

## Energy Prices: In the Mix or Swept Under the Rug?

The Federal Open Market Committee (FOMC) has responsibility for the long-run inflation rate for the U.S. economy and therefore needs a reliable indicator of trend movements of inflation. Currently, the Committee focuses on the personal consumption expenditures (PCE) inflation rate—in particular, on the core rate. The core rate excludes food and energy, two components that, since 2000, together account for approximately 18 percent of the index, about 13 percent food and 5 percent energy. Policymakers generally consider the energy component, in particular, to be too volatile to inform their month-to-month deliberations. But is it a good idea to exclude prices that are, after all, faced by consumers, when trying to read movements in trend inflation?

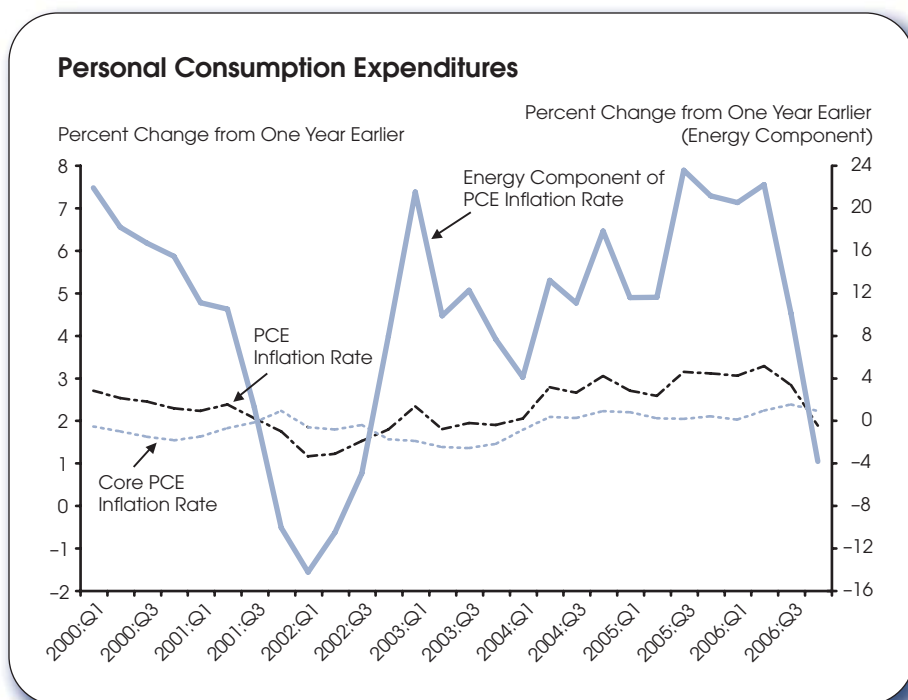
A trend inflation indicator that is often used is PCE inflation measured from one year earlier. The chart shows inflation rate data since 2000. Pictured are the inflation rates for the PCE, the core PCE, and the energy component of the PCE. The chart indicates that the energy component is quite volatile, as expected. If the core PCE concept is valid, the energy component should be sometimes above and sometimes below the PCE inflation rate, as it was in 2001 and 2002. In this situation, the core concept removes a volatile component and gives the Committee a better indicator of trend inflation movements.

However, the data since 2003 show a persistent divergence in the overall and core PCE inflation rates, as the inflation in the energy component has remained high. For this time period, excluding energy prices simply amounts to putting zero weight on the prices that are increasing at the most rapid rate. Accordingly, the chart indicates that the core PCE inflation rate has averaged about 1.94 percent per year, while the PCE has averaged 2.56 percent during this period. One could interpret this as a sustained understatement of the true trend inflation rate,

rendering the core measure a misleading trend inflation indicator for policymakers.

The problem is this: Instead of simply being volatile, energy prices moved to a higher level and have remained at the higher level. That means that the relative price of energy has increased more or less continuously for the past several years. Given our relatively inelastic demand for energy, at least in the short run, all of us consumers were forced to spend more on energy and less on all other goods. From this source we expect downward pressure on the prices of all non-energy goods and services. Once the relative price change is complete, we would expect energy prices to be volatile around their new, higher level, but again grow at the same rate on average as the prices of all other goods. As the chart indicates, during the transition toward a higher relative price of energy there was a sustained gap between the overall and core PCE inflation rates. We conclude that excluding energy prices may not be a good idea during a period of relative price change.

—James B. Bullard and Geetanjali Pande



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:

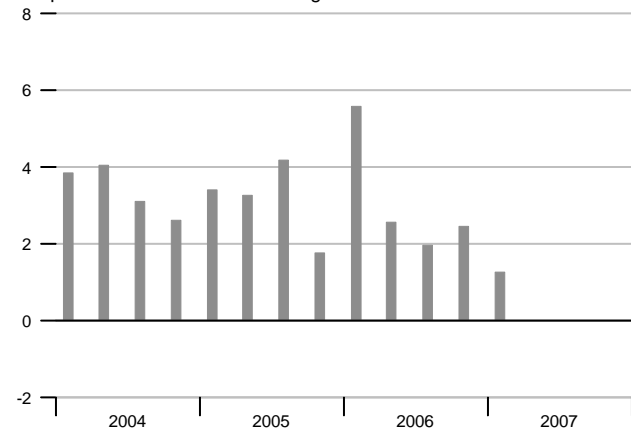
Editor, *National Economic Trends*  
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Federal Reserve Bank of St. Louis  
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St. Louis, MO 63166-0442

or to:

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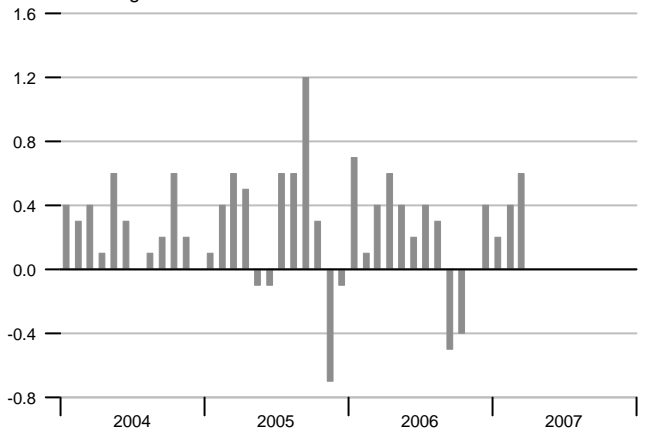
### Real GDP Growth

Compounded annual rates of change



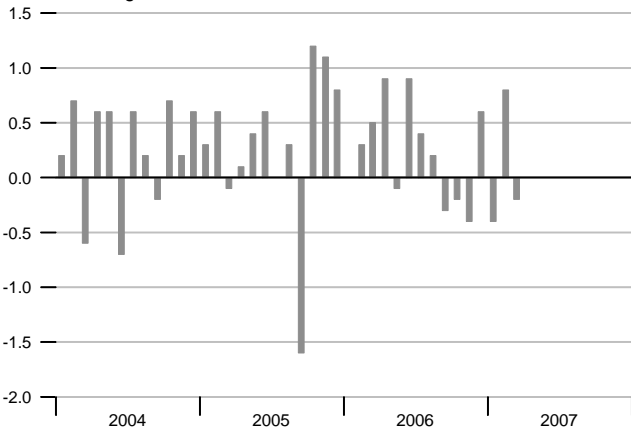
### Consumer Price Index

Percent change



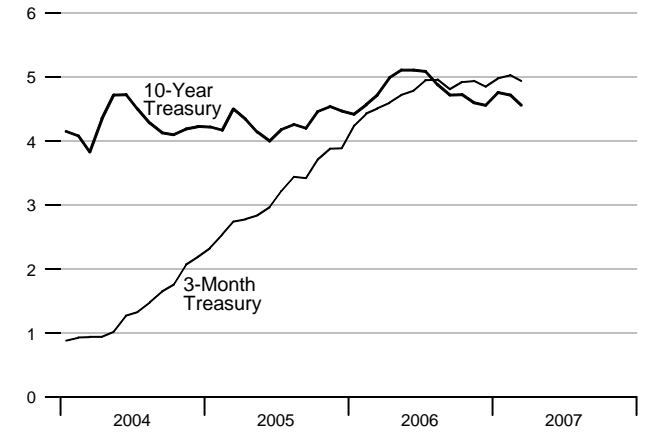
### Industrial Production

Percent change



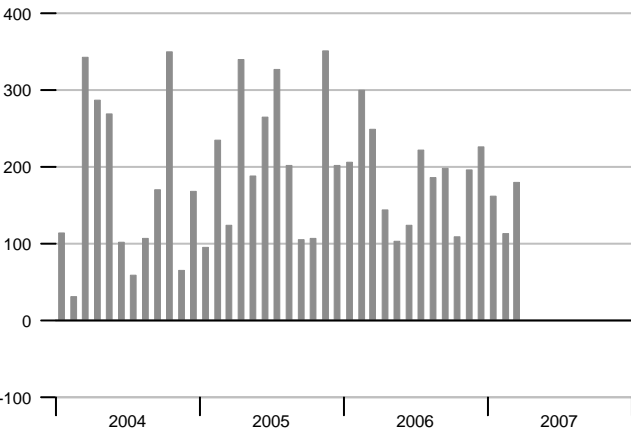
### Interest Rates

Percent



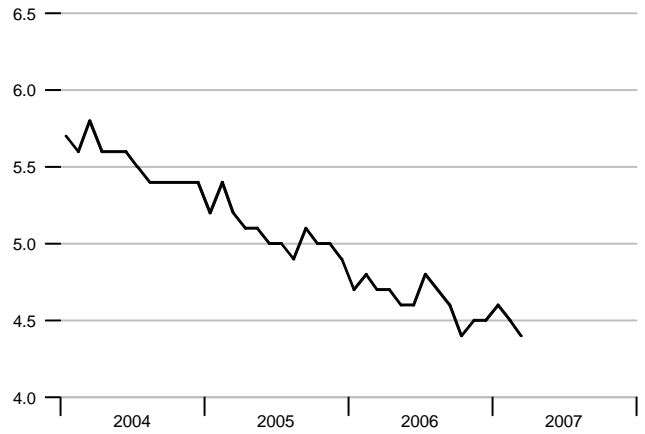
### Change in Nonfarm Payrolls

Thousands



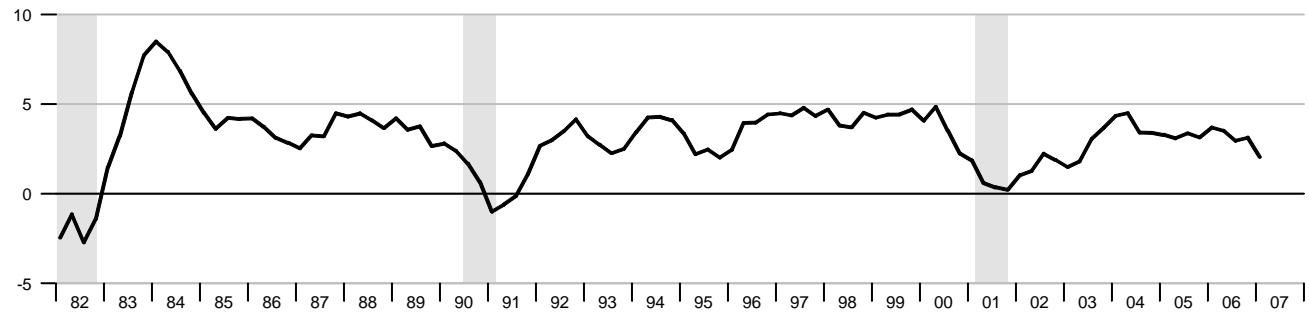
### Unemployment Rate

Percent of labor force



### Real Gross Domestic Product

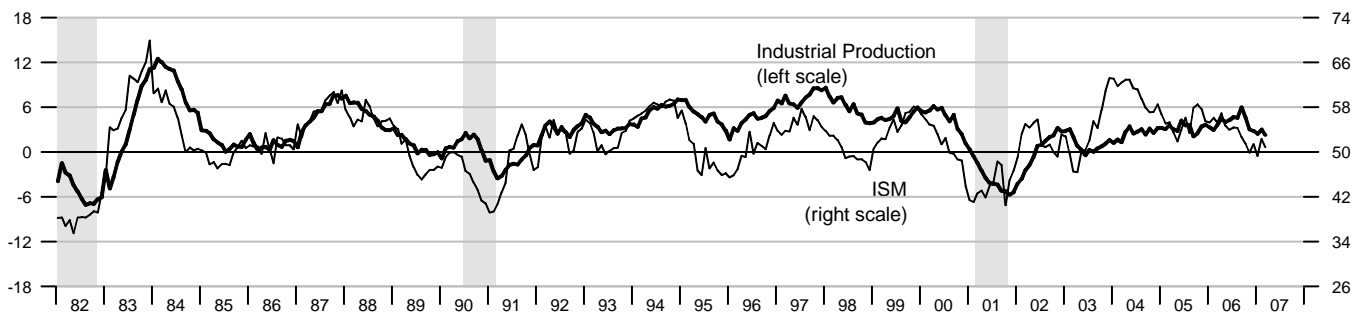
Percent change from year ago



### Industrial Production and Institute for Supply Management (ISM) Indexes

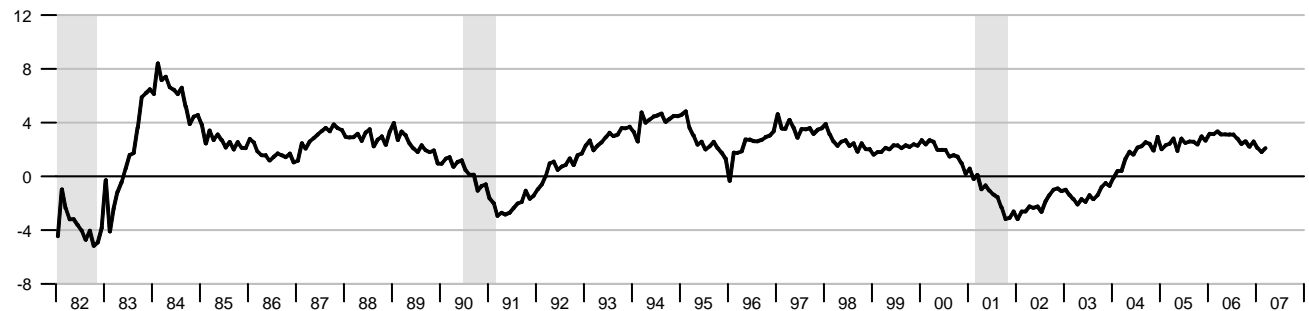
Percent change from year ago

Index



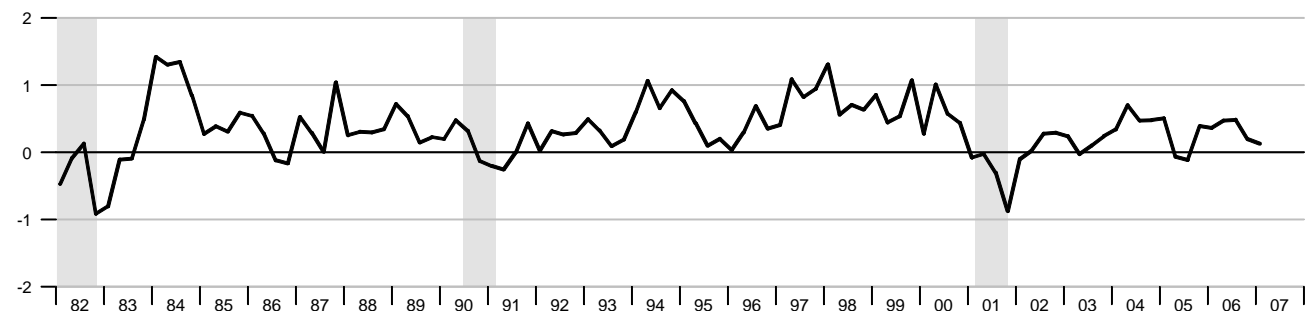
### Aggregate Private Nonfarm Hours

Percent change from year ago

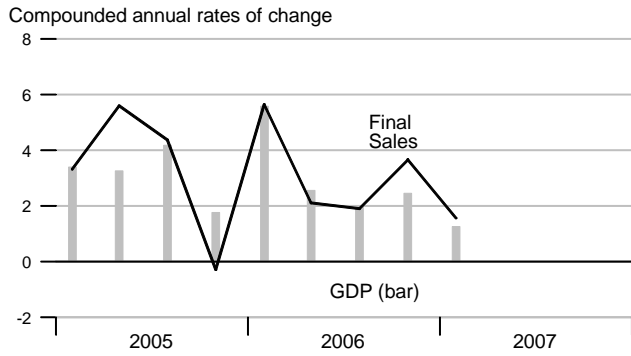


### Real Change in Private Inventories

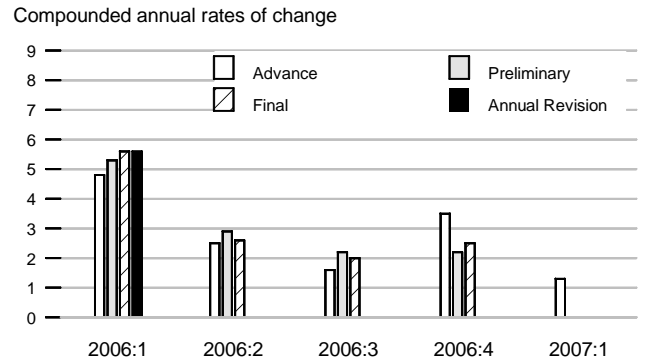
Percent of GDP



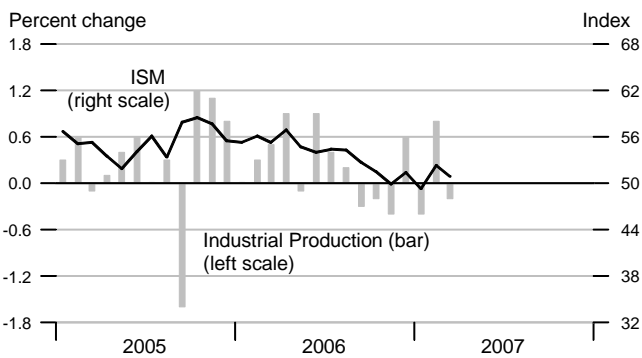
### Real Final Sales and GDP



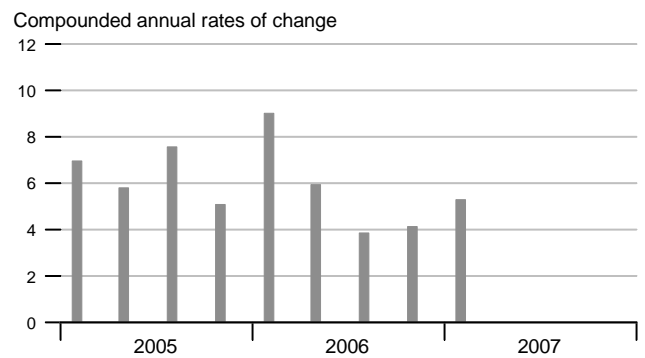
### Real GDP Revisions



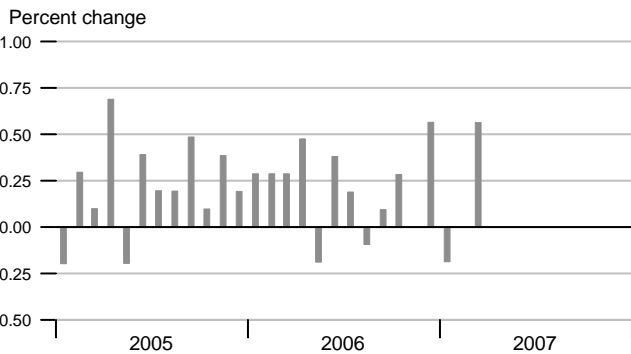
### Industrial Production and ISM Index



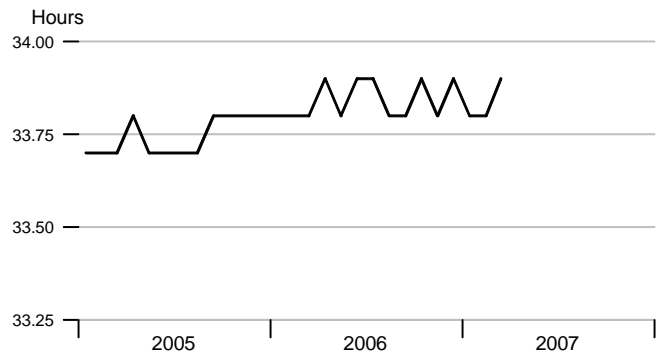
### Nominal Gross Domestic Product



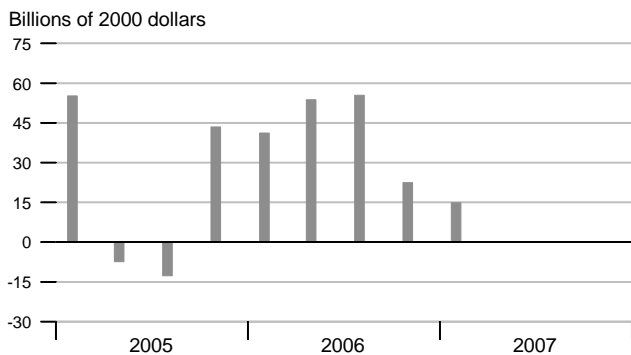
### Aggregate Private Nonfarm Hours



### Average Weekly Private Nonfarm Hours



### Real Change in Private Inventories

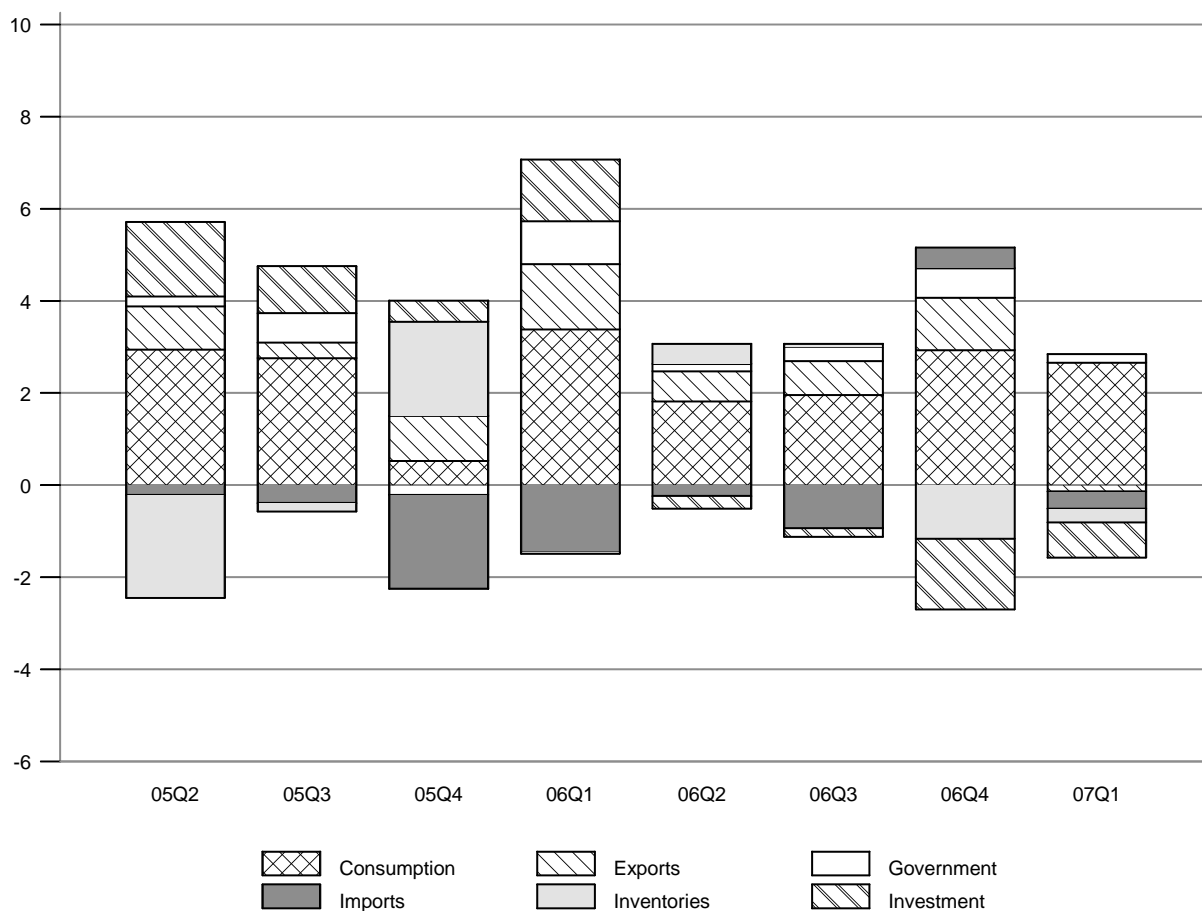


### Inventory-Sales Ratio



### Contribution of Components to Real GDP Growth

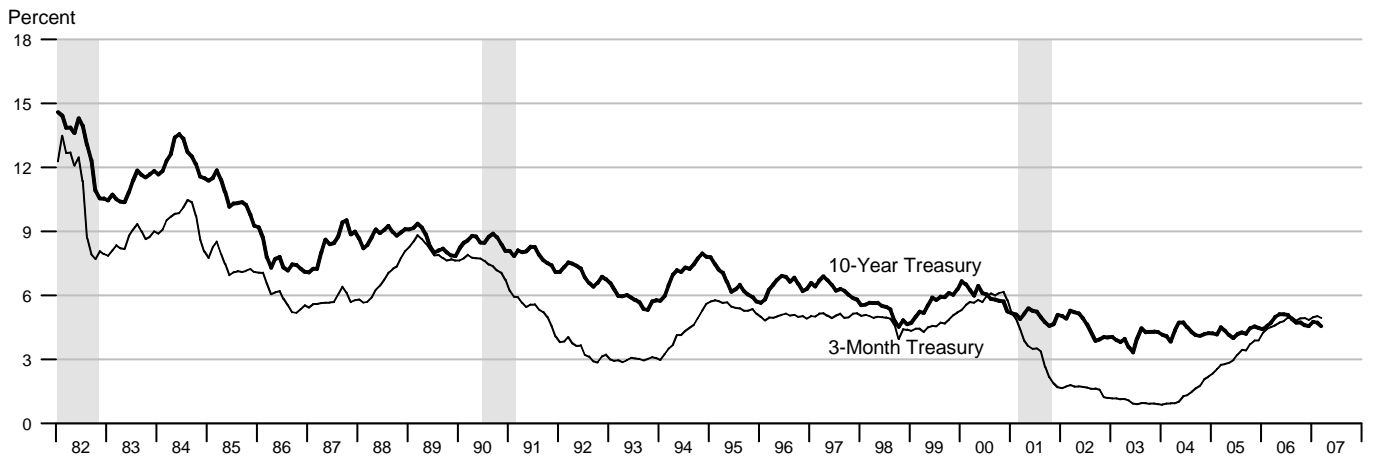
Percentage points at compounded annual rates



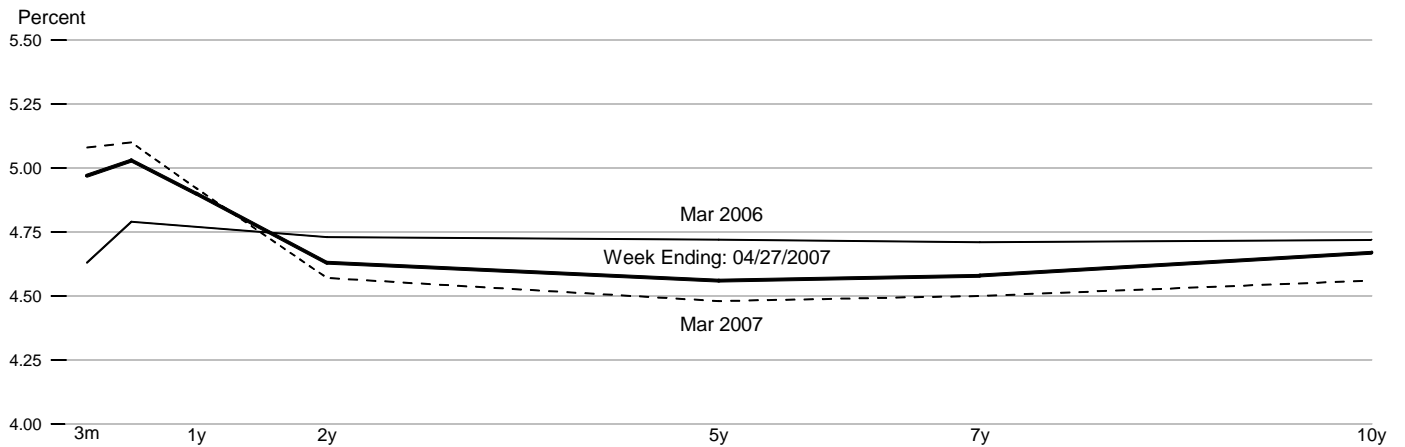
### Contributions to Real GDP Growth Rate

	2005			2006				2007
	2nd	3rd	4th	1st	2nd	3rd	4th	1st
<b>Final Sales</b>	5.49	4.36	-0.29	5.61	2.12	1.90	3.61	1.56
<b>Consumption</b>	2.94	2.76	0.53	3.38	1.81	1.96	2.93	2.66
<b>Fixed Investment</b>	1.62	1.02	0.46	1.34	-0.27	-0.19	-1.54	-0.76
Nonresidential	0.51	0.59	0.52	1.36	0.45	1.01	-0.34	0.21
Residential	1.11	0.43	-0.06	-0.02	-0.72	-1.20	-1.21	-0.97
<b>Government</b>	0.21	0.64	-0.21	0.94	0.16	0.32	0.64	0.18
Federal	0.03	0.66	-0.33	0.61	-0.32	0.09	0.31	-0.21
State and Local	0.18	-0.01	0.13	0.33	0.48	0.23	0.33	0.39
<b>Net Exports</b>	0.72	-0.06	-1.07	-0.04	0.42	-0.19	1.59	-0.52
Exports	0.94	0.33	0.97	1.41	0.66	0.73	1.14	-0.14
Imports	-0.22	-0.39	-2.04	-1.46	-0.24	-0.93	0.45	-0.37
<b>Change in Inventory</b>	-2.23	-0.18	2.05	-0.03	0.44	0.06	-1.16	-0.30
<b>Residual</b>	0.08	0.01	-0.08	-0.10	-0.15	-0.26	-0.14	-0.18
<b>Real GDP Growth</b>	3.26	4.18	1.76	5.58	2.56	1.96	2.45	1.26

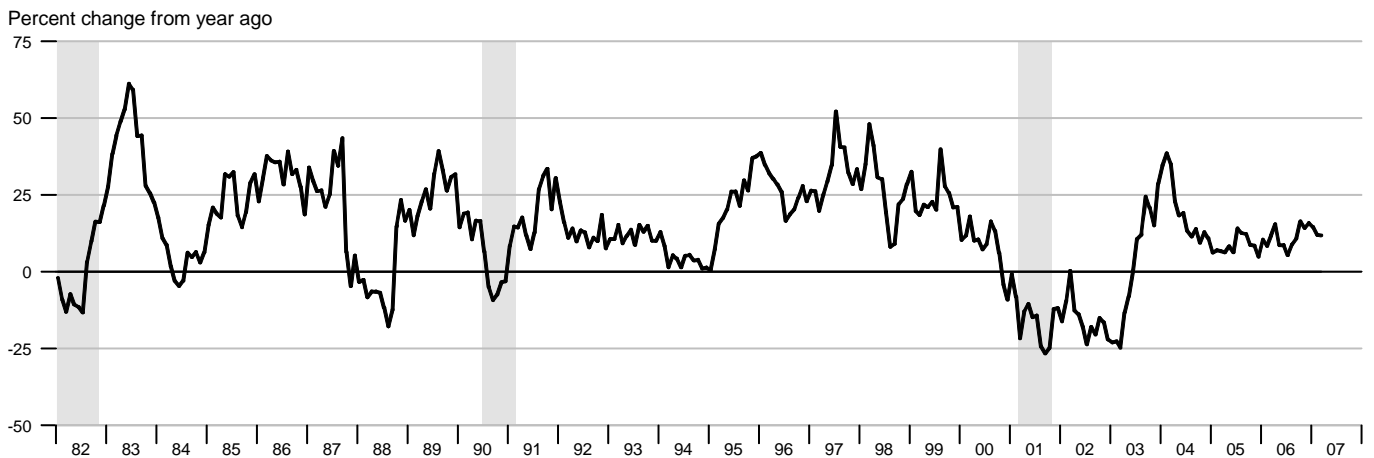
### Interest Rates



### Treasury Yield Curve

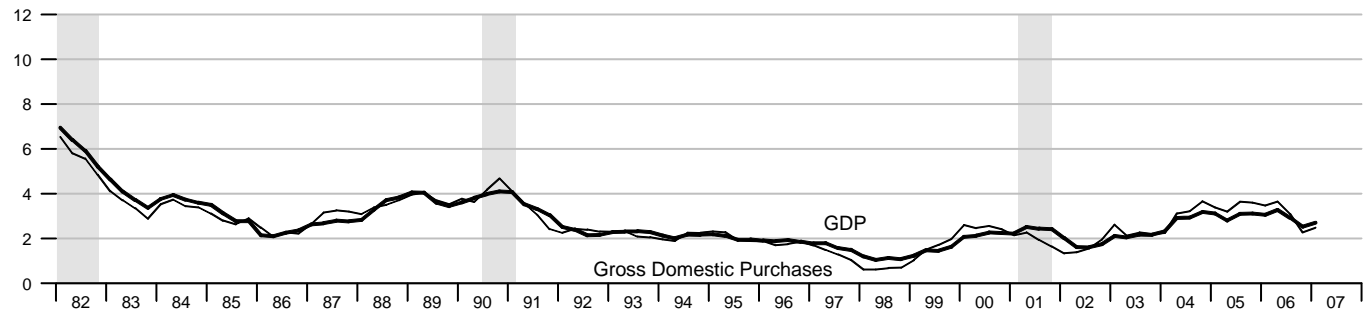


### Standard and Poor's 500 Index with Reinvested Dividends



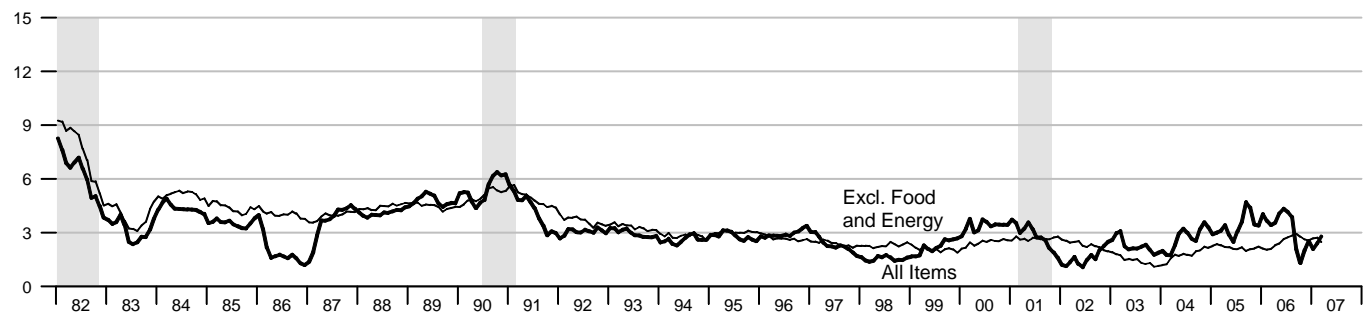
### NIPA Chain Price Indexes

Percent change from year ago



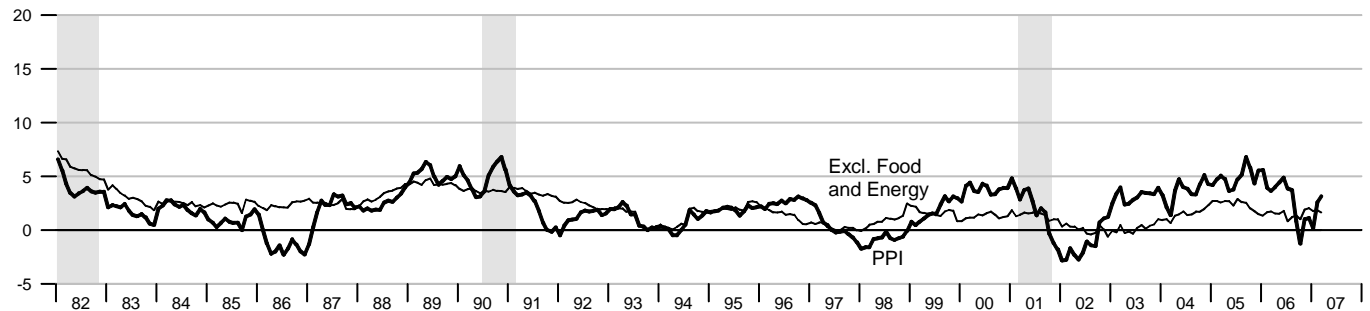
### Consumer Price Index

Percent change from year ago



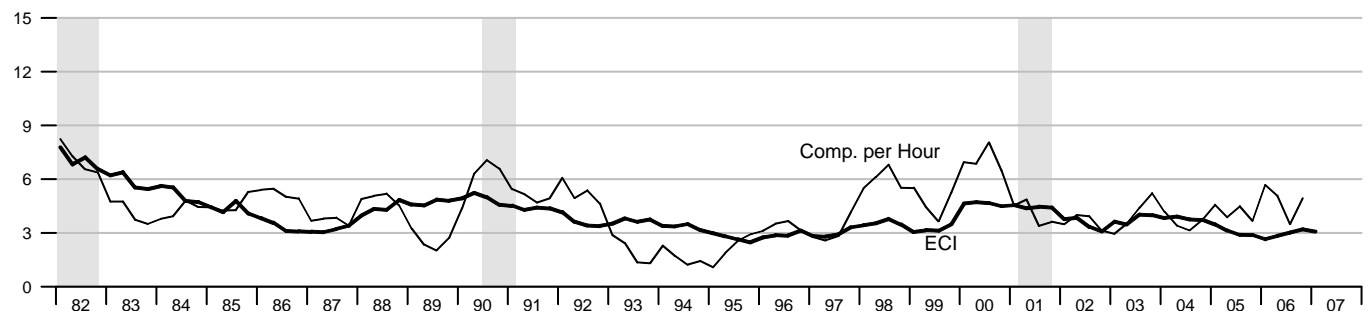
### Producer Price Index, Finished Goods

Percent change from year ago

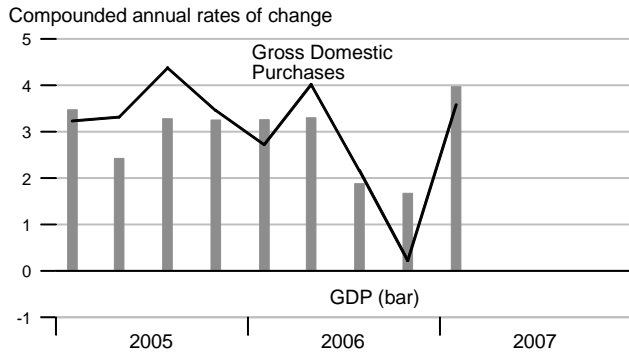


### Employment Cost Index and Compensation per Hour

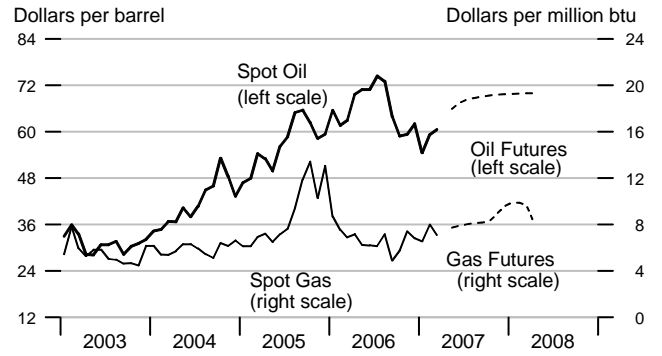
Percent change from year ago



### NIPA Chain Price Indexes

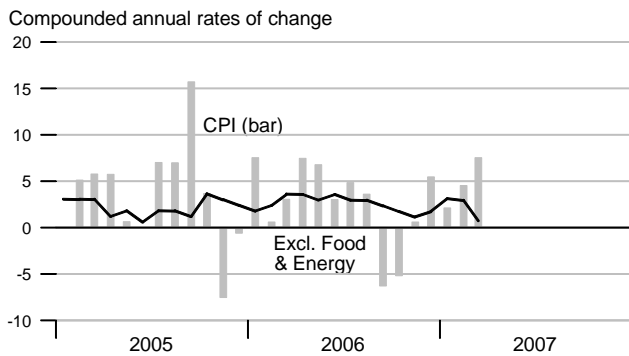


### Oil & Natural Gas Prices: Spot & Futures

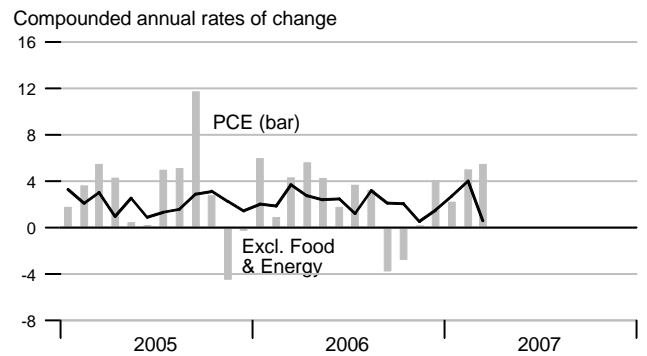


Note: Futures prices as of 03/30/2007.

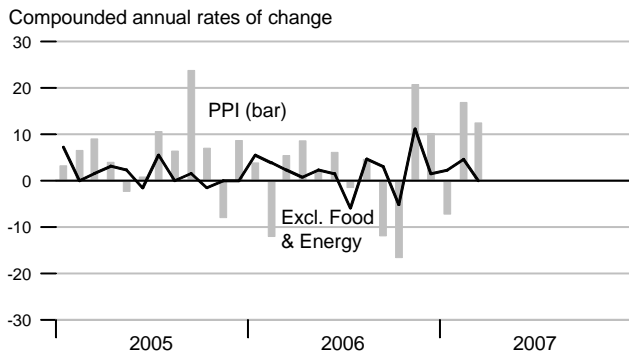
### Consumer Price Index



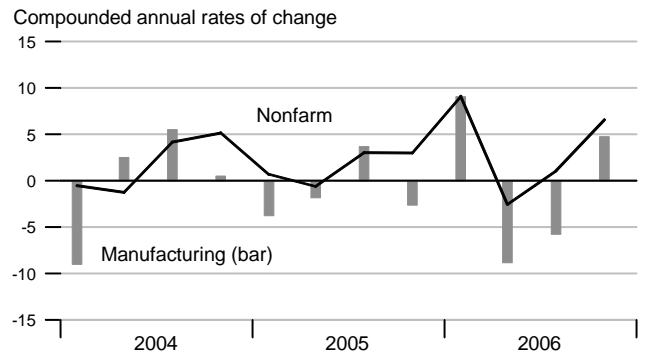
### Consumption Chain Price Index



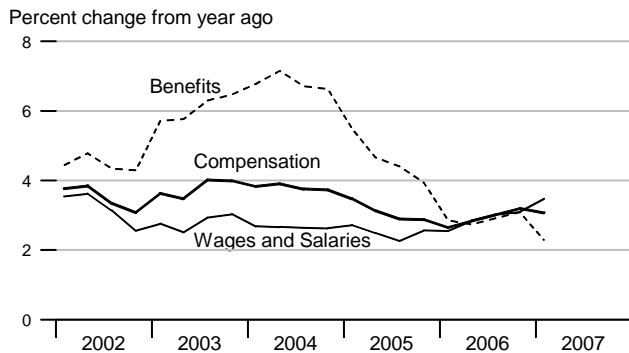
### Producer Price Index, Finished Goods



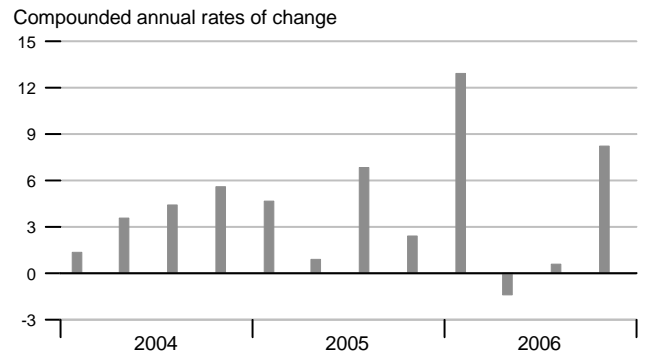
### Unit Labor Cost



### Employment Cost Index

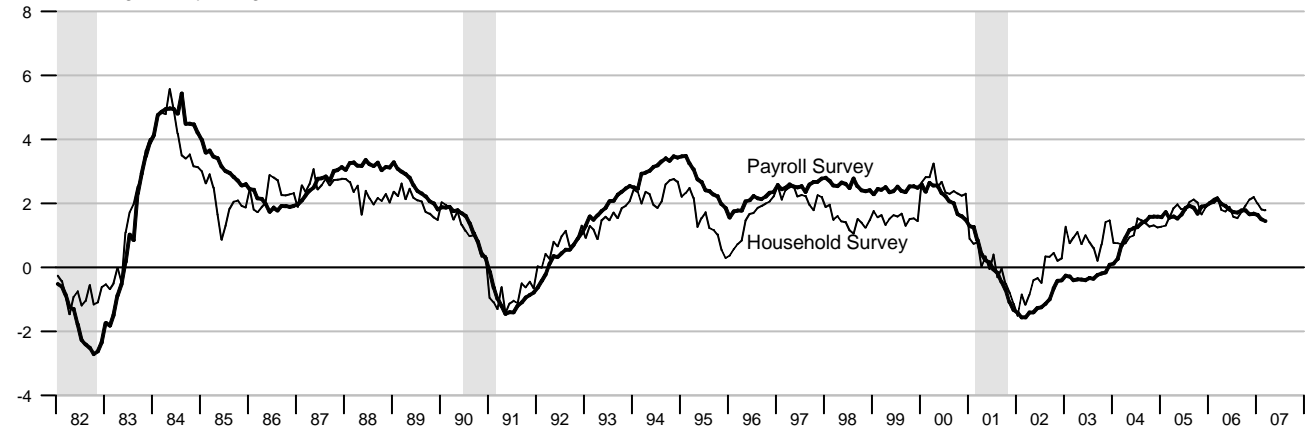


### Compensation per Hour



### Employment

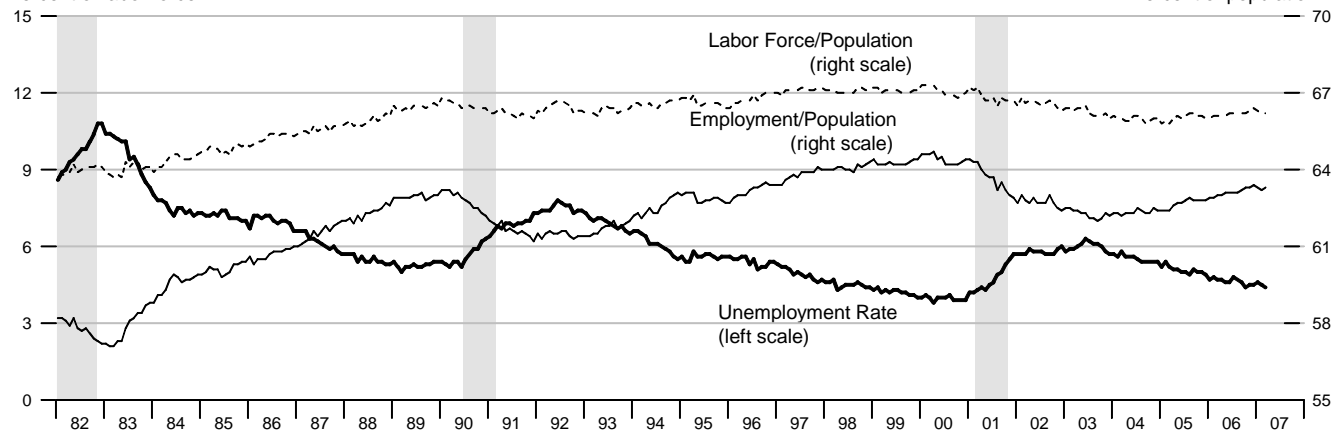
Percent change from year ago



### Unemployment, Labor Force Participation, and Employment Rates

Percent of labor force

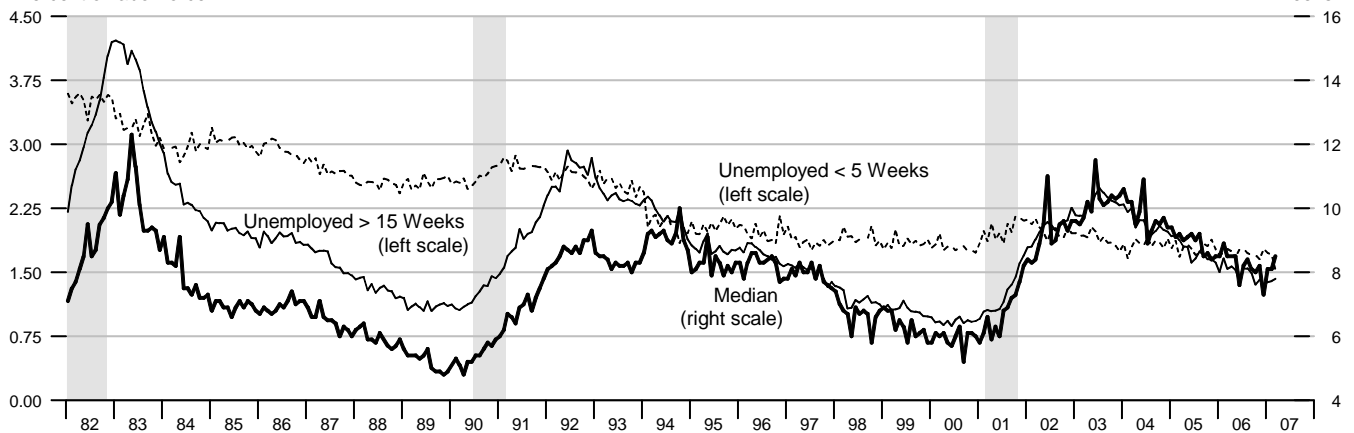
Percent of population



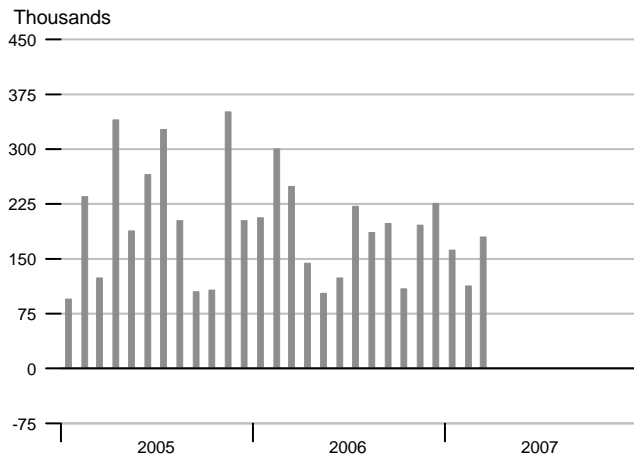
### Duration of Unemployment

Percent of labor force

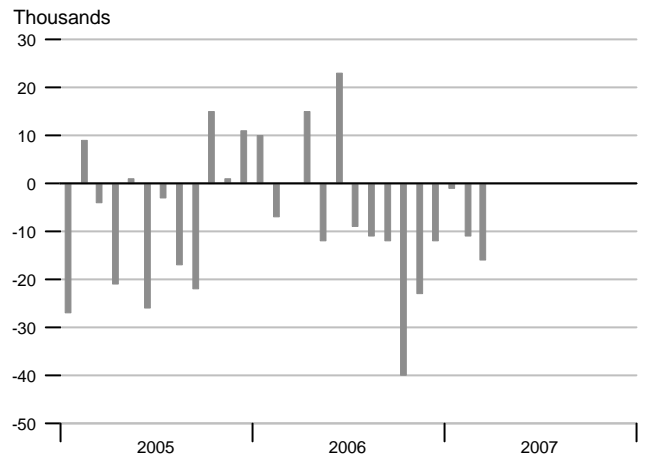
Weeks



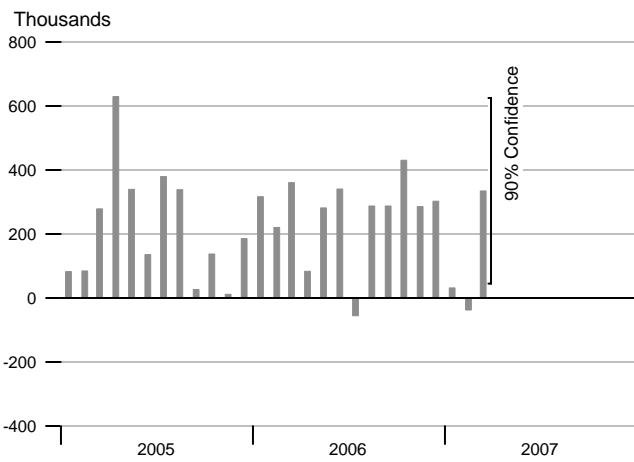
### Change in Nonfarm Payrolls



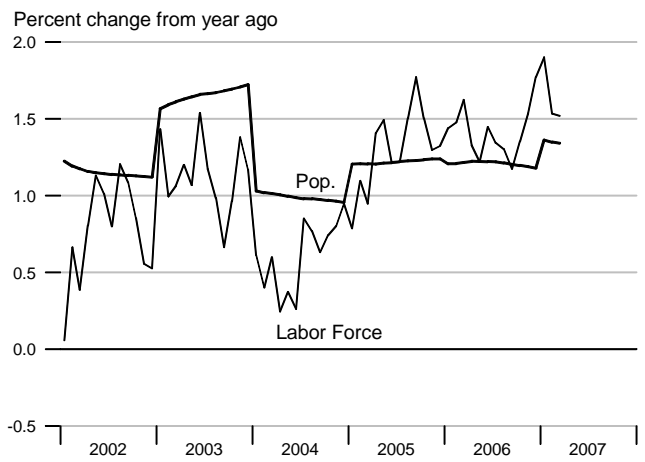
### Change in Manufacturing Payrolls



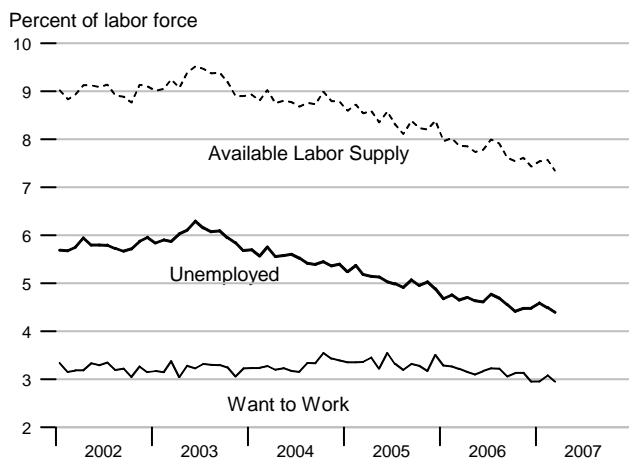
### Change in Household Employment



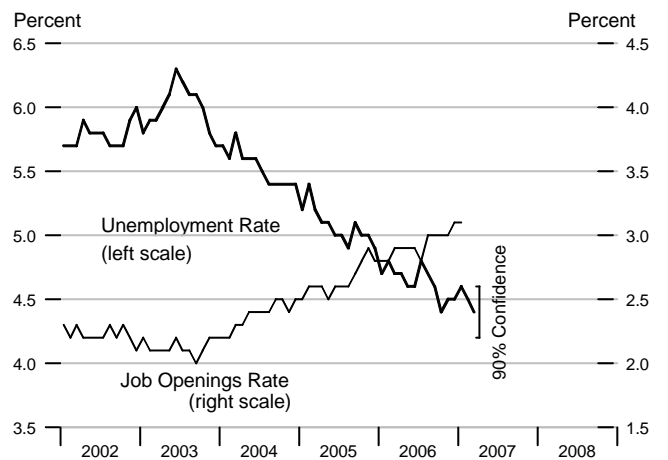
### Labor Force and Population



### Available Labor Supply and Components

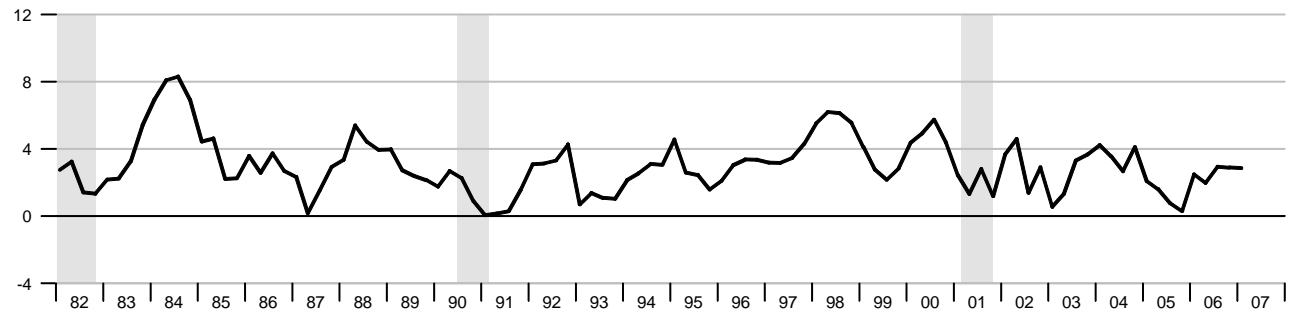


### Unemployment Rate & Job Openings Rate



### Real Disposable Personal Income

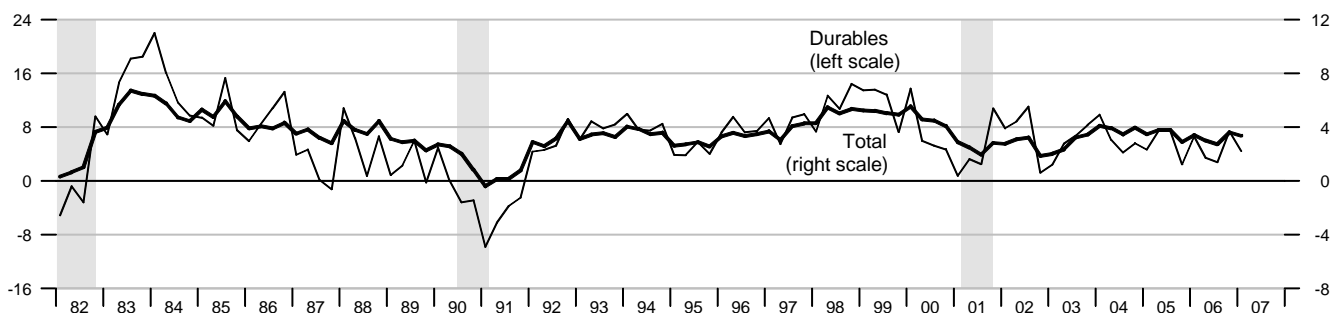
Percent change from year ago, quarterly data



### Real Consumption

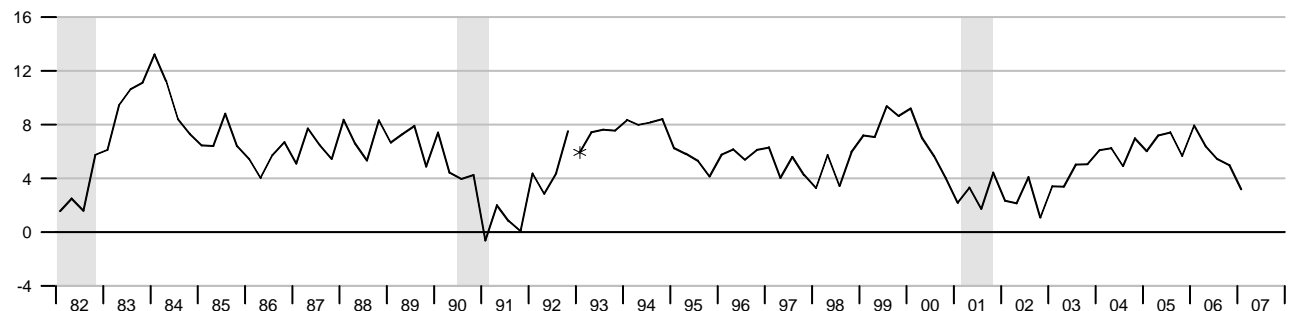
Percent change from year ago, quarterly data

Percent change from year ago, quarterly data



### Retail and Food Services Sales

Percent change from year ago, quarterly average

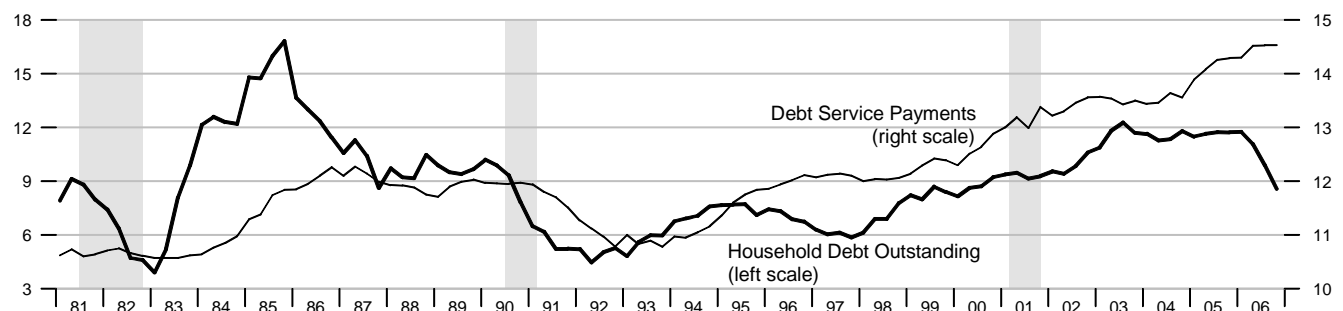


\*Data from Jan. 1992 to the present are on a NAICS basis; data prior to Jan. 1992 are on an SIC basis and are not strictly comparable (see End Note).

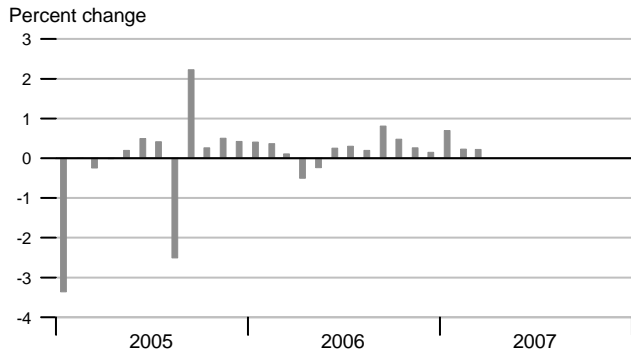
### Debt Service Payments and Household Debt Outstanding

Percent change from year ago, quarterly data

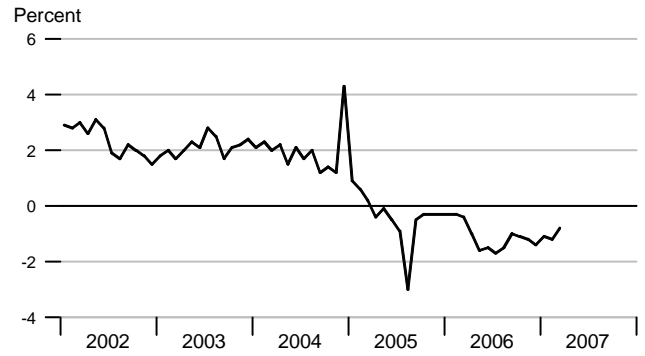
Percent of disposable personal income



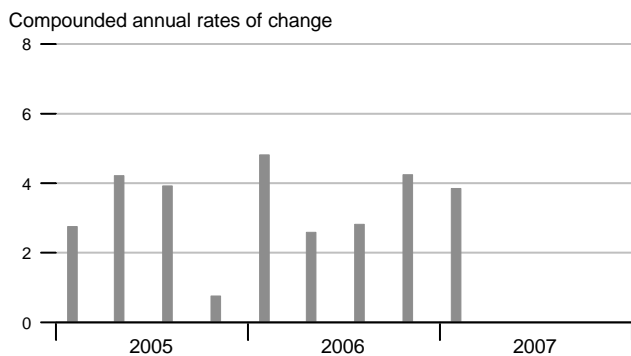
### Real Disposable Personal Income



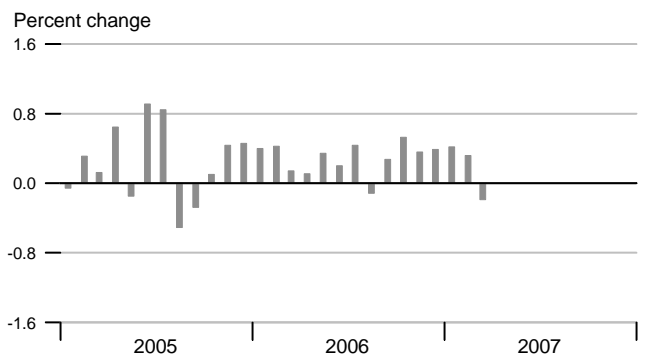
### Personal Saving Rate



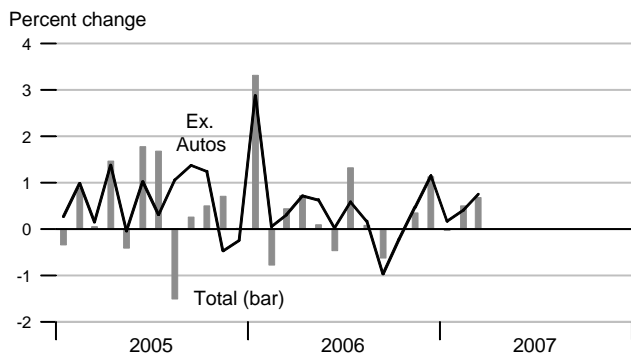
### Real Consumption



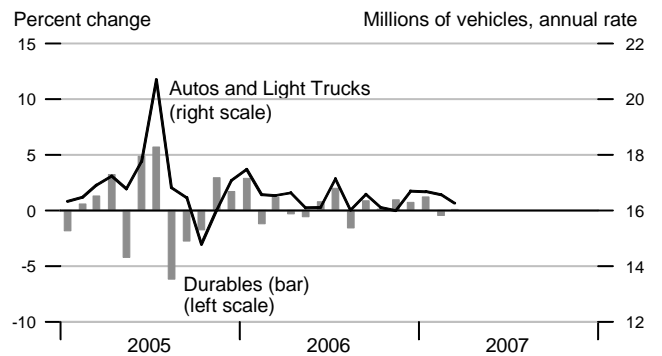
### Real Consumption



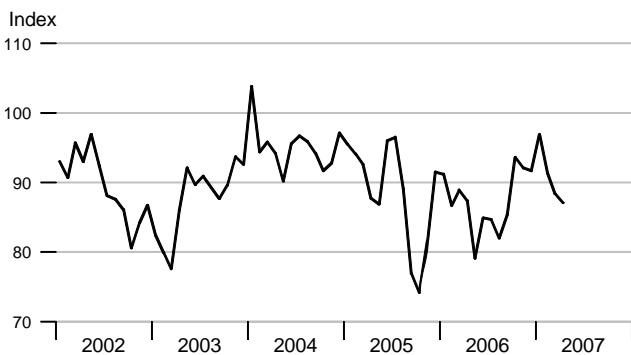
### Retail & Food Services



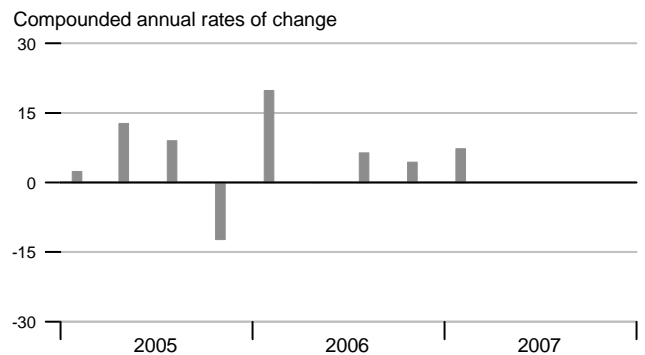
### Real Durables Consumption & Vehicle Sales



### Consumer Sentiment (U. of Michigan)

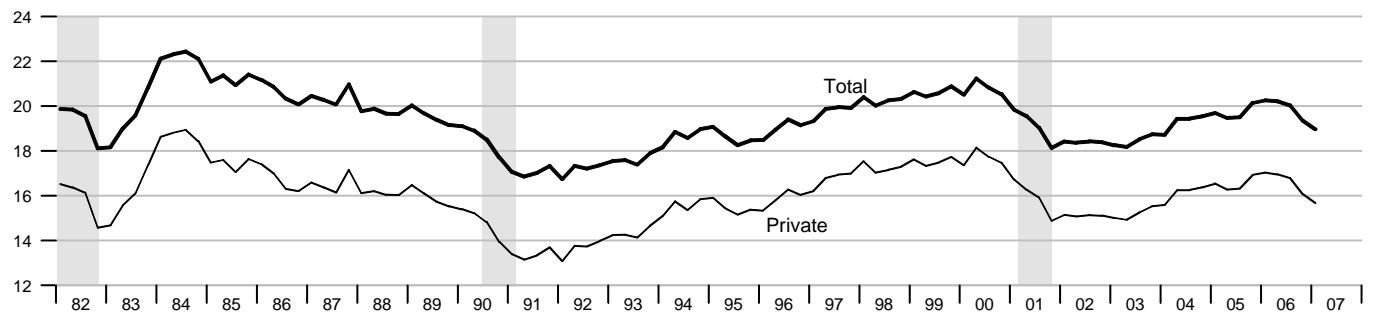


### Real Durables Consumption



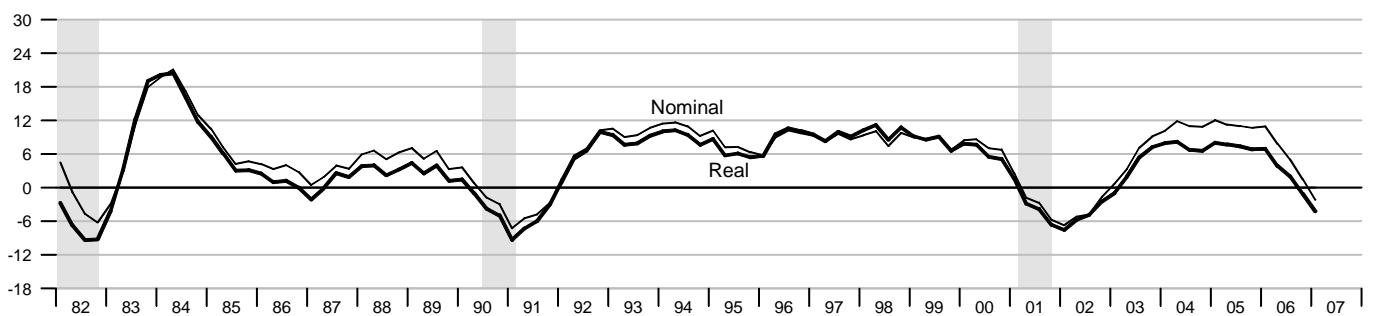
### Investment

Percent of nominal GDP



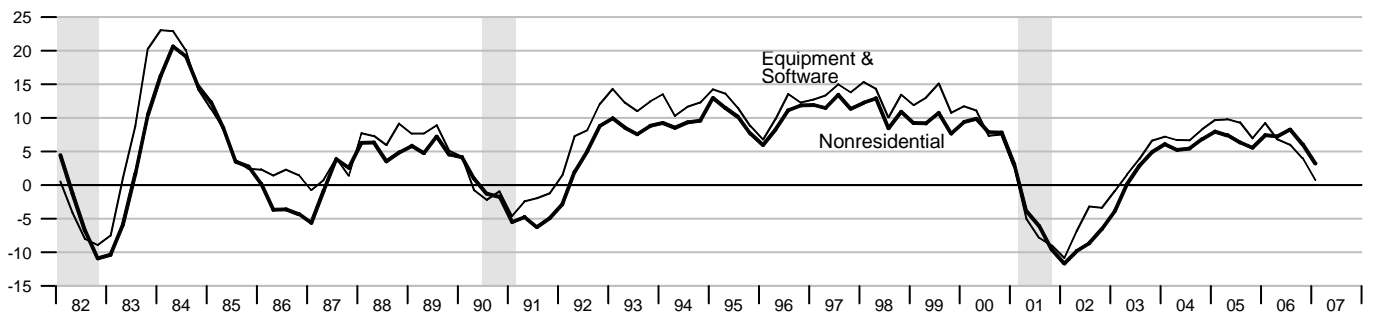
### Private Fixed Investment

Percent change from year ago



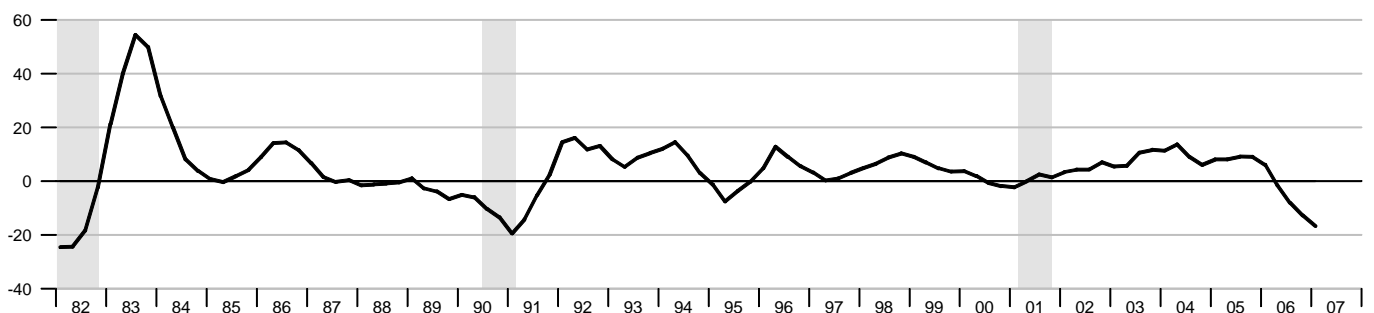
### Real Nonresidential Fixed and Equipment & Software Investment

Percent change from year ago

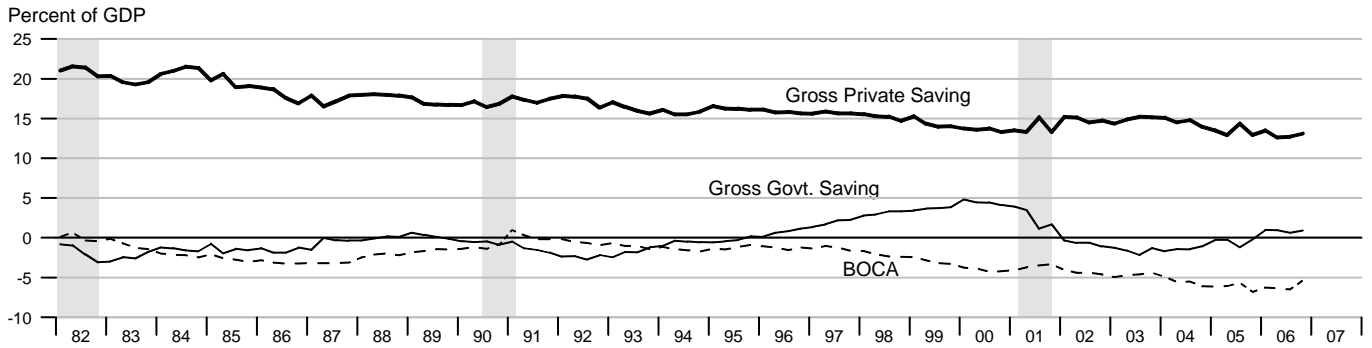


### Real Residential Fixed Investment

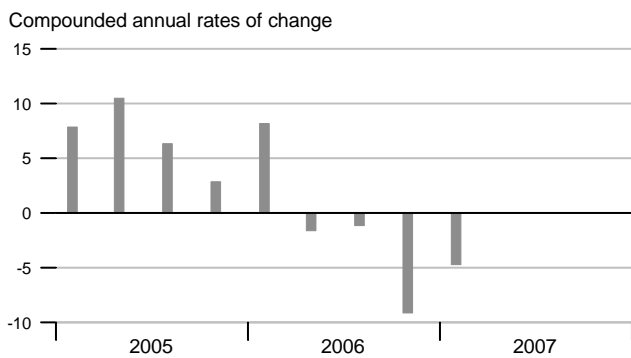
Percent change from year ago



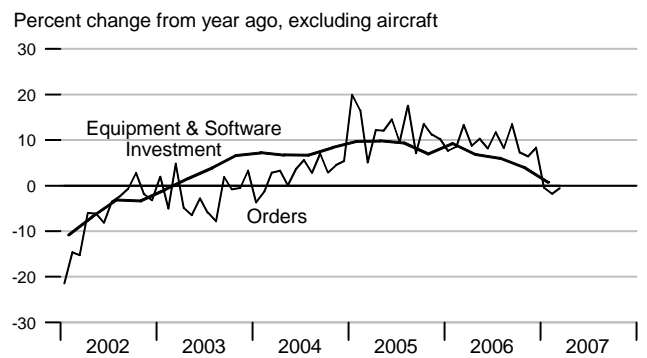
### Gross Saving Rates and Balance on Current Account (NIPA)



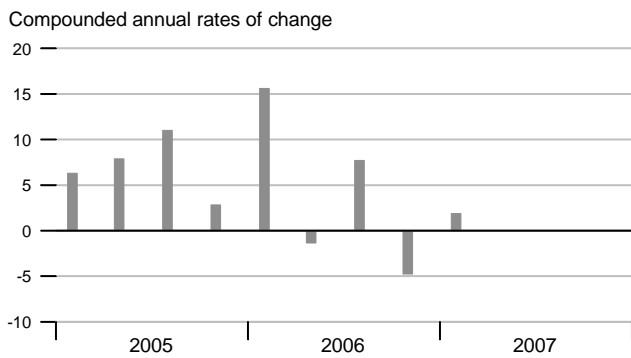
### Real Private Fixed Investment



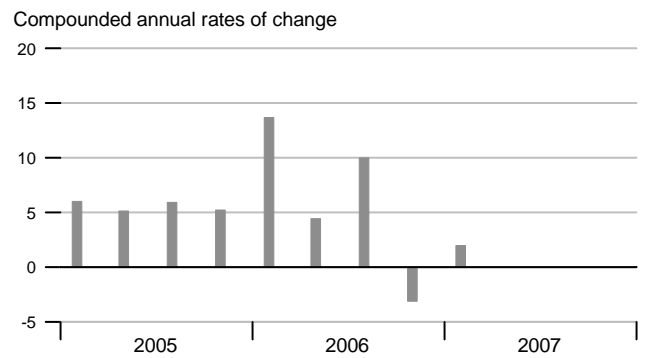
### Nondefense Capital Goods Orders



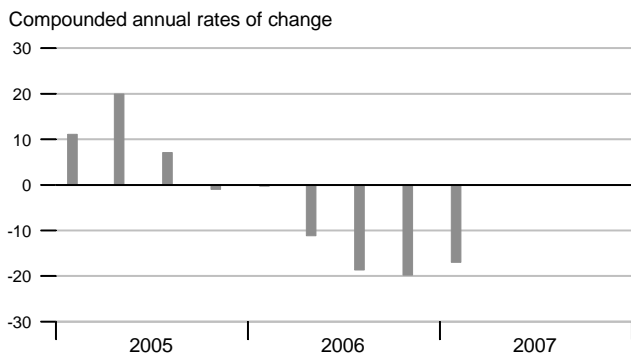
### Real Equipment & Software Investment



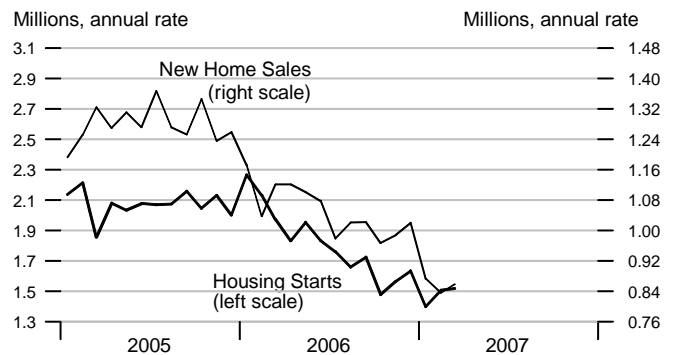
### Real Nonresidential Fixed Investment



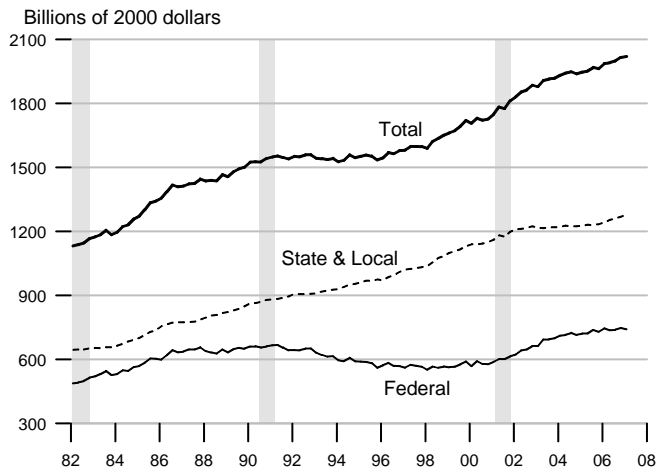
### Real Residential Fixed Investment



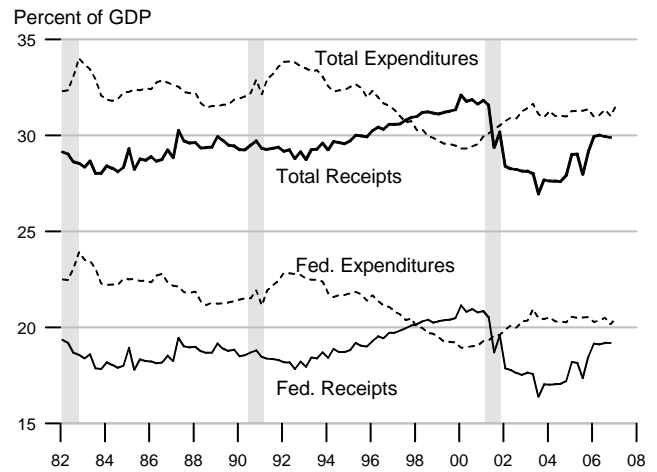
### Housing Starts and New Home Sales



**Govt. Consumption and Investment**



**Govt. Current Receipts and Expenditures**



**Government Budgets**

Billions of dollars

**National Income Accounts**

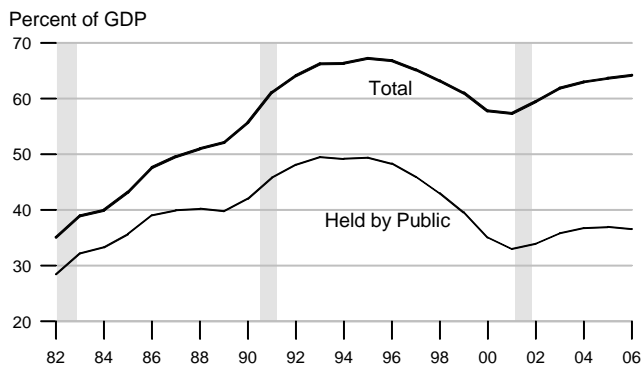
Calendar Years

**Unified Budget**

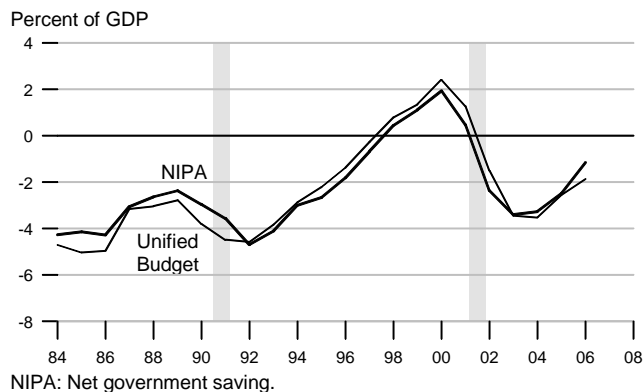
Fiscal Years

	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	1055.1	1324.3	-269.2
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	1154.5	1409.5	-255.1
1994	942.9	932.4	10.5	1320.8	1533.1	-212.3	1258.7	1461.9	-203.2
1995	990.2	978.2	12.0	1406.5	1603.5	-197.0	1351.9	1515.9	-164.0
1996	1043.3	1017.5	25.8	1524.0	1665.8	-141.8	1453.2	1560.6	-107.4
1997	1097.4	1058.3	39.1	1653.1	1708.9	-55.8	1579.4	1601.3	-21.9
1998	1163.2	1111.2	52.0	1773.8	1734.9	38.9	1722.0	1652.7	69.3
1999	1236.7	1186.3	50.4	1891.2	1787.6	103.6	1827.6	1702.0	125.6
2000	1319.5	1269.5	50.0	2053.8	1864.4	189.4	2025.5	1789.2	236.2
2001	1373.0	1368.2	4.8	2016.2	1969.5	46.7	1991.4	1863.2	128.2
2002	1410.1	1444.3	-34.2	1853.2	2101.1	-247.9	1853.4	2011.2	-157.8
2003	1494.2	1514.5	-20.3	1879.9	2252.1	-372.2	1782.5	2160.1	-377.6
2004	1592.6	1605.5	-12.9	2001.0	2383.0	-382.0	1880.3	2293.0	-412.7
2005	1700.6	1703.9	-3.3	2246.8	2555.9	-309.1	2153.9	2472.2	-318.3
2006	1787.6	1785.0	2.6	2538.2	2691.7	-153.5	2407.3	2655.4	-248.2
2005Q2	1702.9	1690.5	12.4	2240.3	2529.9	-289.6	665.2	620.9	44.2
2005Q3	1697.8	1717.2	-19.4	2182.4	2578.5	-396.1	549.2	618.4	-69.2
2005Q4	1729.6	1746.8	-17.2	2349.8	2613.3	-263.5	530.2	649.6	-119.4
2006Q1	1755.4	1742.7	12.7	2490.9	2637.9	-147.0	507.4	691.0	-183.6
2006Q2	1795.5	1769.4	26.1	2523.2	2686.2	-163.0	772.1	675.7	96.5
2006Q3	1798.7	1808.9	-10.2	2557.2	2730.2	-173.0	596.9	638.7	-41.7
2006Q4	1800.8	1819.2	-18.4	2581.5	2712.7	-131.2	573.5	653.9	-80.4
2007Q1		1874.5			2798.2		547.4	725.4	-178.0

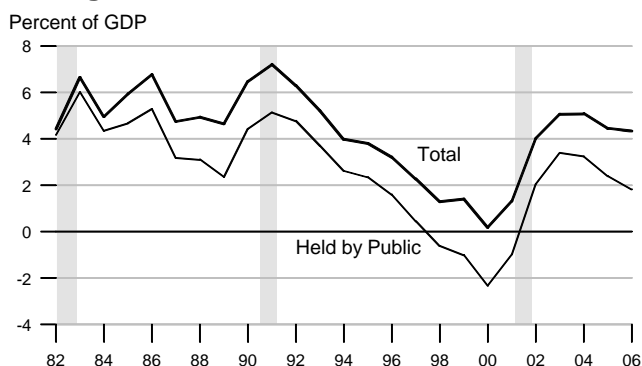
### Federal Debt



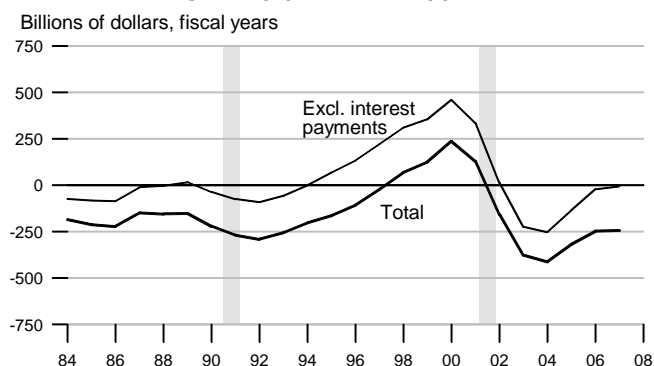
### Federal Surplus (+) / Deficit (-)



### Change in Federal Debt



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

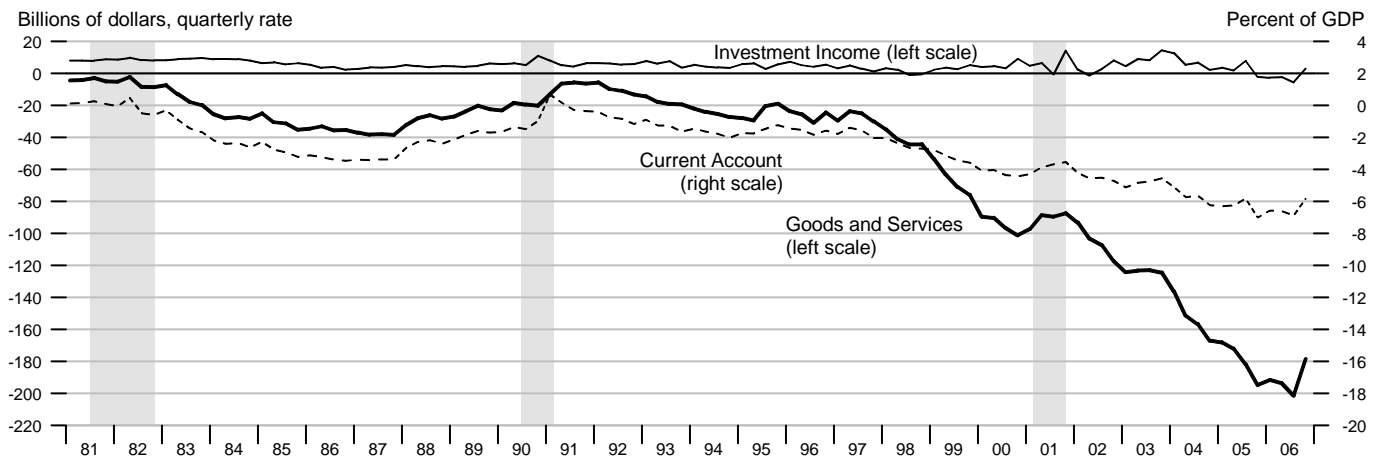


### Federal Government Debt

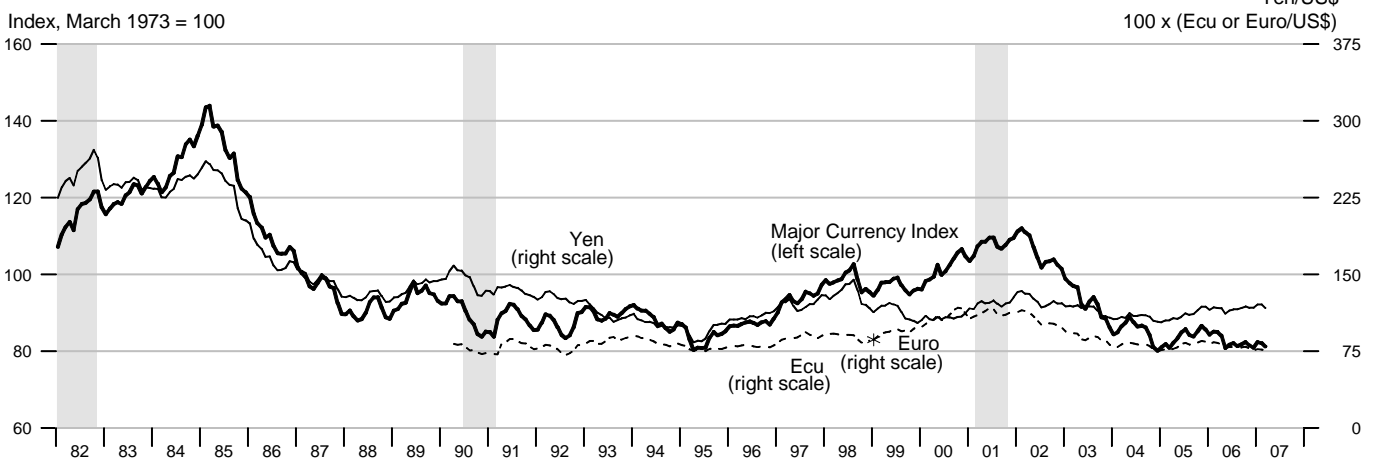
Billions of dollars, end of month or fiscal year  
Excludes Agency-issued debt

	Total Public Debt	Held by Agencies and Trusts	Held by Public		Held by Private Investors	
			Total	Federal Reserve Banks	Total	Foreign and International
2004	7379.1	3075.7	4303.4	700.3	3607.0	1798.7
2005	7932.7	3331.1	4601.6	733.4	3864.9	1930.6
2006	8507.0	3663.8	4843.2	764.8	4074.2	2147.5
2003 March	6460.8	2750.0	3710.8	641.5	3069.9	1286.3
June	6670.1	2853.8	3816.3	652.1	3164.7	1382.8
September	6783.2	2859.3	3923.9	656.1	3268.0	1454.2
December	6998.0	2954.5	4044.1	666.7	3377.9	1533.0
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	1739.6
September	7379.1	3075.7	4303.4	700.3	3607.0	1798.7
December	7596.1	3189.8	4406.4	717.8	3690.6	1853.4
2005 March	7776.9	3204.5	4572.4	717.3	3855.4	1956.3
June	7836.5	3308.9	4527.6	724.7	3803.0	1879.6
September	7932.7	3331.1	4601.6	733.4	3864.9	1930.6
December	8170.4	3455.8	4714.6	732.9	3970.6	2036.0
2006 March	8371.2	3498.4	4872.8	755.2	4113.9	2083.6
June	8420.0	3622.6	4797.5	762.6	4030.8	2099.1
September	8507.0	3663.8	4843.2	764.8	4074.2	2147.5
December	8680.2	3779.0	4901.2	775.0	4122.1	2225.0

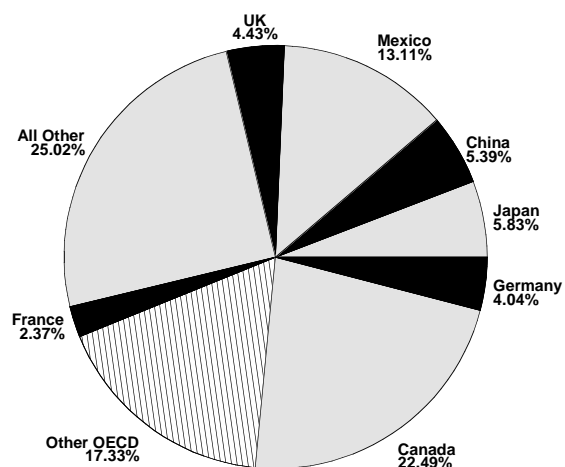
### Current Account, Trade and Investment Income Balances



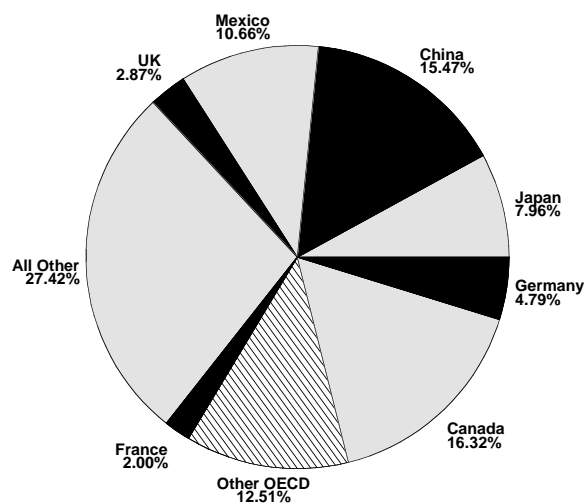
### Exchange Rates



### Goods Export Shares, 2006



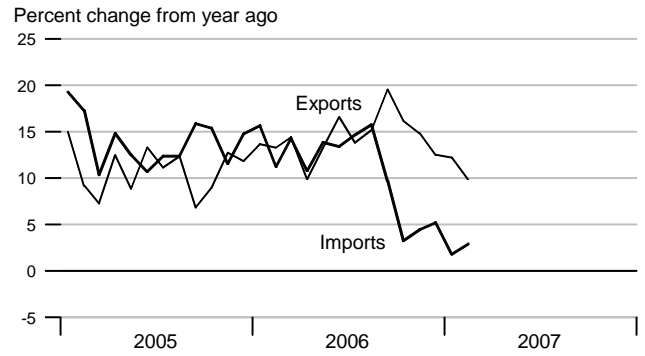
### Goods Import Shares, 2006



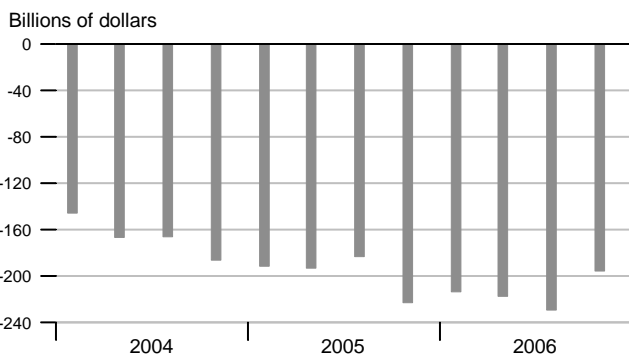
### Trade Balance



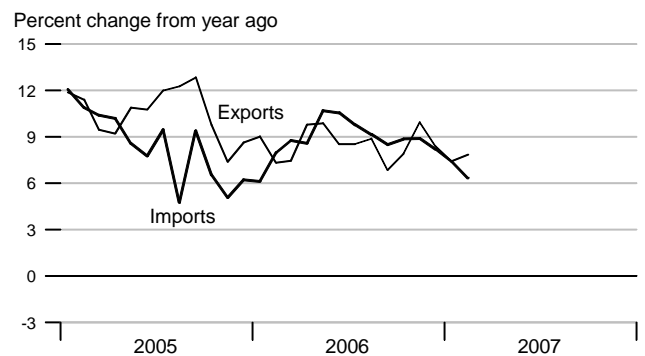
### Goods Trade



### Current Account Balance



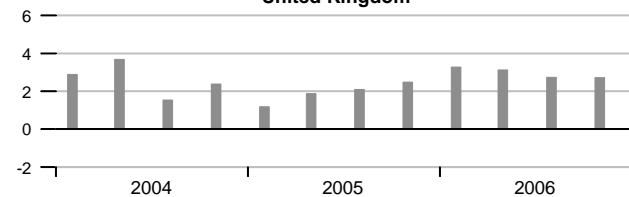
### Services Trade



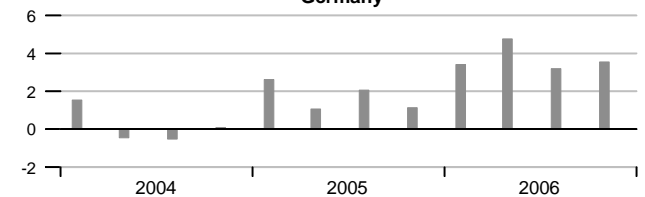
### Real GDP Growth of Major Trading Partners

Compounded annual rates of change

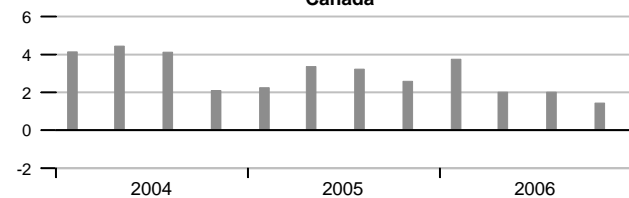
#### United Kingdom



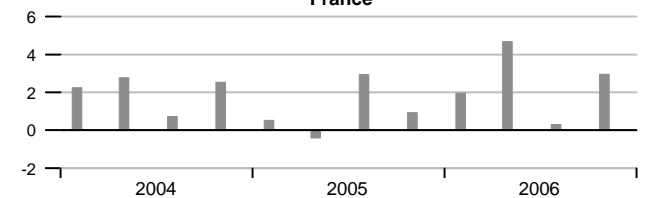
#### Germany



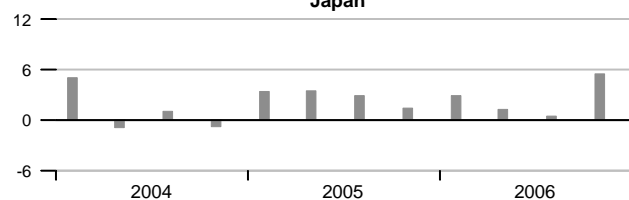
#### Canada



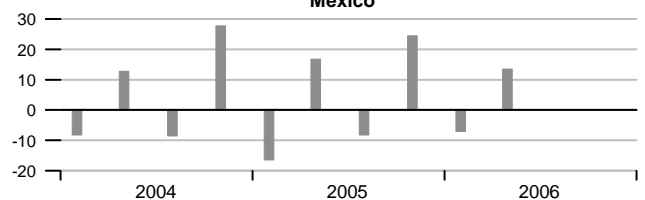
#### France



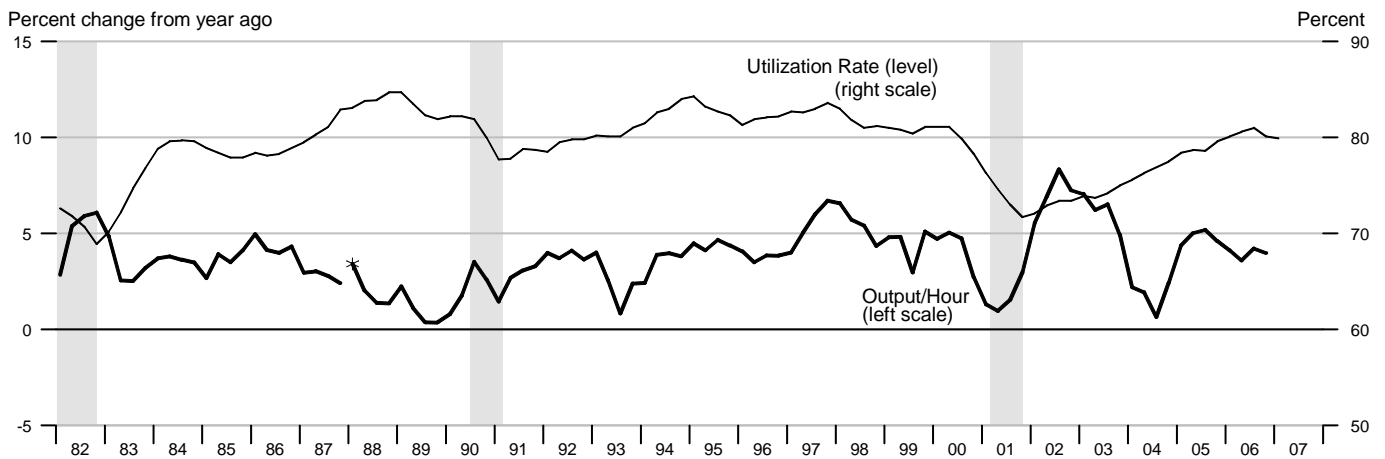
#### Japan



#### Mexico

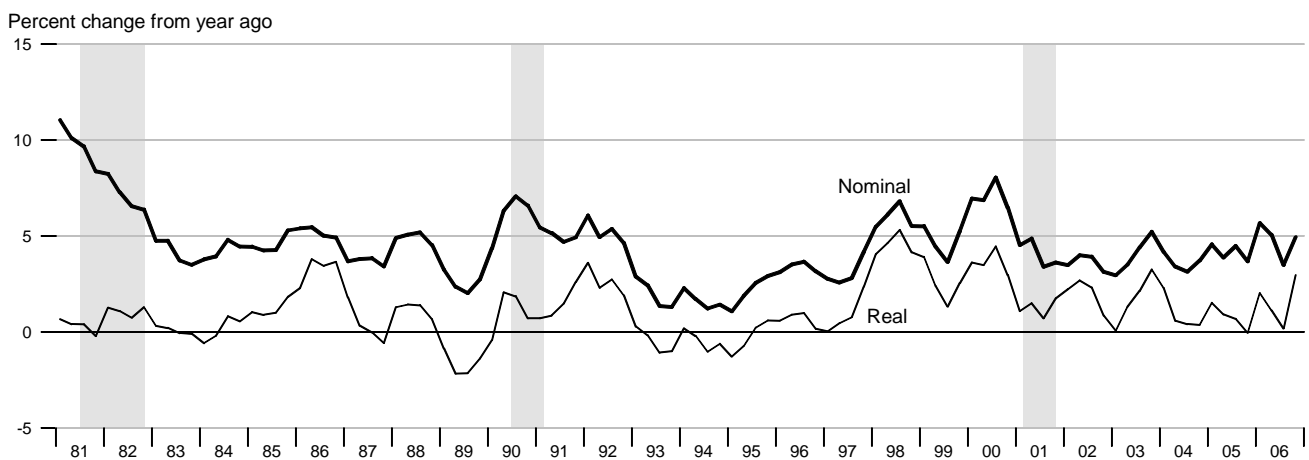


### Output per Hour and Capacity Utilization, Manufacturing

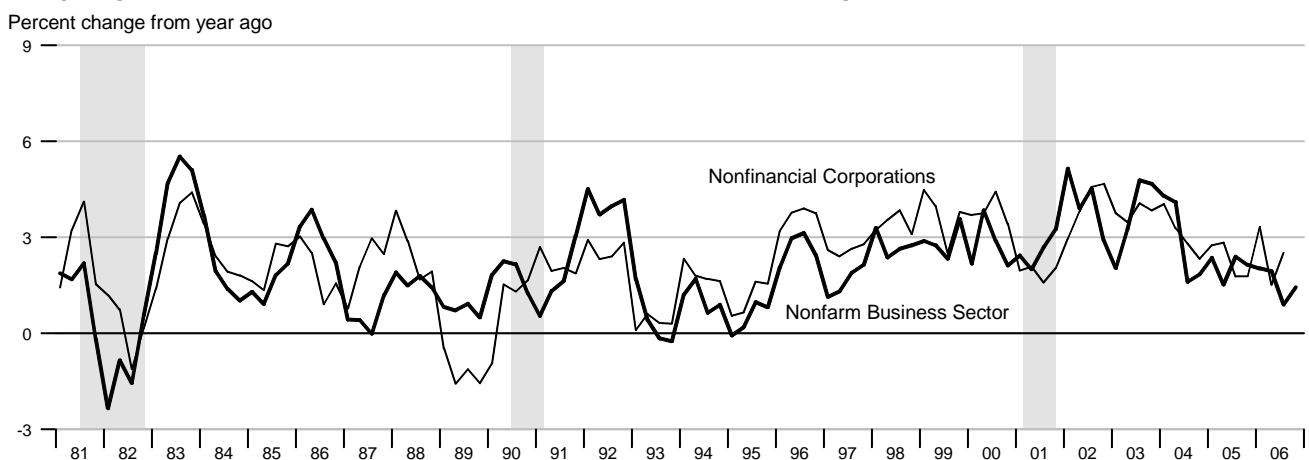


\*Data from 1987 to the present are on a NAICS basis; data prior to 1987 are on an SIC basis and are not strictly comparable (see End Note).

### Nonfarm Compensation per Hour

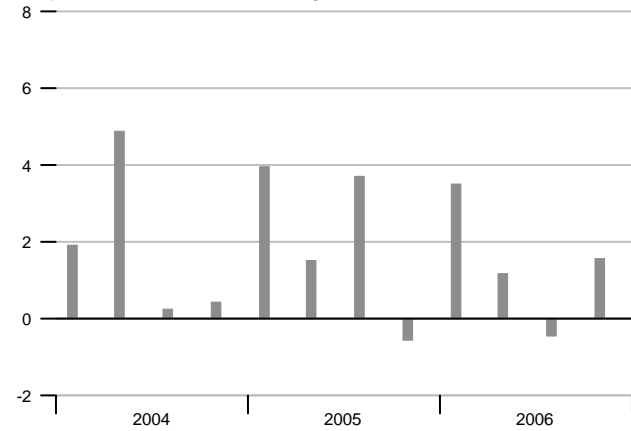


### Output per Hour, Nonfarm Business and Nonfinancial Corporations



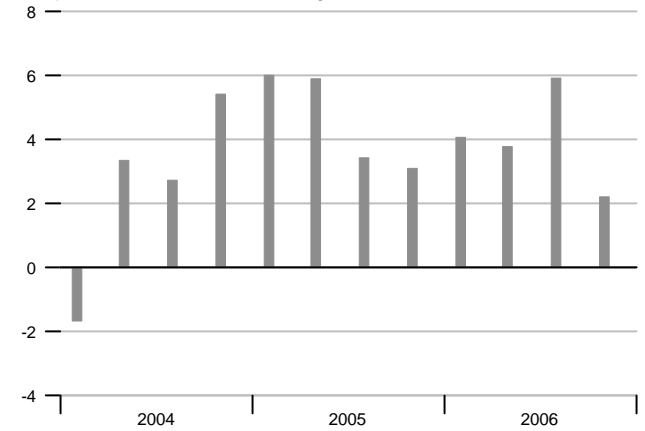
### Nonfarm Output per Hour

Compounded annual rates of change

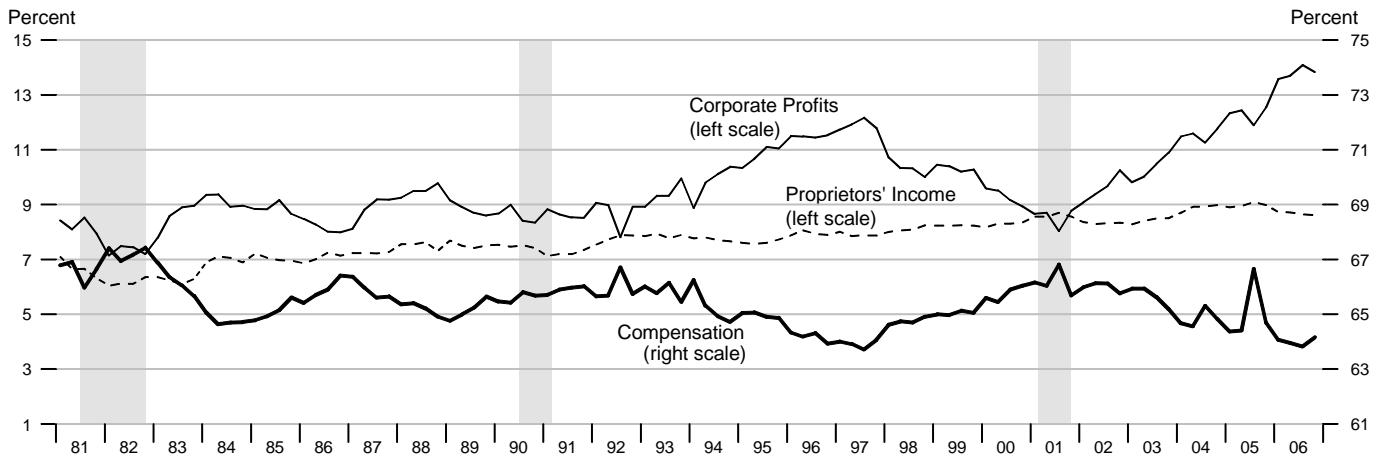


### Manufacturing Output per Hour

Compounded annual rates of change

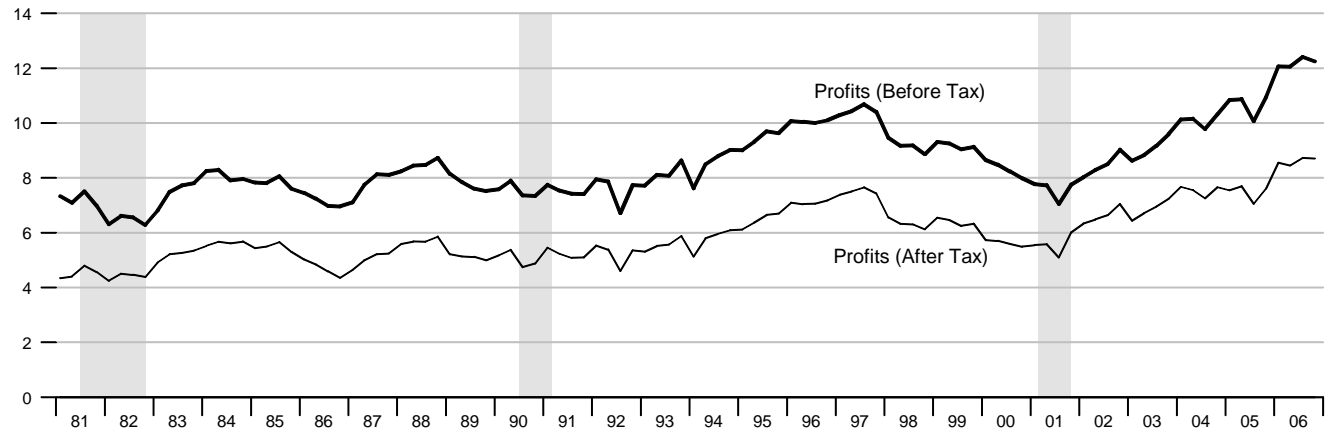


### Selected Component Shares of National Income



### Corporate Profits

Percent of GDP



	Nominal GDP			Real GDP			Final Sales			Change in Private Inventories		
	Billions of \$	Percent change		Billions of 2000 \$	Percent change		Billions of 2000 \$	Percent change		Billions of 2000 \$		
		Annual rate	Year ago		Annual rate	Year ago		Annual rate	Year ago	Last qtr	Year/Year ago	
2003	10960.8		4.7	10301.044		2.5	10285.104		2.5		14.282	
2004	11712.5		6.9	10703.539		3.9	10648.291		3.5		53.350	
2005	12455.8		6.3	11048.606		3.2	11025.241		3.5		19.646	
2006	13246.6		6.3	11415.270		3.3	11365.759		3.1		43.192	
2004 1	11430.9	7.8	6.8	10566.298	3.9	4.3	10528.725	3.4	4.2	35.889	17.184	
2	11649.3	7.9	7.5	10671.536	4.0	4.5	10596.073	2.6	3.7	74.725	36.529	
3	11799.4	5.3	6.4	10753.312	3.1	3.4	10700.119	4.0	3.0	50.764	46.587	
4	11970.3	5.9	6.7	10822.914	2.6	3.4	10768.247	2.6	3.1	52.023	53.350	
2005 1	12173.2	7.0	6.5	10913.819	3.4	3.3	10856.482	3.3	3.1	55.154	58.167	
2	12346.1	5.8	6.0	11001.779	3.3	3.1	11005.329	5.6	3.9	-7.396	37.636	
3	12573.5	7.6	6.6	11115.067	4.2	3.4	11123.529	4.4	4.0	-12.653	21.782	
4	12730.5	5.1	6.4	11163.759	1.8	3.1	11115.525	-0.3	3.2	43.481	19.647	
2006 1	13008.4	9.0	6.9	11316.413	5.6	3.7	11268.960	5.6	3.8	41.206	16.160	
2	13197.3	5.9	6.9	11388.077	2.6	3.5	11328.011	2.1	2.9	53.686	31.430	
3	13322.6	3.9	6.0	11443.543	2.0	3.0	11381.596	1.9	2.3	55.435	48.452	
4	13458.2	4.1	5.7	11513.047	2.5	3.1	11484.471	3.7	3.3	22.441	43.192	
2007 1	13632.6	5.3	4.8	11549.075	1.3	2.1	11529.174	1.6	2.3	14.765	36.582	
	Consumption			Durables Consumption			Private Fixed Investment			Nonresidential Fixed Investment		
	Billions of 2000 \$	Percent change		Billions of 2000 \$	Percent change		Billions of 2000 \$	Percent change		Billions of 2000 \$	Percent change	
		Annual rate	Year ago		Annual rate	Year ago		Annual rate	Year ago		Annual rate	Year ago
2003	7295.309		2.8	1020.572		5.8	1596.874		3.4	1081.810		1.0
2004	7577.083		3.9	1085.658		6.4	1713.899		7.3	1145.767		5.9
2005	7841.199		3.5	1145.340		5.5	1841.971		7.5	1223.770		6.8
2006	8091.449		3.2	1202.859		5.0	1894.741		2.9	1312.393		7.2
2004 1	7479.833	4.7	4.1	1066.985	6.1	9.8	1658.006	2.2	7.9	1111.232	1.7	6.1
2	7534.355	2.9	3.9	1071.439	1.7	6.1	1704.412	11.7	8.2	1130.711	7.2	5.2
3	7607.073	3.9	3.5	1093.938	8.7	4.2	1736.078	7.6	6.7	1158.840	10.3	5.5
4	7687.069	4.3	4.0	1110.263	6.1	5.6	1757.132	4.9	6.6	1182.298	8.3	6.9
2005 1	7739.367	2.7	3.5	1116.781	2.4	4.7	1790.628	7.8	8.0	1199.670	6.0	8.0
2	7819.768	4.2	3.8	1150.805	12.8	7.4	1835.776	10.5	7.7	1214.837	5.2	7.4
3	7895.316	3.9	3.8	1175.910	9.0	7.5	1864.201	6.3	7.4	1232.382	5.9	6.3
4	7910.210	0.8	2.9	1137.855	-12.3	2.5	1877.280	2.8	6.8	1248.190	5.2	5.6
2006 1	8003.753	4.8	3.4	1190.466	19.8	6.6	1914.587	8.2	6.9	1288.823	13.7	7.4
2	8054.972	2.6	3.0	1190.250	-0.1	3.4	1906.813	-1.6	3.9	1302.770	4.4	7.2
3	8111.178	2.8	2.7	1208.820	6.4	2.8	1901.272	-1.2	2.0	1334.238	10.0	8.3
4	8195.892	4.2	3.6	1221.900	4.4	7.4	1856.293	-9.1	-1.1	1323.740	-3.1	6.1
2007 1	8273.597	3.8	3.4	1243.509	7.3	4.5	1833.945	-4.7	-4.2	1330.209	2.0	3.2

	GDP Chain Price Index			Employment Cost Index			ECI: Wages			ECI: Benefits		
	Index	Percent change		Index	Percent change		Index	Percent change		Index	Percent change	
		Annual rate	Year ago		Annual rate	Year ago		Annual rate	Year ago		Annual rate	Year ago
2003	106.404		2.1	92.7		3.8	94.2		2.8	88.8		6.1
2004	109.426		2.8	96.2		3.8	96.7		2.7	94.8		6.8
2005	112.737		3.0	99.2		3.1	99.2		2.5	99.2		4.6
2006	116.043		2.9	102.1		2.9	102.0		2.9	102.1		2.9
2004 1	108.190	3.7	2.3	94.9	4.8	3.8	95.7	2.5	2.7	92.9	11.0	6.8
2	109.172	3.7	2.9	95.8	3.8	3.9	96.4	3.0	2.7	94.4	6.6	7.2
3	109.744	2.1	2.9	96.7	3.8	3.8	97.2	3.4	2.6	95.4	4.3	6.7
4	110.610	3.2	3.2	97.3	2.5	3.7	97.6	1.7	2.6	96.5	4.7	6.6
2005 1	111.558	3.5	3.1	98.2	3.8	3.5	98.3	2.9	2.7	98.0	6.4	5.5
2	112.229	2.4	2.8	98.8	2.5	3.1	98.8	2.1	2.5	98.8	3.3	4.7
3	113.139	3.3	3.1	99.5	2.9	2.9	99.4	2.5	2.3	99.6	3.3	4.4
4	114.048	3.3	3.1	100.1	2.4	2.9	100.1	2.8	2.6	100.3	2.8	3.9
2006 1	114.967	3.3	3.1	100.8	2.8	2.6	100.8	2.8	2.5	100.8	2.0	2.9
2	115.905	3.3	3.3	101.6	3.2	2.8	101.6	3.2	2.8	101.5	2.8	2.7
3	116.446	1.9	2.9	102.5	3.6	3.0	102.4	3.2	3.0	102.5	4.0	2.9
4	116.930	1.7	2.5	103.3	3.2	3.2	103.2	3.2	3.1	103.4	3.6	3.1
2007 1	118.073	4.0	2.7	103.9	2.3	3.1	104.3	4.3	3.5	103.1	-1.2	2.3
	Exports			Imports			Nonfarm Output per Hour			Nonfarm Compensation per Hour		
	Billions of 2000 \$	Percent change		Billions of 2000 \$	Percent change		Index	Percent change		Index	Percent change	
		Annual rate	Year ago		Annual rate	Year ago		Annual rate	Year ago		Annual rate	Year ago
2003	1026.109		1.3	1545.017		4.1	128.036		3.7	150.425		4.0
2004	1120.411		9.2	1711.321		10.8	131.803		2.9	155.857		3.6
2005	1196.098		6.8	1815.288		6.1	134.573		2.1	162.325		4.1
2006	1302.830		8.9	1920.879		5.8	136.687		1.6	170.083		4.8
2004 1	1094.769	7.2	9.1	1643.229	10.2	8.8	130.553	1.9	4.3	153.458	1.4	4.2
2	1111.279	6.2	11.2	1705.196	16.0	11.7	132.117	4.9	4.1	154.810	3.6	3.4
3	1124.314	4.8	9.6	1723.688	4.4	11.9	132.197	0.2	1.6	156.491	4.4	3.1
4	1151.282	9.9	7.0	1773.140	12.0	10.6	132.337	0.4	1.8	158.637	5.6	3.7
2005 1	1164.537	4.7	6.4	1790.938	4.1	9.0	133.627	4.0	2.4	160.459	4.7	4.6
2	1190.968	9.4	7.2	1797.107	1.4	5.4	134.130	1.5	1.5	160.816	0.9	3.9
3	1200.462	3.2	6.8	1808.101	2.5	4.9	135.356	3.7	2.4	163.500	6.8	4.5
4	1228.428	9.6	6.7	1865.021	13.2	5.2	135.165	-0.6	2.1	164.479	2.4	3.7
2006 1	1269.308	14.0	9.0	1905.885	9.1	6.4	136.334	3.5	2.0	169.554	12.9	5.7
2	1288.526	6.2	8.2	1912.703	1.4	6.4	136.730	1.2	1.9	168.958	-1.4	5.1
3	1310.002	6.8	9.1	1938.824	5.6	7.2	136.573	-0.5	0.9	169.209	0.6	3.5
4	1343.483	10.6	9.4	1926.103	-2.6	3.3	137.104	1.6	1.4	172.590	8.2	4.9
2007 1	1339.284	-1.2	5.5	1937.038	2.3	1.6						

	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	
2002	136481	-458		-0.3	130347	-1485		-1.1	100.0			-2.0	
2003	137730	1249		0.9	129990	-357		-0.3	98.6			-1.4	
2004	139242	1512		1.1	131423	1433		1.1	100.2			1.6	
2005	141715	2473		1.8	133696	2273		1.7	102.7			2.5	
2006	144419	2705		1.9	136175	2478		1.9	105.7			2.9	
2005	1	140385	326	0.9	1.4	132656	427	1.3	1.6	101.5	0.3	1.2	2.2
	2	141501	1116	3.2	1.9	133371	715	2.2	1.6	102.4	0.9	3.5	2.5
	3	142319	818	2.3	2.0	134107	736	2.2	1.9	103.1	0.7	2.8	2.6
	4	142655	336	0.9	1.9	134652	546	1.6	1.8	103.9	0.8	3.3	2.7
2006	1	143366	711	2.0	2.1	135393	741	2.2	2.1	104.8	0.8	3.4	3.2
	2	144065	699	2.0	1.8	135913	520	1.5	1.9	105.6	0.8	3.1	3.1
	3	144618	553	1.5	1.6	136442	529	1.6	1.7	106.0	0.3	1.4	2.8
	4	145629	1011	2.8	2.1	136951	509	1.5	1.7	106.5	0.5	2.0	2.5
2007	1	146043	415	1.1	1.9	137464	513	1.5	1.5	106.9	0.4	1.5	2.0
2005	Mar	140599	279	2.4	1.6	132817	124	1.1	1.6	101.7	0.1	1.2	2.4
	Apr	141229	630	5.5	1.8	133157	340	3.1	1.6	102.4	0.7	8.6	2.8
	May	141569	340	2.9	2.0	133345	188	1.7	1.5	102.2	-0.2	-2.3	1.9
	Jun	141704	135	1.2	1.8	133610	265	2.4	1.6	102.6	0.4	4.8	2.8
	Jul	142084	380	3.3	1.8	133937	327	3.0	1.9	102.8	0.2	2.4	2.5
	Aug	142423	339	2.9	2.0	134139	202	1.8	1.9	103.0	0.2	2.4	2.6
	Sep	142449	26	0.2	2.1	134244	105	0.9	1.9	103.5	0.5	6.0	2.6
	Oct	142586	137	1.2	2.0	134351	107	1.0	1.7	103.6	0.1	1.2	2.4
	Nov	142597	11	0.1	1.7	134702	351	3.2	1.9	104.0	0.4	4.7	3.0
	Dec	142782	185	1.6	1.9	134904	202	1.8	1.9	104.2	0.2	2.3	2.7
2006	Jan	143099	317	2.7	2.0	135110	206	1.8	2.0	104.5	0.3	3.5	3.2
	Feb	143319	220	1.9	2.1	135410	300	2.7	2.0	104.8	0.3	3.5	3.1
	Mar	143680	361	3.1	2.2	135659	249	2.2	2.1	105.1	0.3	3.5	3.3
	Apr	143763	83	0.7	1.8	135803	144	1.3	2.0	105.6	0.5	5.9	3.1
	May	144045	282	2.4	1.7	135906	103	0.9	1.9	105.4	-0.2	-2.2	3.1
	Jun	144386	341	2.9	1.9	136030	124	1.1	1.8	105.8	0.4	4.7	3.1
	Jul	144330	-56	-0.5	1.6	136252	222	2.0	1.7	106.0	0.2	2.3	3.1
	Aug	144618	288	2.4	1.5	136438	186	1.7	1.7	105.9	-0.1	-1.1	2.8
	Sep	144906	288	2.4	1.7	136636	198	1.8	1.8	106.0	0.1	1.1	2.4
	Oct	145337	431	3.6	1.9	136745	109	1.0	1.8	106.3	0.3	3.4	2.6
	Nov	145623	286	2.4	2.1	136941	196	1.7	1.7	106.3	0.0	0.0	2.2
	Dec	145926	303	2.5	2.2	137167	226	2.0	1.7	106.9	0.6	7.0	2.6
2007	Jan	145957	31	0.3	2.0	137329	162	1.4	1.6	106.7	-0.2	-2.2	2.1
	Feb	145919	-38	-0.3	1.8	137442	113	1.0	1.5	106.7	0.0	0.0	1.8
	Mar	146254	335	2.8	1.8	137622	180	1.6	1.4	107.3	0.6	7.0	2.1

	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	10-yr	
2002	5.8	3467.263			2.4	100.0000				0.0	1.60	4.61
2003	6.0	3614.093			4.2	101.0619				1.1	1.01	4.02
2004	5.5	3833.271			6.1	103.5734				2.5	1.37	4.27
2005	5.1	4085.340			6.6	106.9340				3.2	3.15	4.29
2006	4.6	4337.168			6.2	111.2407				4.0	4.73	4.79
2005	1	5.3	994.839	1.0	4.1	6.0	105.9764	1.1	4.6	3.3	2.54	4.30
	2	5.1	1015.843	2.1	8.7	7.2	106.6983	0.7	2.8	3.4	2.86	4.16
	3	5.0	1034.026	1.8	7.4	7.4	106.9113	0.2	0.8	3.1	3.36	4.21
	4	5.0	1040.632	0.6	2.6	5.7	108.1499	1.2	4.7	3.2	3.83	4.49
2006	1	4.7	1073.706	3.2	13.3	7.9	109.4847	1.2	5.0	3.3	4.39	4.57
	2	4.6	1080.714	0.7	2.6	6.4	111.2261	1.6	6.5	4.2	4.70	5.07
	3	4.7	1090.193	0.9	3.6	5.4	112.3327	1.0	4.0	5.1	4.91	4.90
	4	4.5	1092.555	0.2	0.9	5.0	111.9193	-0.4	-1.5	3.5	4.90	4.63
2007	1	4.5	1107.867	1.4	5.7	3.2	112.3075	0.3	1.4	2.6	4.98	4.68
2005	Mar	5.2	332.690	0.1	0.7	5.0	106.1033	-0.1	-1.4	3.6	2.74	4.50
	Apr	5.1	337.557	1.5	19.0	7.6	106.2128	0.1	1.2	3.1	2.78	4.34
	May	5.1	336.161	-0.4	-4.9	5.2	106.6034	0.4	4.5	2.8	2.84	4.14
	Jun	5.0	342.125	1.8	23.5	8.8	107.2787	0.6	7.9	4.2	2.97	4.00
	Jul	5.0	347.880	1.7	22.2	9.0	107.3023	0.0	0.3	3.6	3.22	4.18
	Aug	4.9	342.635	-1.5	-16.7	7.4	107.5921	0.3	3.3	3.6	3.44	4.26
	Sep	5.1	343.511	0.3	3.1	5.8	105.8396	-1.6	-17.9	2.1	3.42	4.20
	Oct	5.0	345.231	0.5	6.2	5.7	107.0570	1.2	14.7	2.5	3.71	4.46
	Nov	5.0	347.671	0.7	8.8	6.2	108.2431	1.1	14.1	3.4	3.88	4.54
	Dec	4.9	347.730	0.0	0.2	5.1	109.1496	0.8	10.5	3.6	3.89	4.47
2006	Jan	4.7	359.254	3.3	47.9	9.0	109.1081	-0.0	-0.5	3.3	4.24	4.42
	Feb	4.8	356.451	-0.8	-9.0	7.2	109.3862	0.3	3.1	3.0	4.43	4.57
	Mar	4.7	358.001	0.4	5.3	7.6	109.9597	0.5	6.5	3.6	4.51	4.72
	Apr	4.7	360.576	0.7	9.0	6.8	110.9443	0.9	11.3	4.5	4.60	4.99
	May	4.6	360.915	0.1	1.1	7.4	110.8746	-0.1	-0.8	4.0	4.72	5.11
	Jun	4.6	359.223	-0.5	-5.5	5.0	111.8594	0.9	11.2	4.3	4.79	5.11
	Jul	4.8	363.968	1.3	17.1	4.6	112.3067	0.4	4.9	4.7	4.95	5.09
	Aug	4.7	364.247	0.1	0.9	6.3	112.5208	0.2	2.3	4.6	4.96	4.88
	Sep	4.6	361.978	-0.6	-7.2	5.4	112.1707	-0.3	-3.7	6.0	4.81	4.72
	Oct	4.4	361.980	0.0	0.0	4.9	111.9994	-0.2	-1.8	4.6	4.92	4.73
	Nov	4.5	363.234	0.3	4.2	4.5	111.5291	-0.4	-4.9	3.0	4.94	4.60
	Dec	4.5	367.341	1.1	14.4	5.6	112.2295	0.6	7.8	2.8	4.85	4.56
2007	Jan	4.6	367.230	-0.0	-0.4	2.2	111.7708	-0.4	-4.8	2.4	4.98	4.76
	Feb	4.5	369.070	0.5	6.2	3.5	112.6650	0.8	10.0	3.0	5.03	4.72
	Mar	4.4	371.567	0.7	8.4	3.8	112.4866	-0.2	-1.9	2.3	4.94	4.56

		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
2002		179.867			1.6		190.442			2.3		138.9			-1.3
2003		183.967			2.3		193.225			1.5		143.3			3.2
2004		188.900			2.7		196.625			1.8		148.5			3.6
2005		195.258			3.4		200.892			2.2		155.7			4.9
2006		201.583			3.2		205.925			2.5		160.3			2.9
2005	1	192.133	0.5	2.1	3.0	2.1	199.500	0.6	2.6	2.3	2.6	152.7	0.8	3.2	4.7
	2	193.967	1.0	3.9	2.9	3.0	200.433	0.5	1.9	2.2	2.2	154.0	0.9	3.5	4.1
	3	196.633	1.4	5.6	3.8	3.9	201.167	0.4	1.5	2.1	2.0	156.8	1.8	7.3	5.6
	4	198.300	0.8	3.4	3.7	3.7	202.467	0.6	2.6	2.1	2.1	159.4	1.7	7.0	5.2
2006	1	199.233	0.5	1.9	3.7	1.9	203.667	0.6	2.4	2.1	2.4	159.4	-0.0	-0.1	4.4
	2	201.700	1.2	5.0	4.0	3.5	205.333	0.8	3.3	2.4	2.9	160.9	0.9	3.7	4.4
	3	203.233	0.8	3.1	3.4	3.3	206.867	0.7	3.0	2.8	2.9	161.1	0.2	0.7	2.8
	4	202.167	-0.5	-2.1	1.9	1.9	207.833	0.5	1.9	2.7	2.7	159.9	-0.8	-3.0	0.3
2007	1	204.068	0.9	3.8	2.4	3.8	209.010	0.6	2.3	2.6	2.3	162.5	1.6	6.8	2.0
2005	Mar	193.000	0.5	5.8	3.1	3.6	200.000	0.3	3.0	2.3	3.1	153.7	0.7	9.0	5.1
	Apr	193.900	0.5	5.7	3.4	4.1	200.200	0.1	1.2	2.2	2.6	154.2	0.3	4.0	4.8
	May	194.000	0.1	0.6	2.9	3.4	200.500	0.1	1.8	2.2	2.4	153.9	-0.2	-2.3	3.6
	Jun	194.000	0.0	0.0	2.5	2.8	200.600	0.0	0.6	2.1	2.1	154.0	0.1	0.8	3.8
	Jul	195.100	0.6	7.0	3.1	3.4	200.900	0.1	1.8	2.1	2.1	155.3	0.8	10.6	4.7
	Aug	196.200	0.6	7.0	3.6	3.9	201.200	0.1	1.8	2.2	2.0	156.1	0.5	6.4	5.2
	Sep	198.600	1.2	15.7	4.7	5.1	201.400	0.1	1.2	2.0	2.0	158.9	1.8	23.8	6.8
	Oct	199.200	0.3	3.7	4.4	5.0	202.000	0.3	3.6	2.1	2.1	159.8	0.6	7.0	5.8
	Nov	197.900	-0.7	-7.6	3.5	3.8	202.500	0.2	3.0	2.1	2.2	158.7	-0.7	-8.0	4.3
	Dec	197.800	-0.1	-0.6	3.4	3.4	202.900	0.2	2.4	2.2	2.2	159.8	0.7	8.6	5.5
2006	Jan	199.000	0.6	7.5	4.0	7.5	203.200	0.1	1.8	2.1	1.8	160.3	0.3	3.8	5.6
	Feb	199.100	0.1	0.6	3.6	4.0	203.600	0.2	2.4	2.1	2.1	158.6	-1.1	-12.0	3.9
	Mar	199.600	0.3	3.1	3.4	3.7	204.200	0.3	3.6	2.1	2.6	159.3	0.4	5.4	3.6
	Apr	200.800	0.6	7.5	3.6	4.6	204.800	0.3	3.6	2.3	2.8	160.4	0.7	8.6	4.0
	May	201.900	0.5	6.8	4.1	5.0	205.300	0.2	3.0	2.4	2.9	160.7	0.2	2.3	4.4
	Jun	202.400	0.2	3.0	4.3	4.7	205.900	0.3	3.6	2.6	3.0	161.5	0.5	6.1	4.9
	Jul	203.200	0.4	4.8	4.2	4.7	206.400	0.2	3.0	2.7	3.0	161.3	-0.1	-1.5	3.9
	Aug	203.800	0.3	3.6	3.9	4.6	206.900	0.2	2.9	2.8	3.0	161.9	0.4	4.6	3.7
	Sep	202.700	-0.5	-6.3	2.1	3.3	207.300	0.2	2.3	2.9	2.9	160.2	-1.1	-11.9	0.8
	Oct	201.800	-0.4	-5.2	1.3	2.4	207.600	0.1	1.8	2.8	2.8	157.8	-1.5	-16.6	-1.3
	Nov	201.900	0.0	0.6	2.0	2.3	207.800	0.1	1.2	2.6	2.6	160.3	1.6	20.8	1.0
	Dec	202.800	0.4	5.5	2.5	2.5	208.100	0.1	1.7	2.6	2.6	161.6	0.8	10.2	1.1
2007	Jan	203.153	0.2	2.1	2.1	2.1	208.632	0.3	3.1	2.7	3.1	160.6	-0.6	-7.2	0.2
	Feb	203.906	0.4	4.5	2.4	3.3	209.135	0.2	2.9	2.7	3.0	162.7	1.3	16.9	2.6
	Mar	205.146	0.6	7.5	2.8	4.7	209.263	0.1	0.7	2.5	2.3	164.3	1.0	12.5	3.1

## 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. For more information see <http://www.bls.gov/ces/>. **Nonfarm Payroll Employment** is counted in a survey of about 400,000 establishments (Current Employment Statistics). 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 ( $\pm 0.2$  percentage points) and change in household survey employment ( $\pm 290,000$ ) 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/](http://www.bls.gov/cps/). The **Job Openings rate** is the number of job openings on the last business day of the month as a percent of total employment plus job openings.

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 CCAAdj (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.

*Organization for Economic Cooperation and Development (OECD)*

GDP for major trading partners (not available on FRED).