1.2	-4.6	-4.6	3.17	4.98
	4	5.6	889.040	3.1	13.0	4.6	108.895	-1.5	-5.8	-5.7	1.91	4.77
2002	1	5.6	879.850	-1.0	-4.1	2.7	109.268	0.3	1.4	-3.8	1.72	5.08
	2	5.8	888.988	1.0	4.2	2.9	110.459	1.1	4.4	-1.2	1.72	5.10
	3	5.8	905.833	1.9	7.8	5.1	111.375	0.8	3.4	0.8	1.64	4.26
	4	5.9	906.981	0.1	0.5	2.0	110.422	-0.9	-3.4	1.4	1.33	4.01
2003	1	5.8	919.599	1.4	5.7	4.5	110.522	0.1	0.4	1.1	1.16	3.92
2001	May	4.4	289.014	0.7	8.9	3.6	111.847	-0.6	-7.2	-3.6	3.62	5.39
	Jun	4.6	287.792	-0.4	-5.0	2.8	111.145	-0.6	-7.3	-4.4	3.49	5.28
	Jul	4.6	288.146	0.1	1.5	2.4	110.996	-0.1	-1.6	-4.3	3.51	5.24
	Aug	4.9	289.550	0.5	6.0	3.1	110.696	-0.3	-3.2	-4.3	3.36	4.97
	Sep	5.0	284.550	-1.7	-18.9	-0.2	109.933	-0.7	-8.0	-5.3	2.64	4.73
	Oct	5.4	301.990	6.1	104.2	6.4	109.512	-0.4	-4.5	-5.3	2.16	4.57
	Nov	5.6	293.741	-2.7	-28.3	3.8	108.845	-0.6	-7.1	-5.8	1.87	4.65
	Dec	5.8	293.309	-0.1	-1.8	3.4	108.327	-0.5	-5.6	-5.9	1.69	5.09
2002	Jan	5.6	292.393	-0.3	-3.7	2.1	108.967	0.6	7.3	-4.6	1.65	5.04
	Feb	5.6	293.878	0.5	6.3	2.7	109.197	0.2	2.6	-3.9	1.73	4.91
	Mar	5.7	293.579	-0.1	-1.2	3.3	109.641	0.4	5.0	-3.0	1.79	5.28
	Apr	5.9	297.404	1.3	16.8	3.6	110.113	0.4	5.3	-2.2	1.72	5.21
	May	5.8	293.889	-1.2	-13.3	1.7	110.447	0.3	3.7	-1.3	1.73	5.16
	Jun	5.8	297.695	1.3	16.7	3.4	110.818	0.3	4.1	-0.3	1.70	4.93
	Jul	5.8	302.350	1.6	20.5	4.9	111.577	0.7	8.5	0.5	1.68	4.65
	Aug	5.8	304.269	0.6	7.9	5.1	111.305	-0.2	-2.9	0.6	1.62	4.26
	Sep	5.7	299.214	-1.7	-18.2	5.2	111.242	-0.1	-0.7	1.2	1.63	3.87
	Oct	5.8	299.458	0.1	1.0	-0.8	110.580	-0.6	-6.9	1.0	1.58	3.94
	Nov	5.9	301.707	0.8	9.4	2.7	110.797	0.2	2.4	1.8	1.23	4.05
	Dec	6.0	305.816	1.4	17.6	4.3	109.889	-0.8	-9.4	1.4	1.19	4.03
2003	Jan	5.7	307.045	0.4	4.9	5.0	110.670	0.7	8.9	1.6	1.17	4.05
	Feb	5.8	302.741	-1.4	-15.6	3.0	110.711	0.0	0.4	1.4	1.17	3.90
	Mar	5.8	309.813	2.3	31.9	5.5	110.186	-0.5	-5.5	0.5	1.13	3.81
	Apr	6.0	309.455	-0.1	-1.4	4.1	109.656	-0.5	-5.6	-0.4	1.13	3.96
	May										1.07	3.57

		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	
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	
2002		179.9			1.6		190.4			2.3		138.9			-1.3	
2001	1	175.9	0.9	3.8	3.4	3.8	184.3	0.7	2.9	2.7	2.9	141.7	1.3	5.4	4.0	
	2	177.3	0.8	3.2	3.4	3.5	185.5	0.6	2.6	2.6	2.8	142.0	0.2	0.8	3.4	
	3	177.7	0.2	1.0	2.7	2.7	186.7	0.7	2.7	2.7	2.7	140.7	-0.9	-3.5	1.6	
	4	177.4	-0.2	-0.6	1.8	1.8	188.0	0.7	2.7	2.7	2.7	138.4	-1.7	-6.6	-1.1	
2002	1	178.0	0.3	1.3	1.2	1.3	189.0	0.5	2.1	2.5	2.1	138.3	-0.0	-0.1	-2.4	
	2	179.5	0.9	3.5	1.3	2.4	190.0	0.5	2.1	2.4	2.1	138.7	0.2	1.0	-2.3	
	3	180.5	0.5	2.2	1.6	2.3	191.0	0.5	2.2	2.3	2.2	138.7	0.0	0.2	-1.4	
	4	181.4	0.5	2.0	2.2	2.2	191.8	0.4	1.8	2.1	2.1	139.7	0.7	2.8	1.0	
2003	1	183.1	1.0	3.9	2.9	3.9	192.4	0.3	1.3	1.8	1.3	143.2	2.5	10.5	3.5	
2001	Apr	176.5	0.3	3.5	3.3	3.3	185.1	0.2	2.0	2.6	3.0	142.0	0.4	4.3	3.7	
	May	177.4	0.5	6.3	3.6	3.9	185.4	0.2	2.0	2.6	2.8	142.3	0.2	2.6	3.8	
	Jun	177.9	0.3	3.4	3.3	3.8	186.0	0.3	4.0	2.7	3.0	141.7	-0.4	-4.9	2.6	
	Jul	177.5	-0.2	-2.7	2.8	2.9	186.4	0.2	2.6	2.7	2.9	140.2	-1.1	-12.0	1.4	
	Aug	177.5	0.0	0.0	2.8	2.5	186.7	0.2	1.9	2.6	2.8	140.7	0.4	4.4	2.0	
	Sep	178.1	0.3	4.1	2.6	2.7	187.1	0.2	2.6	2.6	2.8	141.3	0.4	5.2	1.6	
	Oct	177.6	-0.3	-3.3	2.1	2.1	187.4	0.2	1.9	2.6	2.7	139.1	-1.6	-17.2	-0.3	
	Nov	177.4	-0.1	-1.3	1.8	1.8	188.1	0.4	4.6	2.7	2.9	138.3	-0.6	-6.7	-1.2	
	Dec	177.3	-0.1	-0.7	1.5	1.5	188.4	0.2	1.9	2.8	2.8	137.7	-0.4	-5.1	-1.7	
	2002	Jan	177.6	0.2	2.0	1.1	2.0	188.7	0.2	1.9	2.6	1.9	137.7	0.0	0.0	-2.8
		Feb	177.9	0.2	2.0	1.1	2.0	189.0	0.2	1.9	2.6	1.9	138.1	0.3	3.5	-2.7
		Mar	178.5	0.3	4.1	1.4	2.7	189.2	0.1	1.3	2.4	1.7	139.2	0.8	10.0	-1.6
Apr		179.3	0.4	5.5	1.6	3.4	189.7	0.3	3.2	2.5	2.1	139.0	-0.1	-1.7	-2.1	
May		179.5	0.1	1.3	1.2	3.0	190.0	0.2	1.9	2.5	2.1	138.4	-0.4	-5.1	-2.7	
Jun		179.8	0.2	2.0	1.1	2.8	190.2	0.1	1.3	2.3	1.9	138.6	0.1	1.7	-2.2	
Jul		180.1	0.2	2.0	1.5	2.7	190.5	0.2	1.9	2.2	1.9	138.6	0.0	0.0	-1.1	
Aug		180.5	0.2	2.7	1.7	2.7	191.1	0.3	3.8	2.4	2.2	138.6	0.0	0.0	-1.5	
Sep		180.9	0.2	2.7	1.6	2.7	191.4	0.2	1.9	2.3	2.1	139.0	0.3	3.5	-1.6	
Oct		181.2	0.2	2.0	2.0	2.6	191.6	0.1	1.3	2.2	2.0	140.1	0.8	9.9	0.7	
Nov		181.4	0.1	1.3	2.3	2.5	191.8	0.1	1.3	2.0	2.0	139.7	-0.3	-3.4	1.0	
Dec		181.6	0.1	1.3	2.4	2.4	192.1	0.2	1.9	2.0	2.0	139.3	-0.3	-3.4	1.2	
2003	Jan	182.2	0.3	4.0	2.6	4.0	192.3	0.1	1.3	1.9	1.3	141.6	1.7	21.7	2.8	
	Feb	183.3	0.6	7.5	3.0	5.7	192.5	0.1	1.3	1.9	1.3	143.0	1.0	12.5	3.5	
	Mar	183.9	0.3	4.0	3.0	5.2	192.5	0.0	0.0	1.7	0.8	145.1	1.5	19.1	4.2	
	Apr	183.3	-0.3	-3.8	2.2	2.8	192.5	0.0	0.0	1.5	0.6	142.3	-1.9	-20.9	2.4	

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. The 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. The Bureau of Labor Statistics announced several revisions to the Household Survey on Feb. 7, 2003, with the release of the January 2003 data. They introduced the Census 2000 population controls (which affect data back to 2000 and cause a break in the data in January 2000), a new seasonal adjustment procedure, and new seasonal factors back to January 1998. For more information, see <www.bls.gov/cps/>.

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)