

Lending Standards in Mortgage Markets

The mortgage crisis that exploded in the summer of 2007 made a few major issues apparent: First, the value of the U.S. housing stock was substantially lower than most believed. Second, the number of nonperforming loans was much greater than lenders had estimated. Third, the poor performance of real estate loans had a dramatic effect on banks' balance sheets, exposing them to serious solvency issues. These events have had major negative ramifications, both in the financial markets at home and around the world. Many have blamed banks for keeping lending standards too loose. But how loose were they?

Many dimensions could be used to analyze the evolution of credit standards for mortgage loans. A very simple statistic to compute is the percentage of loan denials in the total pool of mortgage applications. For example, an increase in the denial rate could be interpreted as mortgage brokers and banks tightening the lending standards.

Since 1999 the Home Mortgage Disclosure Act (HMDA) has registered data regarding mortgage applications, denials, and originations by type of purchase in the United States. The chart shows the evolution of the fraction of loan denials relative to applications by loan type.

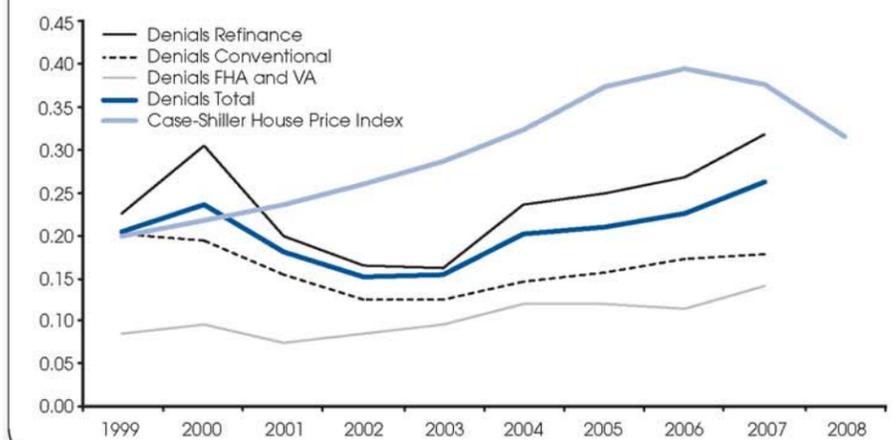
In addition, the chart includes house price appreciation as measured by the Case-Shiller Home Price Index. The Case-Shiller Index is normalized to match the scale of the denial rates. The chart suggests some interesting observations: First, according to the Case-Shiller data, national house prices nearly doubled between 1999 and 2006. That figure represents a roughly 10 percentage point annual appreciation (not adjusted for inflation) for the period and close to 15 percentage points during the peak of the bubble. Second, after the economic recession began in 2001 the index for total loan denial rates was at its lowest point between 2002 and 2003.

Interestingly, in 2004, denials increased by 33 percentage points relative to their 2002 low, all the way up to 75 percentage points for 2007 relative to the 2002 low point. This increase suggests that credit started to tighten well before 2007. Most of the increase in total denials came via refinancing loans—not through new home purchases or special loan programs funded by the Federal Housing Administration (FHA) or the Veterans Administration (VA). This is consistent with the fact that around 2003 the flow of new home buyers was already very small and most new loans came via refinancing and equity extraction. The rapid increase in denials suggests two intertwined points: One, lenders were concerned with the risk worthiness of borrowers at all levels, and two, homeowners were continuing to overvalue their homes.

While the HMDA data seem to suggest that lenders did the right thing by tightening standards and increasing denials, the ongoing financial crisis and the historically high level of delinquencies and foreclosures seem to suggest that after loosening the reins so greatly, they neither tightened them enough nor did they act quickly enough.

—Carlos Garriga

Mortgage Denial Rates by Loan Type



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.

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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 January 2008 **Employment Situation**, the establishment survey data for employment, hours, and earnings have been converted from the 2002 NAICS system to the 2007 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 (± 0.2 percentage points) and change in household survey employment ($\pm 430,000$) 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/. 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 $\%(C)$ 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 77 percent of the value of GDP in 2000, 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 (CCAAdj)** 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.

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.

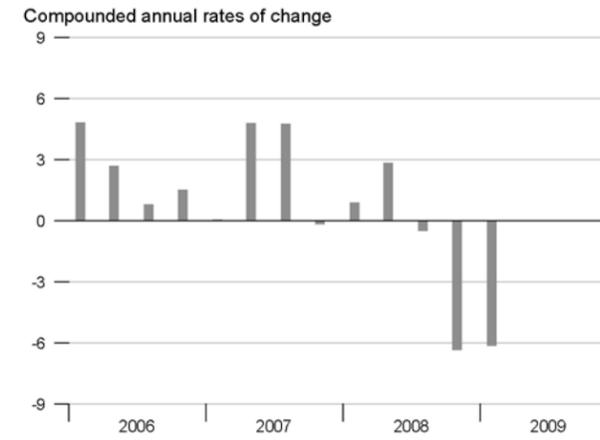
Federal Reserve Board
 Index of industrial production, treasury yields, exchange rates, capacity utilization, household debt.

The Survey Research Center, The University of Michigan
 Consumer sentiment index.

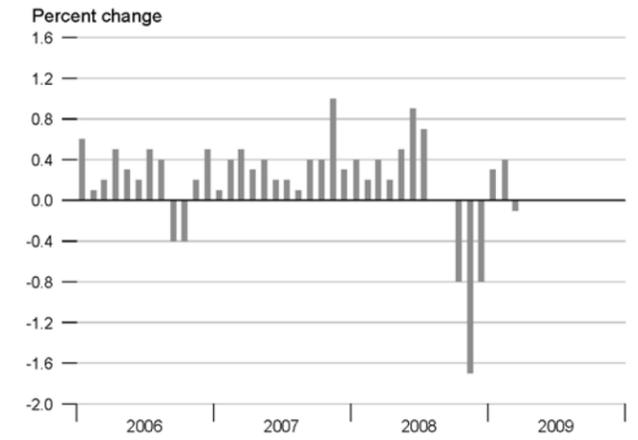
Organization for Economic Cooperation and Development (OECD)
 GDP for major trading partners (not available on FRED).

	Consumer Price Index						Consumer Price Index less Food and Energy					Producer Price Index Finished Goods				
	Index	Percent change				Index	Percent change				Index	Percent change				
		Monthly/quarterly	Annual rate	Year ago	Year to date		Monthly/quarterly	Annual rate	Year ago	Year to date		Monthly/quarterly	Annual rate	Year ago		
2004	188.908			2.7		196.642			1.8		148.5			3.6		
2005	195.292			3.4		200.883			2.2		155.8			4.9		
2006	201.583			3.2		205.933			2.5		160.3			2.9		
2007	207.348			2.9		210.730			2.3		166.6			3.9		
2008	215.224			3.8		215.570			2.3		177.3			6.4		
2007	1	204.426	1.0	3.9	2.4	3.9	208.993	0.6	2.3	2.6	2.3	162.6	1.6	6.4	1.9	
	2	206.542	1.0	4.2	2.6	4.0	210.097	0.5	2.1	2.3	2.2	166.0	2.0	8.5	3.4	
	3	207.747	0.6	2.4	2.3	3.5	211.204	0.5	2.1	2.1	2.2	166.9	0.6	2.4	3.6	
	4	210.679	1.4	5.8	4.0	4.0	212.627	0.7	2.7	2.3	2.3	171.0	2.4	10.1	6.8	
2008	1	213.007	1.1	4.5	4.2	4.5	213.942	0.6	2.5	2.4	2.5	174.4	2.0	8.1	7.2	
	2	215.358	1.1	4.5	4.3	4.5	215.007	0.5	2.0	2.3	2.3	178.5	2.4	9.9	7.6	
	3	218.620	1.5	6.2	5.2	5.1	216.493	0.7	2.8	2.5	2.4	182.7	2.4	9.7	9.5	
	4	213.910	-2.2	-8.3	1.5	1.5	216.836	0.2	0.6	2.0	2.0	173.4	-5.1	-19.0	1.4	
2009	1	212.632	-0.6	-2.4	-0.2	-2.4	217.659	0.4	1.5	1.7	1.5	170.6	-1.6	-6.3	-2.2	
2007	Mar	205.348	0.5	6.0	2.8	4.1	209.299	0.1	1.2	2.4	2.3	164.3	0.9	11.6	3.1	
	Apr	205.920	0.3	3.4	2.6	3.9	209.726	0.2	2.5	2.4	2.4	165.4	0.7	8.3	3.2	
	May	206.682	0.4	4.5	2.7	4.0	210.072	0.2	2.0	2.3	2.3	166.4	0.6	7.5	3.7	
	Jun	207.023	0.2	2.0	2.6	3.7	210.492	0.2	2.4	2.2	2.3	166.1	-0.2	-2.1	3.2	
	Jul	207.338	0.2	1.8	2.3	3.4	210.866	0.2	2.2	2.2	2.3	167.2	0.7	8.2	4.0	
	Aug	207.520	0.1	1.1	1.9	3.1	211.159	0.1	1.7	2.1	2.2	166.2	-0.6	-6.9	2.4	
	Sep	208.382	0.4	5.1	2.8	3.3	211.587	0.2	2.5	2.1	2.2	167.4	0.7	9.0	4.5	
	Oct	209.133	0.4	4.4	3.6	3.5	212.070	0.2	2.8	2.2	2.3	168.6	0.7	8.9	6.3	
	Nov	211.166	1.0	12.3	4.4	4.2	212.644	0.3	3.3	2.3	2.4	172.6	2.4	32.5	7.6	
	Dec	211.737	0.3	3.3	4.2	4.2	213.166	0.2	3.0	2.4	2.4	171.8	-0.5	-5.4	6.4	
	2008	Jan	212.495	0.4	4.4	4.4	4.4	213.714	0.3	3.1	2.5	3.1	173.4	0.9	11.8	7.8
		Feb	212.860	0.2	2.1	4.2	3.2	213.859	0.1	0.8	2.3	2.0	174.1	0.4	5.0	6.9
Mar		213.667	0.4	4.6	4.1	3.7	214.252	0.2	2.2	2.4	2.1	175.6	0.9	10.8	6.9	
Apr		213.997	0.2	1.9	3.9	3.2	214.496	0.1	1.4	2.3	1.9	176.0	0.2	2.8	6.4	
May		215.044	0.5	6.0	4.0	3.8	214.950	0.2	2.6	2.3	2.0	178.6	1.5	19.2	7.3	
Jun		217.034	0.9	11.7	4.8	5.1	215.575	0.3	3.5	2.4	2.3	181.0	1.3	17.4	9.0	
Jul		218.610	0.7	9.1	5.4	5.6	216.162	0.3	3.3	2.5	2.4	183.4	1.3	17.1	9.7	
Aug		218.576	-0.0	-0.2	5.3	4.9	216.534	0.2	2.1	2.5	2.4	182.5	-0.5	-5.7	9.8	
Sep		218.675	0.0	0.5	4.9	4.4	216.784	0.1	1.4	2.5	2.3	182.3	-0.1	-1.3	8.9	
Oct		216.889	-0.8	-9.4	3.7	2.9	216.758	-0.0	-0.1	2.2	2.0	177.6	-2.6	-26.9	5.3	
Nov		213.263	-1.7	-18.3	1.0	0.8	216.868	0.1	0.6	2.0	1.9	172.8	-2.7	-28.0	0.1	
Dec		211.577	-0.8	-9.1	-0.1	-0.1	216.882	0.0	0.1	1.7	1.7	169.7	-1.8	-19.5	-1.2	
2009	Jan	212.174	0.3	3.4	-0.2	3.4	217.265	0.2	2.1	1.7	2.1	171.1	0.8	10.4	-1.3	
	Feb	213.007	0.4	4.8	0.1	4.1	217.670	0.2	2.3	1.8	2.2	171.3	0.1	1.4	-1.6	
	Mar	212.714	-0.1	-1.6	-0.4	2.2	218.042	0.2	2.1	1.8	2.2	169.3	-1.2	-13.1	-3.6	

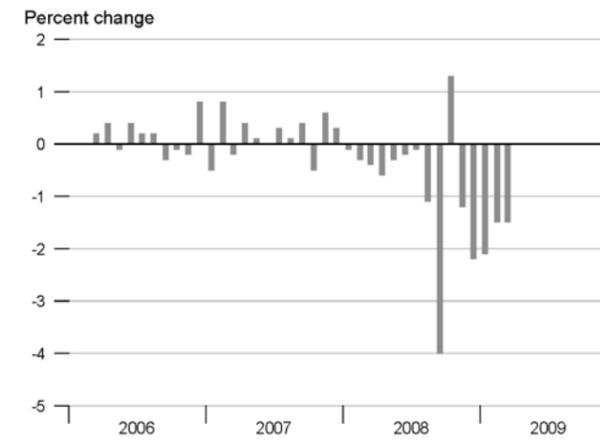
Real GDP Growth



Consumer Price Index



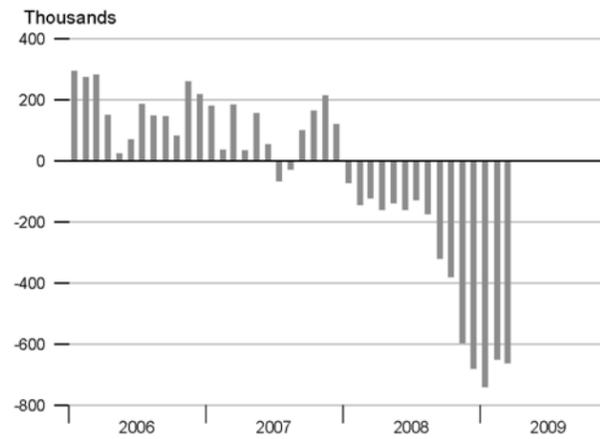
Industrial Production



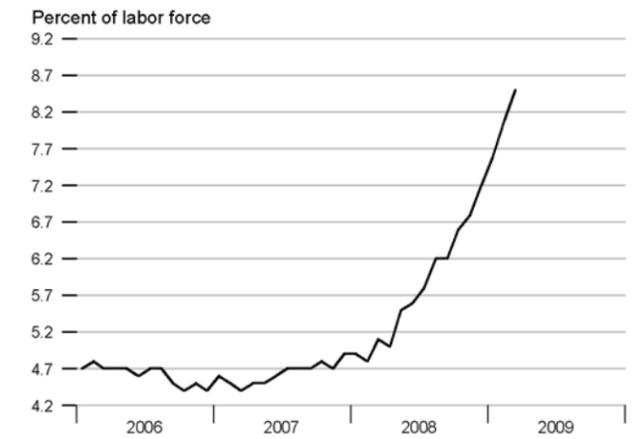
Interest Rates



Change in Nonfarm Payrolls

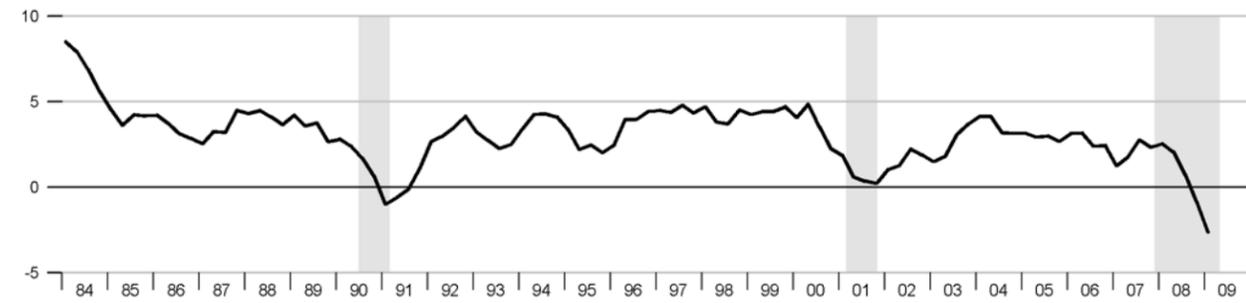


Unemployment Rate



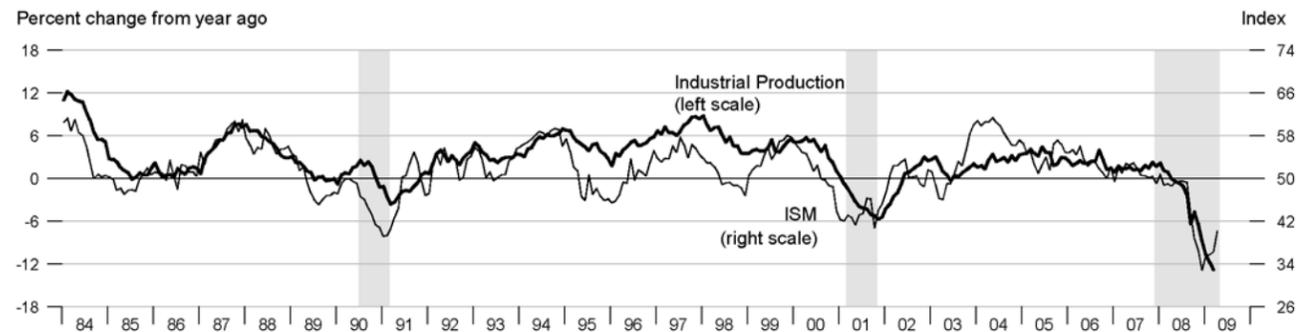
Real Gross Domestic Product

Percent change from year ago



Industrial Production and Institute for Supply Management (ISM) Indexes

Percent change from year ago



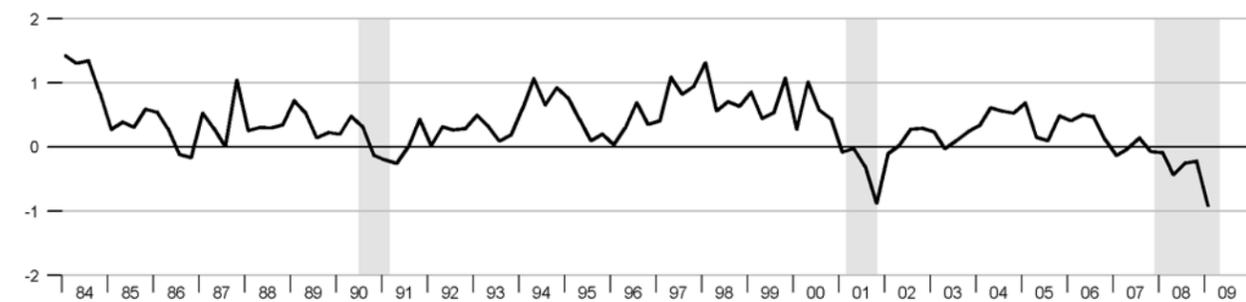
Aggregate Private Nonfarm Hours

Percent change from year ago



Real Change in Private Inventories

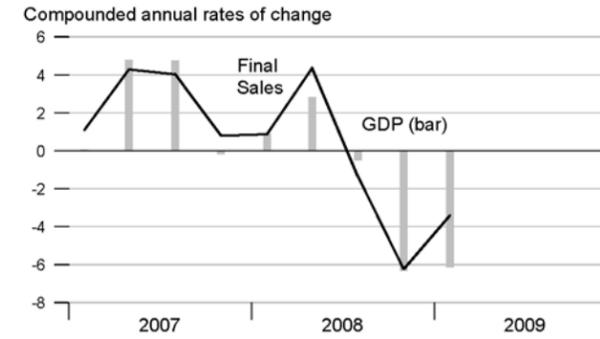
Percent of GDP



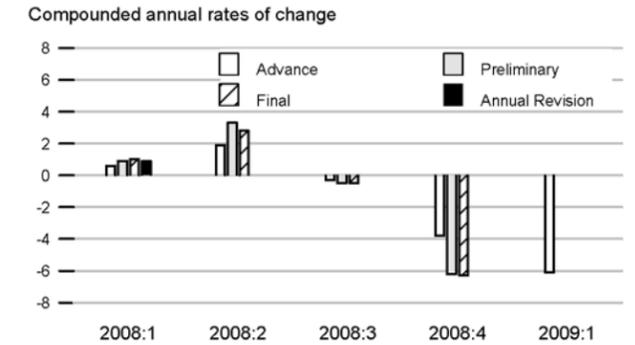
	Unempl. Rate	Retail and Food Services Sales			Industrial Production			Treasury Yields					
		Billions of dollars	Percent change		Index	Percent change		(Percent)					
			Monthly/quarterly	Annual rate	Year ago		Monthly/quarterly	Annual rate	Year ago	3-mo	10-yr		
2004	5.5	3833.094			6.1	103.8293			2.5	1.37	4.27		
2005	5.1	4078.223			6.4	107.2289			3.3	3.15	4.29		
2006	4.6	4294.467			5.3	109.6790			2.3	4.73	4.79		
2007	4.6	4435.842			3.3	111.3193			1.5	4.35	4.63		
2008	5.8	4403.816			-0.7	108.8380			-2.2	1.37	3.67		
2007	1	1095.943	1.3	5.2	2.6	110.4694	0.5	1.8	1.3	4.98	4.68		
	2	1101.816	0.5	2.2	3.0	111.1307	0.6	2.4	1.4	4.74	4.85		
	3	1108.003	0.6	2.3	3.1	111.7206	0.5	2.1	1.4	4.30	4.73		
	4	1130.080	2.0	8.2	4.4	111.9566	0.2	0.8	1.8	3.39	4.26		
2008	1	1124.438	-0.5	-2.0	2.6	112.0106	0.0	0.2	1.4	2.04	3.66		
	2	1127.551	0.3	1.1	2.3	110.7109	-1.2	-4.6	-0.4	1.63	3.89		
	3	1112.645	-1.3	-5.2	0.4	108.1232	-2.3	-9.0	-3.2	1.49	3.86		
	4	1039.182	-6.6	-23.9	-8.0	104.5073	-3.3	-12.7	-6.7	0.30	3.25		
2009	1	1024.485	-1.4	-5.5	-8.9	98.8464	-5.4	-20.0	-11.8	0.21	2.74		
2007	Apr	4.5	365.657	-0.7	-7.9	2.2	111.0539	0.4	4.7	1.4	4.87	4.69	
	May	4.5	370.030	1.2	15.3	4.0	111.1430	0.1	1.0	1.6	4.73	4.75	
	Jun	4.6	366.129	-1.1	-11.9	3.0	111.1951	0.0	0.6	1.2	4.61	5.10	
	Jul	4.7	367.715	0.4	5.3	2.6	111.5406	0.3	3.8	1.3	4.82	5.00	
	Aug	4.7	368.282	0.2	1.9	2.6	111.6142	0.1	0.8	1.2	4.20	4.67	
	Sep	4.7	372.006	1.0	12.8	4.2	112.0071	0.4	4.3	1.8	3.89	4.52	
	Oct	4.8	373.893	0.5	6.3	4.5	111.4196	-0.5	-6.1	1.5	3.90	4.53	
	Nov	4.7	379.767	1.6	20.6	5.6	112.0541	0.6	7.1	2.3	3.27	4.15	
	Dec	4.9	376.420	-0.9	-10.1	3.3	112.3962	0.3	3.7	1.7	3.00	4.10	
	2008	Jan	4.9	376.262	-0.0	-0.5	3.6	112.3389	-0.1	-0.6	2.2	2.75	3.74
		Feb	4.8	373.140	-0.8	-9.5	2.4	112.0435	-0.3	-3.1	1.1	2.12	3.74
		Mar	5.1	375.036	0.5	6.3	1.9	111.6495	-0.4	-4.1	0.9	1.26	3.51
Apr		5.0	375.028	-0.0	-0.0	2.6	111.0012	-0.6	-6.7	-0.0	1.29	3.68	
May		5.5	375.860	0.2	2.7	1.6	110.6820	-0.3	-3.4	-0.4	1.73	3.88	
Jun		5.6	376.663	0.2	2.6	2.9	110.4494	-0.2	-2.5	-0.7	1.86	4.10	
Jul		5.8	373.898	-0.7	-8.5	1.7	110.3760	-0.1	-0.8	-1.0	1.63	4.01	
Aug		6.2	372.192	-0.5	-5.3	1.1	109.1570	-1.1	-12.5	-2.2	1.72	3.89	
Sep		6.2	366.555	-1.5	-16.7	-1.5	104.8367	-4.0	-38.4	-6.4	1.13	3.69	
Oct		6.6	355.037	-3.1	-31.8	-5.0	106.1626	1.3	16.3	-4.7	0.67	3.81	
Nov		6.8	347.707	-2.1	-22.1	-8.4	104.8382	-1.2	-14.0	-6.4	0.19	3.53	
Dec		7.2	336.438	-3.2	-32.7	-10.6	102.5212	-2.2	-23.5	-8.8	0.03	2.42	
2009	Jan	7.6	342.017	1.7	21.8	-9.1	100.3256	-2.1	-22.9	-10.7	0.13	2.52	
	Feb	8.1	343.316	0.4	4.7	-8.0	98.8380	-1.5	-16.4	-11.8	0.30	2.87	
	Mar	8.5	339.152	-1.2	-13.6	-9.6	97.3755	-1.5	-16.4	-12.8	0.21	2.82	
	Apr										0.16	2.93	

	Household Survey Employment				Nonfarm Payroll Employment				Nonfarm Aggregate Hours				
	Thousands	Change	Percent change		Thousands	Change	Percent change		Index	Monthly rate	Annual rate	Year ago	
			Annual rate	Year ago			Annual rate	Year ago					
2004	139240	1511		1.1	131419	1423		1.1	100.2			1.6	
2005	141714	2474		1.8	133699	2280		1.7	102.7			2.6	
2006	144420	2707		1.9	136098	2398		1.8	105.8			3.0	
2007	146050	1629		1.1	137604	1507		1.1	107.3			1.4	
2008	145368	-681		-0.5	137046	-558		-0.4	106.2			-1.0	
2007	1	146081	459	1.3	137265	498	1.5	1.4	106.8	0.2	0.8	1.8	
	2	145873	-208	-0.6	137557	292	0.9	1.2	107.3	0.4	1.8	1.5	
	3	145969	96	0.3	137595	38	0.1	1.0	107.3	0.0	0.0	1.3	
	4	146275	306	0.8	138000	406	1.2	0.9	107.7	0.4	1.5	1.0	
2008	1	146138	-137	-0.4	137943	-57	-0.2	0.5	107.5	-0.1	-0.5	0.7	
	2	145990	-149	-0.4	137509	-434	-1.3	-0.0	106.9	-0.6	-2.3	-0.3	
	3	145299	-690	-1.9	137004	-505	-1.5	-0.4	106.1	-0.7	-2.8	-1.1	
	4	144046	-1253	-3.4	135727	-1277	-3.7	-1.6	104.1	-1.9	-7.4	-3.3	
2009	1	141578	-2468	-6.7	133678	-2049	-5.9	-3.1	101.8	-2.2	-8.7	-5.4	
2007	Mar	146267	275	2.3	137400	184	1.6	1.2	107.2	0.6	7.0	1.9	
	Apr	145647	-620	-5.0	137435	35	0.3	1.2	106.9	-0.3	-3.3	1.1	
	May	145915	268	2.2	137591	156	1.4	1.3	107.4	0.5	5.8	1.9	
	Jun	146057	142	1.2	137645	54	0.5	1.2	107.5	0.1	1.1	1.6	
	Jul	145972	-85	-0.7	137580	-65	-0.6	1.1	107.3	-0.2	-2.2	1.3	
	Aug	145732	-240	-2.0	137552	-28	-0.2	0.9	107.2	-0.1	-1.1	1.0	
	Sep	146203	471	3.9	137652	100	0.9	0.9	107.3	0.1	1.1	1.4	
	Oct	145867	-336	-2.7	137817	165	1.4	1.0	107.5	0.2	2.3	1.2	
	Nov	146665	798	6.8	138032	215	1.9	0.9	107.7	0.2	2.3	1.1	
	Dec	146294	-371	-3.0	138152	120	1.0	0.8	107.8	0.1	1.1	0.7	
	2008	Jan	146317	23	0.2	138080	-72	-0.6	0.7	107.5	-0.3	-3.3	0.8
		Feb	146075	-242	-2.0	137936	-144	-1.2	0.5	107.6	0.1	1.1	0.9
Mar		146023	-52	-0.4	137814	-122	-1.1	0.3	107.5	-0.1	-1.1	0.3	
Apr		146257	234	1.9	137654	-160	-1.4	0.2	107.4	-0.1	-1.1	0.5	
May		145974	-283	-2.3	137517	-137	-1.2	-0.1	106.9	-0.5	-5.4	-0.5	
Jun		145738	-236	-1.9	137356	-161	-1.4	-0.2	106.4	-0.5	-5.5	-1.0	
Jul		145596	-142	-1.2	137228	-128	-1.1	-0.3	106.2	-0.2	-2.2	-1.0	
Aug		145273	-323	-2.6	137053	-175	-1.5	-0.4	106.4	0.2	2.3	-0.7	
Sep		145029	-244	-2.0	136732	-321	-2.8	-0.7	105.8	-0.6	-6.6	-1.4	
Oct		144657	-372	-3.0	136352	-380	-3.3	-1.1	105.0	-0.8	-8.7	-2.3	
Nov		144144	-513	-4.2	135755	-597	-5.1	-1.6	104.1	-0.9	-9.8	-3.3	
Dec		143338	-806	-6.5	135074	-681	-5.9	-2.2	103.2	-0.9	-9.9	-4.3	
2009	Jan	142099	-1239	-9.9	134333	-741	-6.4	-2.7	102.5	-0.7	-7.8	-4.7	
	Feb	141748	-351	-2.9	133682	-651	-5.7	-3.1	101.9	-0.6	-6.8	-5.3	
	Mar	140887	-861	-7.1	133019	-663	-5.8	-3.5	100.9	-1.0	-11.2	-6.1	

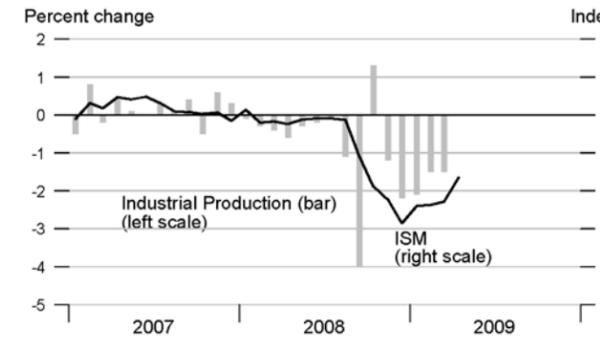
Real Final Sales and GDP



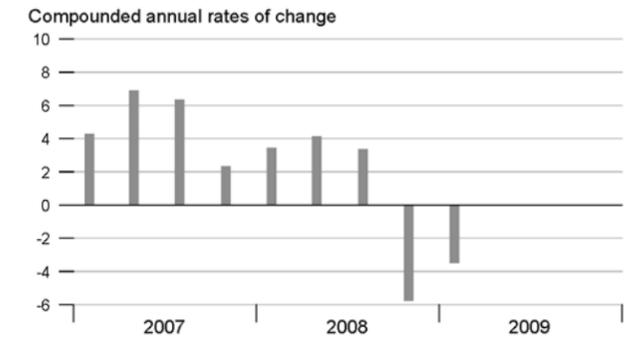
Real GDP Revisions



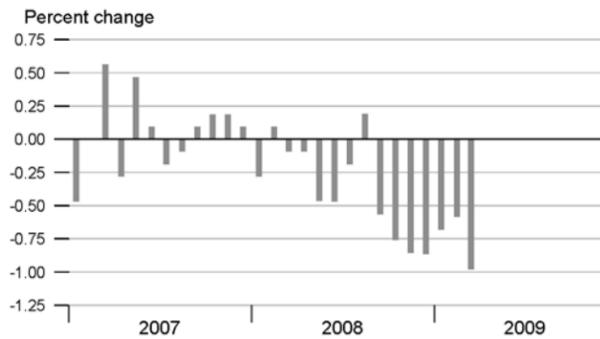
Industrial Production and ISM Index



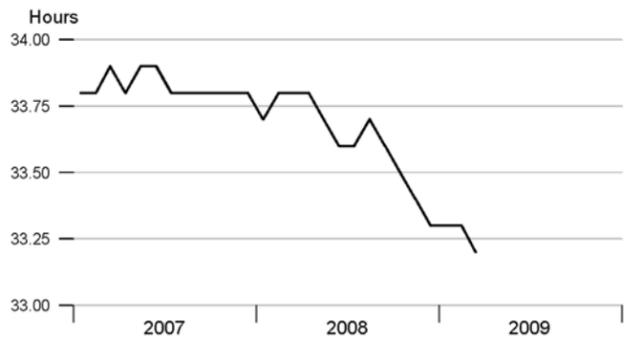
Nominal Gross Domestic Product



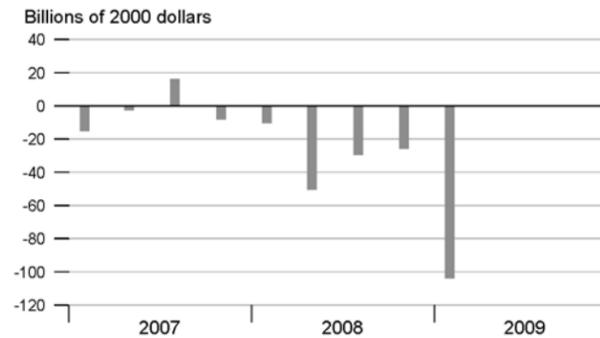
Aggregate Private Nonfarm Hours



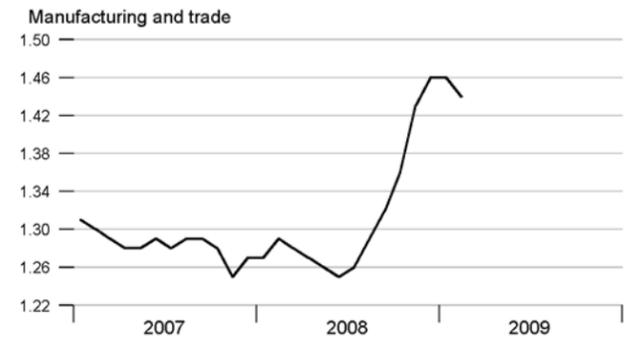
Average Weekly Private Nonfarm Hours



Real Change in Private Inventories

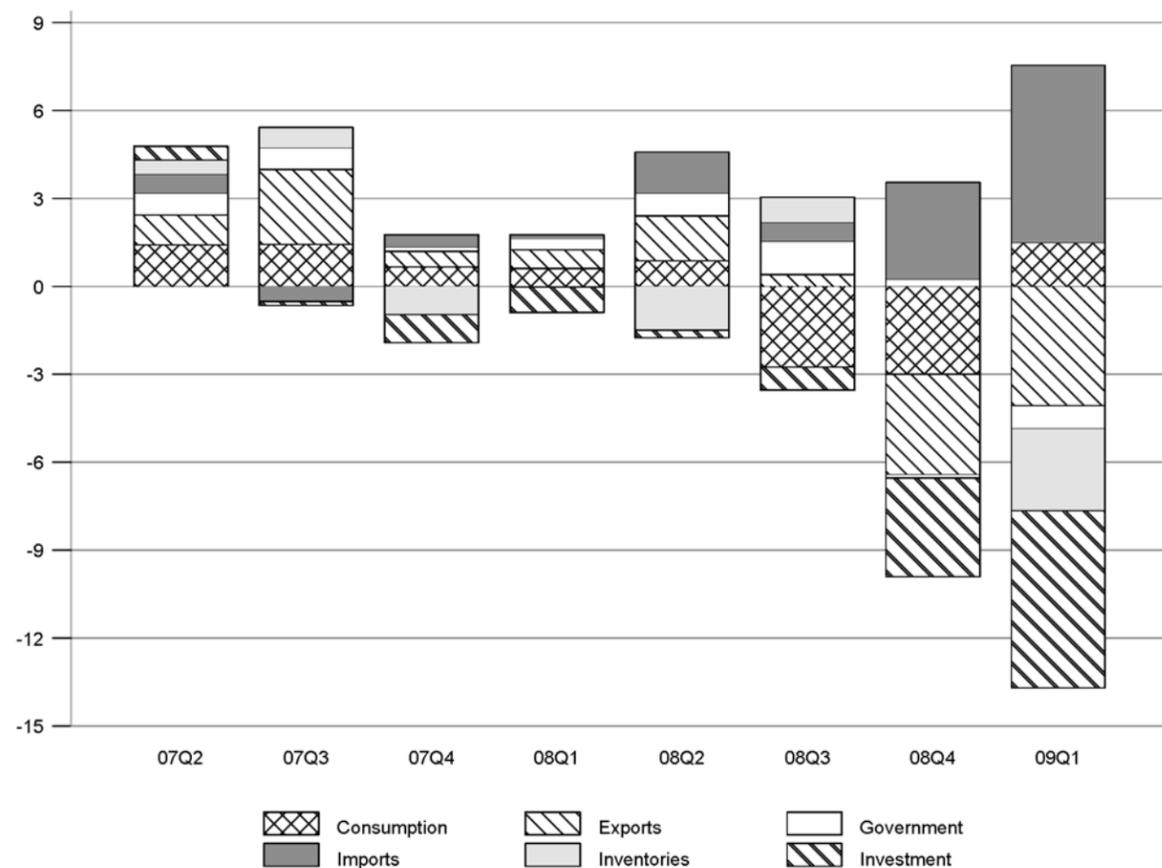


Inventory-Sales Ratio



Contribution of Components to Real GDP Growth

Percentage points at compounded annual rates



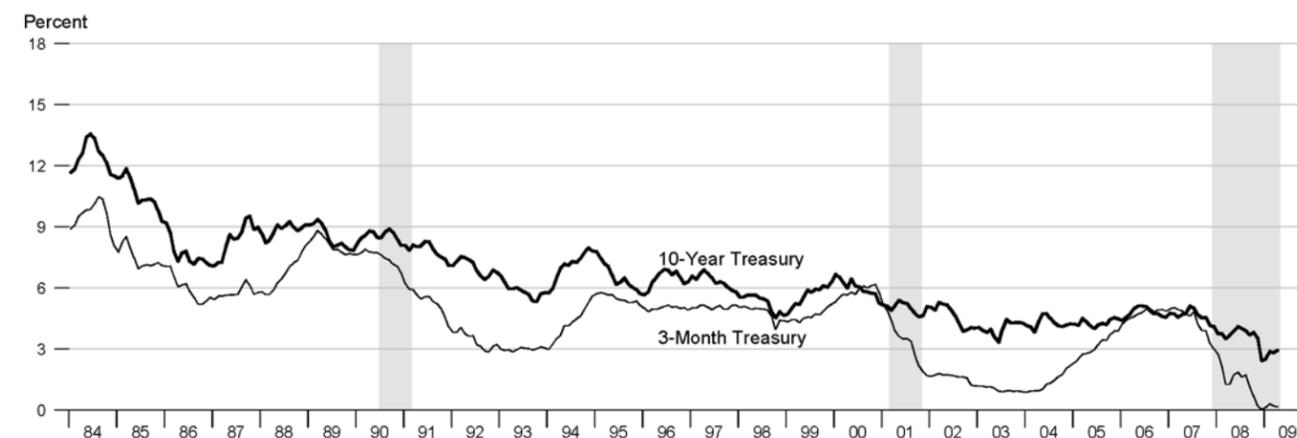
Contributions to Real GDP Growth Rate

	2007			2008				2009
	2nd	3rd	4th	1st	2nd	3rd	4th	1st
Final Sales	4.32	4.07	0.79	0.89	4.33	-1.35	-6.23	-3.35
Consumption	1.42	1.44	0.67	0.61	0.87	-2.75	-2.99	1.50
Fixed Investment	0.47	-0.15	-0.97	-0.86	-0.25	-0.79	-3.36	-6.04
Nonresidential	1.07	0.91	0.36	0.26	0.27	-0.19	-2.56	-4.68
Residential	-0.60	-1.06	-1.33	-1.12	-0.52	-0.60	-0.80	-1.36
Government	0.77	0.75	0.16	0.38	0.78	1.14	0.26	-0.81
Federal	0.47	0.51	-0.04	0.41	0.47	0.97	0.52	-0.32
State and Local	0.30	0.24	0.19	-0.03	0.31	0.17	-0.25	-0.49
Net Exports	1.66	2.03	0.94	0.77	2.93	1.05	-0.15	1.99
Exports	1.01	2.54	0.53	0.63	1.54	0.40	-3.44	-4.06
Imports	0.65	-0.51	0.40	0.14	1.39	0.65	3.29	6.05
Change in Inventory	0.47	0.69	-0.96	-0.02	-1.50	0.84	-0.11	-2.79
Residual	-0.15	-0.24	-0.34	-0.10	0.02	0.28	0.24	0.20
Real GDP Growth	4.79	4.76	-0.17	0.87	2.83	-0.51	-6.34	-6.14

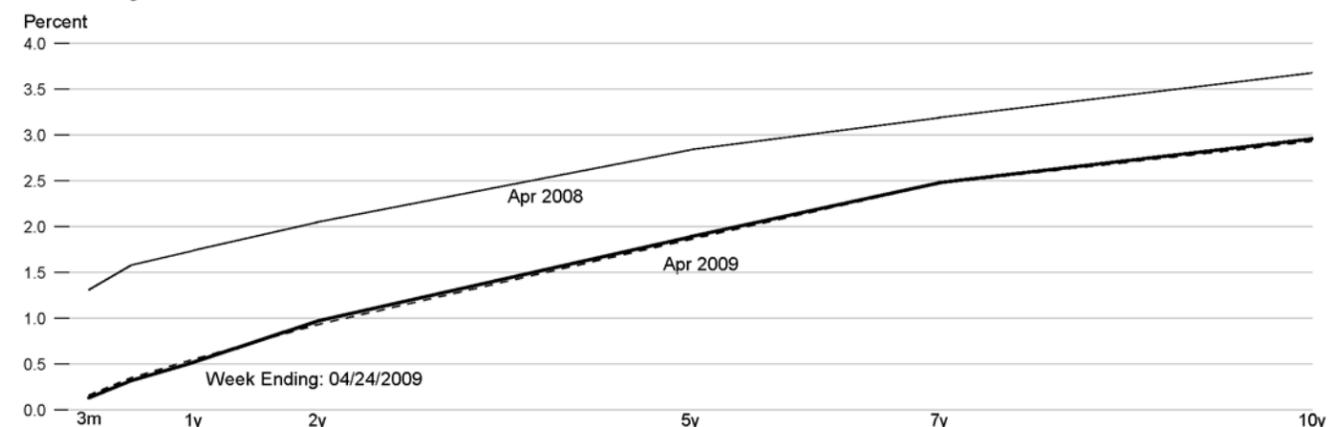
	GDP Chain Price Index			Employment Cost Index			ECI: Wages			ECI: Benefits		
	Index	Percent change		Index	Percent change		Index	Percent change		Index	Percent change	
		Annual rate	Year ago		Annual rate	Year ago		Annual rate	Year ago		Annual rate	Year ago
2005	113.039		3.3	99.2		3.1	99.2		2.5	99.2		4.6
2006	116.676		3.2	102.1		2.9	102.1		2.9	102.1		2.9
2007	119.819		2.7	105.2		3.1	105.5		3.4	104.5		2.4
2008	122.500		2.2	108.2		2.8	108.7		3.0	107.2		2.6
2006 1	115.536	3.5	3.4	100.8	2.4	2.6	100.8	2.8	2.5	100.8	2.0	2.9
2006 2	116.317	2.7	3.5	101.6	3.2	2.8	101.6	3.2	2.8	101.6	3.2	2.8
2006 3	117.109	2.8	3.2	102.5	3.6	3.0	102.5	3.6	3.1	102.5	3.6	2.8
2006 4	117.742	2.2	2.8	103.3	3.2	3.1	103.3	3.2	3.2	103.4	3.6	3.1
2007 1	118.935	4.1	2.9	104.0	2.7	3.2	104.3	3.9	3.5	103.1	-1.2	2.3
2007 2	119.531	2.0	2.8	104.8	3.1	3.1	105.0	2.7	3.3	104.2	4.3	2.6
2007 3	119.984	1.5	2.5	105.6	3.1	3.0	105.9	3.5	3.3	104.9	2.7	2.3
2007 4	120.826	2.8	2.6	106.5	3.5	3.1	106.7	3.1	3.3	105.9	3.9	2.4
2008 1	121.613	2.6	2.3	107.2	2.7	3.1	107.6	3.4	3.2	106.5	2.3	3.3
2008 2	121.951	1.1	2.0	107.9	2.6	3.0	108.4	3.0	3.2	106.9	1.5	2.6
2008 3	123.134	3.9	2.6	108.6	2.6	2.8	109.1	2.6	3.0	107.5	2.3	2.5
2008 4	123.302	0.5	2.0	109.1	1.9	2.4	109.6	1.8	2.7	107.9	1.5	1.9
2009 1	124.186	2.9	2.1	109.3	0.7	2.0	109.8	0.7	2.0	108.1	0.7	1.5
		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
2005	1205.274		7.0	1821.900		5.9	133.862		1.7	162.132		4.0
2006	1314.848		9.1	1930.515		6.0	135.124		0.9	168.294		3.8
2007	1425.912		8.4	1972.412		2.2	137.049		1.4	175.248		4.1
2008	1514.086		6.2	1904.284		-3.5	140.905		2.8	181.787		3.7
2006 1	1284.261	16.7	9.0	1920.229	10.3	6.6	134.832	1.9	1.3	166.506	4.5	4.2
2006 2	1301.418	5.5	8.2	1920.864	0.1	6.5	135.642	2.4	1.7	167.026	1.3	3.9
2006 3	1312.622	3.5	9.0	1935.666	3.1	7.1	135.086	-1.6	0.3	167.961	2.3	2.9
2006 4	1361.067	15.6	10.1	1945.317	2.0	3.8	134.938	-0.4	0.6	171.651	9.1	4.2
2007 1	1363.150	0.6	6.1	1981.783	7.7	3.2	134.731	-0.6	-0.1	173.407	4.2	4.1
2007 2	1392.190	8.8	7.0	1963.366	-3.7	2.2	136.326	4.8	0.5	173.973	1.3	4.2
2007 3	1466.244	23.0	11.7	1978.005	3.0	2.2	138.665	7.0	2.6	175.845	4.4	4.7
2007 4	1482.053	4.4	8.9	1966.509	-2.3	1.1	138.482	-0.5	2.6	177.765	4.4	3.6
2008 1	1500.591	5.1	10.1	1962.628	-0.8	-1.0	139.385	2.6	3.5	179.396	3.7	3.5
2008 2	1544.749	12.3	11.0	1926.000	-7.3	-1.9	140.980	4.7	3.4	180.150	1.7	3.6
2008 3	1556.096	3.0	6.1	1909.146	-3.5	-3.5	141.732	2.2	2.2	182.680	5.7	3.9
2008 4	1454.909	-23.6	-1.8	1819.361	-17.5	-7.5	141.574	-0.4	2.2	185.042	5.3	4.1
2009 1	1331.029	-30.0	-11.3	1639.451	-34.1	-16.5						

	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	
2005	12421.9	6.3		10989.508	2.9		10947.255	3.1		38.946		
2006	13178.4	6.1		11294.816	2.8		11249.341	2.8		42.301		
2007	13807.5	4.8		11523.944	2.0		11523.416	2.4		-2.480		
2008	14264.6	3.3		11651.957	1.1		11680.998	1.4		-29.022		
2006 1	12959.6	8.6	6.6	11217.261	4.8	3.1	11167.646	5.1	3.4	45.924	31.778	
2	13134.1	5.5	6.8	11291.674	2.7	3.2	11232.065	2.3	2.8	56.922	41.828	
3	13249.6	3.6	5.7	11314.057	0.8	2.4	11257.833	0.9	2.0	53.270	52.395	
4	13370.1	3.7	5.3	11356.368	1.5	2.4	11339.723	2.9	2.8	13.086	42.301	
2007 1	13510.9	4.3	4.3	11357.840	0.1	1.3	11370.469	1.1	1.8	-15.044	27.059	
2	13737.5	6.9	4.6	11491.351	4.8	1.8	11490.523	4.3	2.3	-2.821	12.123	
3	13950.6	6.4	5.3	11625.746	4.8	2.8	11605.013	4.0	3.1	16.001	2.806	
4	14031.2	2.3	4.9	11620.739	-0.2	2.3	11627.950	0.8	2.5	-8.058	-2.481	
2008 1	14150.8	3.5	4.7	11645.968	0.9	2.5	11653.718	0.9	2.5	-10.182	-1.265	
2	14294.5	4.1	4.1	11727.351	2.8	2.1	11778.847	4.4	2.5	-50.550	-13.197	
3	14412.8	3.4	3.3	11712.429	-0.5	0.7	11739.220	-1.3	1.2	-29.588	-24.595	
4	14200.3	-5.8	1.2	11522.078	-6.3	-0.8	11552.209	-6.2	-0.7	-25.769	-29.022	
2009 1	14075.5	-3.5	-0.5	11340.857	-6.1	-2.6	11452.262	-3.4	-1.7	-103.709	-52.404	
	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
2005	7791.732	3.0		1134.384	4.6		1829.815	6.8		1226.160	7.2	
2006	8028.958	3.0		1185.122	4.5		1865.493	1.9		1318.159	7.5	
2007	8252.773	2.8		1242.395	4.8		1808.543	-3.1		1382.929	4.9	
2008	8272.115	0.2		1188.509	-4.3		1718.852	-5.0		1405.418	1.6	
2006 1	7947.412	4.3	3.2	1173.061	18.9	5.5	1895.228	8.3	5.8	1295.218	15.9	7.9
2	8002.135	2.8	3.0	1178.310	1.8	3.0	1883.072	-2.5	3.3	1315.436	6.4	7.9
3	8046.346	2.2	2.7	1188.386	3.5	2.5	1859.953	-4.8	0.7	1332.661	5.3	7.7
4	8119.940	3.7	3.2	1200.722	4.2	6.9	1823.721	-7.6	-1.8	1329.322	-1.0	6.5
2007 1	8197.173	3.9	3.1	1227.322	9.2	4.6	1807.821	-3.4	-4.6	1340.423	3.4	3.5
2	8237.272	2.0	2.9	1242.274	5.0	5.4	1821.269	3.0	-3.3	1373.787	10.3	4.4
3	8278.517	2.0	2.9	1249.405	2.3	5.1	1816.954	-0.9	-2.3	1402.876	8.7	5.3
4	8298.196	1.0	2.2	1250.580	0.4	4.2	1788.160	-6.2	-1.9	1414.655	3.4	6.4
2008 1	8316.055	0.9	1.5	1237.008	-4.3	0.8	1762.404	-5.6	-2.5	1423.095	2.4	6.2
2	8341.328	1.2	1.3	1228.280	-2.8	-1.1	1754.899	-1.7	-3.6	1431.818	2.5	4.2
3	8260.590	-3.8	-0.2	1180.123	-14.8	-5.5	1731.058	-5.3	-4.7	1425.682	-1.7	1.6
4	8170.485	-4.3	-1.5	1108.623	-22.1	-11.4	1627.045	-22.0	-9.0	1341.076	-21.7	-5.2
2009 1	8214.156	2.2	-1.2	1133.884	9.4	-8.3	1444.289	-37.9	-18.1	1190.627	-37.9	-16.3

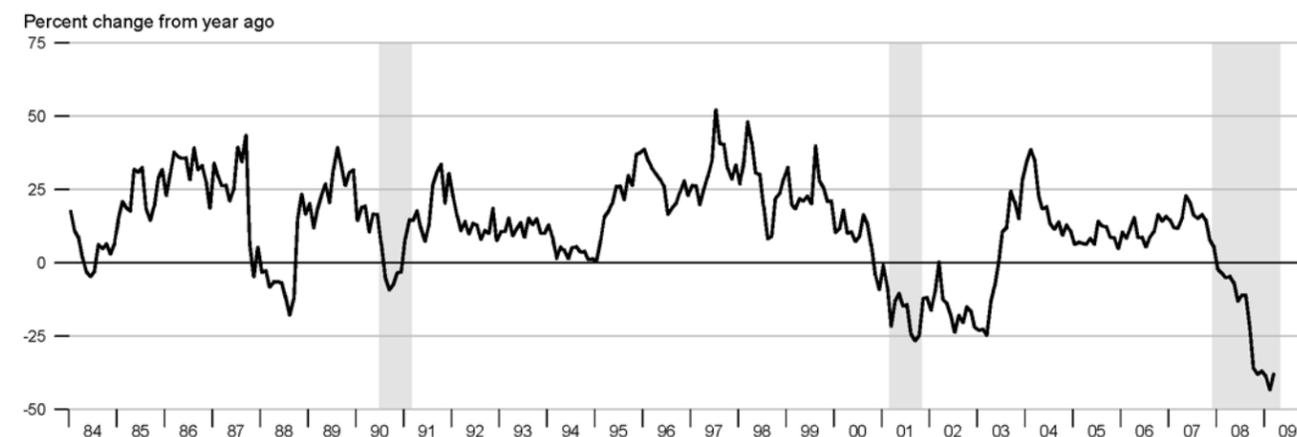
Interest Rates



Treasury Yield Curve



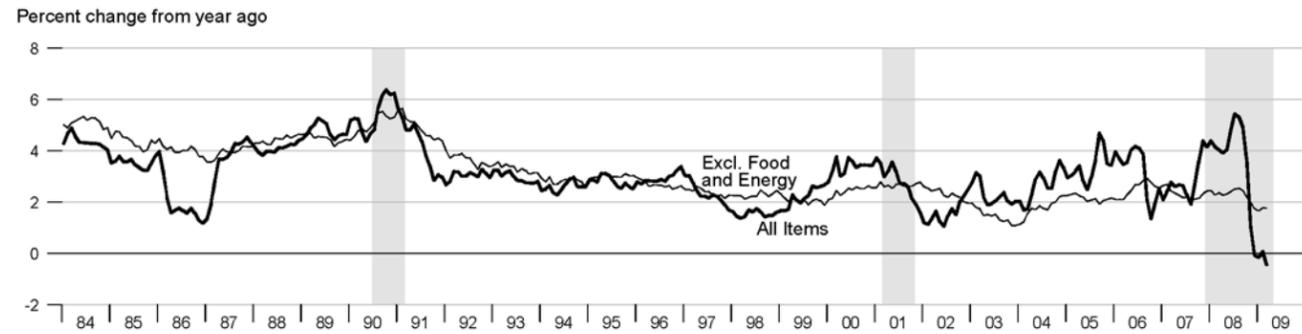
Standard and Poor's 500 Index with Reinvested Dividends



NIPA Chain Price Indexes



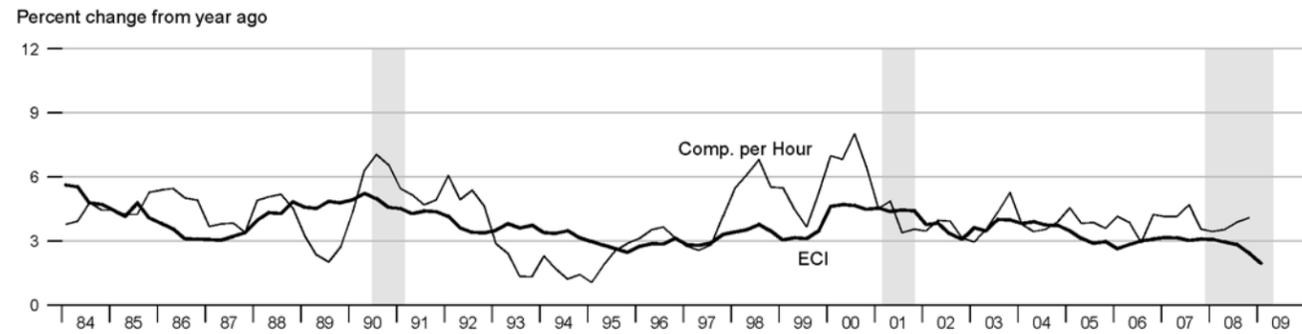
Consumer Price Index



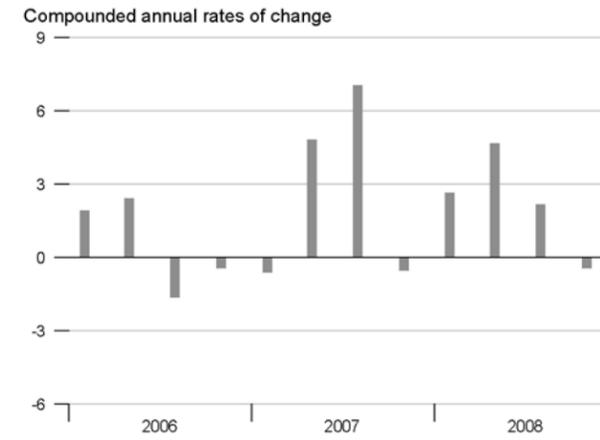
Producer Price Index, Finished Goods



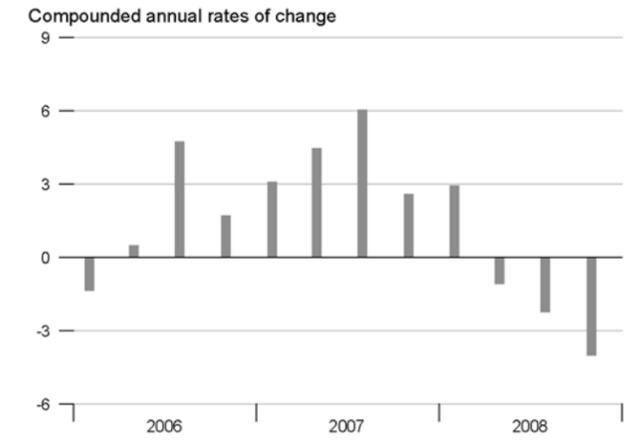
Employment Cost Index and Compensation per Hour



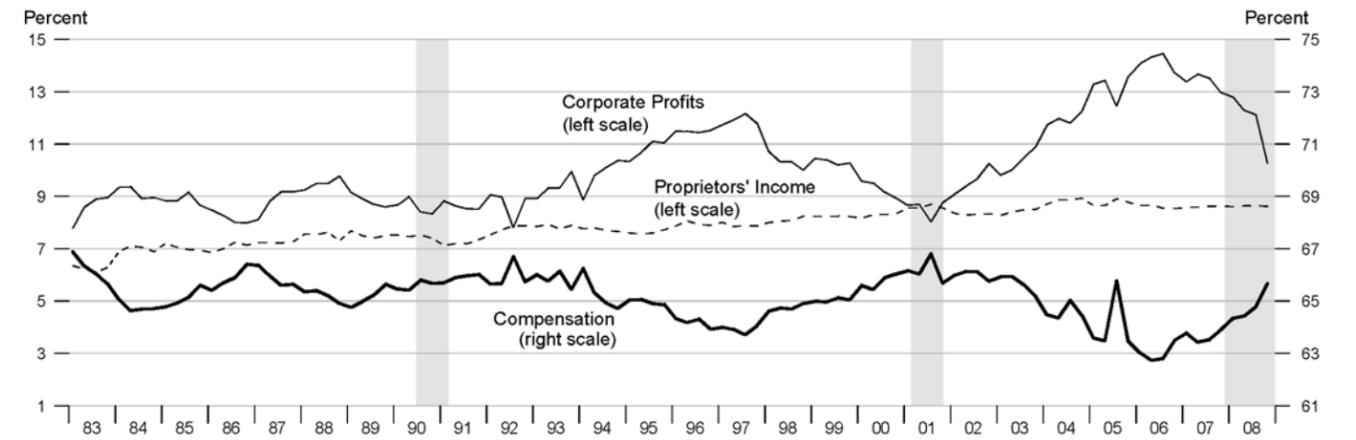
Nonfarm Output per Hour



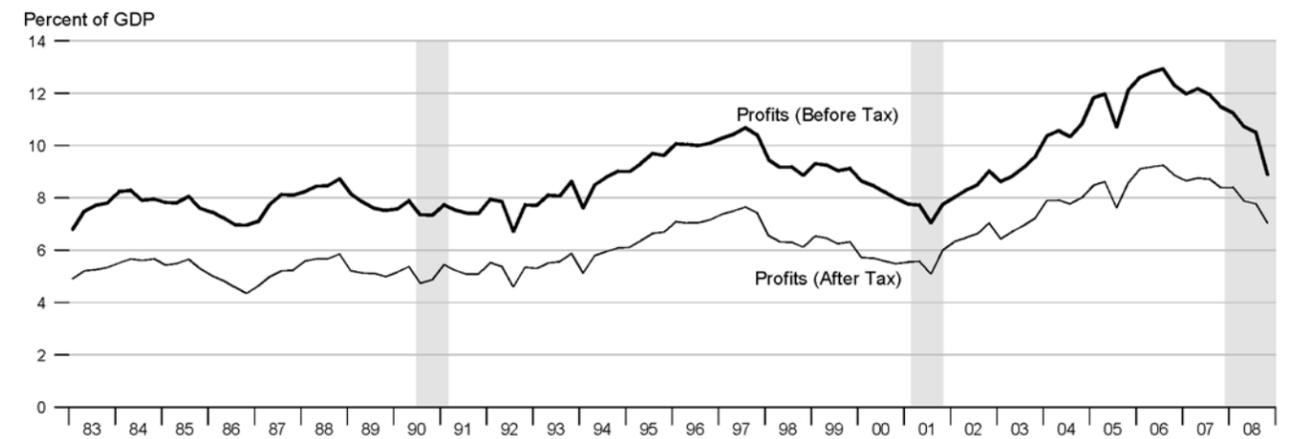
Manufacturing Output per Hour



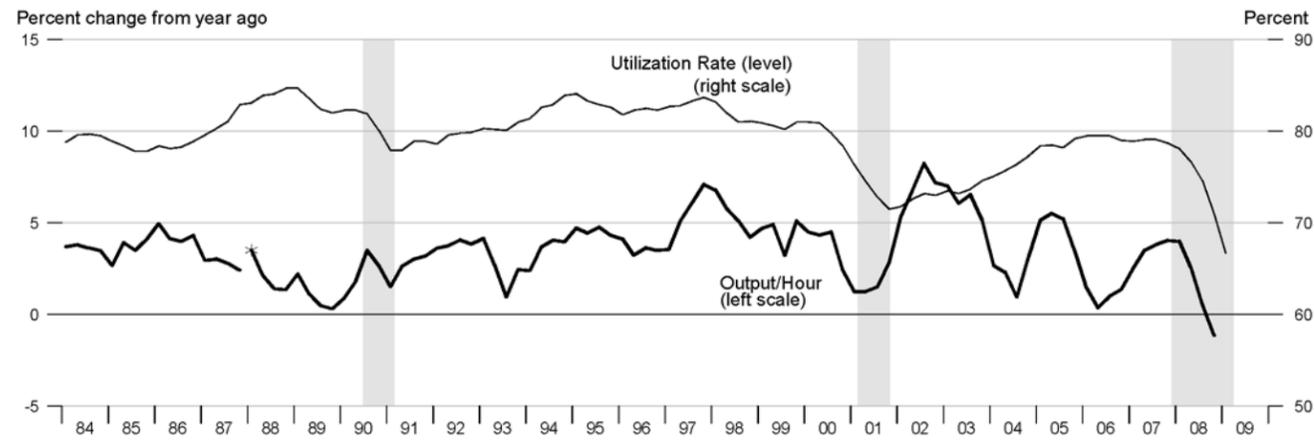
Selected Component Shares of National Income



Corporate Profits

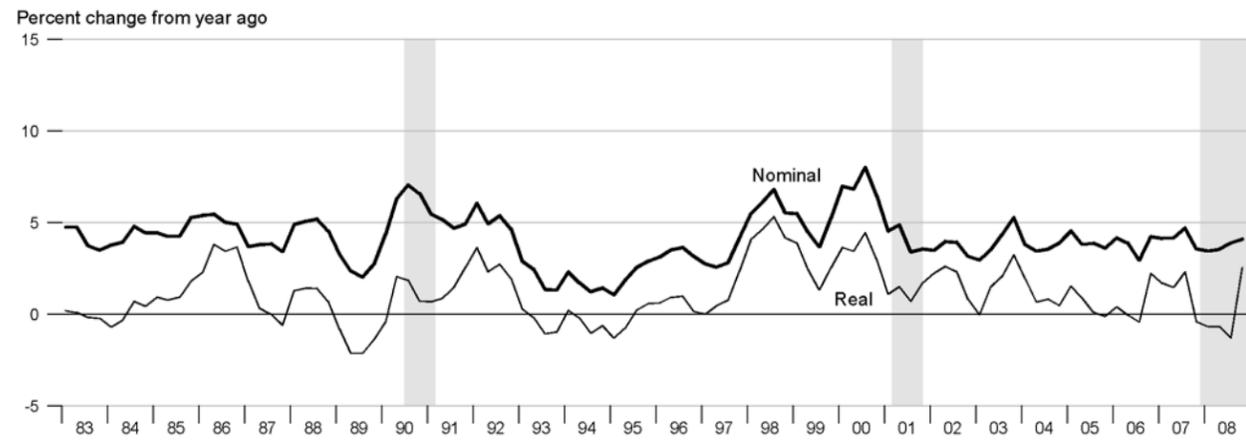


Output per Hour and Capacity Utilization, Manufacturing

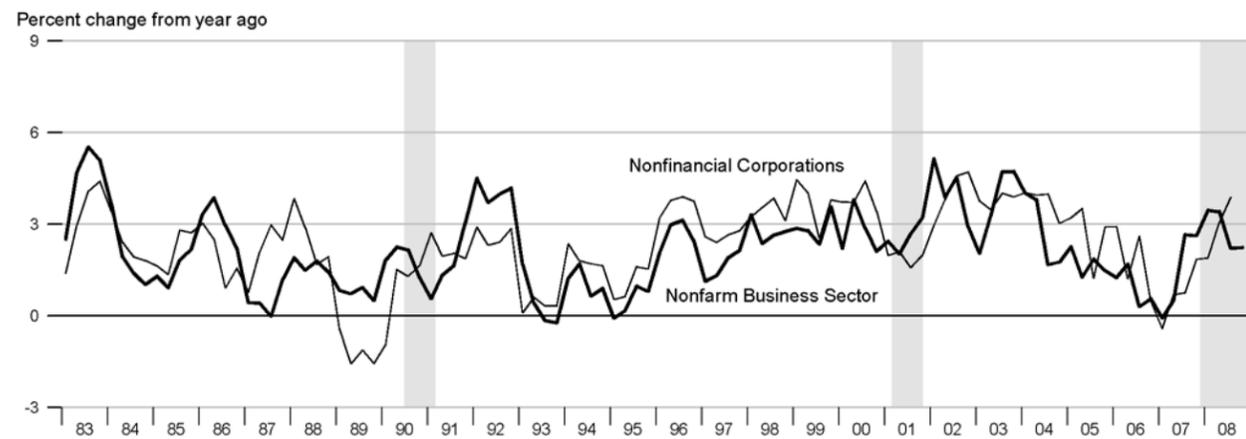


*Data from 1987 to the present are on a NAICS basis; data prior to 1987 are on an SIC basis and are not strictly comparable (see End Note).

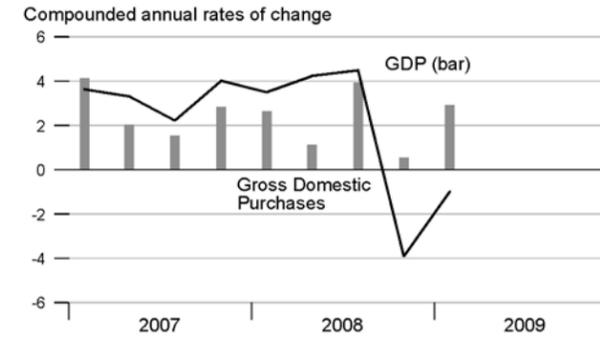
Nonfarm Compensation per Hour



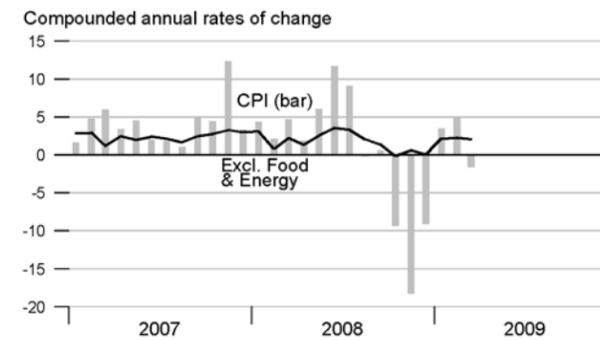
Output per Hour, Nonfarm Business and Nonfinancial Corporations



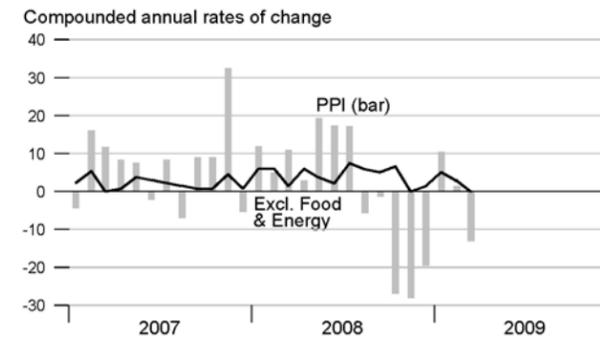
NIPA Chain Price Indexes



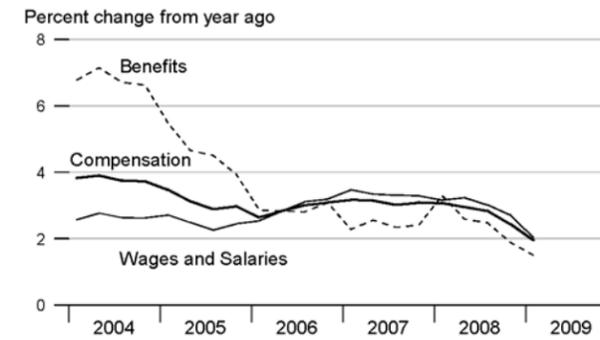
Consumer Price Index



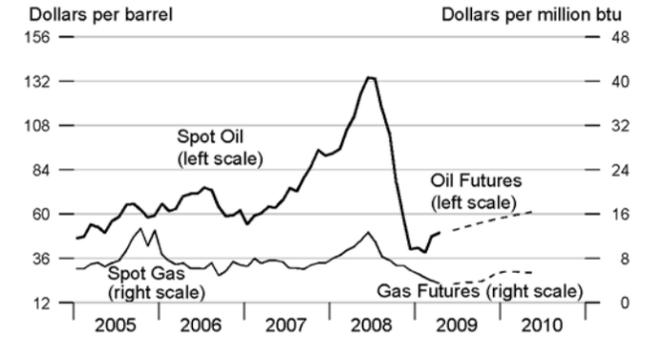
Producer Price Index, Finished Goods



Employment Cost Index

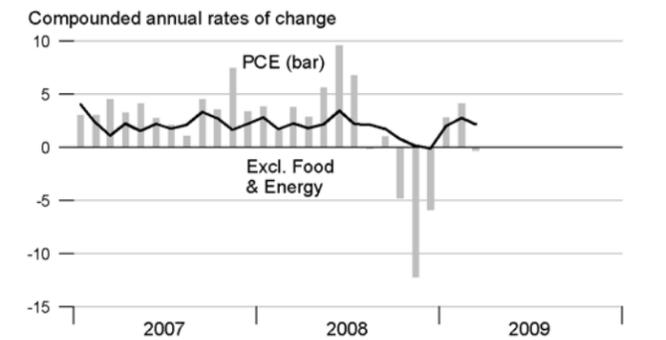


Oil & Natural Gas Prices: Spot & Futures

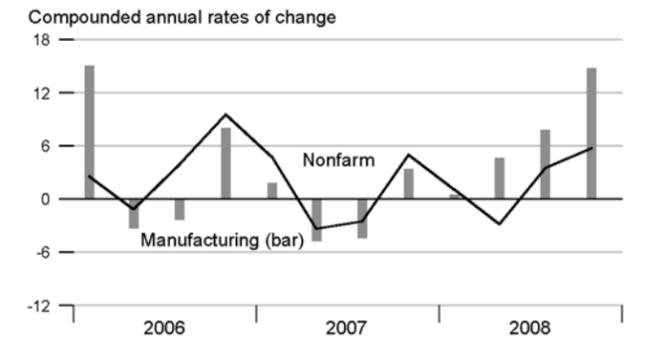


Note: Futures prices as of 4/30/2009.

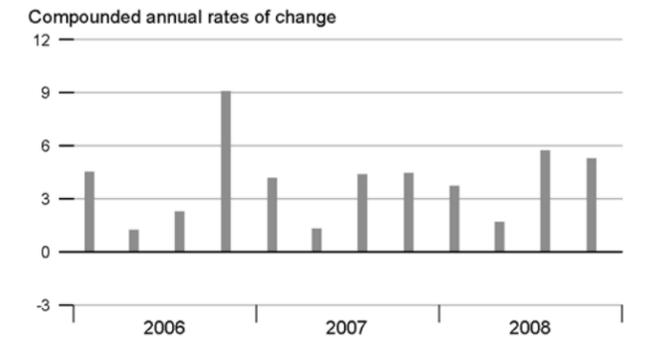
Consumption Chain Price Index



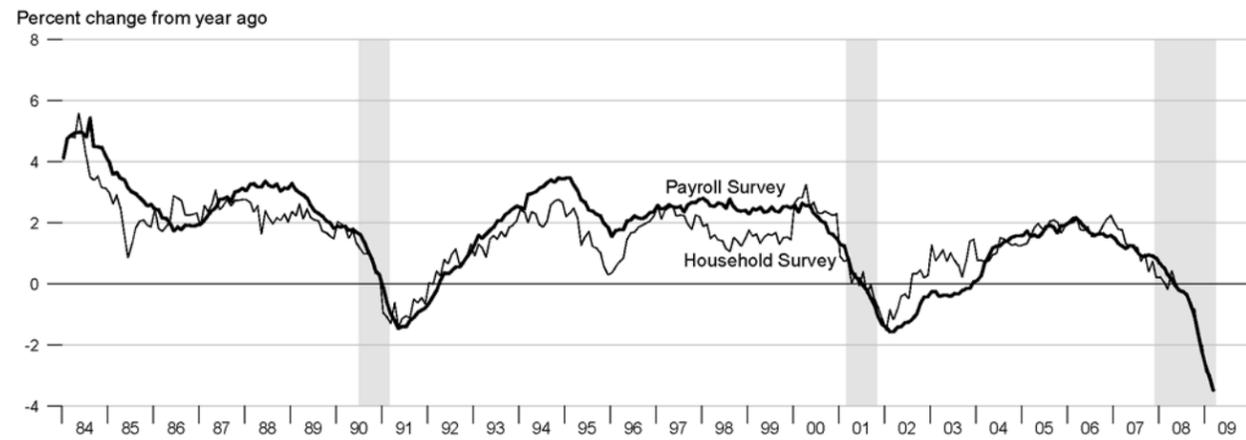
Unit Labor Cost



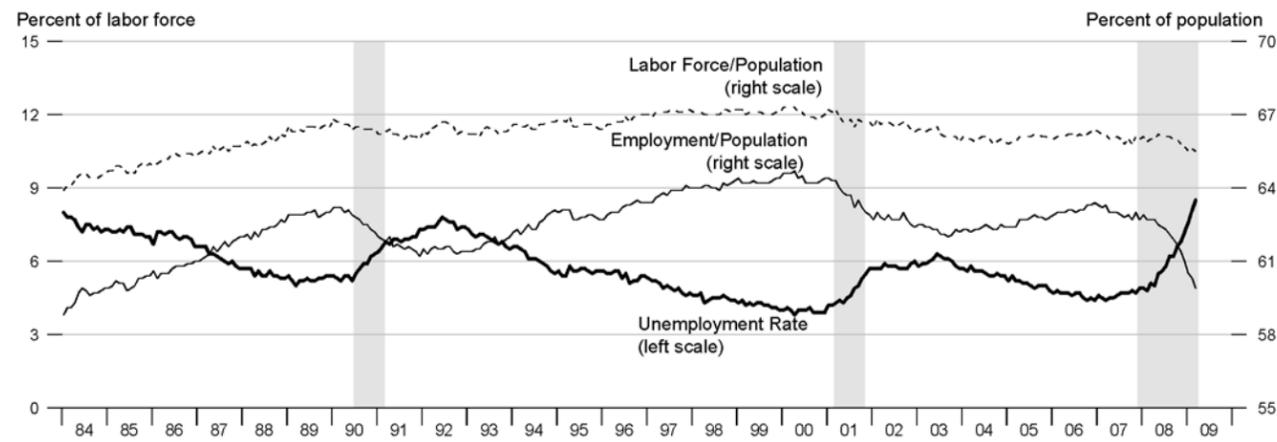
Compensation per Hour



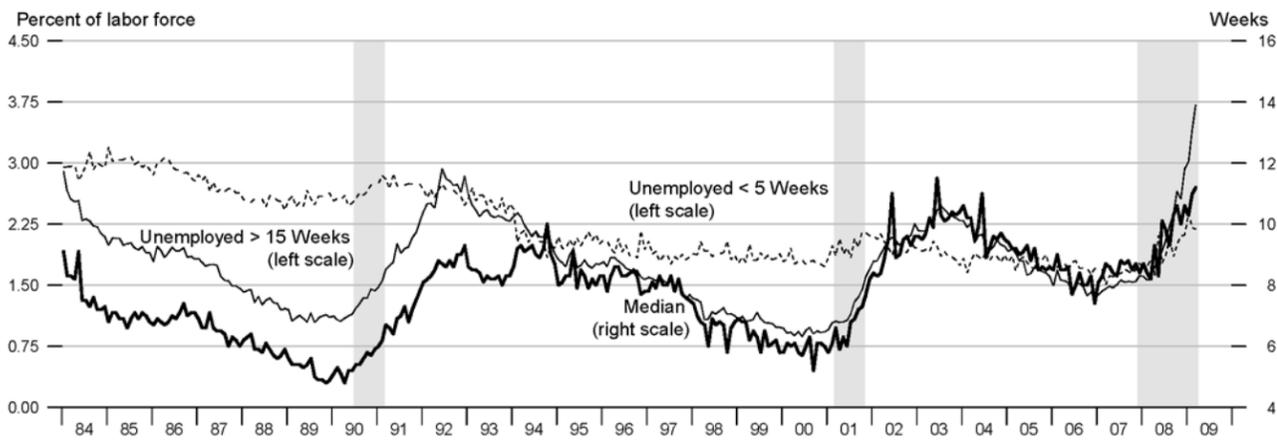
Employment



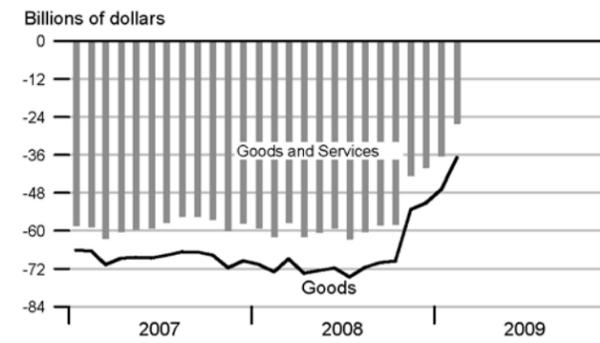
Unemployment, Labor Force Participation, and Employment Rates



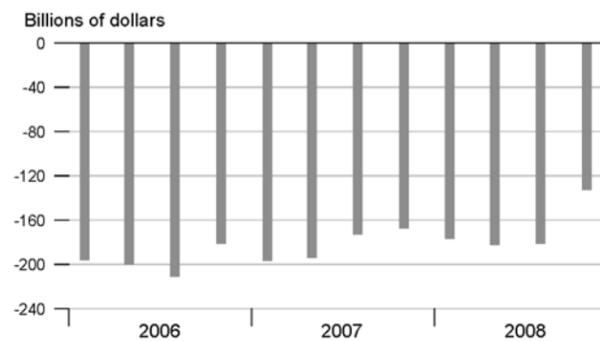
Duration of Unemployment



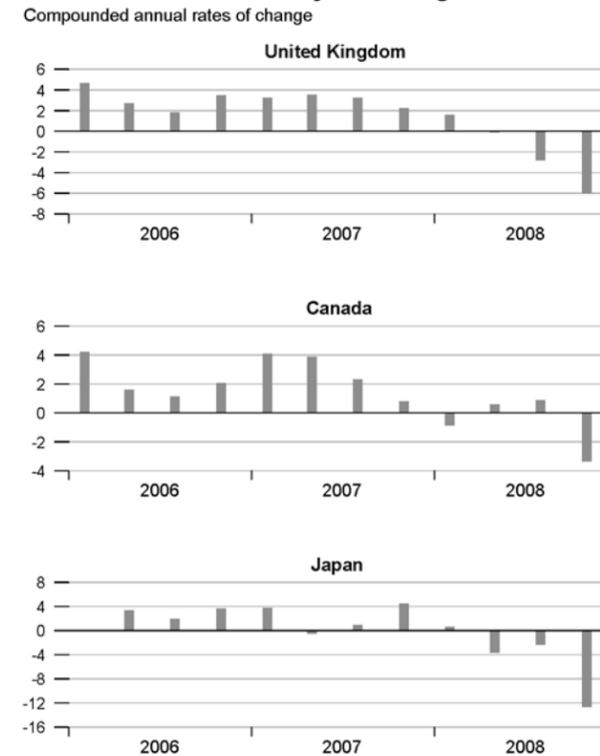
Trade Balance



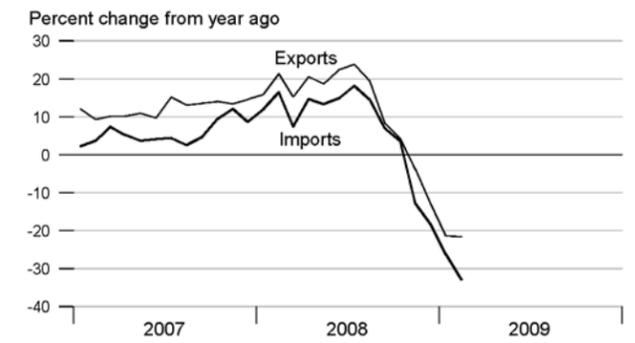
Current Account Balance



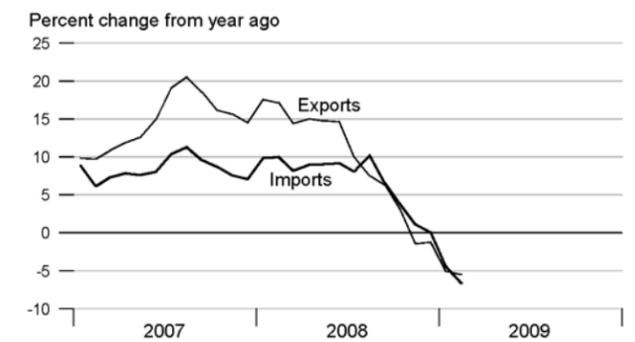
Real GDP Growth of Major Trading Partners



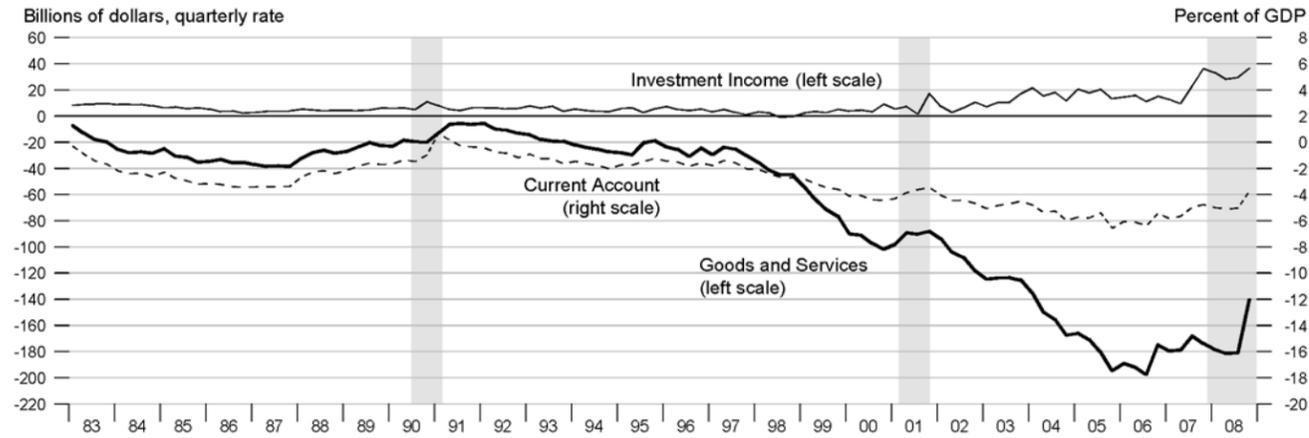
Goods Trade



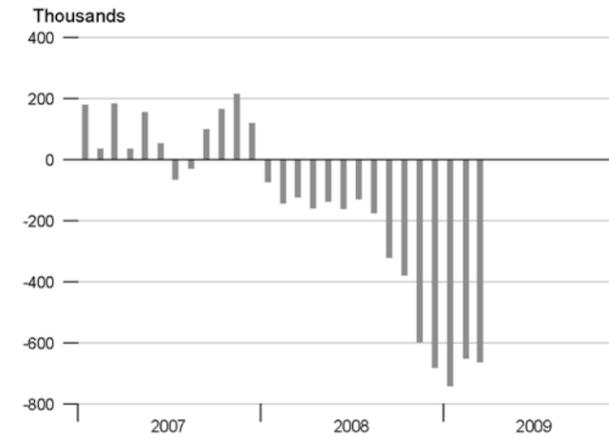
Services Trade



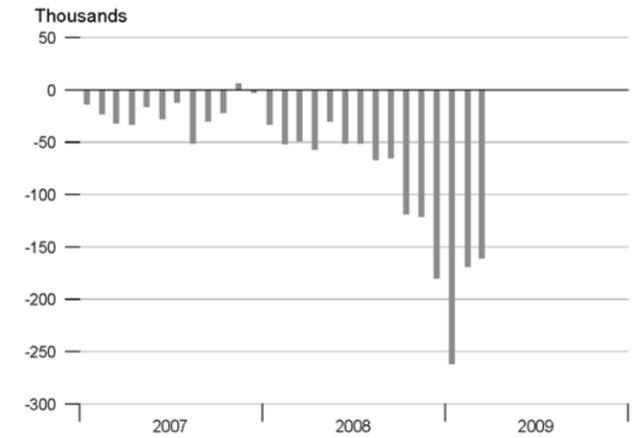
Current Account, Trade and Investment Income Balances



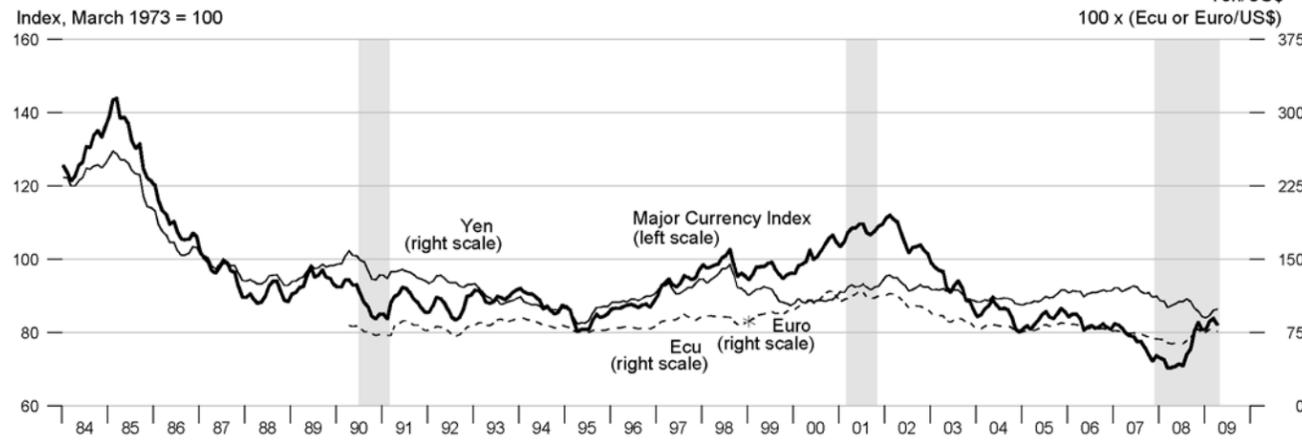
Change in Nonfarm Payrolls



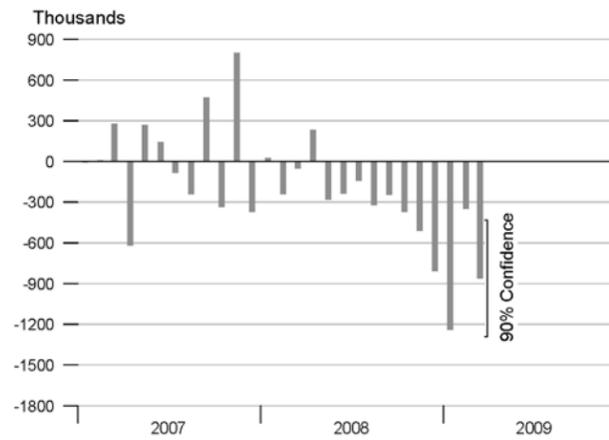
Change in Manufacturing Payrolls



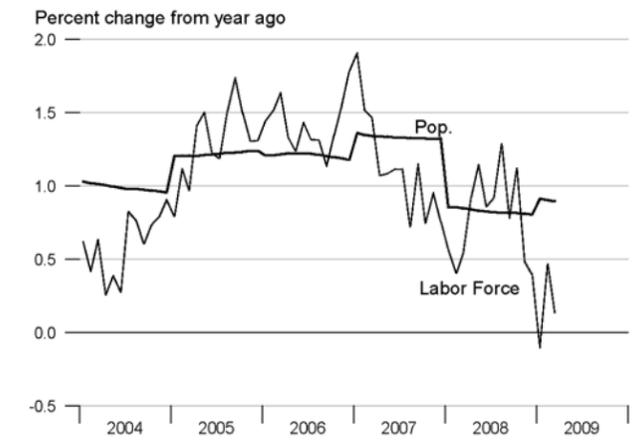
Exchange Rates



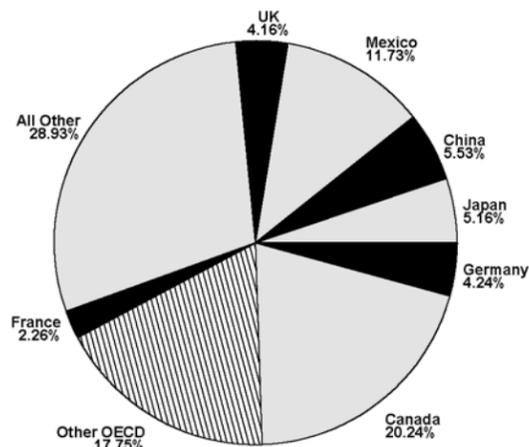
Change in Household Employment



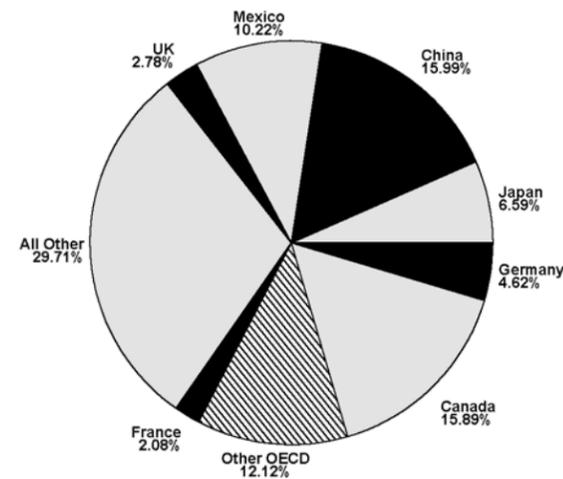
Labor Force and Population



Goods Export Shares, 2008



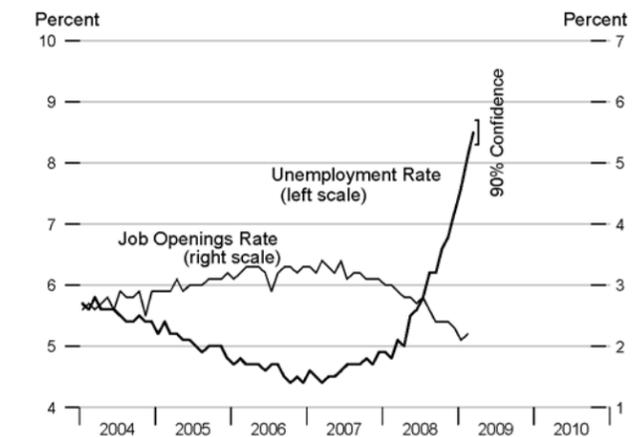
Goods Import Shares, 2008



Available Labor Supply and Components

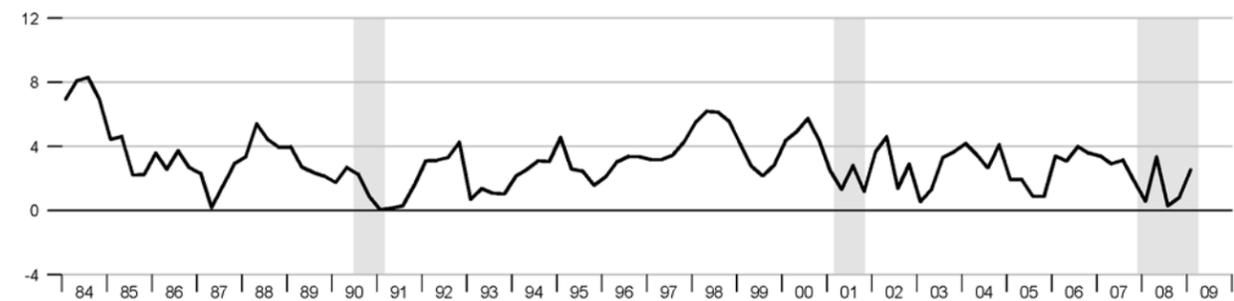


Unemployment Rate & Job Openings Rate



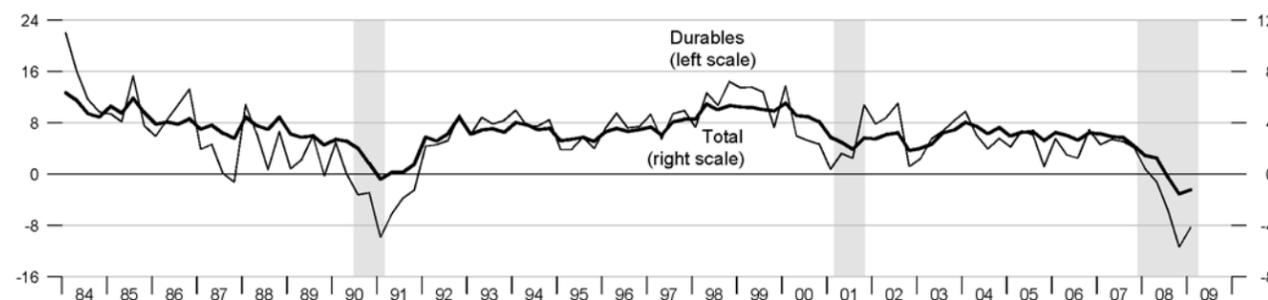
Real Disposable Personal Income

Percent change from year ago, quarterly data



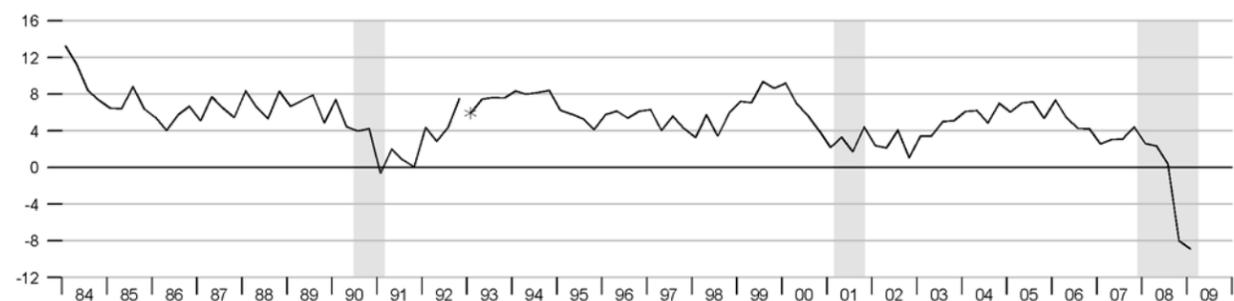
Real Consumption

Percent change from year ago, quarterly data



Retail and Food Services Sales

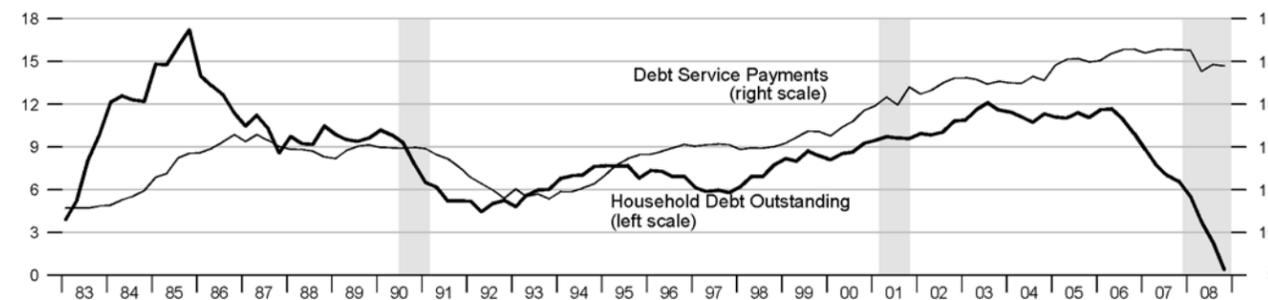
Percent change from year ago, quarterly average



*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).

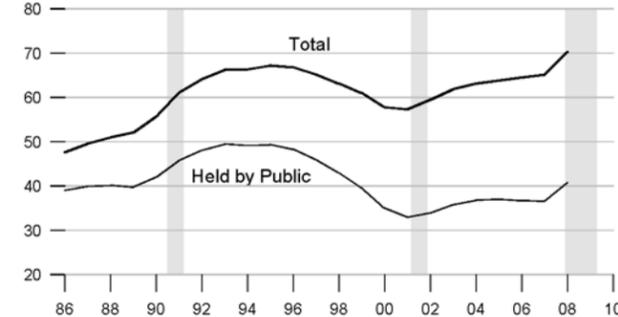
Debt Service Payments and Household Debt Outstanding

Percent change from year ago, quarterly data



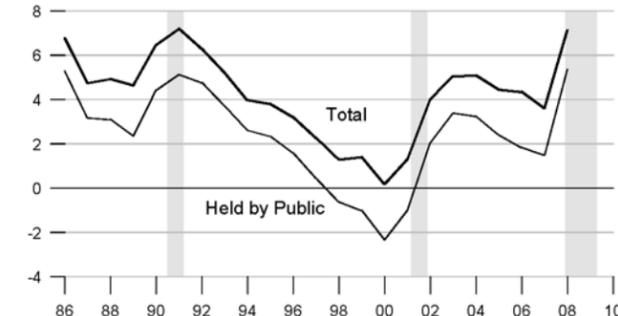
Federal Debt

Percent of GDP



Change in Federal Debt

Percent of GDP



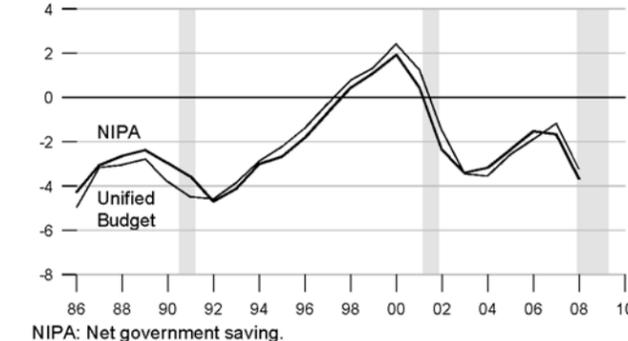
Federal Government Debt

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
2006		8507.0	3663.8	4843.2	768.9	4074.2	2027.3
2007		9007.7	3958.4	5049.2	779.6	4269.7	2237.2
2008		10024.7	4210.5	5814.2	476.6	5332.0	2848.2
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	736.4	3864.9	1930.6
	December	8170.4	3455.8	4714.6	744.2	3970.6	2036.0
2006	March	8371.2	3498.4	4872.8	758.5	4114.0	2084.5
	June	8420.0	3622.6	4797.5	766.4	4030.8	1979.8
	September	8507.0	3663.8	4843.2	768.9	4074.2	2027.3
	December	8680.2	3779.0	4901.2	778.9	4122.1	2105.0
2007	March	8849.7	3795.4	5054.3	780.9	4273.1	2196.7
	June	8867.7	3924.7	4943.0	790.5	4152.6	2193.9
	September	9007.7	3958.4	5049.2	779.6	4269.7	2237.2
	December	9229.2	4092.9	5136.3	740.6	4395.7	2352.9
2008	March	9437.6	4103.6	5334.1	591.2	4742.9	2507.5
	June	9492.0	4207.0	5285.0	478.8	4806.2	2634.2
	September	10024.7	4210.5	5814.2	476.6	5332.0	2848.2
	December	10699.8	4327.2	6372.7	475.9	5893.4	3125.0

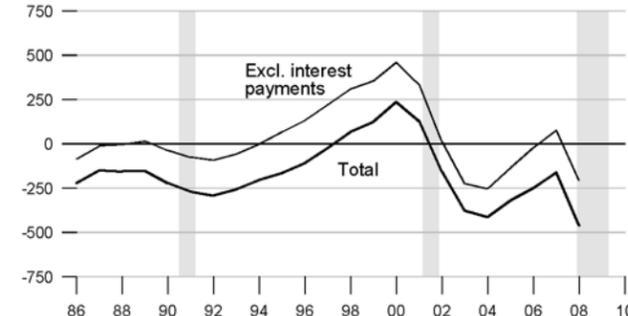
Federal Surplus (+) / Deficit (-)

Percent of GDP

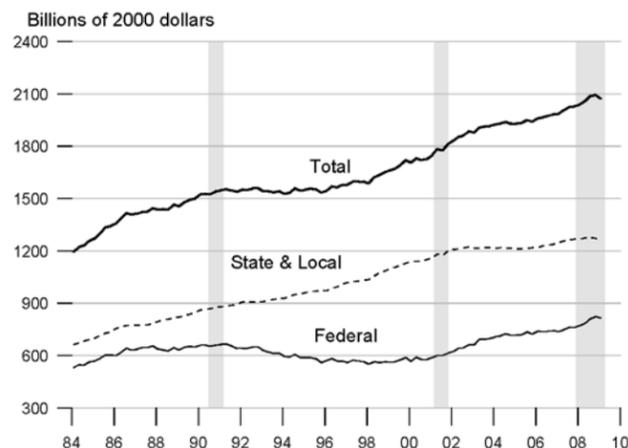


Federal Surplus (+) / Deficit (-), Unified Basis

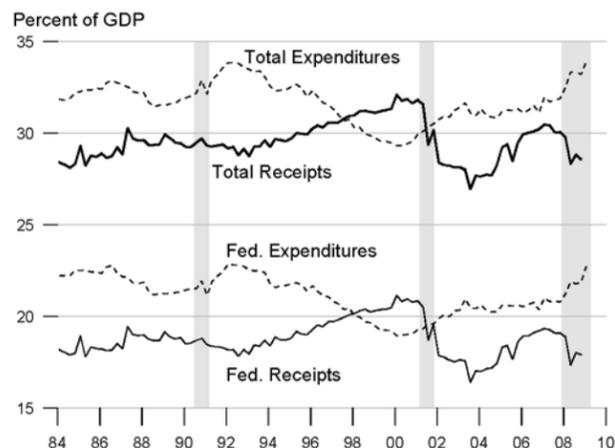
Billions of dollars, fiscal years



Govt. Consumption and Investment



Govt. Current Receipts and Expenditures

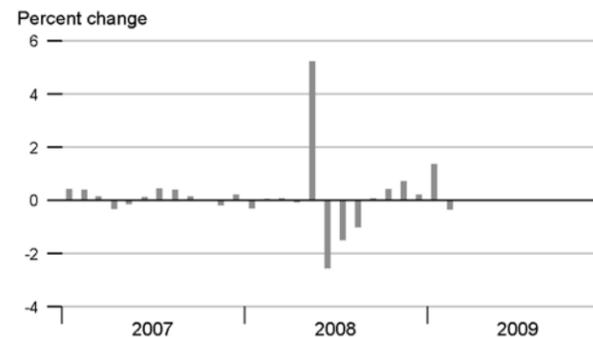


Government Budgets

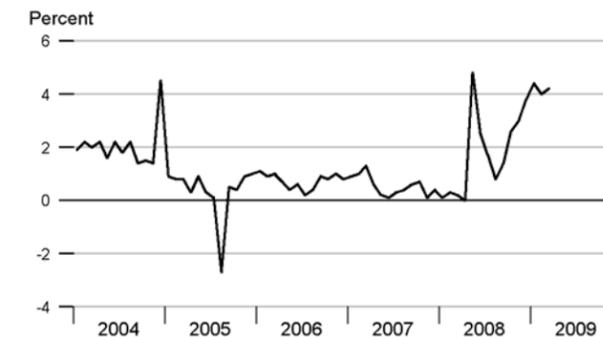
Billions of dollars

	National Income Accounts			Unified Budget		
	Calendar Years			Fiscal Years		
	State and Local		Federal	Federal		Federal
	Receipts	Expenditures	Surplus or Deficit (-)	Receipts	Expenditures	Surplus or Deficit (-)
1992	845.7	845.0	0.7	1147.2	1444.6	-297.4
1993	886.9	886.0	0.9	1222.5	1496.0	-273.5
1994	942.9	932.4	10.5	1320.8	1533.1	-212.3
1995	990.2	978.2	12.0	1406.5	1603.5	-197.0
1996	1043.3	1017.5	25.8	1524.0	1665.8	-141.8
1997	1097.4	1058.3	39.1	1653.1	1708.9	-55.8
1998	1163.2	1111.2	52.0	1773.8	1734.9	38.9
1999	1236.7	1186.3	50.4	1891.2	1787.6	103.6
2000	1319.5	1269.5	50.0	2053.8	1864.4	189.4
2001	1373.0	1368.2	4.8	2016.2	1969.5	46.7
2002	1410.1	1444.3	-34.2	1853.2	2101.1	-247.9
2003	1494.2	1514.5	-20.3	1879.9	2252.1	-372.2
2004	1594.3	1592.8	1.5	2008.9	2379.5	-370.6
2005	1714.4	1684.9	29.5	2266.9	2558.6	-291.7
2006	1811.4	1765.3	46.1	2510.4	2711.6	-201.2
2007	1902.8	1892.4	10.4	2651.2	2880.5	-229.3
2008	1935.1	2015.2	-80.1	2572.9	3094.3	-521.4
2007Q2	1909.8	1874.0	35.8	2648.1	2859.5	-211.4
2007Q3	1905.5	1900.7	4.8	2664.9	2909.2	-244.3
2007Q4	1918.4	1940.7	-22.3	2679.2	2915.6	-236.4
2008Q1	1922.9	1975.3	-52.4	2672.5	3003.2	-330.7
2008Q2	1955.4	2022.3	-66.9	2478.8	3128.4	-649.6
2008Q3	1944.9	2048.5	-103.6	2595.7	3139.8	-544.1
2008Q4	1917.3	2014.8	-97.5	2544.4	3105.9	-561.5
2009Q1		2005.1			3209.8	
				442.4	914.0	-471.6

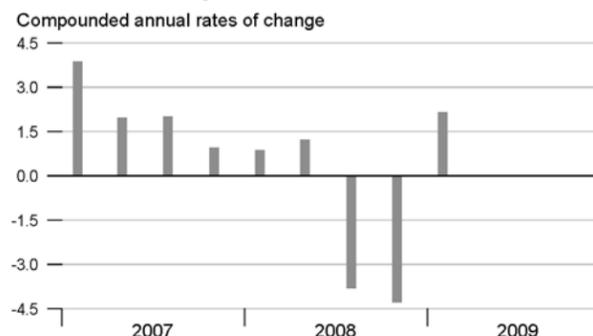
Real Disposable Personal Income



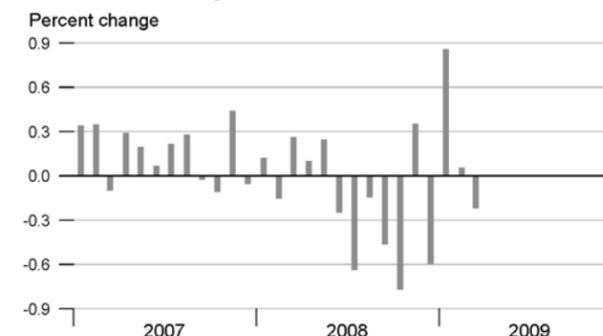
Personal Saving Rate



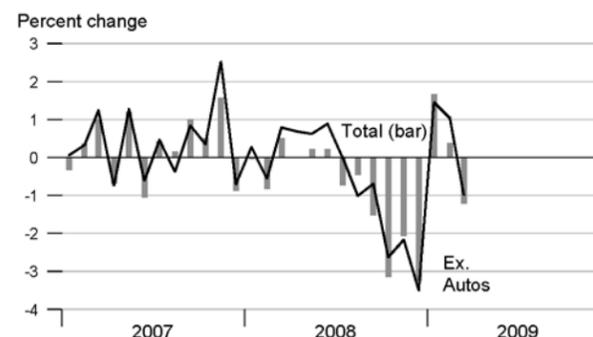
Real Consumption



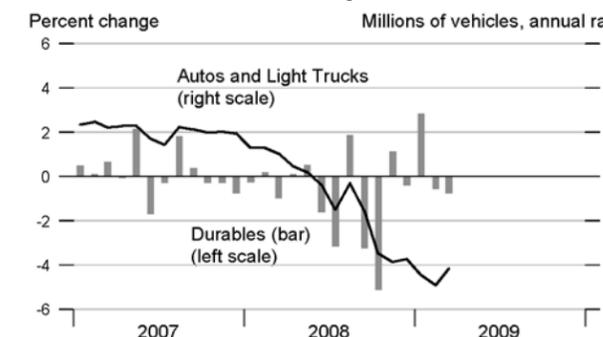
Real Consumption



Retail & Food Services



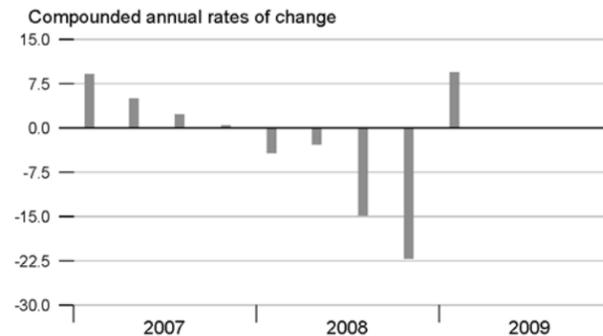
Real Durables Consumption & Vehicle Sales



Consumer Sentiment (U. of Michigan)

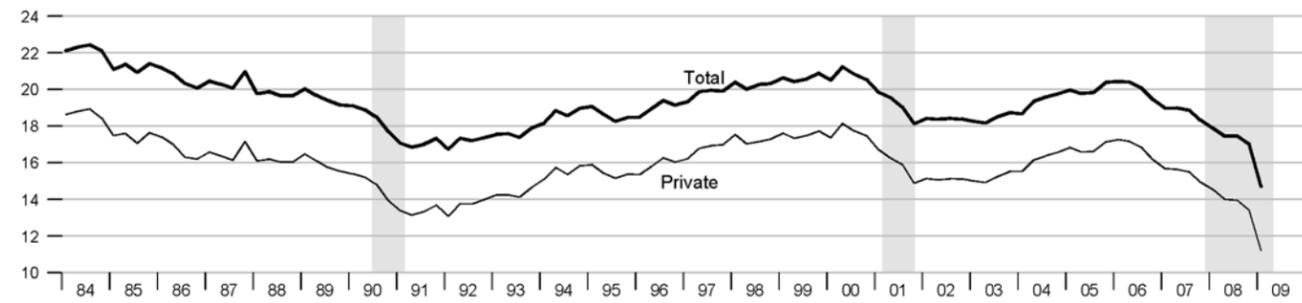


Real Durables Consumption



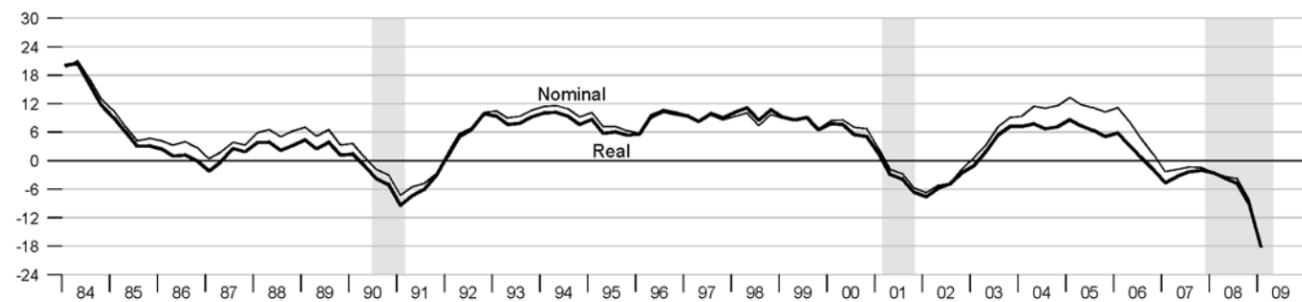
Investment

Percent of nominal GDP



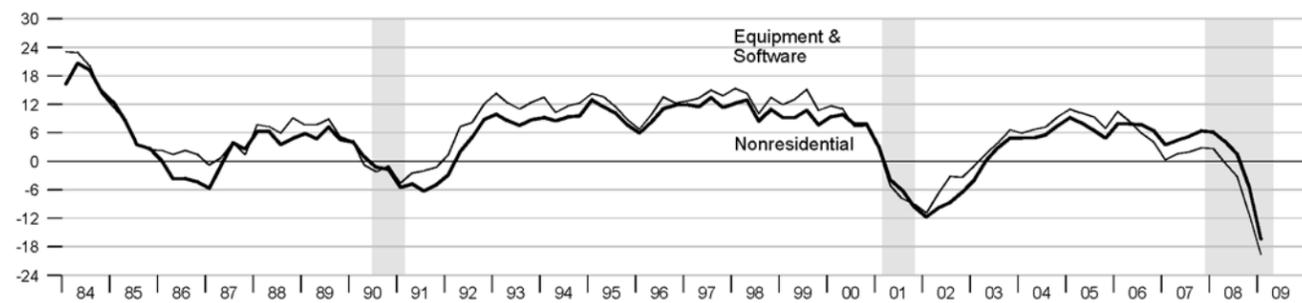
Private Fixed Investment

Percent change from year ago



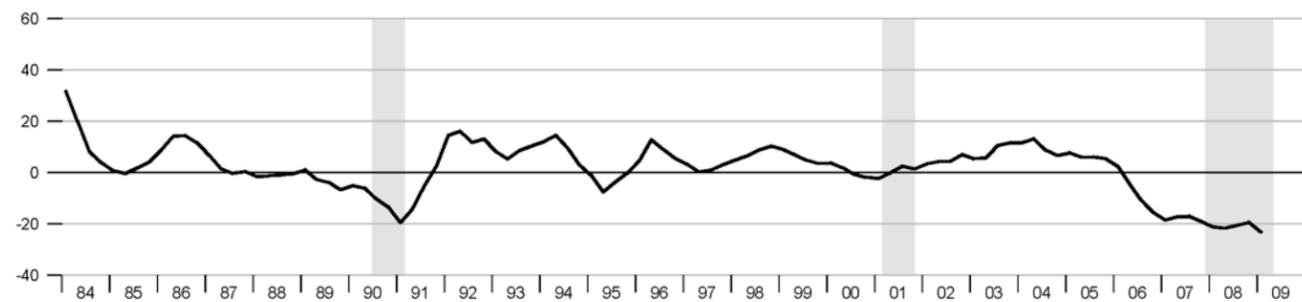
Real Nonresidential Fixed and Equipment & Software Investment

Percent change from year ago



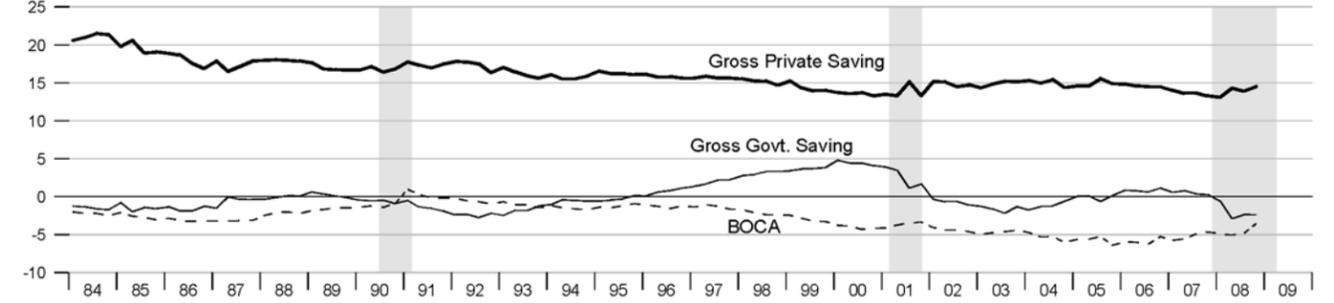
Real Residential Fixed Investment

Percent change from year ago



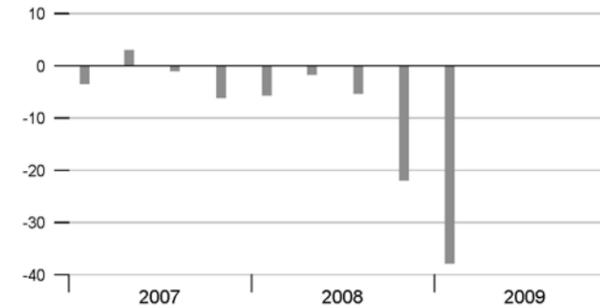
Gross Saving Rates and Balance on Current Account (NIPA)

Percent of GDP



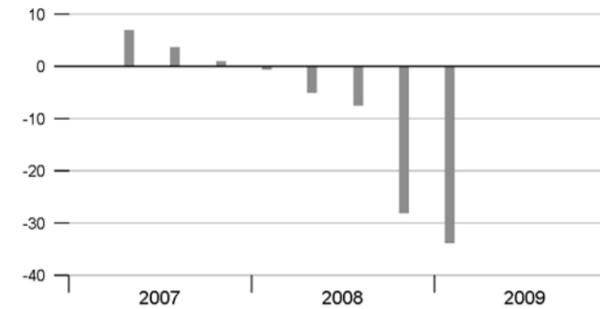
Real Private Fixed Investment

Compounded annual rates of change



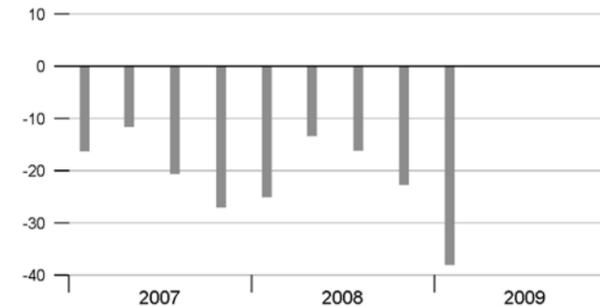
Real Equipment & Software Investment

Compounded annual rates of change



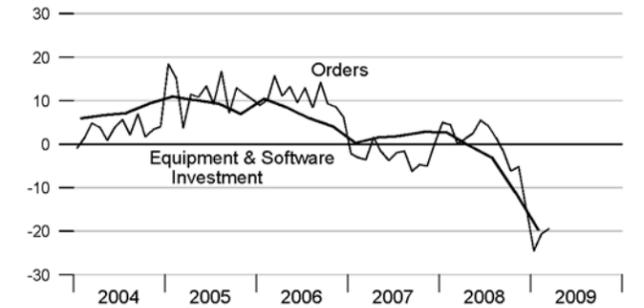
Real Residential Fixed Investment

Compounded annual rates of change



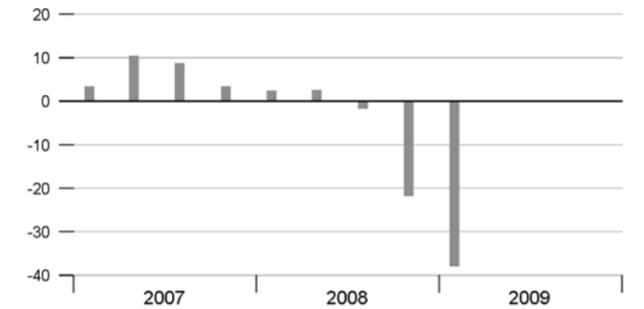
Nondefense Capital Goods Orders

Percent change from year ago, excluding aircraft



Real Nonresidential Fixed Investment

Compounded annual rates of change



Housing Starts and New Home Sales

Millions, annual rate

Millions, annual rate

