National Economic Trends

November 2005

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Bubbling (or Just Frothy) House Prices?

Real U.S. house prices, on average, have appreciated by 6 percent annually since 2000, a historically high rate when compared with the 2.7 percent annual rate between 1975 and 1999. Certain states have had especially high average annual rates since 2000: 12 percent in California, 11 percent in Rhode Island, and 10 percent in Nevada, Hawaii, and Florida. With such high rates of house price growth, many experts in the press and academic circles have debated whether we are currently facing a house price bubble.

House price bubbles are characterized by homebuyer expectations of unusually rapid price appreciation. Thus, many buy a home they consider expensive, in relation to current rental prices, under the expectation of continued price increases. When buyers perceive that prices have stopped increasing, however, expectations normalize and demand falls. House prices fall as the bubble "bursts." Economic consequences of a potential housing burst are especially worrisome. Lower home values reduce homeowners' wealth, causing significant declines in consumer demand and thus in GDP. In fact, Case, Quigley, and Shiller (2001) point out that the elasticity of consumption to housing wealth appears much higher than the elasticity to stock market equity. History further indicates that banks' balance sheets—when proper risk management strategies are not in place—can be heavily exposed to price bursts in real estate. For these reasons, policymakers are keen on trying to identify the presence of a bubble.

Although criteria for detecting a bubble are debatable, we present a standard indicator of house affordability—prices divided by per capita income (P/I)—for all states plus the District of Columbia. (See map.) P/I provides a better measure than house price appreciation because it accounts for the evolution of income, a key factor in housing demand. California, New York, and Massachusetts, for instance, have high P/I ratios.

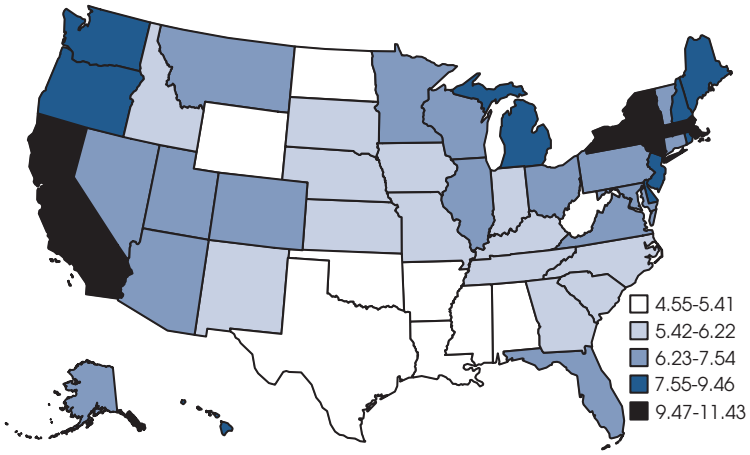
According to our calculations of P/I growth rates, if bubble conditions do exist, they appear only on the two coasts and in Michigan. Since 2000, for example, the average P/I ratios for California, Massachusetts, Oregon, Rhode Island, and New York have been at least 13 percent above their respective averages for the 1975-99 period. On the other hand, the same 2000-05 P/I measure for Texas, Oklahoma, Mississippi, and North Dakota has declined by 24 percent below its average for the 1975-99 period.

Yet, do the P/I ratios observed on the two coasts constitute a bubble? Note that when real estate is evaluated as a potential investment, housing prices should be determined by discounting the expected flow of income (rents) and other services using an appropriate risk-adjusted capitalization rate. Considering the difference between capitalization rates implied by house price indices and long-term government bond yields, we find indications against the presence of a bubble. House price data imply that the spread between capitalization rates and long-term bond yields has increased from an average level of 0.7 percent for the period 1975-99 to an average level of 2.3 percent for the period since 2000. These positive spreads imply that house prices have in fact remained consistent with risk-adjusted discounting of future rents. In fact, the spread has increased substantially in all 50 states (and the District of Columbia) between the 1975-99 period and the more recent period since 2000. Even in states that have comparatively low spreads (e.g., California and Massachusetts), the figure has remained positive and more than doubled between the two periods. In conclusion, the evidence in favor of a recent housing bubble is controversial at best. Ongoing research is struggling to isolate real house price increases justified by underlying fundamentals from irrational, possibly harmful, excesses.

—Massimo Guidolin and Elizabeth A. La Jeunesse

[1]Karl E. Case, John M. Quigley, and Robert J. Shiller, "Comparing Wealth Effects: The Stock Market versus the Housing Market." Working Paper No. 8606, National Bureau of Economic Research, 2001.

Housing Price Index/Personal Income Per Capita
Average Annual Value, 2000:Q1–2005:Q2



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: $[(x_t/x_{t-1})^4-1]\times 100$. 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:

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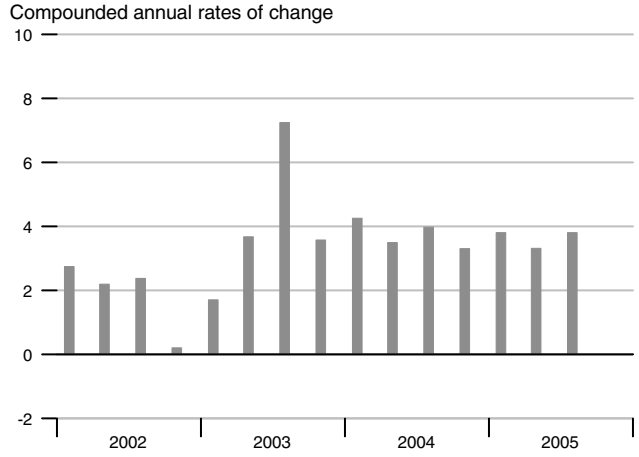
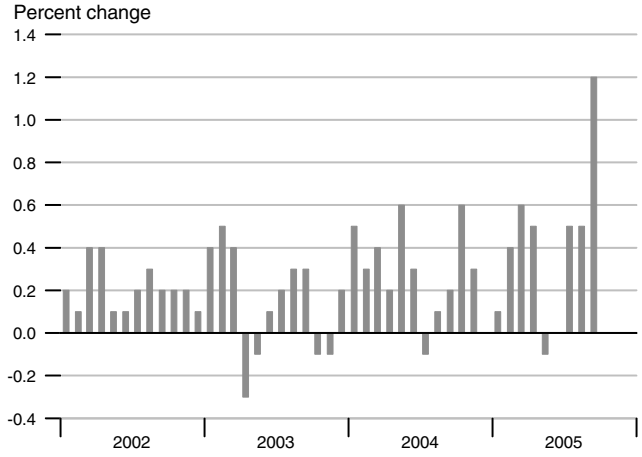
Real GDP Growth

Compounded annual rates of change



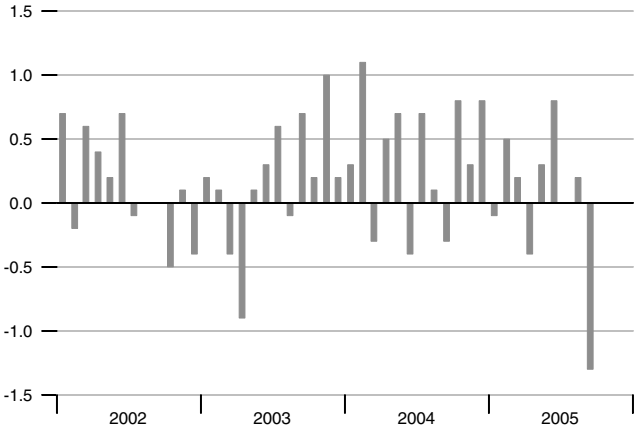
Consumer Price Index

Percent change



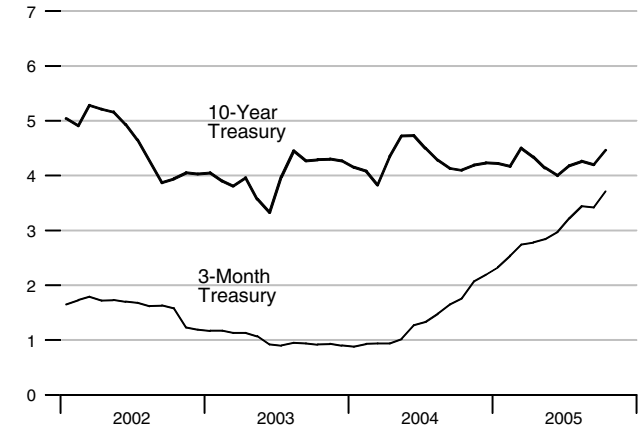
Industrial Production

Percent change



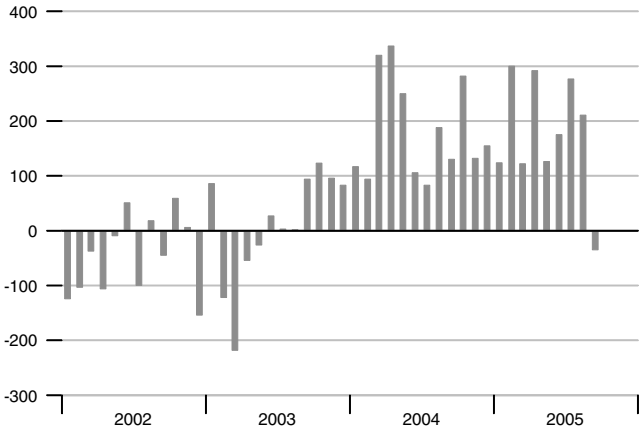
Interest Rates

Percent



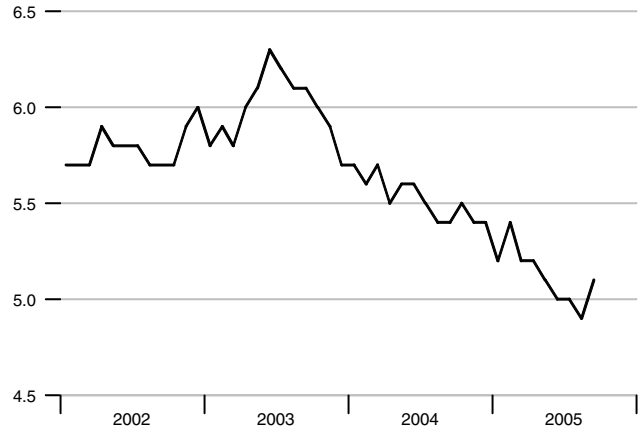
Change in Nonfarm Payrolls

Thousands



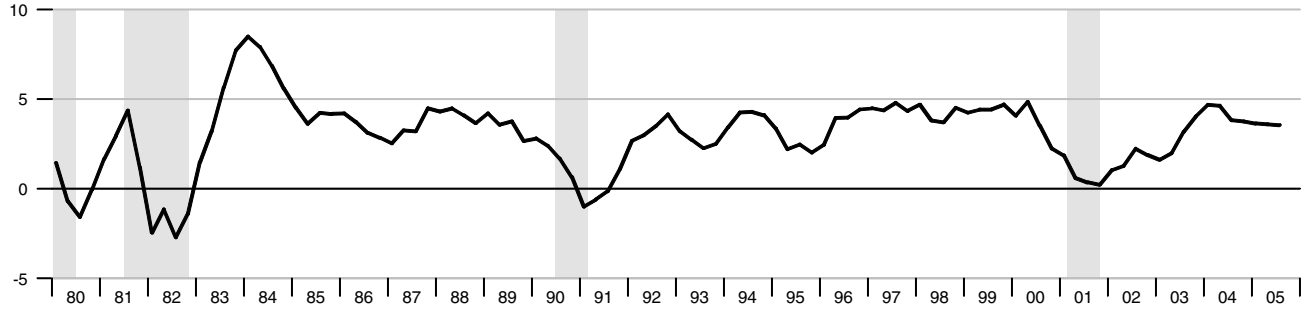
Unemployment Rate

Percent of labor force



Real Gross Domestic Product

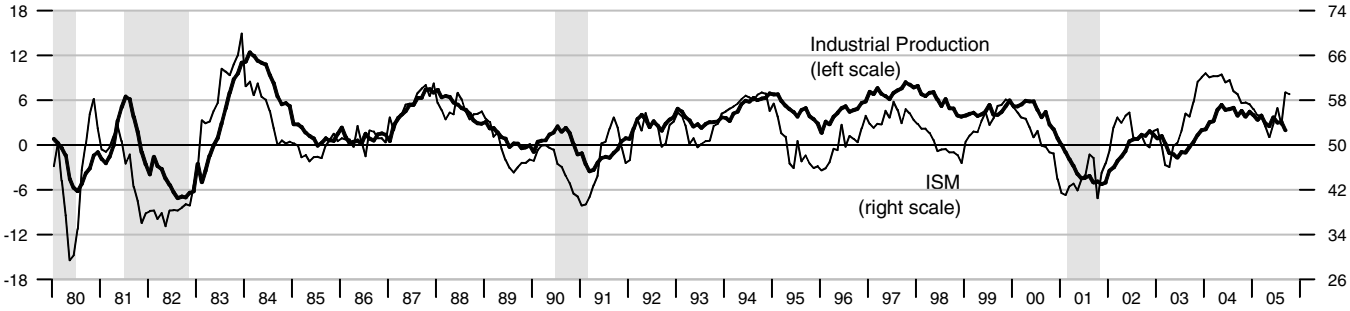
Percent change from year ago



Industrial Production and Institute for Supply Management (ISM) Indexes

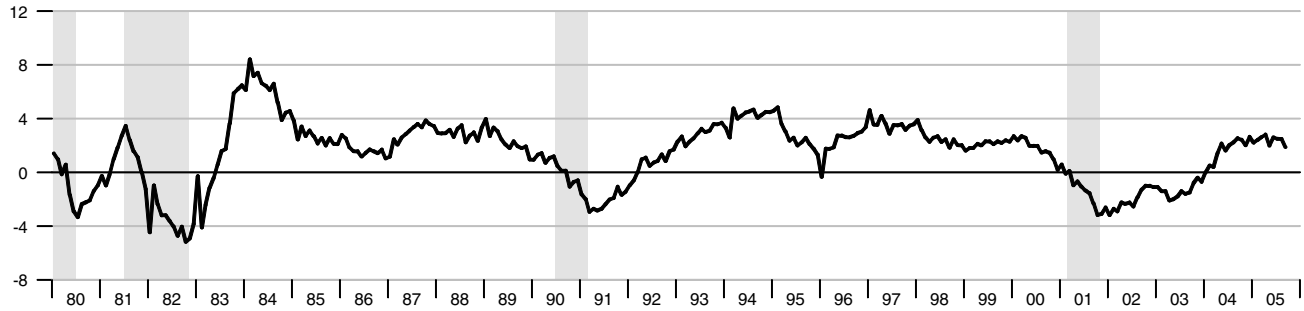
Percent change from year ago

Index



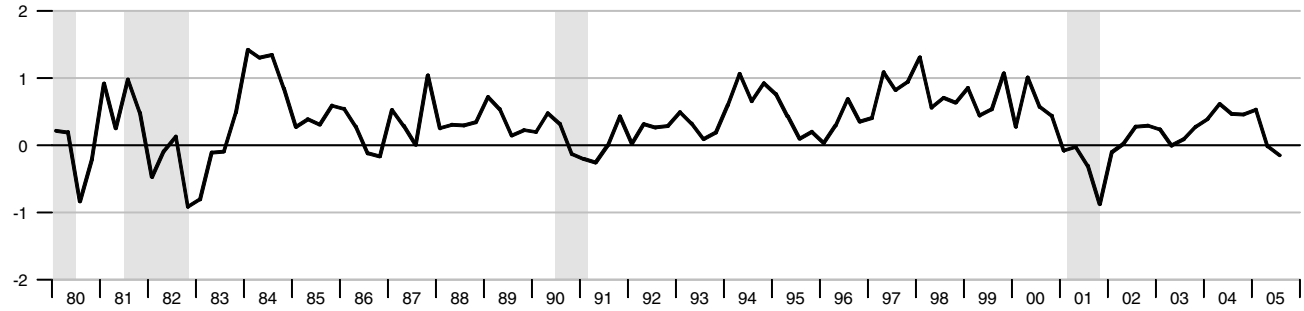
Aggregate Private Nonfarm Hours

Percent change from year ago



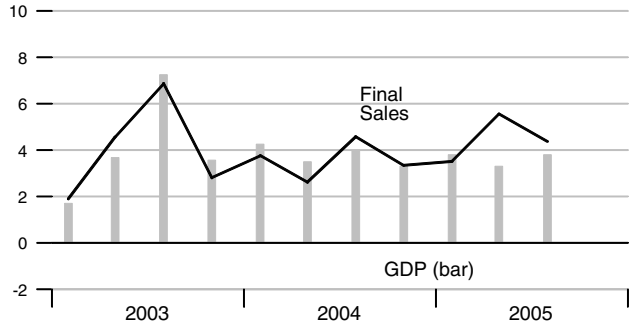
Real Change in Private Inventories

Percent of GDP



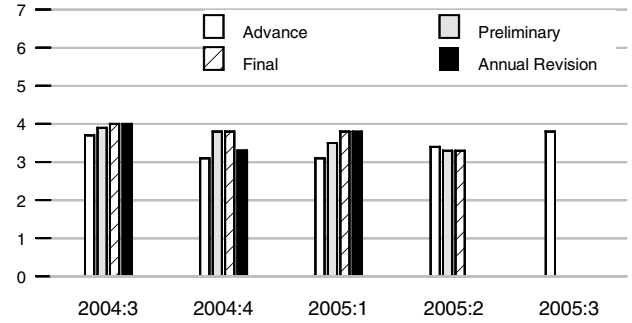
Real Final Sales and GDP

Compounded annual rates of change



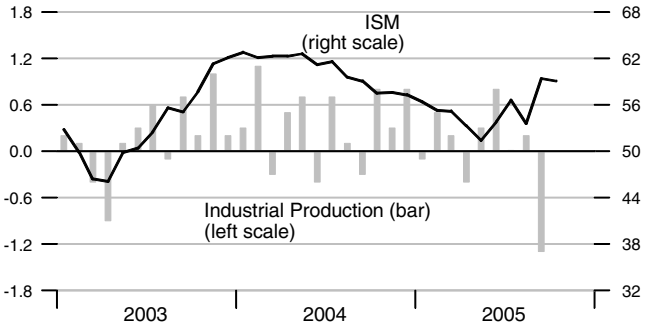
Real GDP Revisions

Compounded annual rates of change



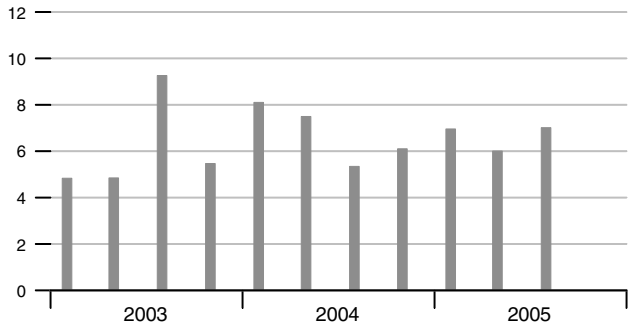
Industrial Production and ISM Index

Percent change | Index



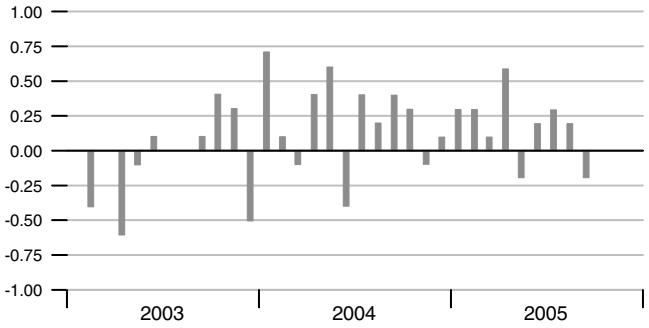
Nominal Gross Domestic Product

Compounded annual rates of change



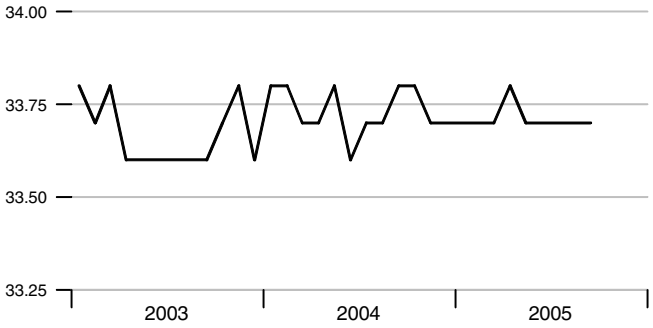
Aggregate Private Nonfarm Hours

Percent change



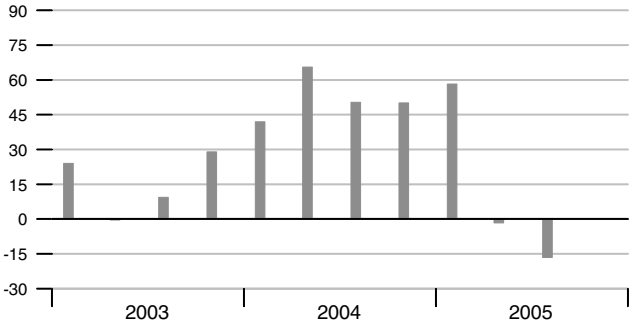
Average Weekly Private Nonfarm Hours

Hours



Real Change in Private Inventories

Billions of 2000 dollars

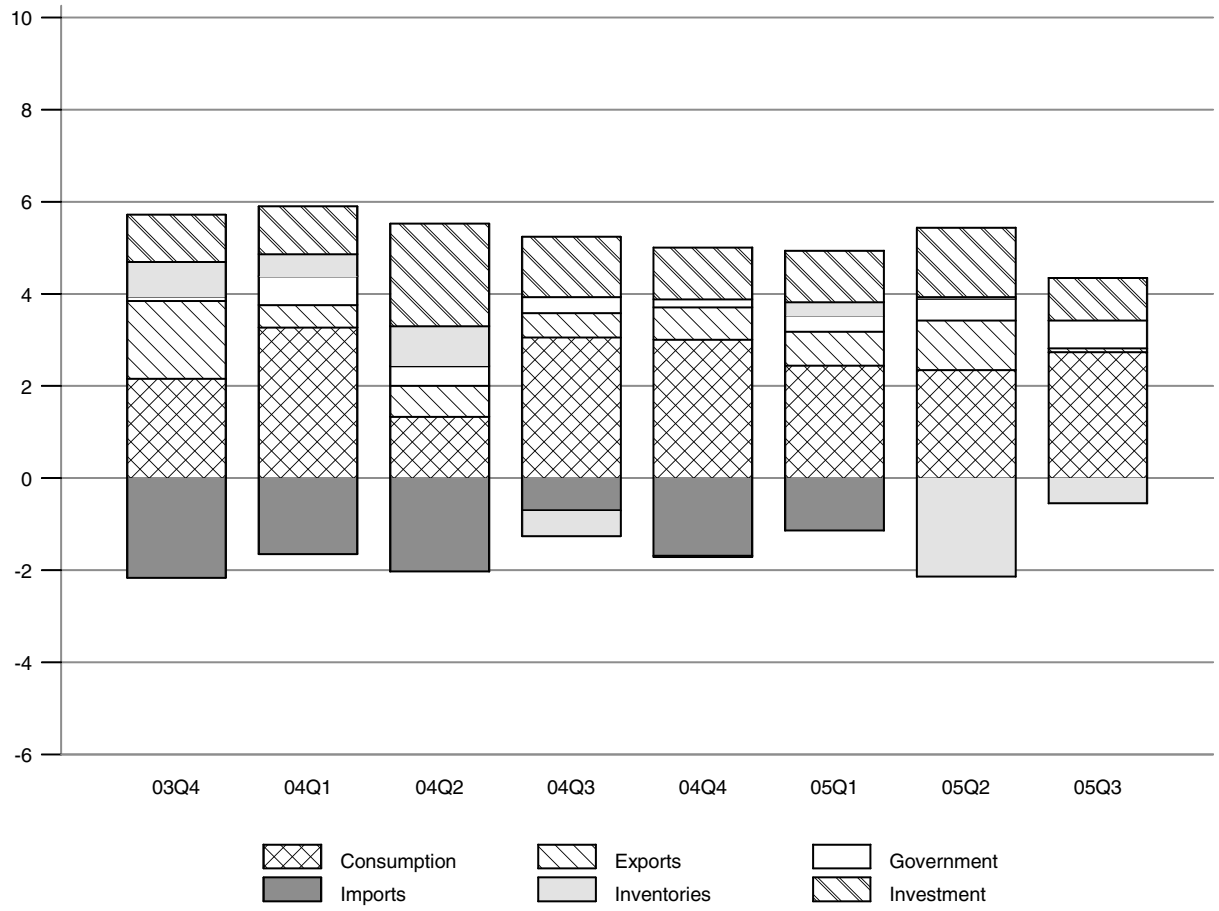


Inventory-Sales Ratio

Manufacturing and trade

Contribution of Components to Real GDP Growth

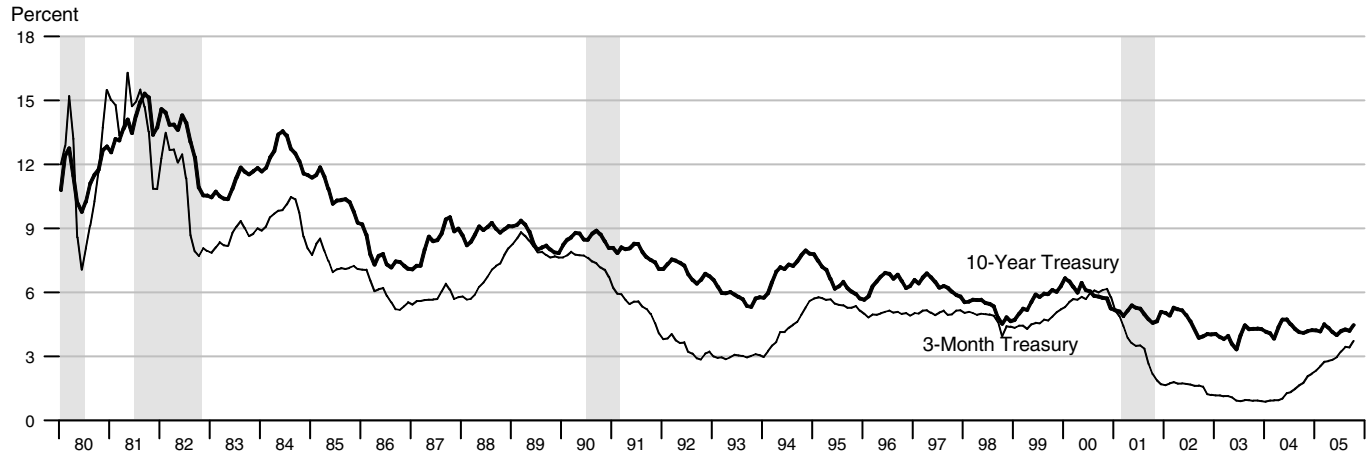
Percentage points at compounded annual rates



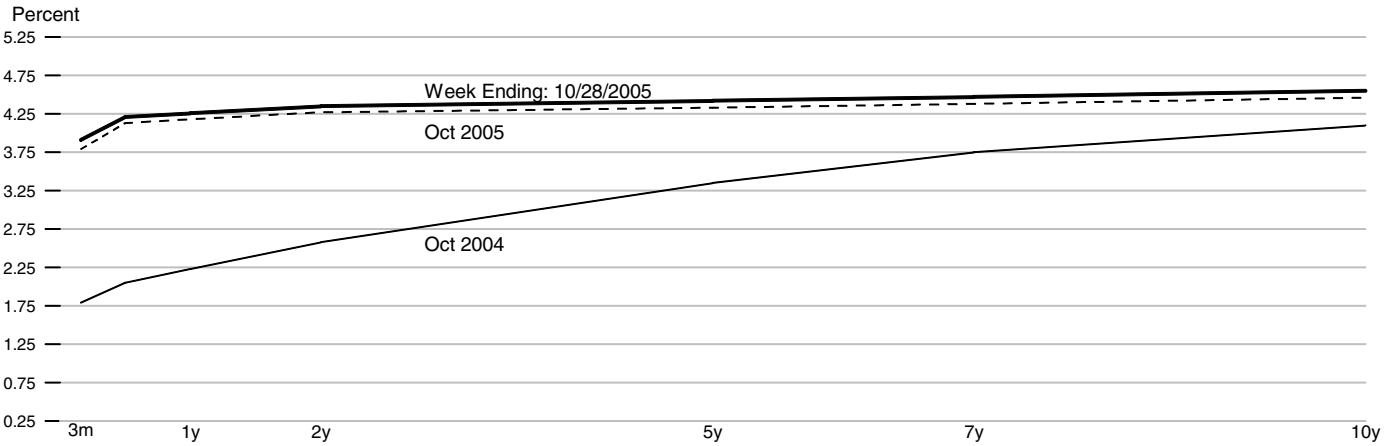
Contributions to Real GDP Growth Rate

	2003	2004				2005		
	4th	1st	2nd	3rd	4th	1st	2nd	3rd
Final Sales	2.82	3.77	2.63	4.53	3.33	3.51	5.45	4.35
Consumption	2.15	3.27	1.33	3.05	3.01	2.44	2.35	2.73
Fixed Investment	1.03	1.04	2.22	1.31	1.13	1.12	1.51	0.93
Nonresidential	0.43	0.76	1.29	1.15	1.04	0.58	0.90	0.65
Residential	0.59	0.28	0.93	0.15	0.09	0.54	0.62	0.28
Federal	0.21	0.71	0.22	0.25	-0.04	0.17	0.17	0.53
Government	0.10	0.62	0.43	0.35	0.17	0.35	0.47	0.61
State and Local	-0.11	-0.09	0.21	0.10	0.21	0.19	0.31	0.08
Imports	-2.16	-1.65	-2.03	-0.70	-1.68	-1.14	0.04	0.00
Change in Inventory	0.75	0.48	0.87	-0.56	-0.03	0.29	-2.14	-0.55
Exports	1.69	0.49	0.67	0.53	0.70	0.74	1.07	0.08
Net Exports	-0.47	-1.16	-1.37	-0.17	-0.98	-0.40	1.11	0.08
Residual	0.05	0.04	0.05	-0.07	-0.08	0.00	-0.01	-0.03
Real GDP Growth	3.57	4.25	3.50	3.97	3.30	3.80	3.31	3.80

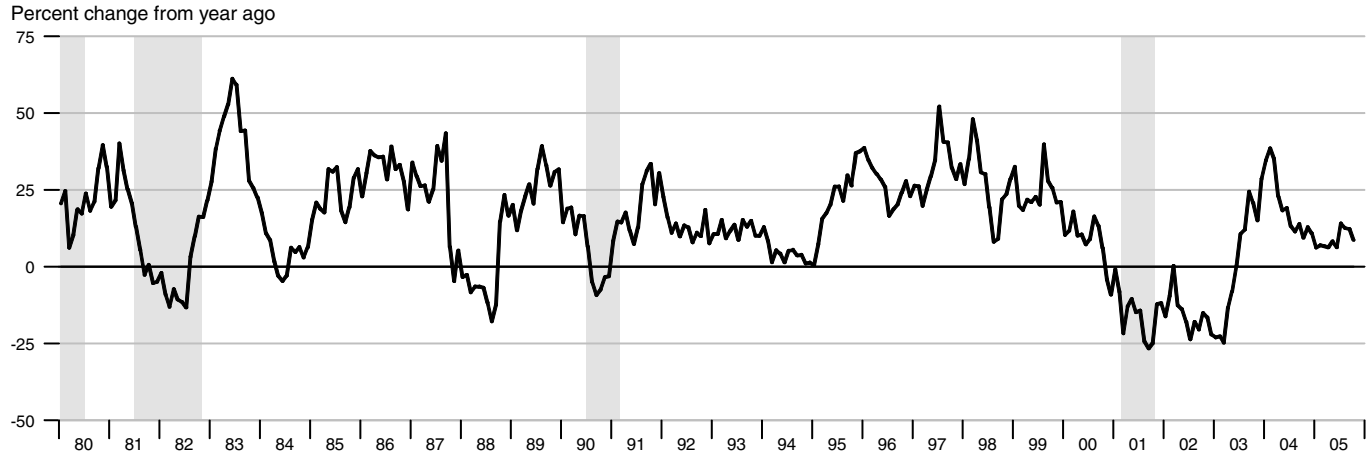
Interest Rates



Treasury Yield Curve

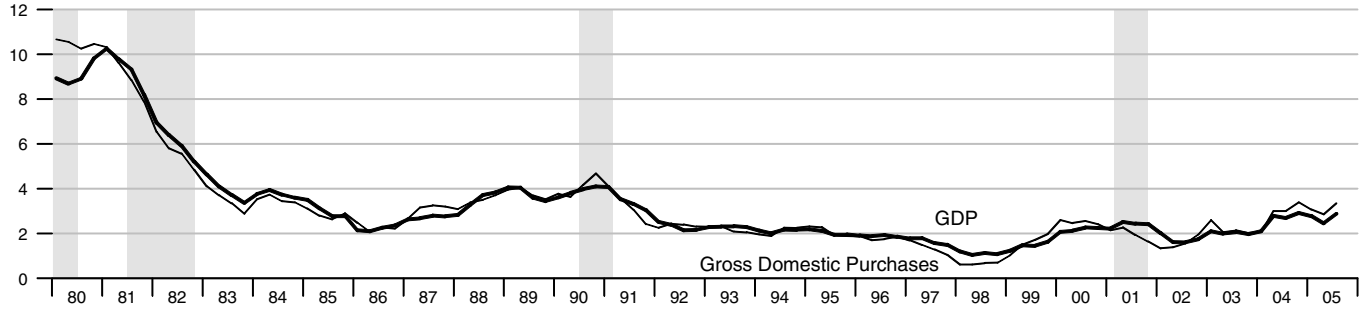


Standard and Poor's 500 Index with Reinvested Dividends



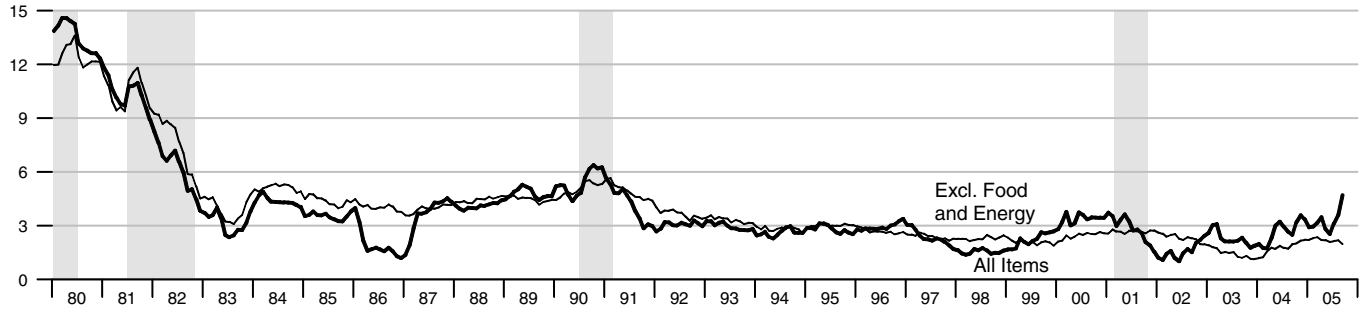
NIPA Chain Price Indexes

Percent change from year ago



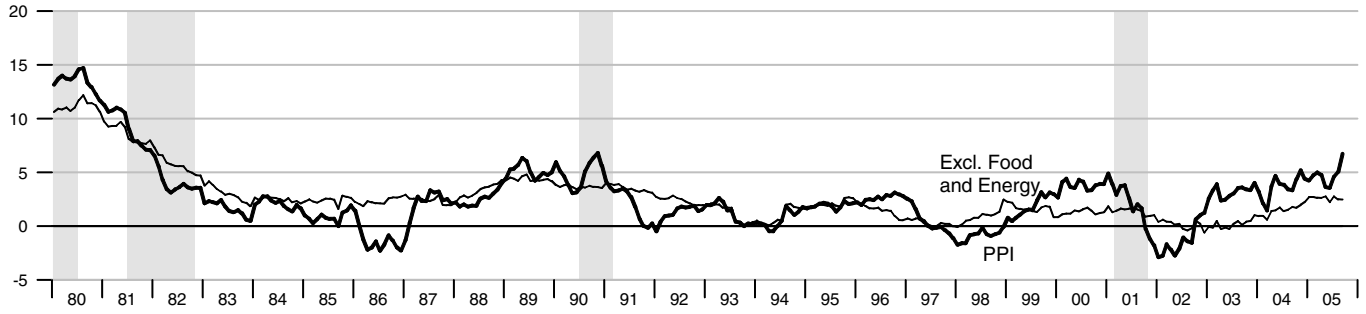
Consumer Price Index

Percent change from year ago



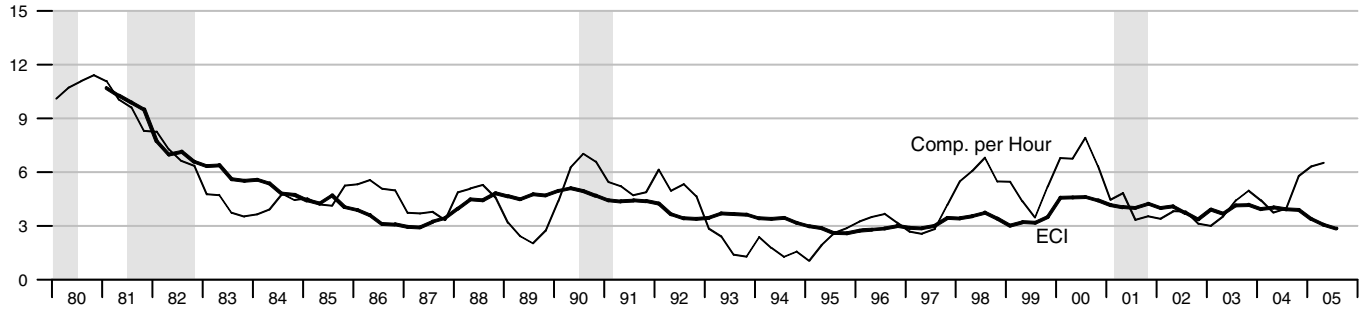
Producer Price Index, Finished Goods

Percent change from year ago



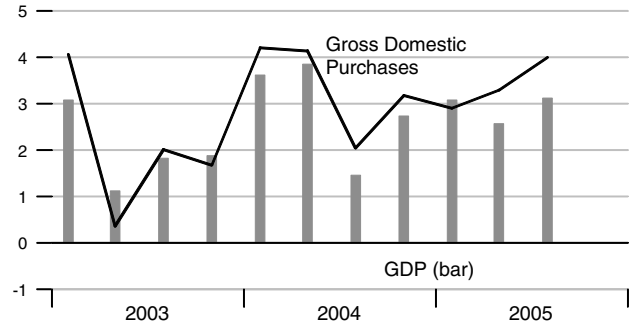
Employment Cost Index and Compensation per Hour

Percent change from year ago



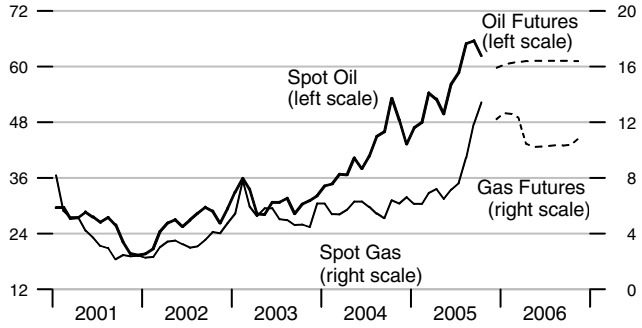
NIPA Chain Price Indexes

Compounded annual rates of change



Oil & Natural Gas Prices: Spot & Futures

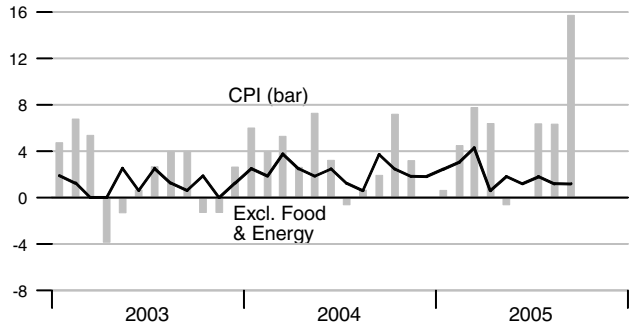
Dollars per barrel | Dollars per million btu



Note: Futures prices as of 10/31/2005.

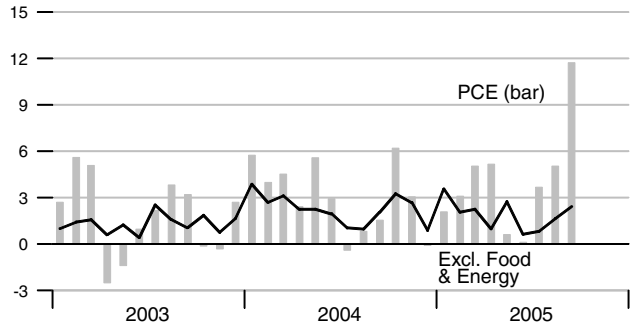
Consumer Price Index

Compounded annual rates of change



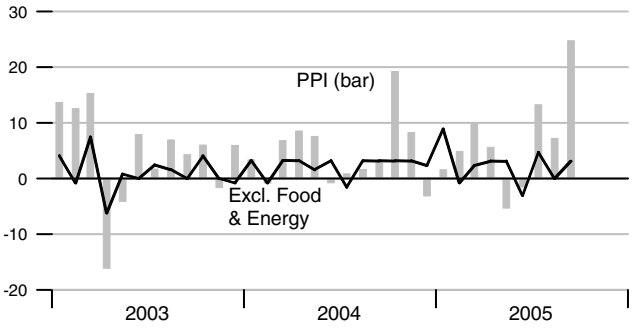
Consumption Chain Price Index

Compounded annual rates of change



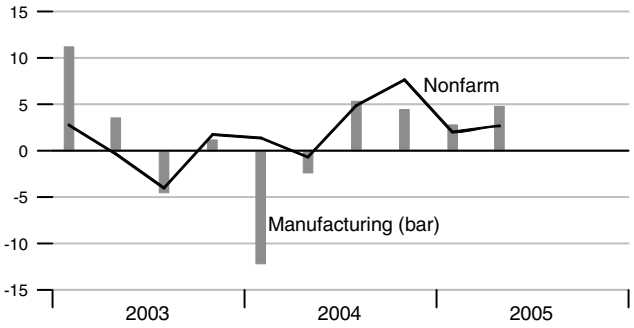
Producer Price Index, Finished Goods

Compounded annual rates of change



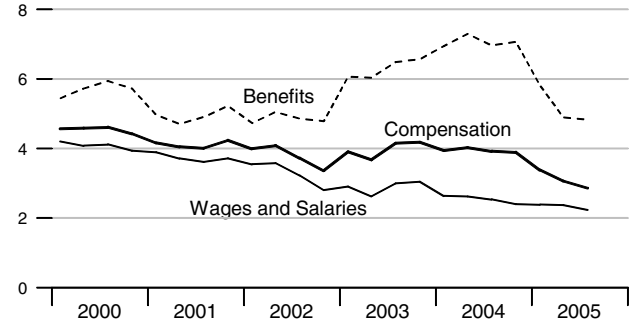
Unit Labor Cost

Compounded annual rates of change



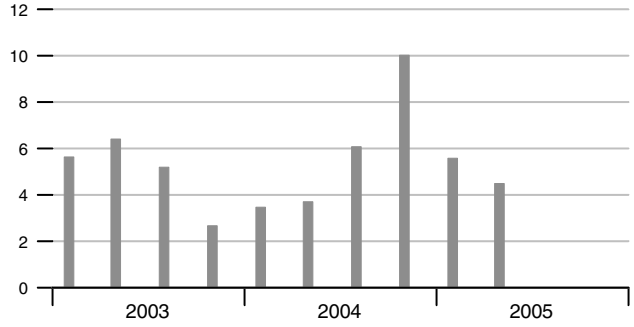
Employment Cost Index

Percent change from year ago

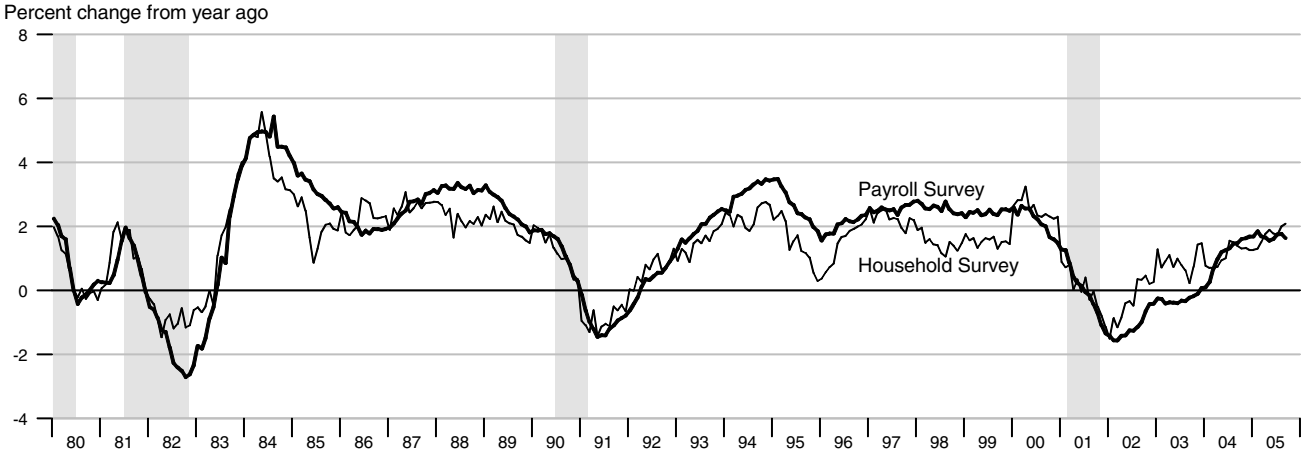


Compensation per Hour

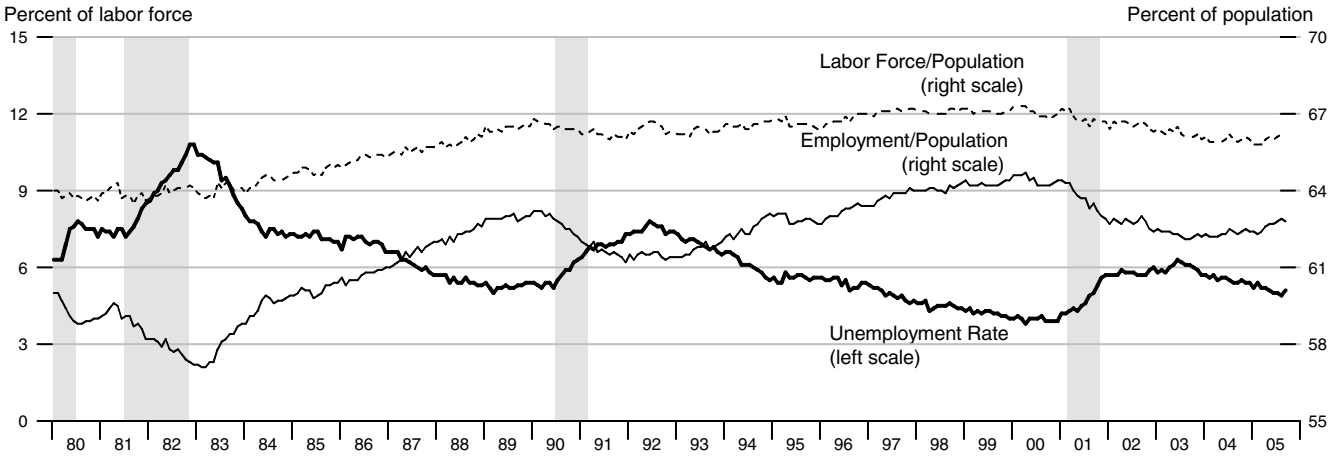
Compounded annual rates of change



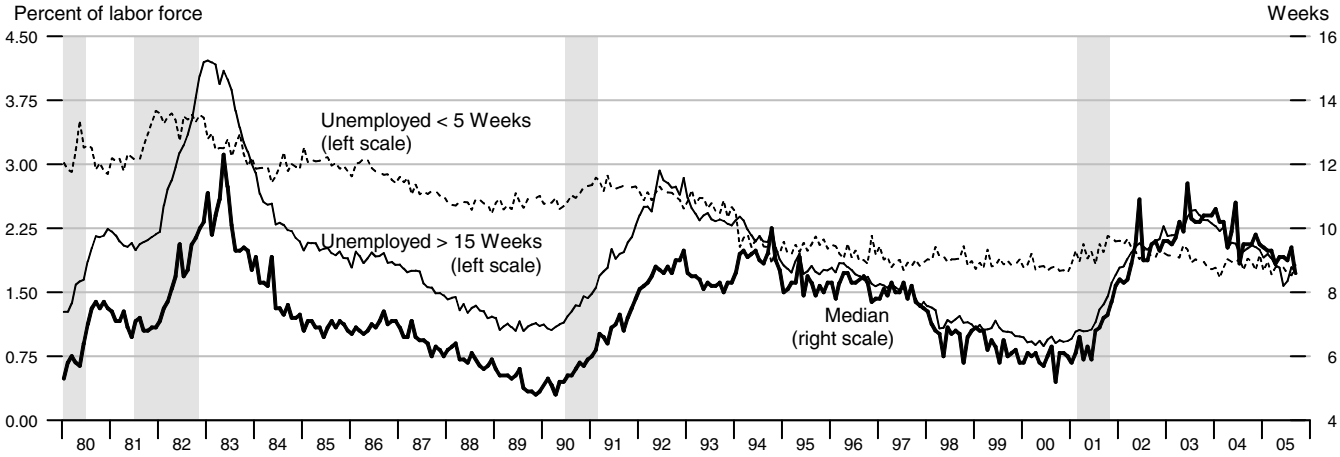
Employment



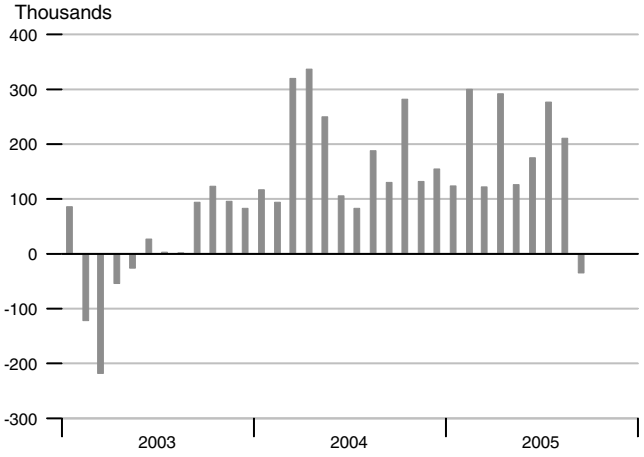
Unemployment, Labor Force Participation, and Employment Rates



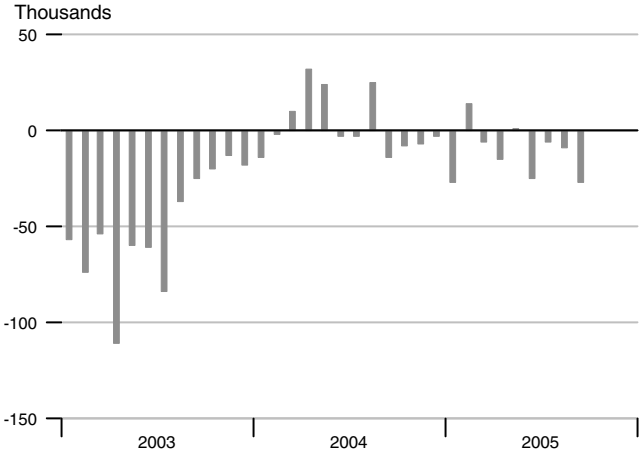
Duration of Unemployment



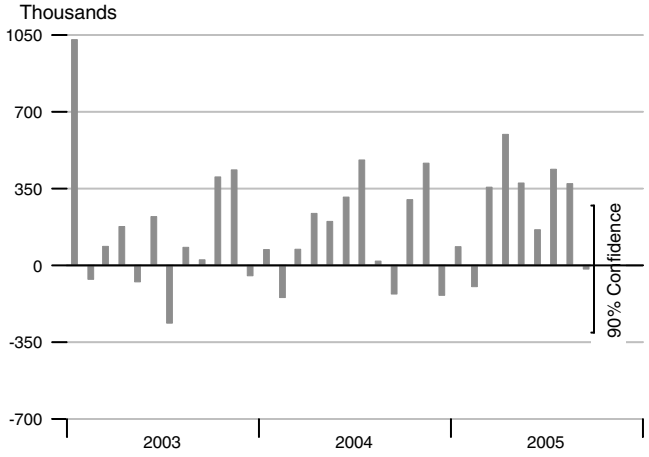
Change in Nonfarm Payrolls



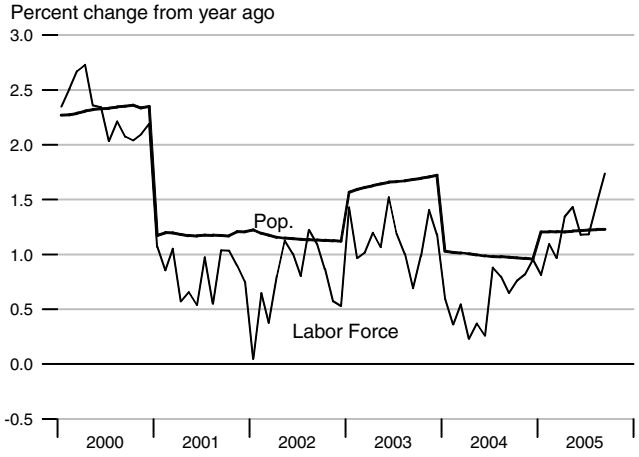
Change in Manufacturing Payrolls



Change in Household Employment

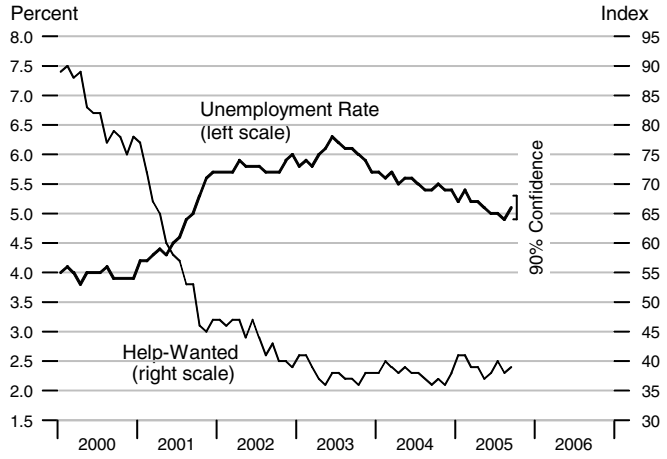


Labor Force and Population



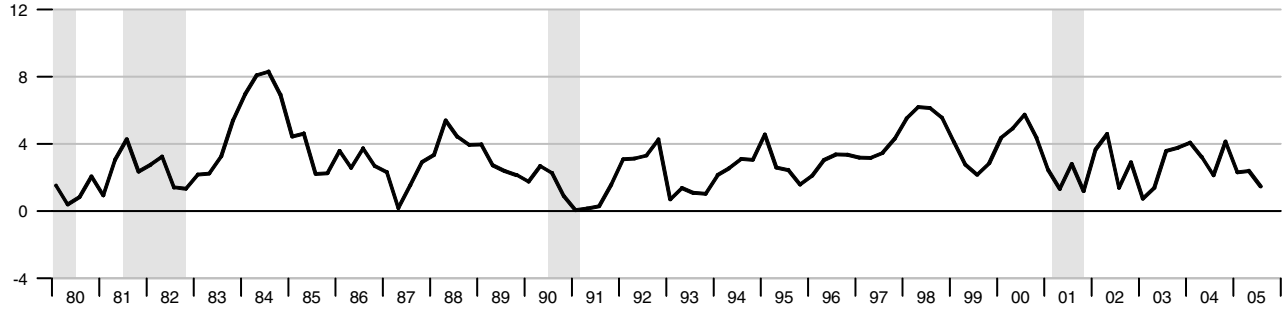
Available Labor Supply and Components

Unemployment Rate & Help-Wanted Index



Real Disposable Personal Income

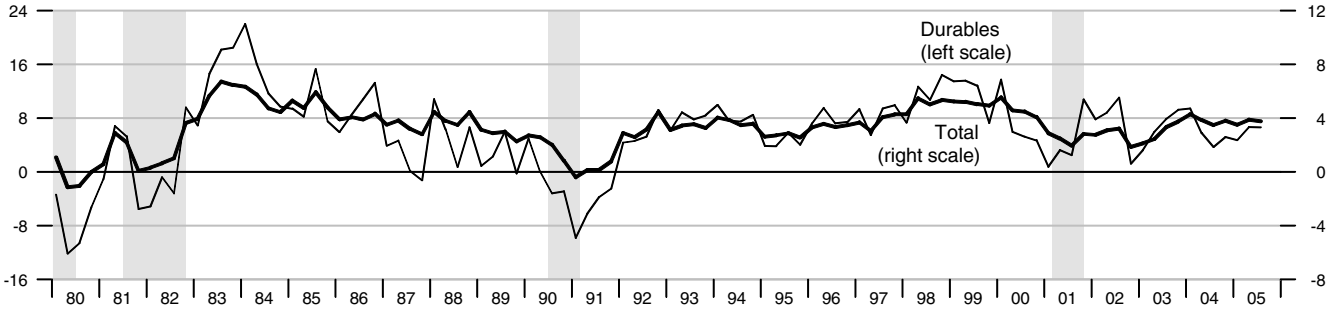
Percent change from year ago, quarterly data



Real Consumption

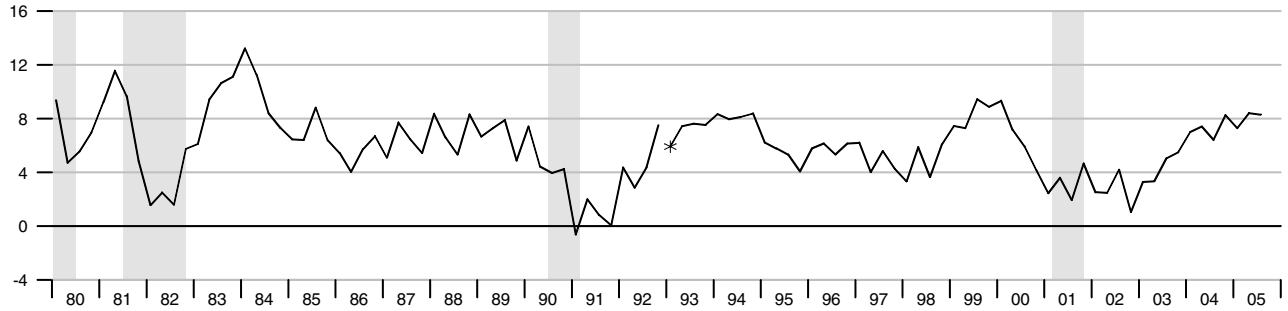
Percent change from year ago, quarterly data

Percent change from year ago, quarterly data



Retail and Food Services Sales

Percent change from year ago, quarterly average

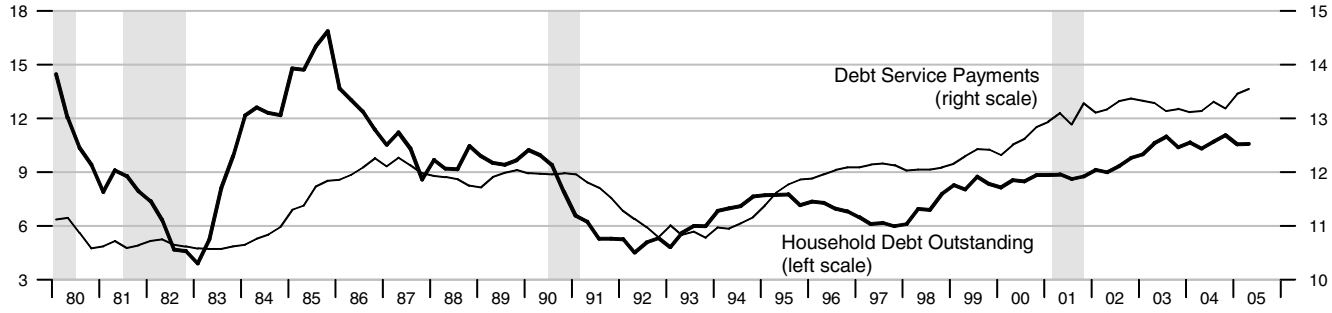


*Data from Jan. 1992 to the present are on a NAICS basis; data prior to Jan. 1992 are on an SIC basis and are not strictly comparable (see End Note).

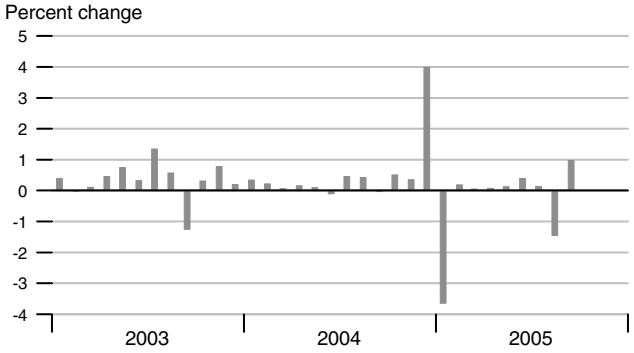
Debt Service Payments and Household Debt Outstanding

Percent change from year ago, quarterly data

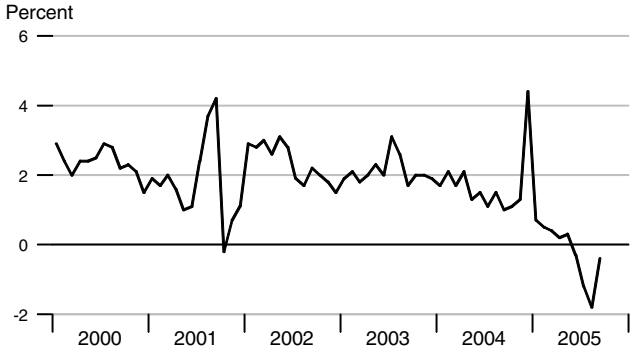
Percent of disposable personal income



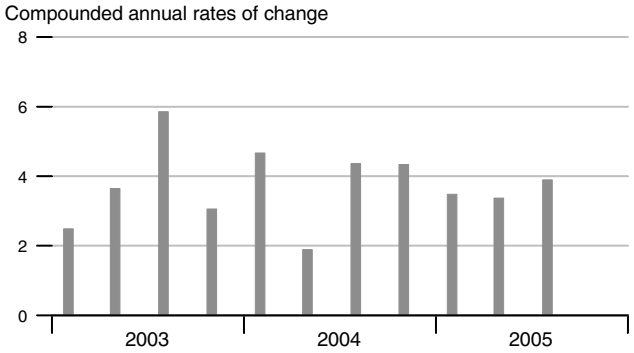
Real Disposable Personal Income



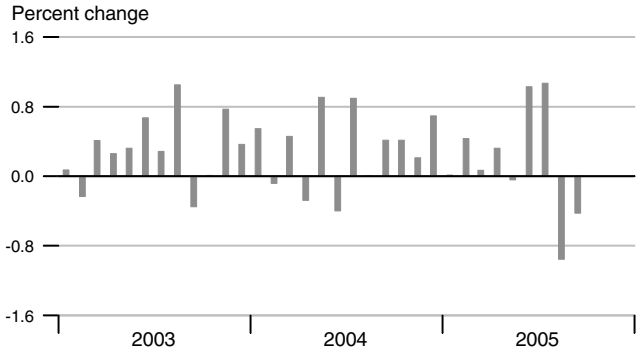
Personal Saving Rate



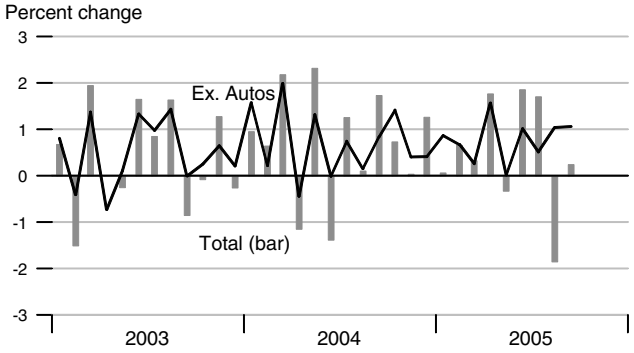
Real Consumption



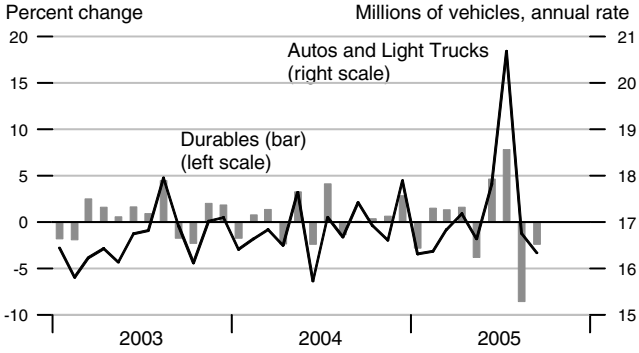
Real Consumption



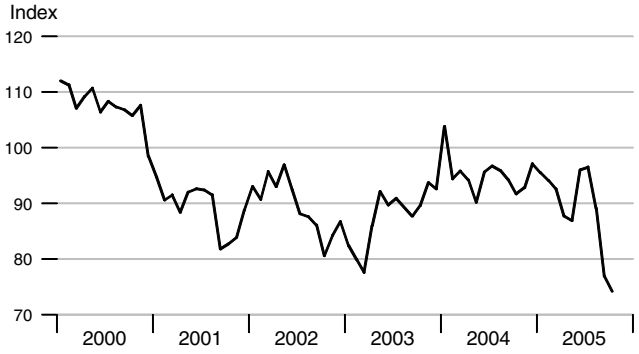
Retail & Food Services



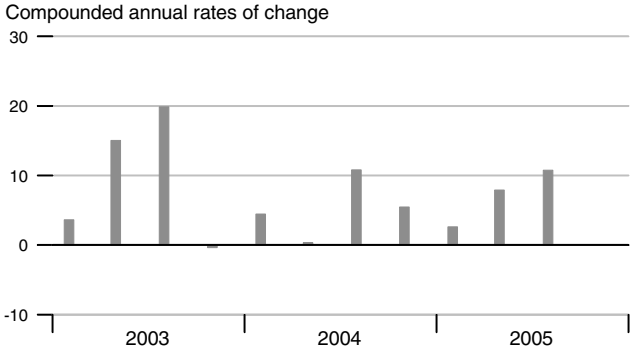
Real Durables Consumption & Vehicle Sales



Consumer Sentiment (U. of Michigan)

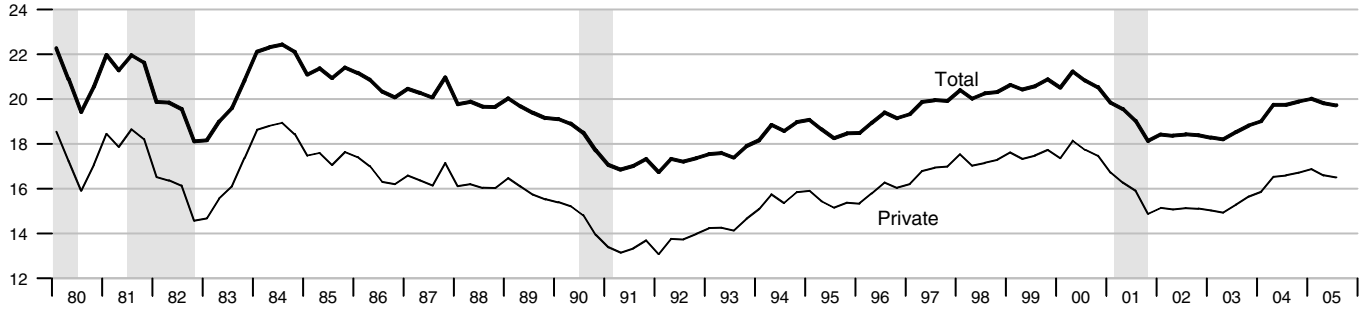


Real Durables Consumption



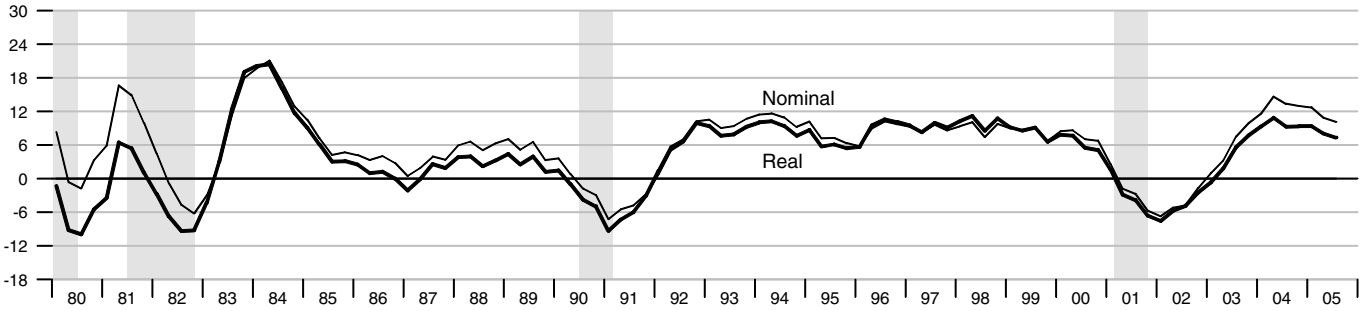
Investment

Percent of nominal GDP



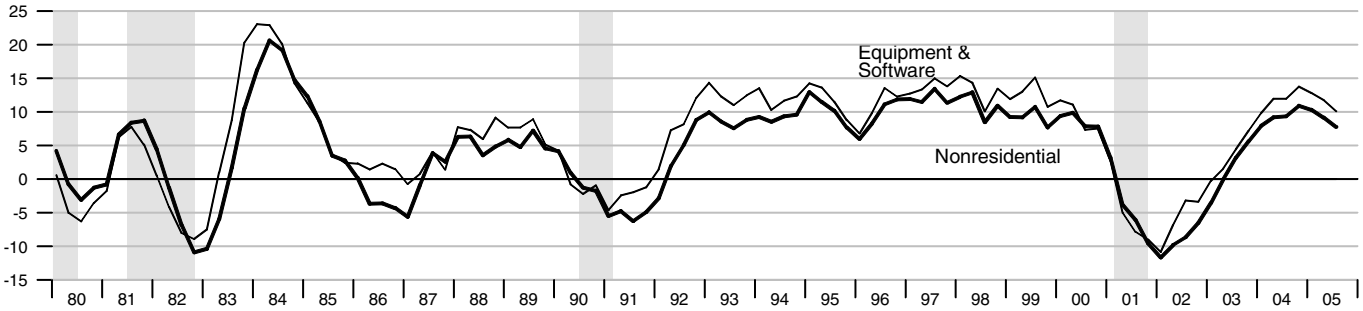
Private Fixed Investment

Percent change from year ago



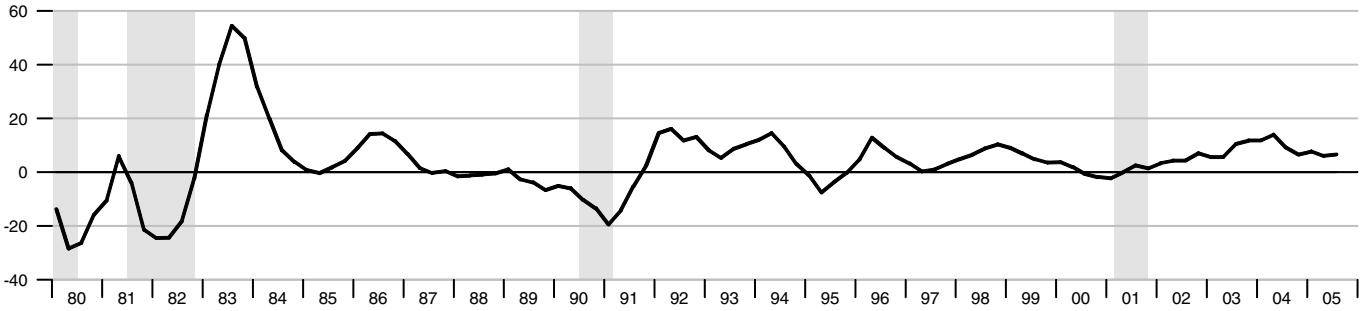
Real Nonresidential Fixed and Equipment & Software Investment

Percent change from year ago

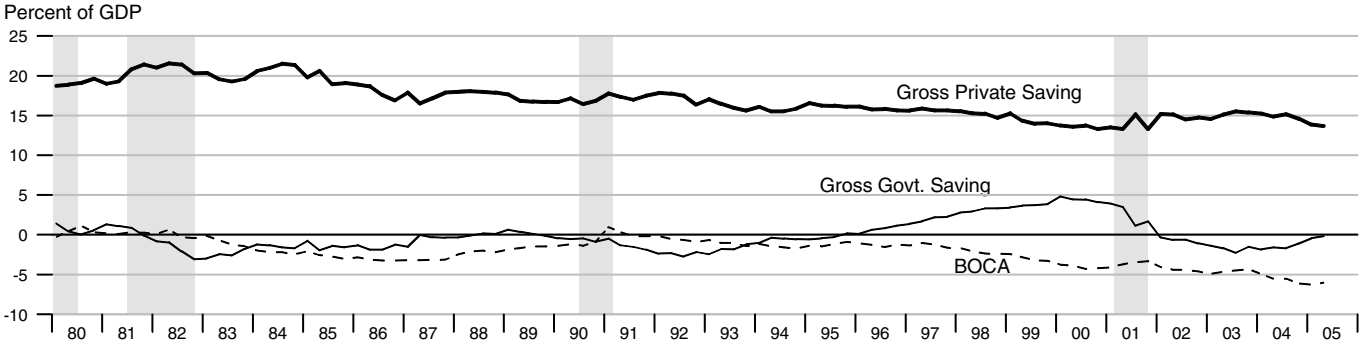


Real Residential Fixed Investment

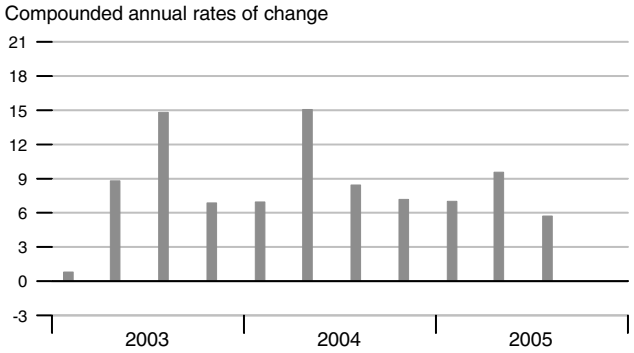
Percent change from year ago



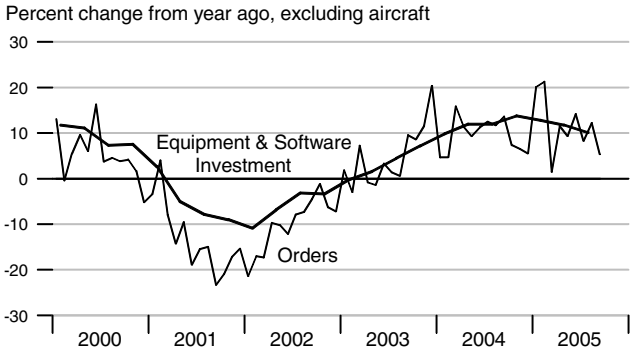
Gross Saving Rates and Balance on Current Account (NIPA)



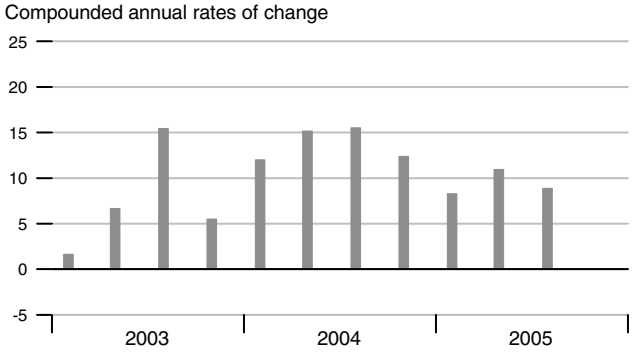
Real Private Fixed Investment



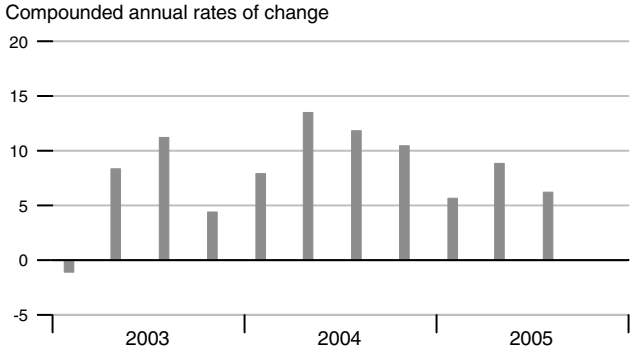
Nondefense Capital Goods Orders



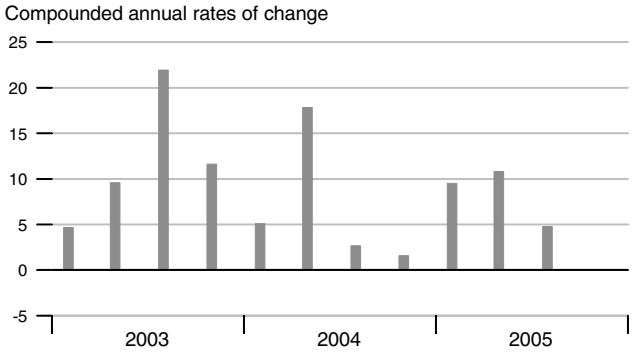
Real Equipment & Software Investment



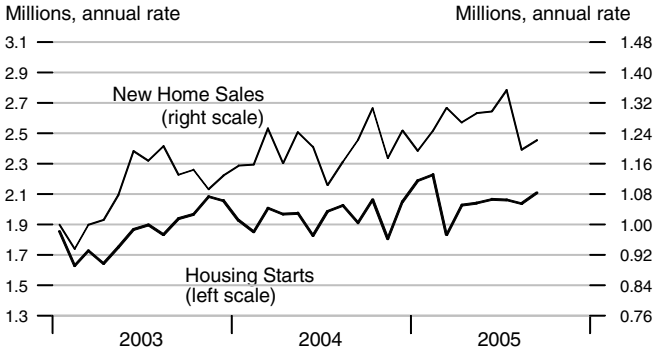
Real Nonresidential Fixed Investment



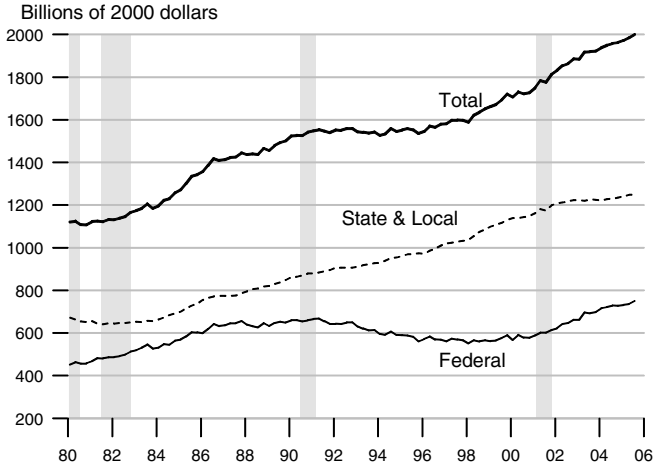
Real Residential Fixed Investment



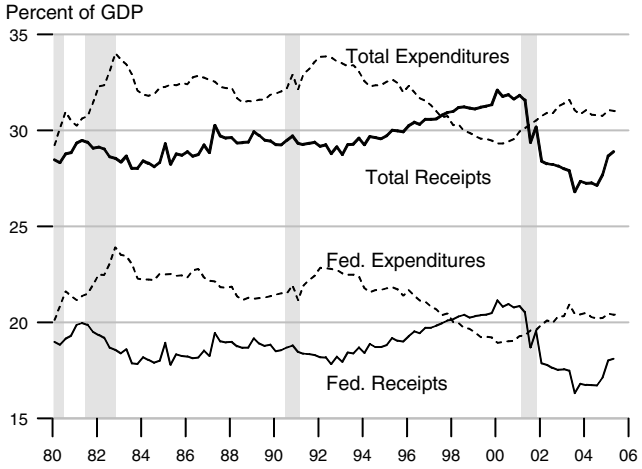
Housing Starts and New Home Sales



Govt. Consumption and Investment



Govt. Current Receipts and Expenditures



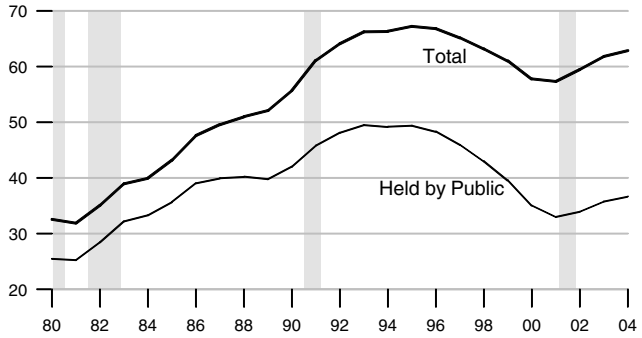
Government Budgets

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	789.2	793.3	-4.1	1101.3	1315.0	-213.7	1055.0	1324.3	-269.3
1992	845.7	845.0	0.7	1147.2	1444.6	-297.4	1091.3	1381.6	-290.3
1993	886.9	886.0	0.9	1222.5	1496.0	-273.5	1154.4	1409.5	-255.1
1994	942.9	932.4	10.5	1320.8	1533.1	-212.3	1258.6	1461.9	-203.2
1995	990.2	978.2	12.0	1406.5	1603.5	-197.0	1351.8	1515.8	-164.0
1996	1043.3	1017.5	25.8	1524.0	1665.8	-141.8	1453.1	1560.5	-107.5
1997	1097.4	1058.3	39.1	1653.1	1708.9	-55.8	1579.3	1601.2	-21.9
1998	1163.2	1111.2	52.0	1773.8	1734.9	38.9	1721.8	1652.6	69.2
1999	1236.7	1186.3	50.4	1891.2	1787.6	103.6	1827.5	1701.9	125.5
2000	1319.5	1269.5	50.0	2053.8	1864.4	189.4	2025.2	1789.1	236.2
2001	1373.0	1368.2	4.8	2016.2	1969.5	46.7	1991.2	1863.0	128.2
2002	1410.1	1444.3	-34.2	1853.2	2101.1	-247.9	1853.2	2011.0	-157.8
2003	1488.6	1512.4	-23.8	1868.6	2251.4	-382.8	1782.3	2159.9	-377.6
2004	1581.7	1587.5	-5.8	1974.8	2381.3	-406.5	1880.1	2292.2	-412.1
2003Q3	1507.6	1521.4	-13.8	1808.9	2265.1	-456.2	429.5	533.8	-104.3
2003Q4	1539.0	1526.5	12.5	1887.9	2292.9	-405.0	440.8	570.9	-130.2
2004Q1	1546.8	1553.2	-6.4	1917.8	2347.2	-429.4	409.6	580.8	-171.2
2004Q2	1579.7	1581.3	-1.6	1951.4	2364.9	-413.5	549.9	575.7	-25.8
2004Q3	1574.5	1593.8	-19.3	1975.4	2387.0	-411.6	479.5	565.2	-85.7
2004Q4	1625.7	1621.7	4.0	2054.6	2426.2	-371.6	487.2	605.2	-118.1
2005Q1	1656.7	1649.4	7.3	2196.6	2494.9	-298.3	451.8	628.4	-176.6
2005Q2	1694.9	1673.7	21.2	2239.7	2525.2	-285.5	665.2	619.9	45.2
2005Q3	.	1687.8	.	.	2563.3	.	550.1	619.3	-69.2

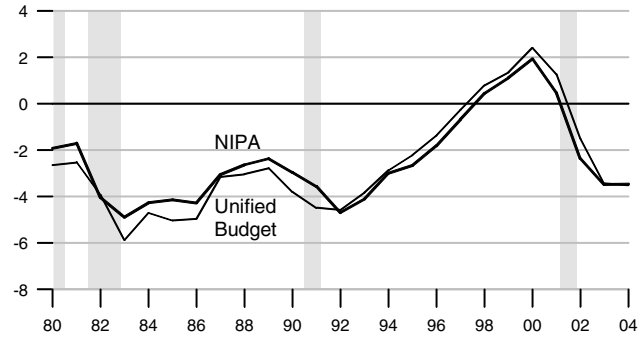
Federal Debt

Percent of GDP



Federal Surplus (+) / Deficit (-)

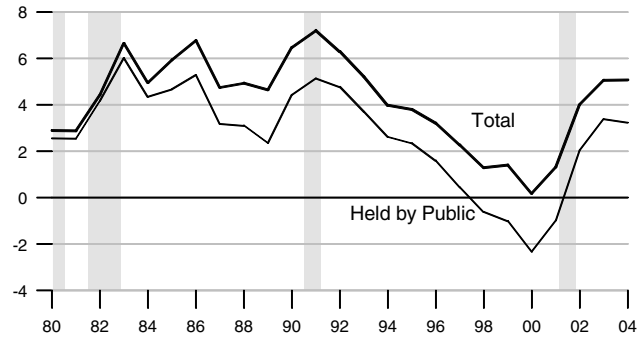
Percent of GDP



NIPA: Net government saving.

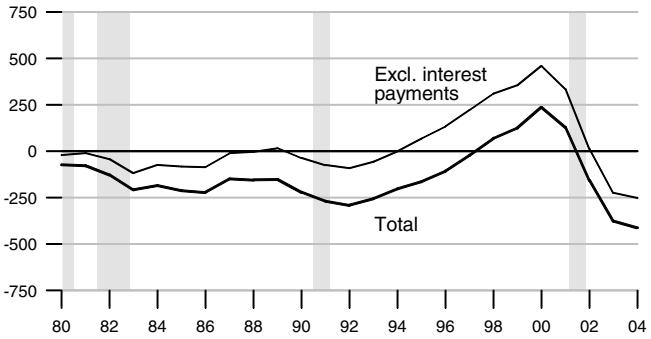
Change in Federal Debt

Percent of GDP



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

Billions of dollars, fiscal years

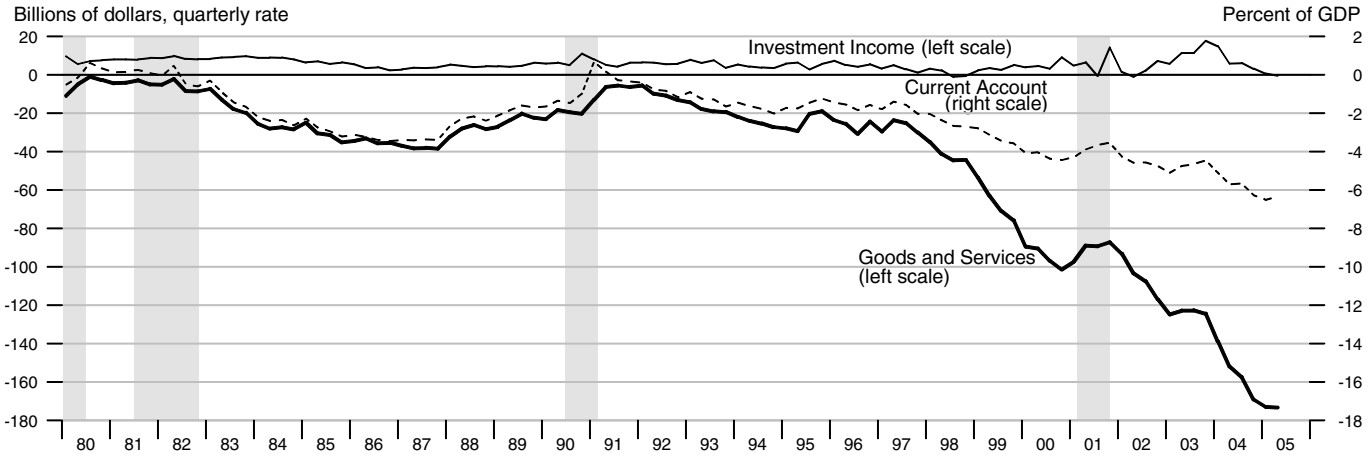


Federal Government Debt

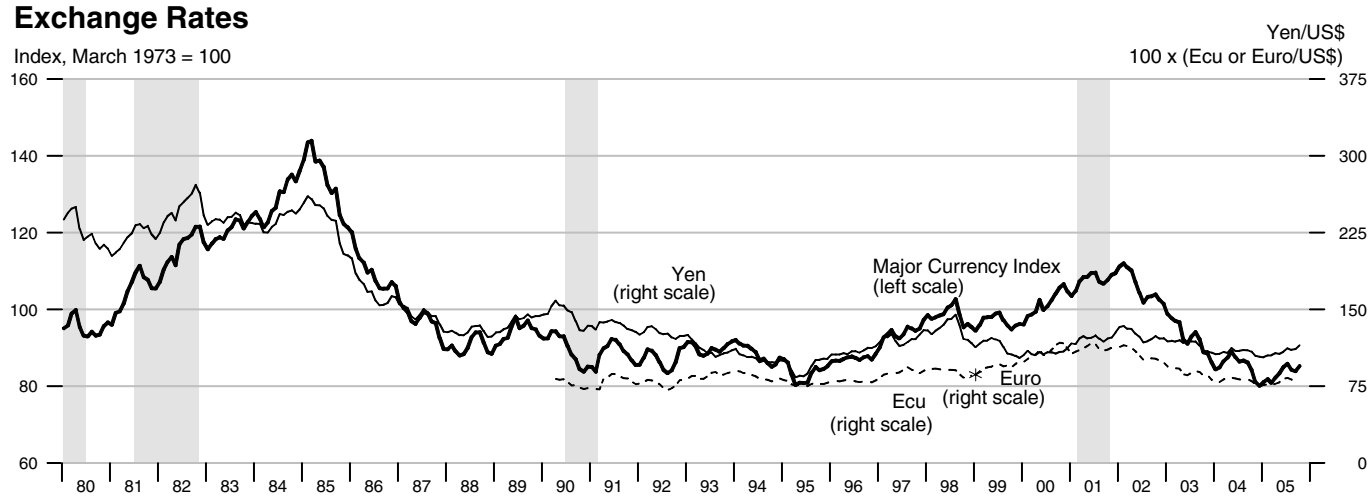
Billions of dollars, end of month or fiscal year
Excludes Agency-issued debt

		Total Public Debt	Held by Agencies and Trusts	Held by Public		Held by Private Investors	
				Total	Federal Reserve Banks	Total	Foreign and International
2002		6228.2	2675.7	3552.6	604.2	2924.8	1200.8
2003		6783.2	2859.3	3923.9	656.1	3268.0	1458.5
2004		7379.1	3075.7	4303.4	700.3	3607.0	1836.6
2002	March	6006.0	2562.4	3443.7	575.4	2849.2	1067.1
	June	6126.5	2662.9	3463.5	590.7	2849.8	1135.4
	September	6228.2	2675.7	3552.6	604.2	2924.8	1200.8
	December	6405.7	2758.3	3647.4	629.4	3018.5	1246.8
2003	March	6460.8	2750.0	3710.8	641.5	3069.9	1285.9
	June	6670.1	2853.8	3816.3	652.1	3164.7	1382.8
	September	6783.2	2859.3	3923.9	656.1	3268.0	1458.5
	December	6998.0	2954.5	4044.1	666.7	3377.9	1537.6
2004	March	7131.1	2954.4	4176.7	674.1	3502.8	1677.1
	June	7274.3	3055.6	4218.7	687.4	3531.5	1777.5
	September	7379.1	3075.7	4303.4	700.3	3607.0	1836.6
	December	7596.1	3189.8	4406.4	717.8	3667.1	1890.7
2005	March	7776.9	3204.5	4572.4	717.3	3855.4	1982.2
	June	7836.5	3308.9	4527.6	724.7	3803.0	2030.0

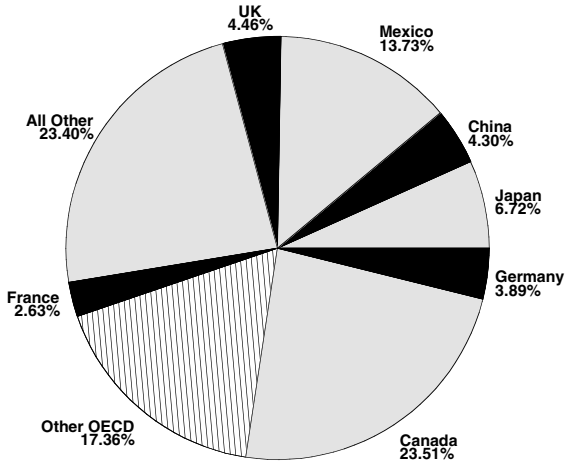
Current Account, Trade and Investment Income Balances



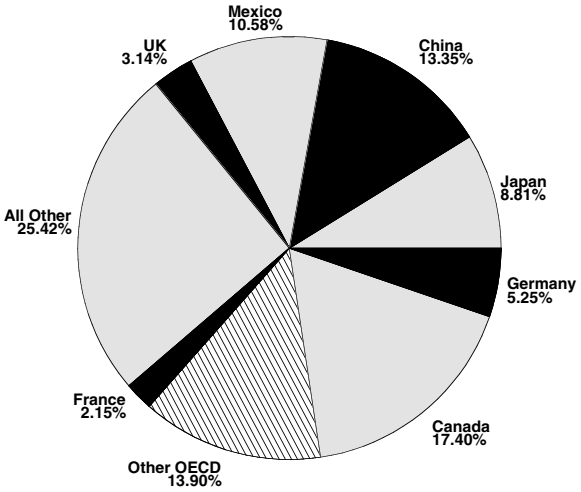
Exchange Rates



Goods Export Shares, 2004

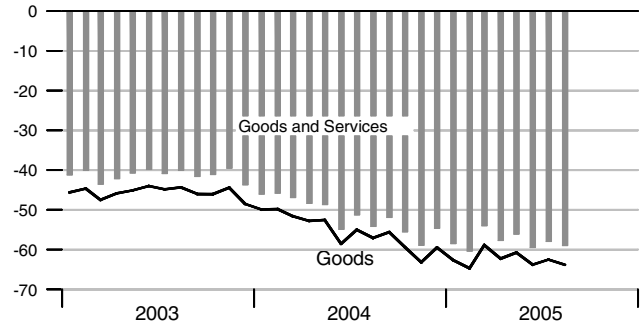


Goods Import Shares, 2004



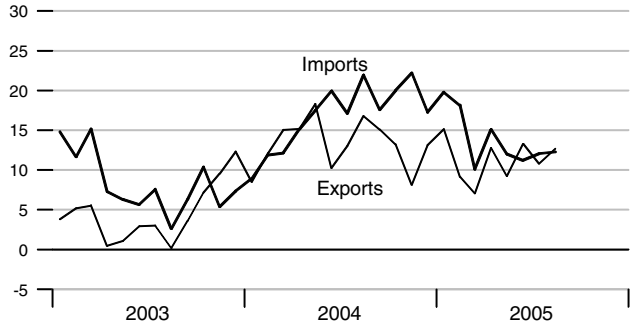
Trade Balance

Billions of dollars



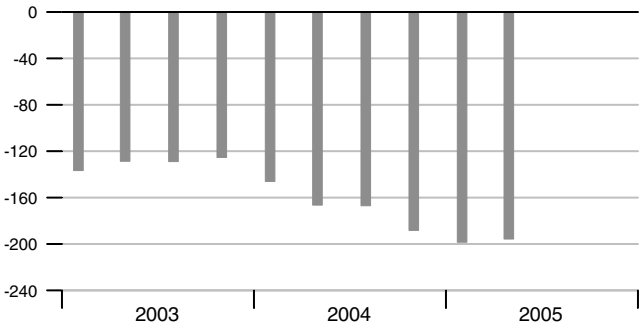
Goods Trade

Percent change from year ago



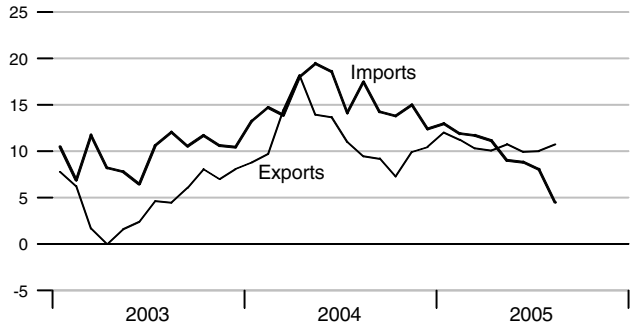
Current Account Balance

Billions of dollars



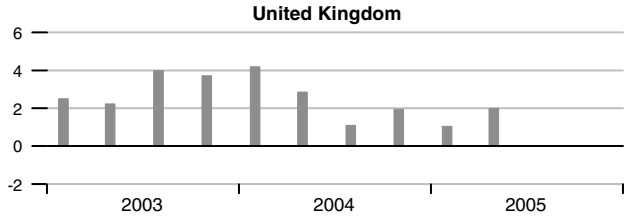
Services Trade

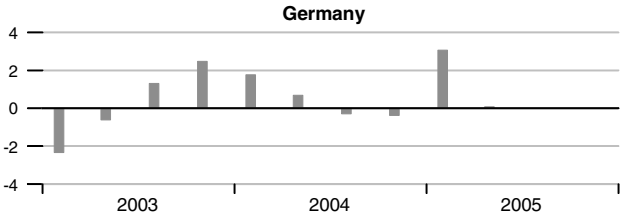
Percent change from year ago

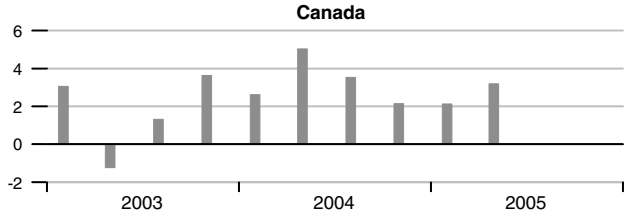


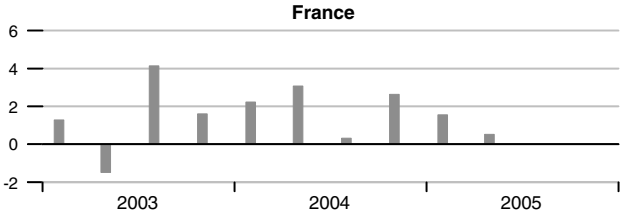
Real GDP Growth of Major Trading Partners

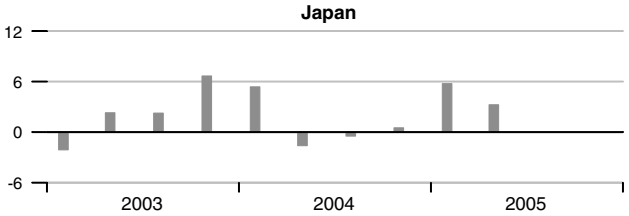
Compounded annual rates of change

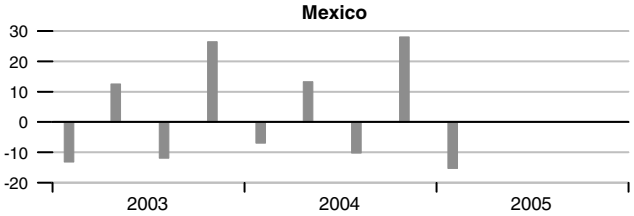




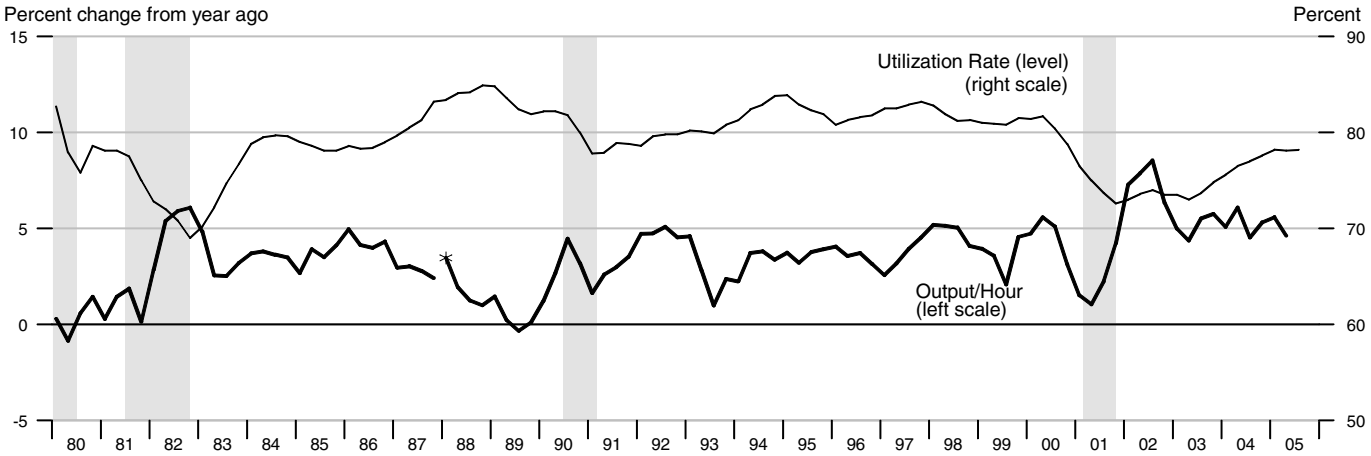






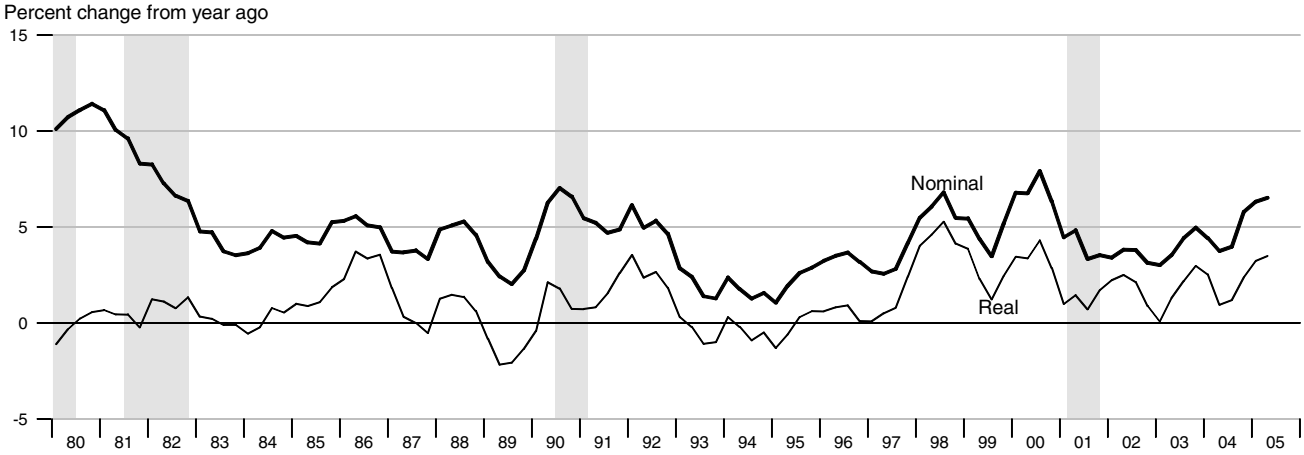


Output per Hour and Capacity Utilization, Manufacturing

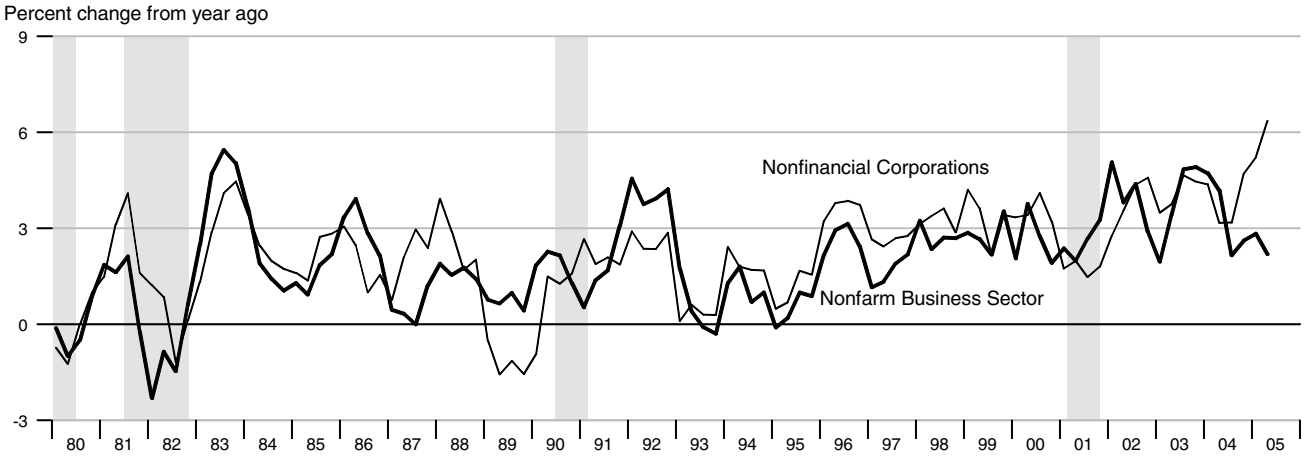


*Data from 1987 to the present are on a NAICS basis; data prior to 1987 are on an SIC basis and are not strictly comparable (see End Note).

Nonfarm Compensation per Hour

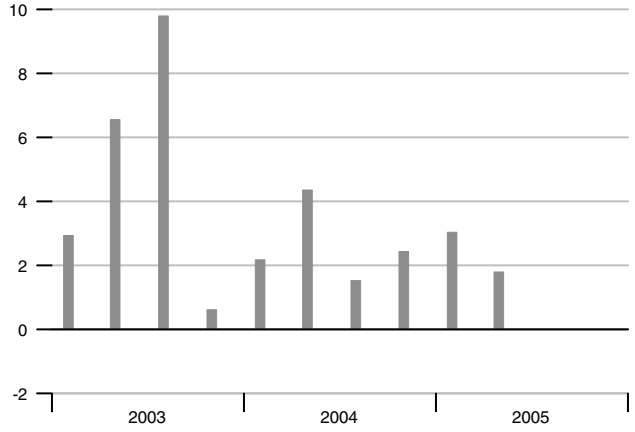


Output per Hour, Nonfarm Business and Nonfinancial Corporations



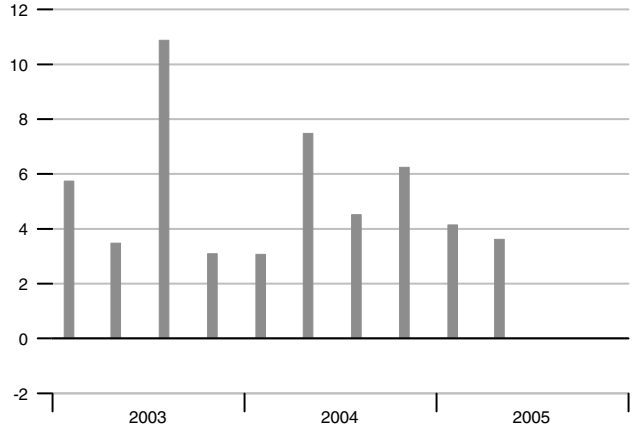
Nonfarm Output per Hour

Compounded annual rates of change

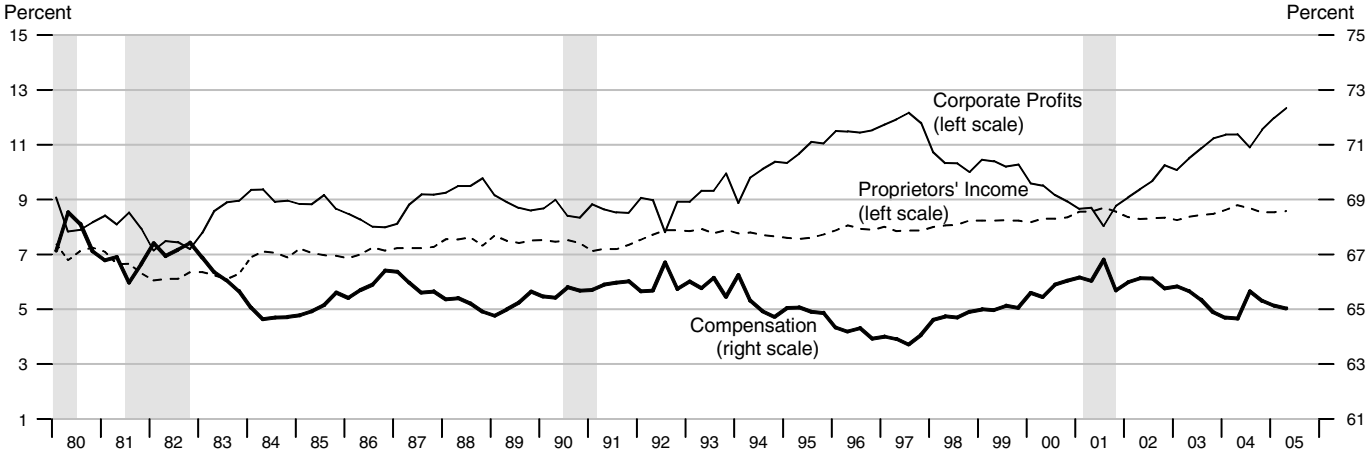


Manufacturing Output per Hour

Compounded annual rates of change

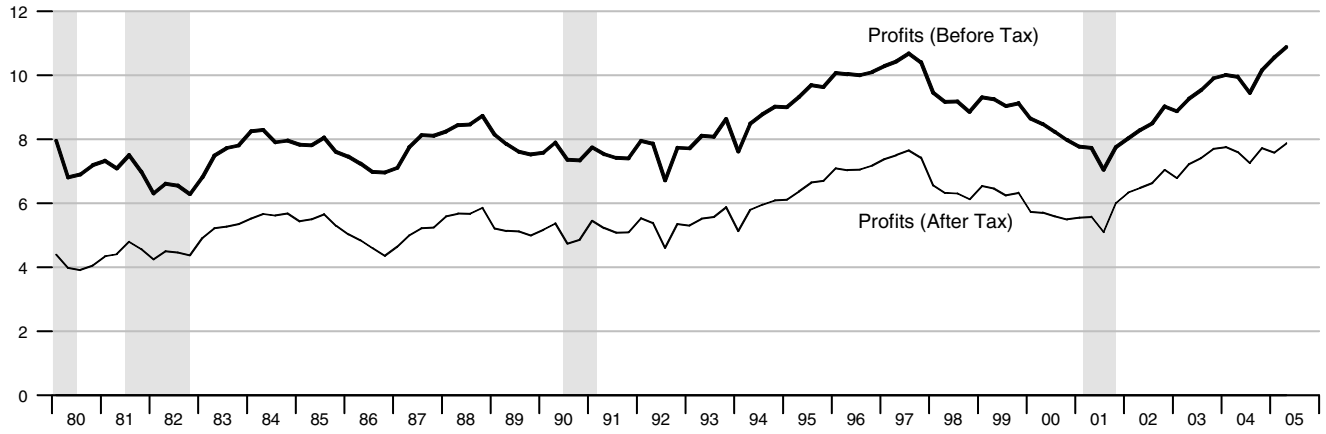


Selected Component Shares of National Income



Corporate Profits

Percent of GDP



	Nominal GDP			Real GDP			Final Sales			Change in Private Inventories	
		Percent change			Percent change			Percent change		Billions of 2000 $	
	Billions of $	Annual rate	Year ago	Billions of 2000 $	Annual rate	Year ago	Billions of 2000 $	Annual rate	Year ago	Last qtr	Year/Year ago
2001	10128.0		3.2	9890.694		0.8	9920.940		1.6		-31.720
2002	10469.6		3.4	10048.846		1.6	10036.504		1.2		12.482
2003	10971.2		4.8	10320.580		2.7	10303.551		2.7		15.481
2004	11734.3		7.0	10755.668		4.2	10702.364		3.9		51.983
2002 1	10333.3	4.3	3.1	9977.280	2.7	1.0	9986.823	-0.2	1.0	-10.212	-32.332
2	10426.6	3.7	2.9	10031.568	2.2	1.3	10028.403	1.7	1.2	2.647	-31.056
3	10527.4	3.9	3.9	10090.666	2.4	2.2	10063.541	1.4	1.7	28.011	-16.569
4	10591.1	2.4	3.6	10095.771	0.2	1.9	10067.250	0.1	0.8	29.482	12.482
2003 1	10717.0	4.8	3.7	10138.573	1.7	1.6	10114.686	1.9	1.3	24.039	21.045
2	10844.6	4.8	4.0	10230.362	3.7	2.0	10228.200	4.6	2.0	-0.447	20.271
3	11087.4	9.3	5.3	10410.896	7.2	3.2	10399.496	6.9	3.3	9.330	15.601
4	11236.0	5.5	6.1	10502.586	3.6	4.0	10471.822	2.8	4.0	29.000	15.481
2004 1	11457.1	8.1	6.9	10612.536	4.3	4.7	10568.938	3.8	4.5	41.895	19.945
2	11666.1	7.5	7.6	10704.128	3.5	4.6	10637.359	2.6	4.0	65.588	36.453
3	11818.8	5.3	6.6	10808.876	4.0	3.8	10757.120	4.6	3.4	50.362	46.711
4	11995.2	6.1	6.8	10897.130	3.3	3.8	10846.038	3.3	3.6	50.087	51.983
2005 1	12198.8	7.0	6.5	10999.325	3.8	3.6	10940.325	3.5	3.5	58.165	56.051
2	12378.0	6.0	6.1	11089.150	3.3	3.6	11089.172	5.6	4.2	-1.687	39.232
3	12589.6	7.0	6.5	11193.210	3.8	3.6	11208.543	4.4	4.2	-16.582	22.496

	Consumption			Durables Consumption			Private Fixed Investment			Nonresidential Fixed Investment		
		Percent change			Percent change			Percent change			Percent change	
	Billions of 2000 $	Annual rate	Year ago	Billions of 2000 $	Annual rate	Year ago	Billions of 2000 $	Annual rate	Year ago	Billions of 2000 $	Annual rate	Year ago
2001	6910.356		2.5	900.682		4.3	1629.396		-3.0	1180.536		-4.2
2002	7099.261		2.7	964.784		7.1	1544.608		-5.2	1071.522		-9.2
2003	7306.564		2.9	1028.515		6.6	1600.014		3.6	1085.001		1.3
2004	7588.607		3.9	1089.906		6.0	1755.101		9.7	1186.660		9.4
2002 1	7042.246	1.4	2.8	948.433	-4.2	7.8	1551.458	-6.3	-7.6	1090.250	-12.8	-11.7
2	7083.491	2.4	3.1	956.911	3.6	8.9	1545.934	-1.4	-5.8	1073.334	-6.1	-9.8
3	7123.186	2.3	3.2	983.397	11.5	11.0	1543.214	-0.7	-4.9	1068.048	-2.0	-8.7
4	7148.189	1.4	1.9	970.413	-5.2	1.2	1537.824	-1.4	-2.5	1054.458	-5.0	-6.5
2003 1	7192.197	2.5	2.1	979.072	3.6	3.2	1540.947	0.8	-0.7	1051.612	-1.1	-3.5
2	7256.827	3.6	2.4	1014.028	15.1	6.0	1573.738	8.8	1.8	1072.915	8.4	-0.0
3	7360.681	5.8	3.3	1060.950	19.8	7.9	1628.993	14.8	5.6	1101.758	11.2	3.2
4	7416.416	3.1	3.8	1060.026	-0.3	9.2	1656.343	6.9	7.7	1113.721	4.4	5.6
2004 1	7501.399	4.7	4.3	1071.552	4.4	9.4	1684.399	6.9	9.3	1135.060	7.9	7.9
2	7536.579	1.9	3.9	1072.519	0.4	5.8	1744.540	15.1	10.9	1171.641	13.5	9.2
3	7617.519	4.4	3.5	1100.421	10.8	3.7	1780.168	8.4	9.3	1204.845	11.8	9.4
4	7698.796	4.3	3.8	1115.124	5.5	5.2	1811.279	7.2	9.4	1235.105	10.4	10.9
2005 1	7764.909	3.5	3.5	1122.315	2.6	4.7	1842.206	7.0	9.4	1252.194	5.7	10.3
2	7829.540	3.4	3.9	1143.898	7.9	6.7	1884.684	9.5	8.0	1278.967	8.8	9.2
3	7904.684	3.9	3.8	1173.484	10.8	6.6	1910.994	5.7	7.3	1298.446	6.2	7.8

	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
2001	102.402		2.4	155.0		4.1	151.4		3.7	163.8		5.0
2002	104.193		1.7	160.9		3.8	156.4		3.3	171.7		4.9
2003	106.310		2.0	167.3		4.0	160.9		2.9	182.5		6.3
2004	109.102		2.6	173.9		3.9	165.0		2.5	195.4		7.1
2002 1	103.553	1.7	2.0	158.8	3.3	4.0	154.8	3.7	3.5	168.3	2.7	4.7
2	103.944	1.5	1.6	160.5	4.4	4.1	156.2	3.7	3.6	170.6	5.6	5.0
3	104.347	1.6	1.6	161.5	2.5	3.7	156.9	1.8	3.2	172.7	5.0	4.9
4	104.926	2.2	1.7	162.8	3.3	3.4	157.7	2.1	2.8	175.2	5.9	4.8
2003 1	105.724	3.1	2.1	165.0	5.5	3.9	159.3	4.1	2.9	178.5	7.7	6.1
2	106.019	1.1	2.0	166.4	3.4	3.7	160.3	2.5	2.6	180.9	5.5	6.0
3	106.500	1.8	2.1	168.2	4.4	4.1	161.6	3.3	3.0	183.9	6.8	6.5
4	106.996	1.9	2.0	169.6	3.4	4.2	162.5	2.2	3.0	186.7	6.2	6.6
2004 1	107.951	3.6	2.1	171.5	4.6	3.9	163.5	2.5	2.6	190.9	9.3	6.9
2	108.976	3.9	2.8	173.1	3.8	4.0	164.5	2.5	2.6	194.1	6.9	7.3
3	109.371	1.5	2.7	174.8	4.0	3.9	165.7	3.0	2.5	196.7	5.5	7.0
4	110.111	2.7	2.9	176.2	3.2	3.9	166.4	1.7	2.4	199.9	6.7	7.1
2005 1	110.950	3.1	2.8	177.3	2.5	3.4	167.4	2.4	2.4	202.0	4.3	5.8
2	111.655	2.6	2.5	178.4	2.5	3.1	168.4	2.4	2.4	203.6	3.2	4.9
3	112.516	3.1	2.9	179.8	3.2	2.9	169.4	2.4	2.2	206.2	5.2	4.8

	Exports			Imports			Nonfarm Output per Hour			Nonfarm Compensation per Hour		
		Percent change			Percent change			Percent change			Percent change	
	Billions of 2000 $	Annual rate	Year ago	Billions of 2000 $	Annual rate	Year ago	Index	Annual rate	Year ago	Index	Annual rate	Year ago
2001	1036.699		-5.4	1435.782		-2.7	118.5		2.5	139.3		4.0
2002	1013.293		-2.3	1484.629		3.4	123.3		4.1	144.2		3.5
2003	1031.207		1.8	1552.573		4.6	128.0		3.8	149.9		4.0
2004	1117.879		8.4	1719.187		10.7	132.3		3.4	156.7		4.5
2002 1	992.760	5.2	-9.5	1434.026	11.7	-4.1	122.5	6.8	5.1	142.7	6.1	3.4
2	1017.986	10.6	-4.0	1476.911	12.5	2.1	122.7	0.7	3.8	144.2	4.3	3.8
3	1025.243	2.9	1.6	1497.409	5.7	6.4	123.9	4.0	4.4	144.8	1.7	3.8
4	1017.174	-3.1	3.8	1530.186	9.0	9.7	124.0	0.3	2.9	145.0	0.6	3.1
2003 1	1009.709	-2.9	1.7	1520.372	-2.5	6.0	124.9	2.9	2.0	147.0	5.6	3.0
2	1004.457	-2.1	-1.3	1532.901	3.3	3.8	126.9	6.6	3.4	149.3	6.4	3.5
3	1032.248	11.5	0.7	1548.412	4.1	3.4	129.9	9.8	4.8	151.2	5.2	4.4
4	1078.445	19.1	6.0	1608.623	16.5	5.1	130.1	0.6	4.9	152.2	2.7	5.0
2004 1	1091.798	5.0	8.1	1654.829	12.0	8.8	130.8	2.2	4.7	153.5	3.5	4.4
2	1110.194	6.9	10.5	1711.867	14.5	11.7	132.2	4.4	4.2	154.9	3.7	3.8
3	1125.027	5.5	9.0	1731.480	4.7	11.8	132.7	1.5	2.2	157.2	6.1	4.0
4	1144.496	7.1	6.1	1778.556	11.3	10.6	133.5	2.4	2.6	161.0	10.0	5.8
2005 1	1165.293	7.5	6.7	1810.728	7.4	9.4	134.5	3.0	2.8	163.2	5.6	6.3
2	1195.353	10.7	7.7	1809.577	-0.3	5.7	135.1	1.8	2.2	165.0	4.5	6.5
3	1197.600	0.8	6.5	1809.444	-0.0	4.5						

		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
2000		136901	3400		2.5	131792	2800		2.2	103.5			1.8
2001		136940	40		0.0	131833	41		0.0	102.1			-1.4
2002		136483	-458		-0.3	130345	-1487		-1.1	100.0			-2.0
2003		137734	1252		0.9	129999	-347		-0.3	98.6			-1.4
2004		139248	1513		1.1	131475	1476		1.1	100.3			1.7
2003	1	137415	773	2.3	1.0	130093	-169	-0.5	-0.3	99.0	-0.4	-1.7	-1.3
	2	137652	237	0.7	0.9	129845	-248	-0.8	-0.4	98.3	-0.8	-3.1	-2.0
	3	137574	-77	-0.2	0.5	129890	45	0.1	-0.3	98.3	0.1	0.3	-1.5
	4	138296	722	2.1	1.2	130168	278	0.9	-0.1	98.8	0.5	2.0	-0.6
2004	1	138408	112	0.3	0.7	130541	374	1.2	0.3	99.3	0.5	2.0	0.3
	2	138883	475	1.4	0.9	131325	784	2.4	1.1	100.0	0.6	2.6	1.7
	3	139608	725	2.1	1.5	131731	406	1.2	1.4	100.6	0.6	2.4	2.3
	4	140092	484	1.4	1.3	132302	571	1.7	1.6	101.2	0.6	2.4	2.4
2005	1	140295	203	0.6	1.4	132814	512	1.6	1.7	101.7	0.6	2.3	2.4
	2	141404	1109	3.2	1.8	133429	616	1.9	1.6	102.4	0.7	2.8	2.5
	3	142319	915	2.6	1.9	133994	565	1.7	1.7	102.9	0.4	1.7	2.3
2003	Sep	137619	26	0.2	0.2	129953	94	0.9	-0.2	98.4	0.1	1.2	-1.5
	Oct	138022	403	3.6	0.7	130076	123	1.1	-0.2	98.8	0.4	5.0	-0.8
	Nov	138457	435	3.8	1.4	130172	96	0.9	-0.1	99.1	0.3	3.7	-0.4
	Dec	138409	-48	-0.4	1.5	130255	83	0.8	0.1	98.6	-0.5	-5.9	-0.7
2004	Jan	138481	72	0.6	0.8	130372	117	1.1	0.1	99.3	0.7	8.9	0.0
	Feb	138334	-147	-1.3	0.7	130466	94	0.9	0.3	99.4	0.1	1.2	0.5
	Mar	138408	74	0.6	0.7	130786	320	3.0	0.7	99.3	-0.1	-1.2	0.4
	Apr	138645	237	2.1	0.7	131123	337	3.1	1.0	99.7	0.4	4.9	1.4
	May	138846	201	1.8	0.9	131373	250	2.3	1.2	100.3	0.6	7.5	2.1
	Jun	139158	312	2.7	1.0	131479	106	1.0	1.3	99.9	-0.4	-4.7	1.6
	Jul	139639	481	4.2	1.5	131562	83	0.8	1.3	100.3	0.4	4.9	2.0
	Aug	139658	19	0.2	1.5	131750	188	1.7	1.5	100.5	0.2	2.4	2.2
	Sep	139527	-131	-1.1	1.4	131880	130	1.2	1.5	100.9	0.4	4.9	2.5
	Oct	139827	300	2.6	1.3	132162	282	2.6	1.6	101.2	0.3	3.6	2.4
	Nov	140293	466	4.1	1.3	132294	132	1.2	1.6	101.1	-0.1	-1.2	2.0
	Dec	140156	-137	-1.2	1.3	132449	155	1.4	1.7	101.2	0.1	1.2	2.6
2005	Jan	140241	85	0.7	1.3	132573	124	1.1	1.7	101.5	0.3	3.6	2.2
	Feb	140144	-97	-0.8	1.3	132873	300	2.7	1.8	101.8	0.3	3.6	2.4
	Mar	140501	357	3.1	1.5	132995	122	1.1	1.7	101.9	0.1	1.2	2.6
	Apr	141099	598	5.2	1.8	133287	292	2.7	1.7	102.5	0.6	7.3	2.8
	May	141475	376	3.2	1.9	133413	126	1.1	1.6	102.3	-0.2	-2.3	2.0
	Jun	141638	163	1.4	1.8	133588	175	1.6	1.6	102.5	0.2	2.4	2.6
	Jul	142076	438	3.8	1.7	133865	277	2.5	1.8	102.8	0.3	3.6	2.5
	Aug	142449	373	3.2	2.0	134076	211	1.9	1.8	103.0	0.2	2.4	2.5
	Sep	142432	-17	-0.1	2.1	134041	-35	-0.3	1.6	102.8	-0.2	-2.3	1.9

		Unempl. Rate	Retail and Food Services Sales				Industrial Production				Treasury Yields (Percent)	
			Billions of dollars	Percent change Monthly/ quarterly	Percent change Annual rate	Percent change Year ago	Index	Percent change Monthly/ quarterly	Percent change Annual rate	Percent change Year ago	3-mo	10-yr
2000		4.0	3284.226			6.6	115.380			4.3	5.82	6.03
2001		4.8	3388.094			3.2	111.266			-3.6	3.39	5.02
2002		5.8	3474.391			2.5	110.959			-0.3	1.60	4.61
2003		6.0	3623.849			4.3	110.932			-0.0	1.01	4.02
2004		5.5	3887.542			7.3	115.528			4.1	1.37	4.27
2003	1	5.8	884.854	0.9	3.8	3.3	110.825	-0.2	-0.7	0.8	1.16	3.92
	2	6.1	895.092	1.2	4.7	3.3	109.707	-1.0	-4.0	-1.3	1.04	3.62
	3	6.1	919.020	2.7	11.1	5.0	110.825	1.0	4.1	-0.7	0.93	4.23
	4	5.9	924.883	0.6	2.6	5.5	112.369	1.4	5.7	1.2	0.92	4.29
2004	1	5.7	946.761	2.4	9.8	7.0	113.920	1.4	5.6	2.8	0.92	4.02
	2	5.6	961.468	1.6	6.4	7.4	115.130	1.1	4.3	4.9	1.08	4.60
	3	5.4	978.058	1.7	7.1	6.4	115.893	0.7	2.7	4.6	1.49	4.30
	4	5.4	1001.255	2.4	9.8	8.3	117.168	1.1	4.5	4.3	2.01	4.17
2005	1	5.3	1015.851	1.5	6.0	7.3	118.217	0.9	3.6	3.8	2.54	4.30
	2	5.1	1042.334	2.6	10.8	8.4	118.639	0.4	1.4	3.0	2.86	4.16
	3	5.0	1059.380	1.6	6.7	8.3	119.019	0.3	1.3	2.7	3.36	4.21
2003	Oct	6.0	305.969	-0.1	-1.0	5.3	111.559	0.2	2.5	0.4	0.92	4.29
	Nov	5.9	309.864	1.3	16.4	6.2	112.657	1.0	12.5	1.3	0.93	4.30
	Dec	5.7	309.050	-0.3	-3.1	5.1	112.892	0.2	2.5	2.0	0.90	4.27
2004	Jan	5.7	311.973	0.9	12.0	5.4	113.223	0.3	3.6	2.1	0.88	4.15
	Feb	5.6	313.973	0.6	8.0	7.7	114.426	1.1	13.5	3.1	0.93	4.08
	Mar	5.7	320.815	2.2	29.5	7.9	114.110	-0.3	-3.3	3.2	0.94	3.83
	Apr	5.5	317.103	-1.2	-13.0	6.7	114.736	0.5	6.8	4.7	0.94	4.35
	May	5.6	324.439	2.3	31.6	9.4	115.534	0.7	8.7	5.4	1.02	4.72
	Jun	5.6	319.926	-1.4	-15.5	6.2	115.120	-0.4	-4.2	4.7	1.27	4.73
	Jul	5.5	323.929	1.3	16.1	6.6	115.930	0.7	8.8	4.8	1.33	4.50
	Aug	5.4	324.257	0.1	1.2	5.0	116.036	0.1	1.1	5.0	1.48	4.28
	Sep	5.4	329.872	1.7	22.9	7.7	115.714	-0.3	-3.3	3.9	1.65	4.13
	Oct	5.5	332.280	0.7	9.1	8.6	116.649	0.8	10.1	4.6	1.76	4.10
	Nov	5.4	332.392	0.0	0.4	7.3	116.948	0.3	3.1	3.8	2.07	4.19
	Dec	5.4	336.583	1.3	16.2	8.9	117.908	0.8	10.3	4.4	2.19	4.23
2005	Jan	5.2	336.785	0.1	0.7	8.0	117.753	-0.1	-1.6	4.0	2.33	4.22
	Feb	5.4	338.991	0.7	8.1	8.0	118.303	0.5	5.8	3.4	2.54	4.17
	Mar	5.2	340.075	0.3	3.9	6.0	118.595	0.2	3.0	3.9	2.74	4.50
	Apr	5.2	346.081	1.8	23.4	9.1	118.067	-0.4	-5.2	2.9	2.78	4.34
	May	5.1	344.933	-0.3	-3.9	6.3	118.466	0.3	4.1	2.5	2.84	4.14
	Jun	5.0	351.320	1.9	24.6	9.8	119.384	0.8	9.7	3.7	2.97	4.00
	Jul	5.0	357.285	1.7	22.4	10.3	119.429	0.0	0.5	3.0	3.22	4.18
	Aug	4.9	350.634	-1.9	-20.2	8.1	119.611	0.2	1.8	3.1	3.44	4.26
	Sep	5.1	351.461	0.2	2.9	6.5	118.016	-1.3	-14.9	2.0	3.42	4.20
	Oct										3.71	4.46

		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
2000		172.2			3.4		181.3			2.4		138.0			3.8
2001		177.1			2.8		186.1			2.7		140.7			1.9
2002		179.8			1.6		190.4			2.3		138.9			-1.3
2003		184.0			2.3		193.2			1.5		143.3			3.2
2004		188.9			2.7		196.6			1.8		148.5			3.6
2003	1	183.2	1.0	4.2	2.9	4.2	192.4	0.3	1.4	1.8	1.4	142.7	2.0	8.4	3.3
	2	183.4	0.1	0.4	2.2	2.3	192.8	0.2	0.8	1.5	1.1	142.2	-0.4	-1.5	2.5
	3	184.4	0.5	2.2	2.2	2.2	193.6	0.4	1.6	1.3	1.3	143.5	0.9	3.8	3.4
	4	184.8	0.2	0.9	1.9	1.9	194.1	0.3	1.0	1.2	1.2	144.9	1.0	4.0	3.6
2004	1	186.6	1.0	3.9	1.8	3.9	195.0	0.5	1.9	1.3	1.9	145.9	0.7	2.8	2.2
	2	188.6	1.1	4.4	2.8	4.2	196.2	0.6	2.6	1.8	2.2	148.0	1.4	5.8	4.1
	3	189.4	0.4	1.6	2.7	3.3	197.1	0.4	1.7	1.8	2.1	148.6	0.4	1.6	3.5
	4	191.0	0.9	3.6	3.4	3.4	198.2	0.6	2.3	2.1	2.1	151.6	2.1	8.5	4.6
2005	1	192.2	0.6	2.4	3.0	2.4	199.5	0.6	2.6	2.3	2.6	152.7	0.7	2.8	4.7
	2	194.1	1.0	4.2	2.9	3.3	200.5	0.5	2.0	2.2	2.3	153.9	0.8	3.1	4.0
	3	196.6	1.3	5.1	3.8	3.9	201.2	0.4	1.5	2.1	2.0	156.7	1.8	7.5	5.5
2003	Sep	185.0	0.3	4.0	2.3	2.5	193.7	0.1	0.6	1.2	1.2	144.1	0.3	4.3	3.6
	Oct	184.8	-0.1	-1.3	2.0	2.1	194.0	0.2	1.9	1.3	1.3	144.8	0.5	6.0	3.4
	Nov	184.6	-0.1	-1.3	1.8	1.8	194.0	0.0	0.0	1.1	1.1	144.6	-0.1	-1.6	3.4
	Dec	185.0	0.2	2.6	1.9	1.9	194.2	0.1	1.2	1.1	1.1	145.3	0.5	6.0	4.0
2004	Jan	185.9	0.5	6.0	2.0	6.0	194.6	0.2	2.5	1.2	2.5	145.7	0.3	3.4	3.2
	Feb	186.5	0.3	3.9	1.7	5.0	194.9	0.2	1.9	1.2	2.2	145.6	-0.1	-0.8	2.1
	Mar	187.3	0.4	5.3	1.7	5.1	195.5	0.3	3.8	1.6	2.7	146.4	0.5	6.8	1.5
	Apr	187.7	0.2	2.6	2.3	4.4	195.9	0.2	2.5	1.8	2.6	147.4	0.7	8.5	3.7
	May	188.8	0.6	7.3	3.0	5.0	196.2	0.2	1.9	1.7	2.5	148.3	0.6	7.6	4.7
	Jun	189.3	0.3	3.2	3.2	4.7	196.6	0.2	2.5	1.9	2.5	148.2	-0.1	-0.8	3.9
	Jul	189.2	-0.1	-0.6	2.9	3.9	196.8	0.1	1.2	1.8	2.3	148.3	0.1	0.8	3.9
	Aug	189.3	0.1	0.6	2.7	3.5	196.9	0.1	0.6	1.7	2.1	148.5	0.1	1.6	3.4
	Sep	189.6	0.2	1.9	2.5	3.3	197.5	0.3	3.7	2.0	2.3	148.9	0.3	3.3	3.3
	Oct	190.7	0.6	7.2	3.2	3.7	197.9	0.2	2.5	2.0	2.3	151.1	1.5	19.2	4.4
	Nov	191.2	0.3	3.2	3.6	3.7	198.2	0.2	1.8	2.2	2.2	152.1	0.7	8.2	5.2
	Dec	191.2	0.0	0.0	3.4	3.4	198.5	0.2	1.8	2.2	2.2	151.7	-0.3	-3.1	4.4
2005	Jan	191.3	0.1	0.6	2.9	0.6	198.9	0.2	2.4	2.2	2.4	151.9	0.1	1.6	4.3
	Feb	192.0	0.4	4.5	2.9	2.5	199.4	0.3	3.1	2.3	2.8	152.5	0.4	4.8	4.7
	Mar	193.2	0.6	7.8	3.2	4.3	200.1	0.4	4.3	2.4	3.3	153.7	0.8	9.9	5.0
	Apr	194.2	0.5	6.4	3.5	4.8	200.2	0.0	0.6	2.2	2.6	154.4	0.5	5.6	4.7
	May	194.1	-0.1	-0.6	2.8	3.7	200.5	0.1	1.8	2.2	2.4	153.7	-0.5	-5.3	3.6
	Jun	194.1	0.0	0.0	2.5	3.1	200.7	0.1	1.2	2.1	2.2	153.5	-0.1	-1.6	3.6
	Jul	195.1	0.5	6.4	3.1	3.5	201.0	0.1	1.8	2.1	2.2	155.1	1.0	13.3	4.6
	Aug	196.1	0.5	6.3	3.6	3.9	201.2	0.1	1.2	2.2	2.0	156.0	0.6	7.2	5.1
	Sep	198.5	1.2	15.7	4.7	5.1	201.4	0.1	1.2	2.0	2.0	158.9	1.9	24.7	6.7

Notes

Pages 4, 5: **Final Sales** is gross domestic product (GDP) minus change in private inventories. **Advance, Preliminary, and Final GDP Growth Rates** are released during the first, second, and third months of the following quarter. Changes result from incorporation of more complete information. Real GDP is measured in 2000 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: Effective with the May 2003 **Employment Situation**, the establishment survey data for employment, hours, and earnings have been converted from the 1987 SIC system to the 2002 NAICS system. All published NAICS-based labor series have been revised back to at least 1990. For more information see http://www.bls.gov/ces/. **Nonfarm Payroll Employment** is counted in a survey of about 400,000 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 60,000 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 (± 290,000) measure uncertainty due to sample size. 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. 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.

Page 15: **Gross Private Saving** is the sum of personal saving, undistributed corporate profits with IVA and CCAdj (see notes for pp. 18-19), and private wage accruals less disbursements. **Gross Government Saving** is net government saving (surplus/deficit) plus consumption of fixed capital. **Balance on Current Account (NIPA)** is net capital transfer payments to the rest of the world plus net lending or net borrowing (international trade and income flows).

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: Most measures of economic activity are now based on the 2002 North American Industry Classification System (NAICS), which replaces the 1987 Standard Industry Classification (SIC) system.

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).