

National Economic Trends



A CPI-Based Bias for GDP?

The final report of the Advisory Commission to Study the Consumer Price Index (CPI) has sparked some erroneous ideas about the growth of real economic activity. Some people think that if the CPI overstates inflation, then real GDP growth is understated by the same amount. Others, extending that view, argue that the U.S. economy can therefore grow faster without triggering higher inflation.

First, it should be noted that the Bureau of Economic Analysis does not use the CPI to calculate real GDP. In fact, GDP's four components—private investment, government expenditures, net exports and personal consumption expenditures—each have their own price index. The price index for the largest component of GDP, personal consumption expenditures (PCE), incorporates nearly three quarters of the price data collected for the components of the CPI. This overlap allows for the possibility that some of the problems identified by the commission—correctly valuing new products and product improvements, and the availability of new outlets—also apply to the PCE price index.

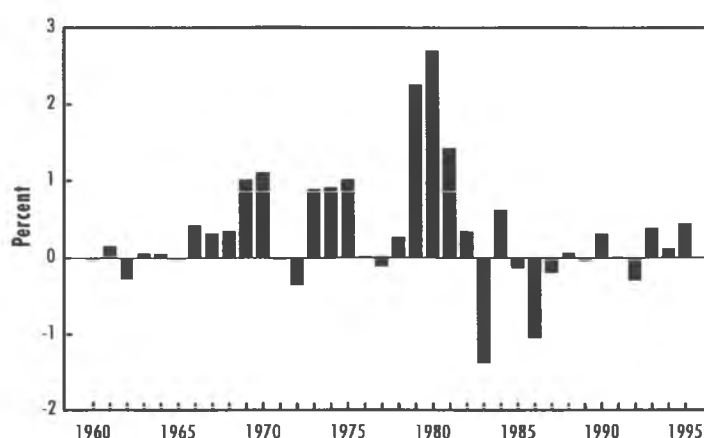
Still, there are numerous methodological differences between the CPI and GDP-related price indexes. One difference is the weighting scheme used by both series: GDP price indexes use chain weights, while the CPI uses fixed weights. The advisory commission attributes a large fraction of their estimate of the total CPI bias to the use of fixed weights. The commission believes the use of fixed weights creates a bias by implicitly assuming people do not substitute among goods. This and other methodological differences create notable divergences between the CPI and the GDP-related price indexes—even between the CPI and PCE price

index. The chart shows the difference between yearly changes in the CPI and the PCE price index. The average difference between the two series is 0.32 percent.

As silly as it may seem, some people have claimed that the economy can grow at a faster rate without higher inflation because the CPI overstates inflation. Proponents of this view believe that overstated inflation implies a faster growth rate of potential GDP—the rate at which the economy can grow without triggering higher inflation—than currently believed. Consequently, they argue, there's more room for growth. The problem with this argument is that any bias in measures of inflation affects estimates of potential GDP and measured GDP in the same way. So any gap between measured and potential GDP will remain unchanged. Imagine you ask a tailor to make you a suit. The tailor measures you with his tape measure and marks the cloth using the same tape measure. Unfortunately, you discover his tape measure is missing the first two inches. Will your new suit fit? Of course. The measurements by the tailor will be wrong, but the suit will still fit.

—Peter Yoo

CPI Inflation Minus PCE Price Index Inflation



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

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Conventions used in this publication:

1. Charts and tables contain data that was current on February 4, 1997.
2. Shaded areas indicate recessions, as determined by the National Bureau of Economic Research.
3. *Percent change* refers to simple percent changes. *Percent change from year ago* refers to the percent change from the same month or quarter in the previous year. The *percent change at annual rate* 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 percent change at annual rate of X between the previous quarter $t-1$ and the current quarter t is:

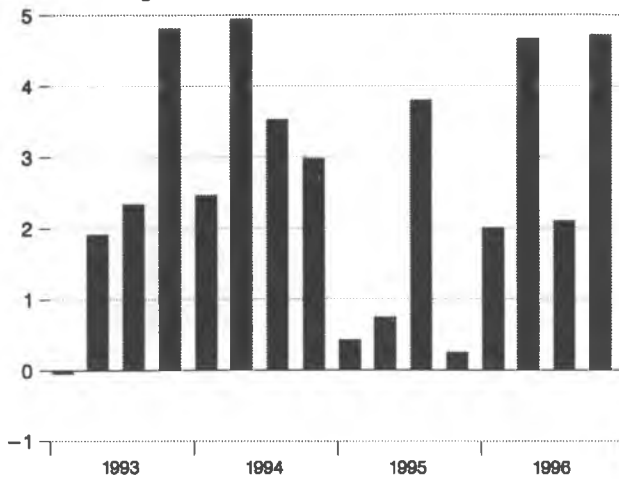
$$100 \times \left[\left(\frac{X_t}{X_{t-1}} \right)^4 - 1 \right]$$

For monthly data replace 4 with 12.

4. All data with significant seasonal patterns are seasonally adjusted, unless labeled NSA.

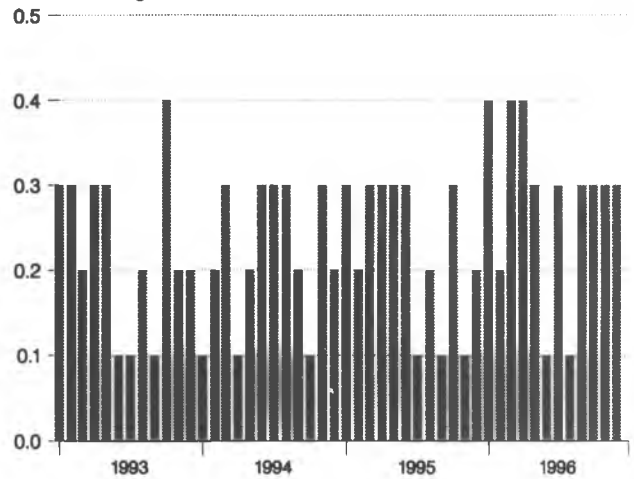
Real GDP Growth

Percent change at annual rate



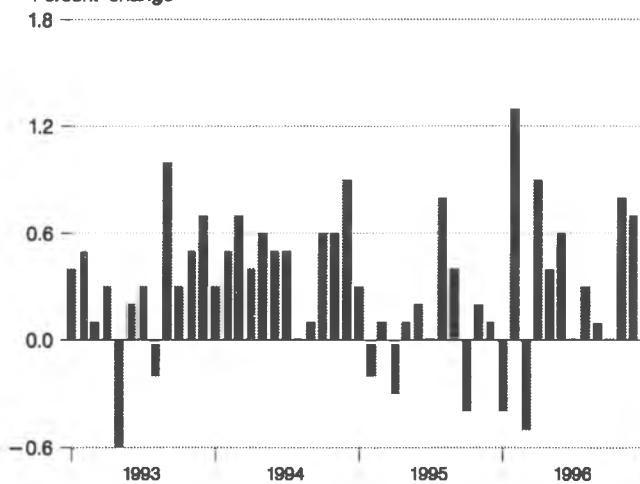
Consumer Price Index

Percent change



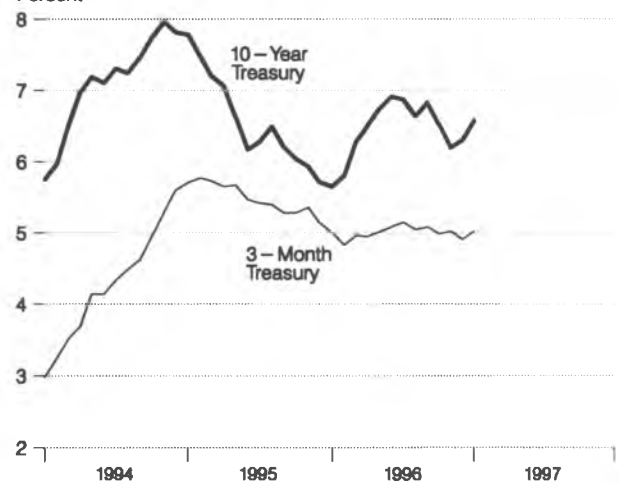
Industrial Production

Percent change



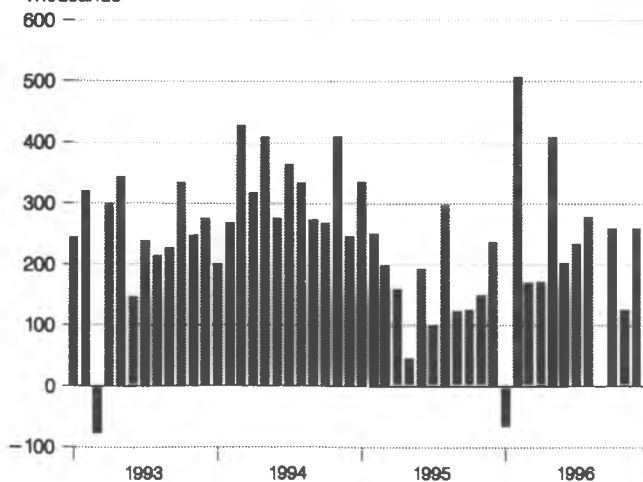
Interest Rates

Percent



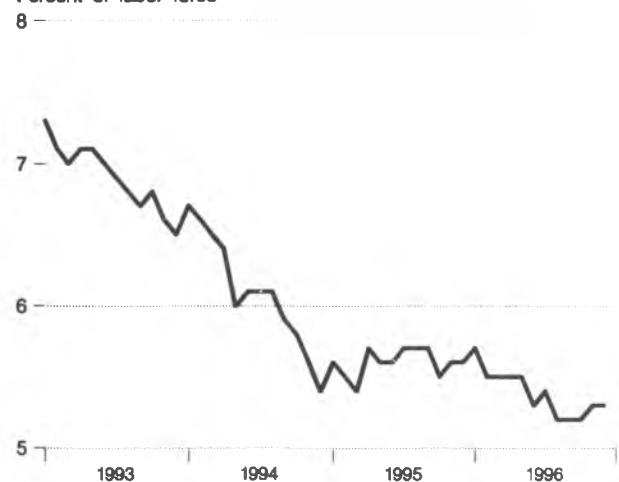
Change in Nonfarm Payrolls

Thousands



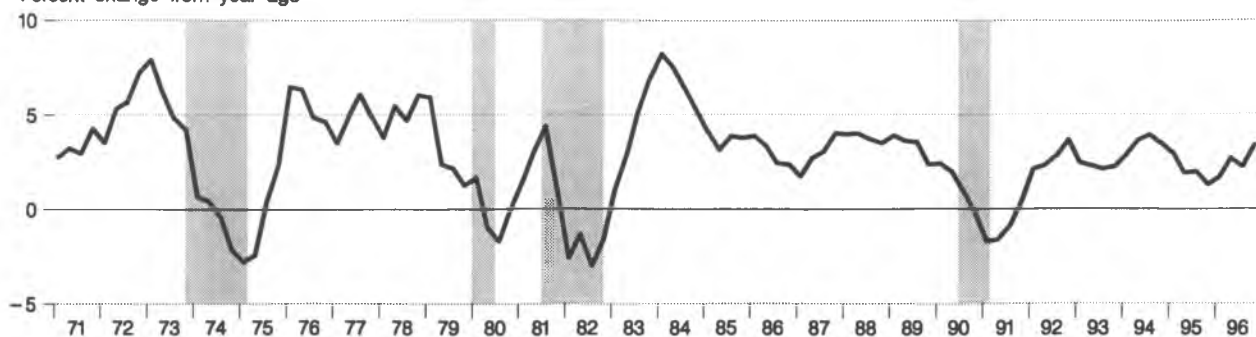
Unemployment Rate

Percent of labor force



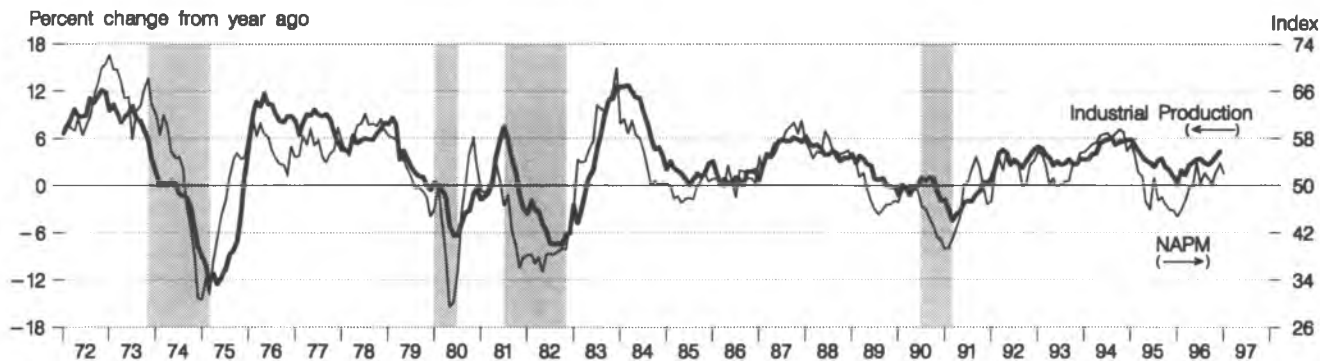
Real Gross Domestic Product

Percent change from year ago



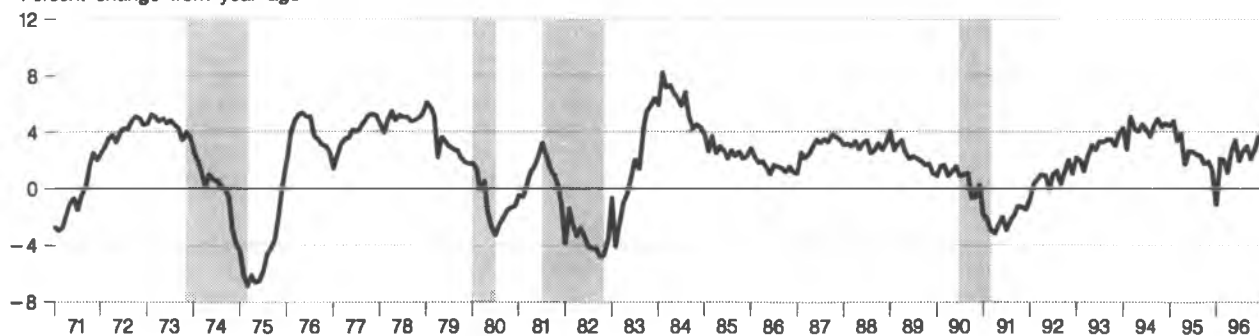
Industrial Production and Purchasing Managers' (NAPM) Indexes

Percent change from year ago



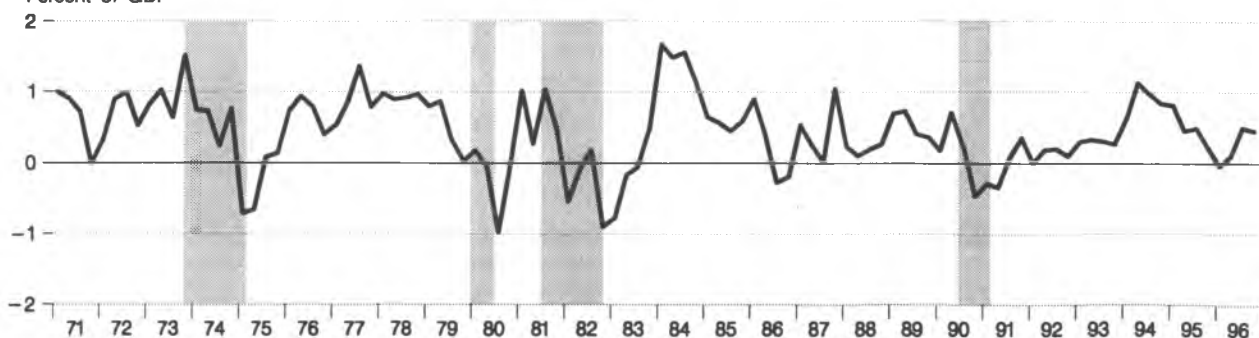
Aggregate Private Nonfarm Hours

Percent change from year ago



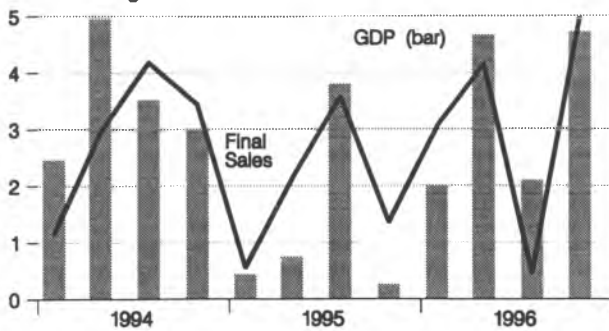
Real Change in Business Inventories

Percent of GDP



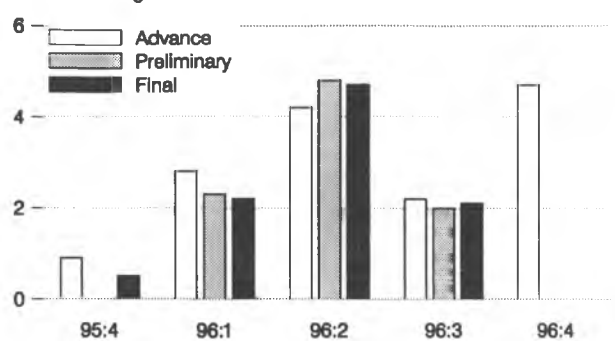
Real Final Sales and GDP

Percent change at annual rate



Real GDP Revisions

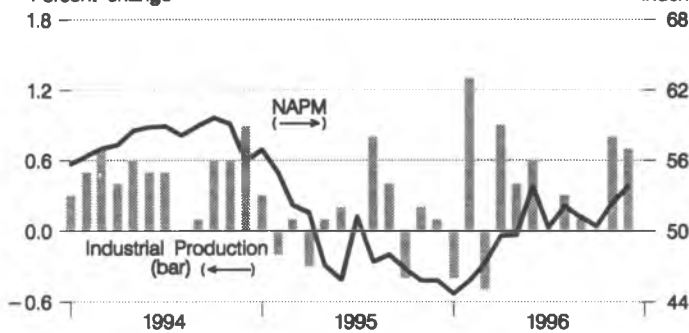
Percent change at annual rate



Industrial Production and NAPM Index

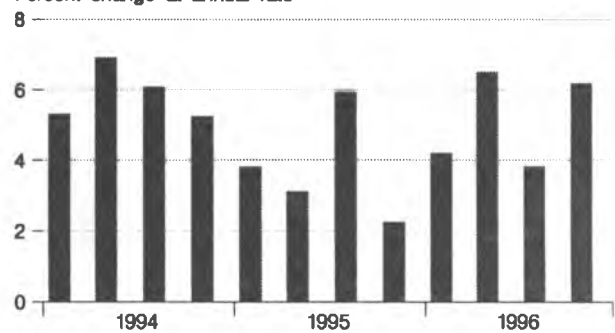
Percent change

Index



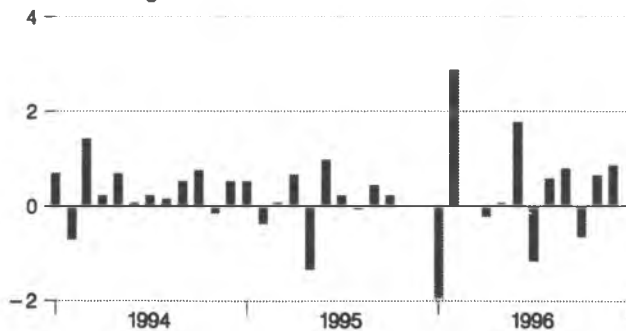
Nominal Gross Domestic Product

Percent change at annual rate



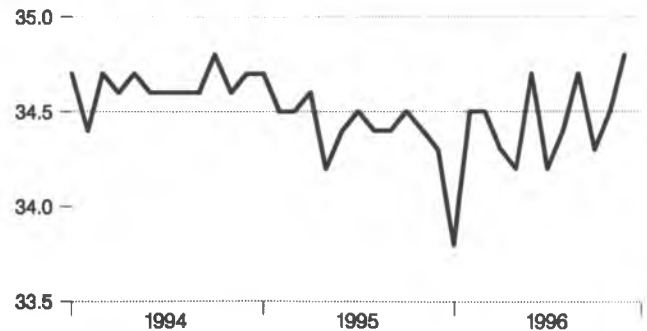
Aggregate Private Nonfarm Hours

Percent change



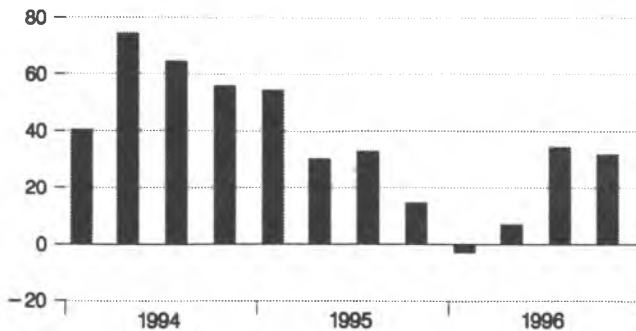
Average Weekly Private Nonfarm Hours

Hours



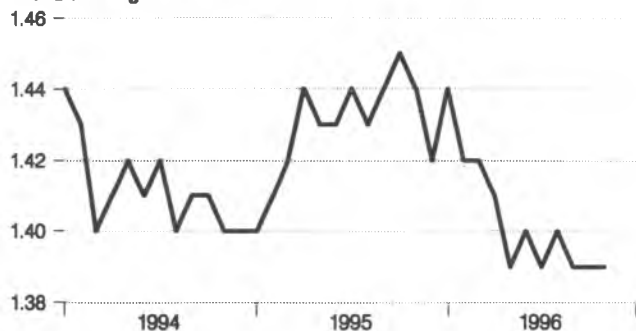
Real Change in Business Inventories

Billions of 1992 dollars



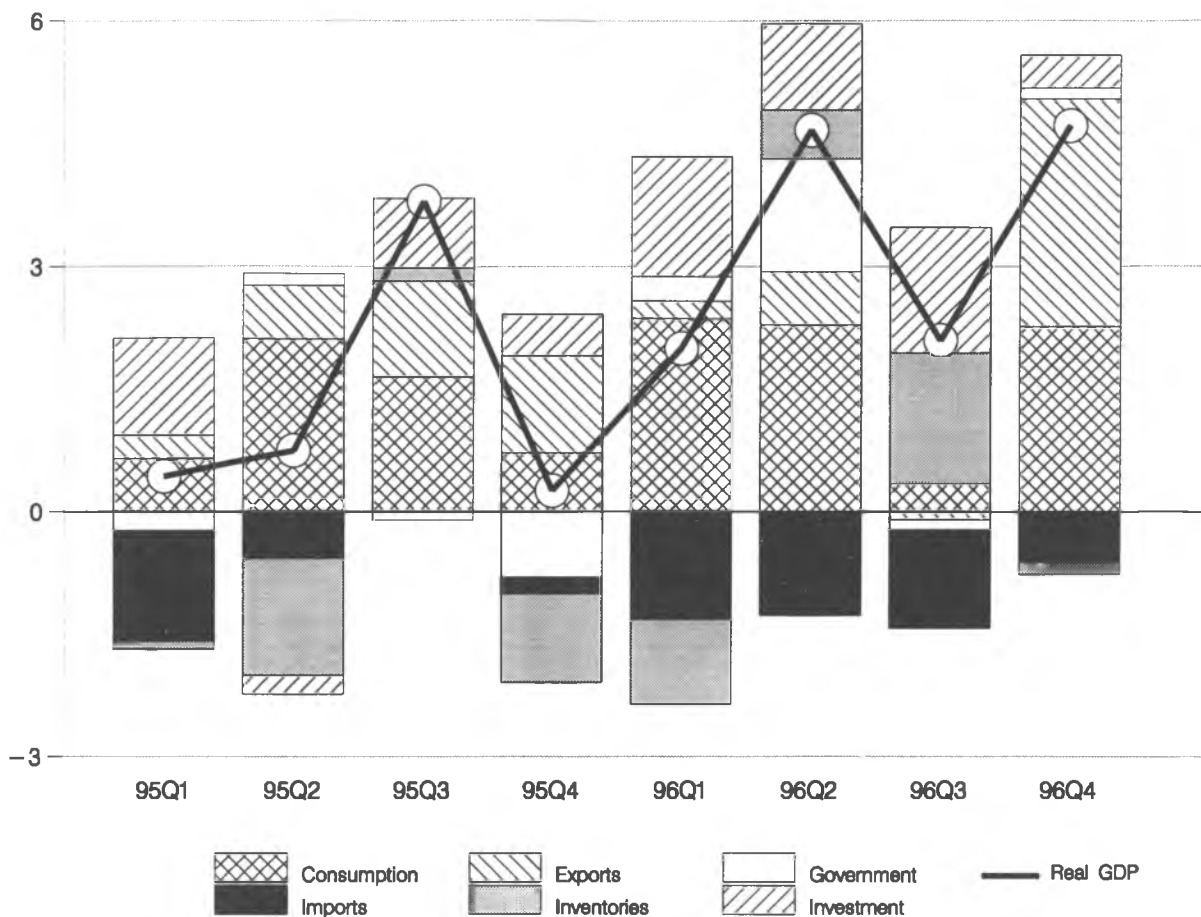
Inventory-Sales Ratio

Manufacturing and trade



Contribution of Components to Real GDP Growth

Percent change at annual rate

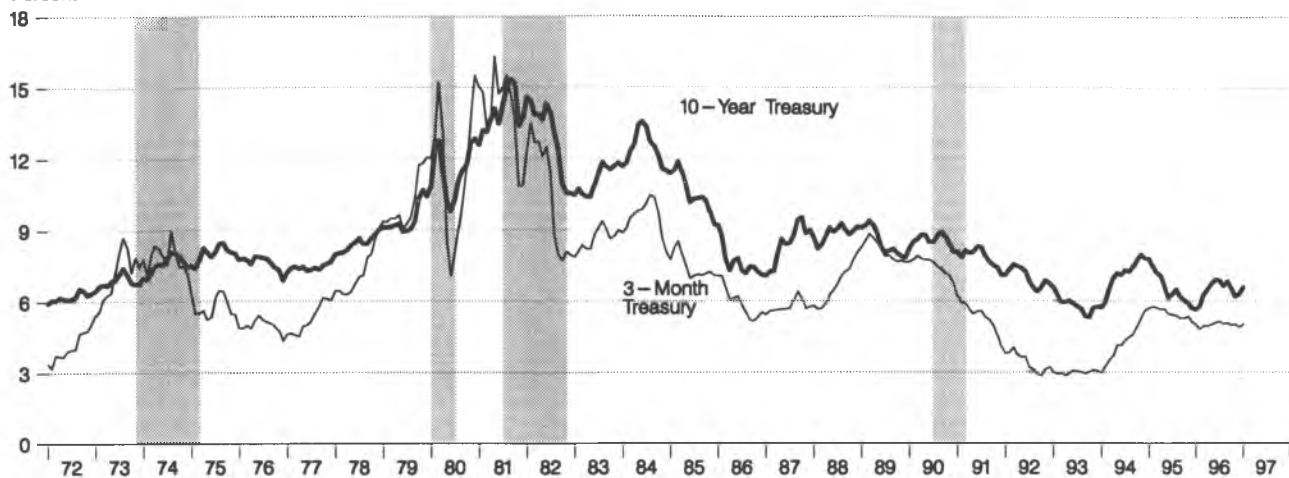


Contributions to Real GDP Growth Rate

	1995				1996			
	1st	2nd	3rd	4th	1st	2nd	3rd	4th
Real GDP	0.43	0.75	3.80	0.25	2.00	4.67	2.10	4.72
Final Sales	0.55	2.11	3.56	1.35	3.04	4.15	0.47	4.92
Change in Inventory	-0.09	-1.43	0.15	-1.08	-1.03	0.59	1.60	-0.15
Consumption	0.65	2.11	1.65	0.71	2.36	2.28	0.34	2.26
Fixed Investment	1.19	-0.23	0.85	0.51	1.47	1.05	1.54	0.40
Nonresidential	1.49	0.36	0.51	0.26	1.19	0.41	1.80	0.47
Residential	-0.26	-0.56	0.34	0.24	0.28	0.61	-0.22	-0.05
Government	-0.23	0.15	-0.11	-0.81	0.30	1.39	-0.12	0.13
Federal	-0.49	-0.10	-0.41	-0.96	0.40	0.62	-0.24	-0.12
State and Local	0.26	0.25	0.31	0.17	-0.11	0.76	0.13	0.26
Net Exports	-1.08	0.07	1.19	0.99	-1.12	-0.63	-1.31	2.14
Exports	0.28	0.65	1.18	1.19	0.21	0.66	-0.10	2.78
Imports	-1.36	-0.58	0.00	-0.21	-1.33	-1.28	-1.21	-0.63
Residual	-0.03	0.07	0.03	-0.06	0.04	-0.03	0.01	-0.13

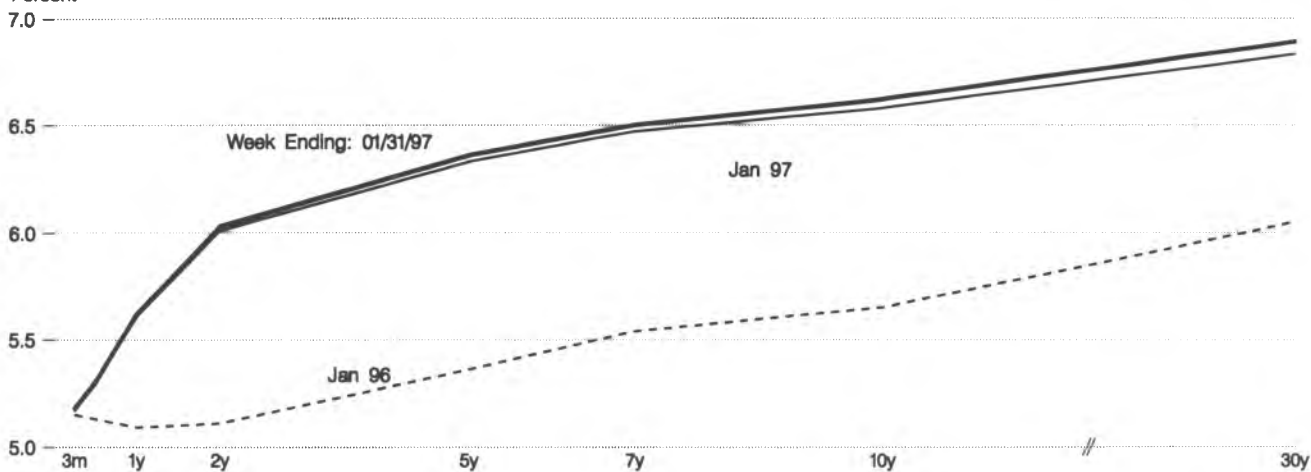
Interest Rates

Percent



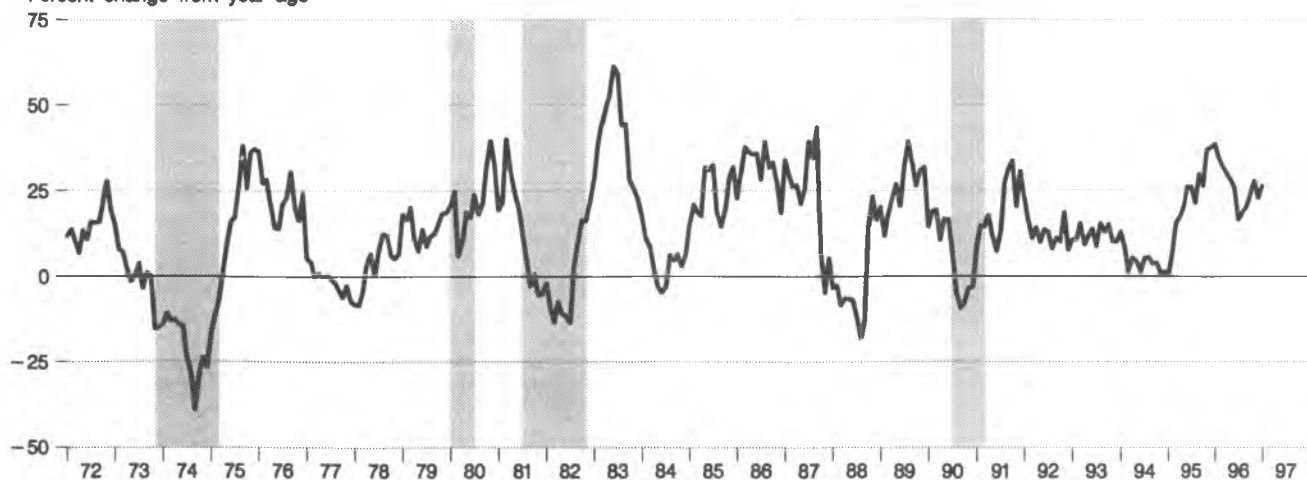
Treasury Yield Curve

Percent

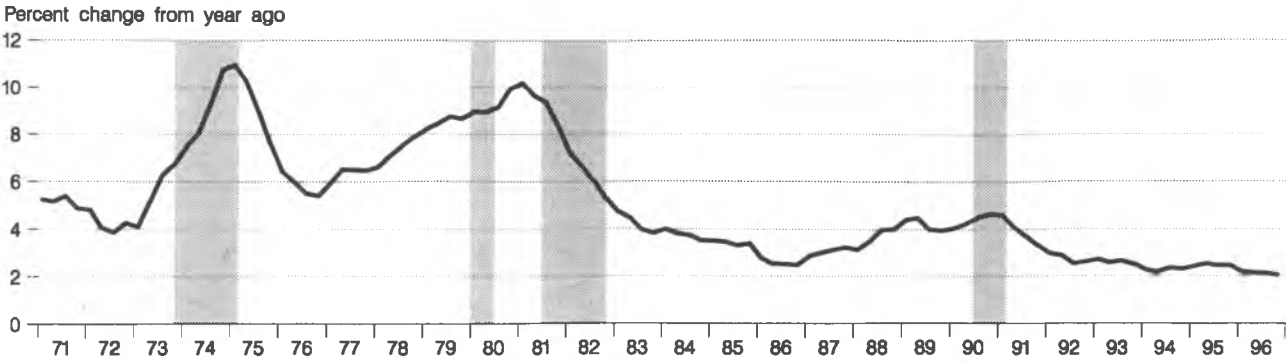


Total Return on Standard and Poor's 500

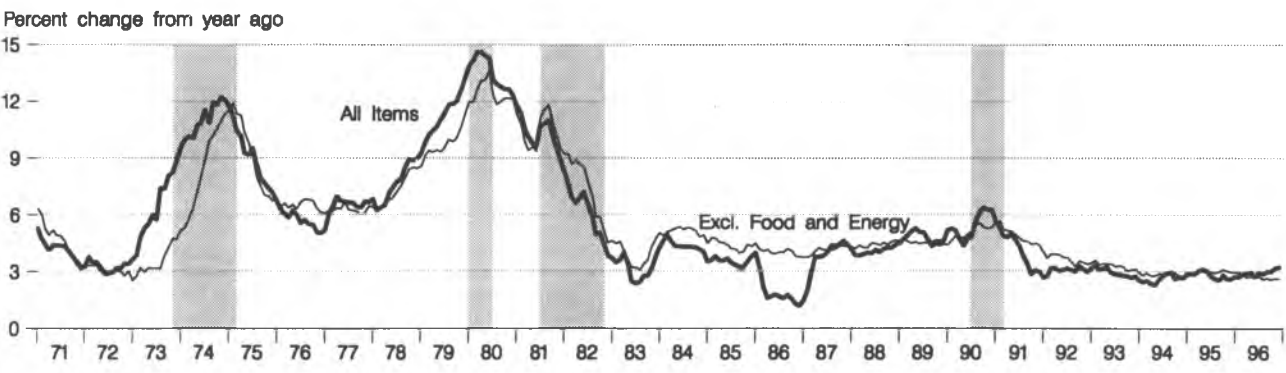
Percent change from year ago



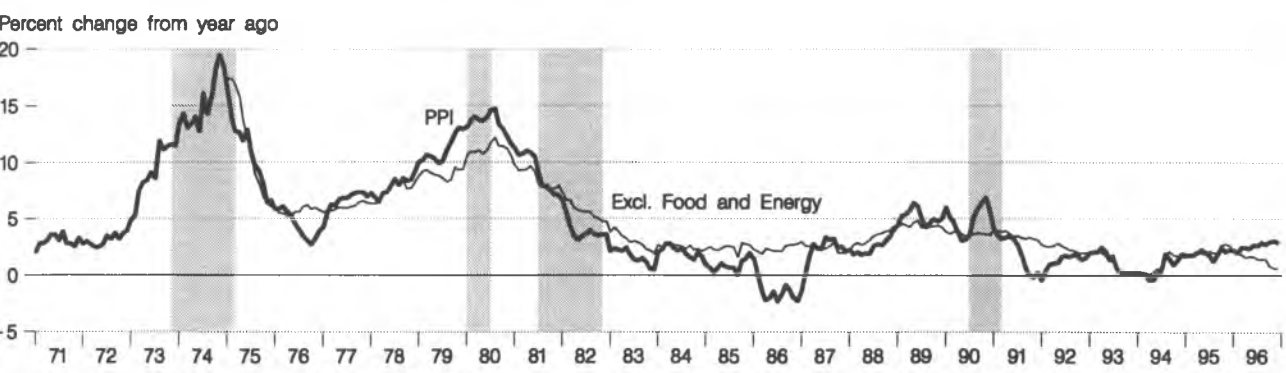
GDP Chain Price Index



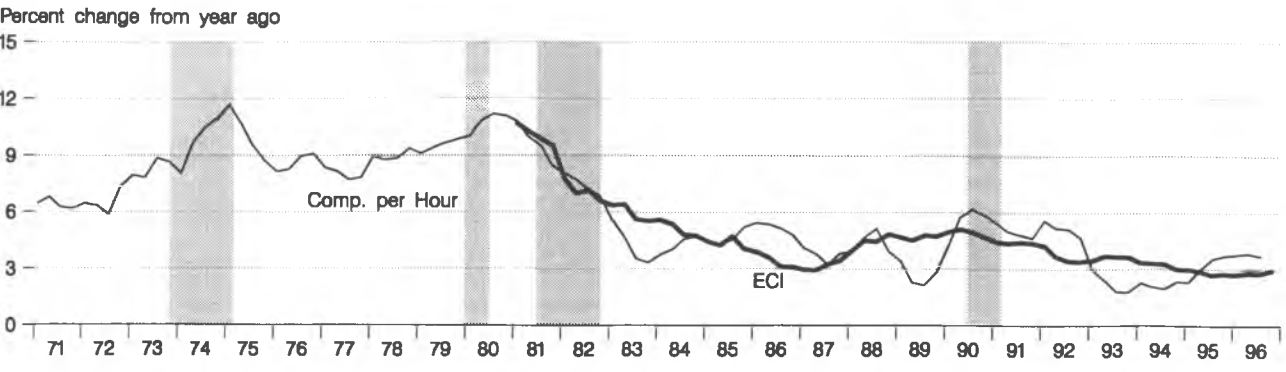
Consumer Price Index



Producer Price Index, Finished Goods

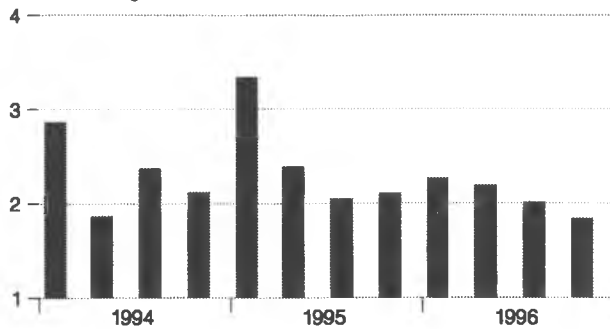


Employment Cost Index and Compensation per Hour



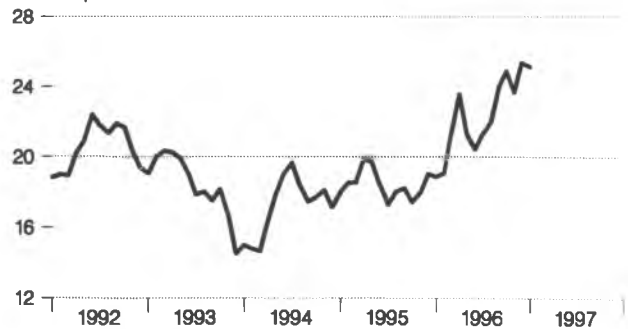
GDP Chain Price Index

Percent change at annual rate



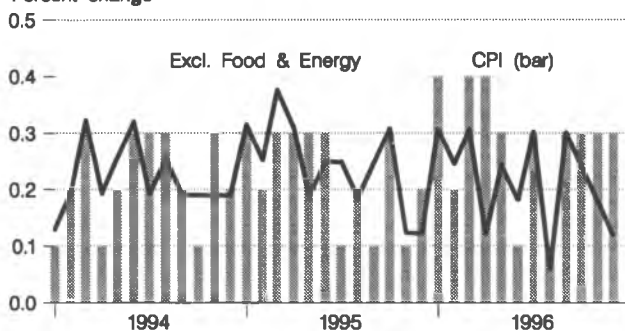
Crude Oil Price

Dollars per barrel



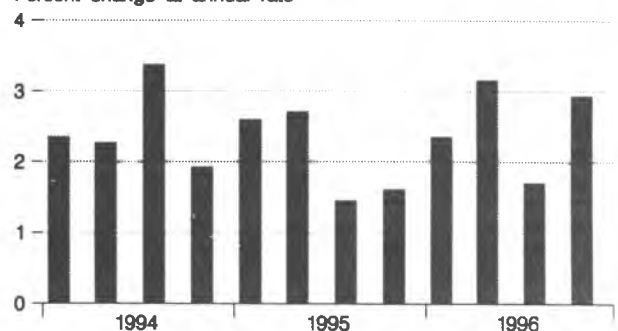
Consumer Price Index

Percent change



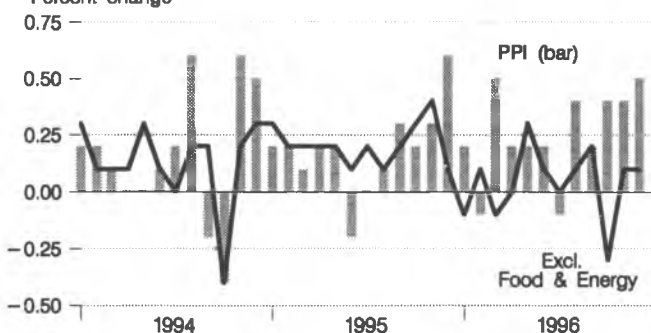
Consumption Chain Price Index

Percent change at annual rate



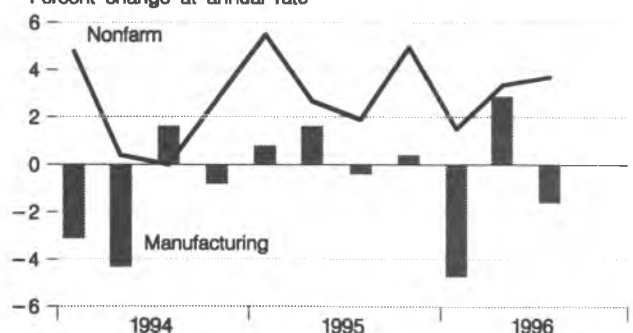
Producer Price Index, Finished Goods

Percent change



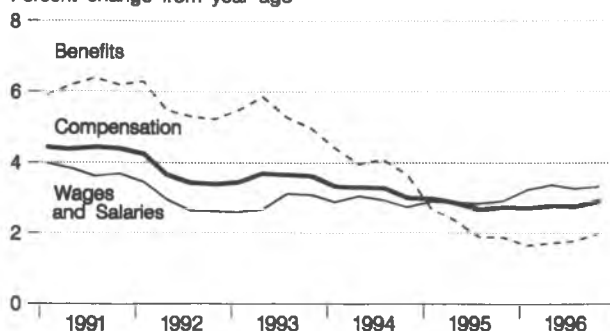
Unit Labor Cost

Percent change at annual rate



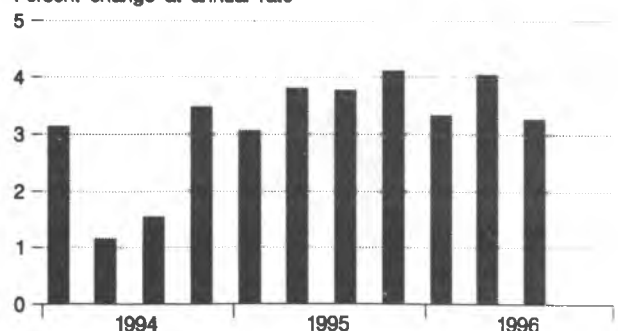
Employment Cost Index

Percent change from year ago



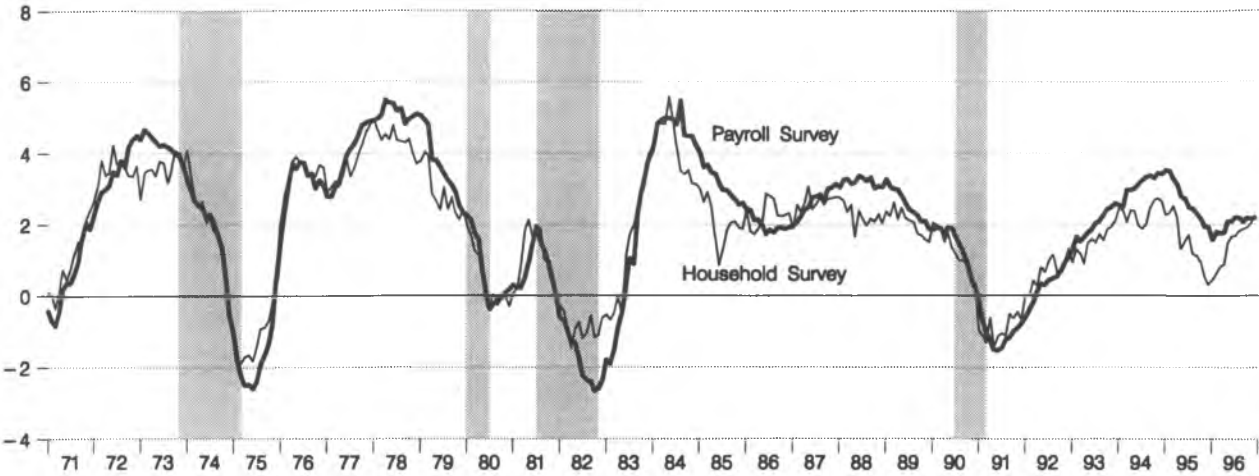
Compensation per Hour

Percent change at annual rate



Employment

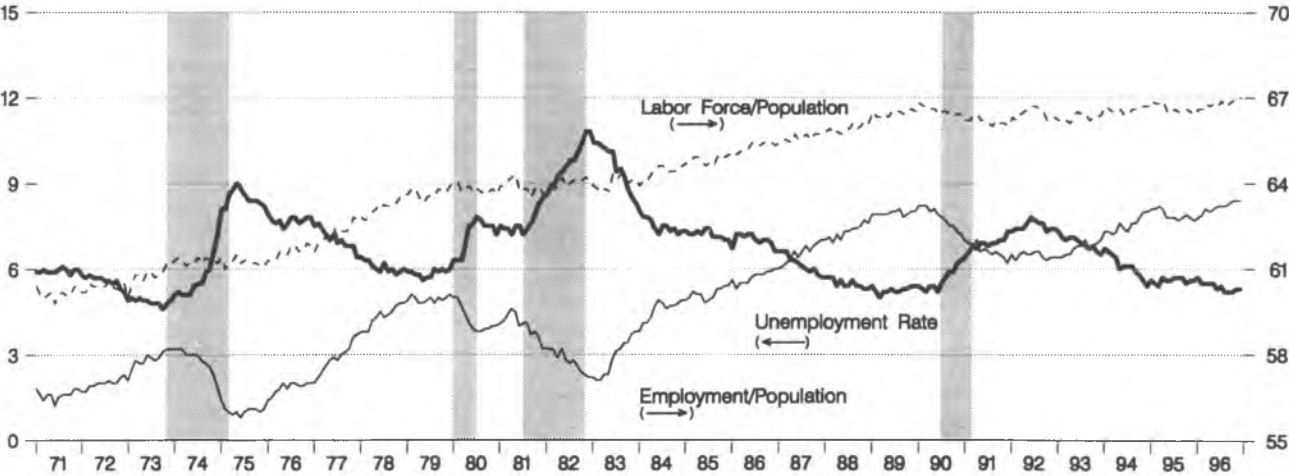
Percent change from year ago



Unemployment, Labor Force Participation and Employment Rates

Percent of labor force

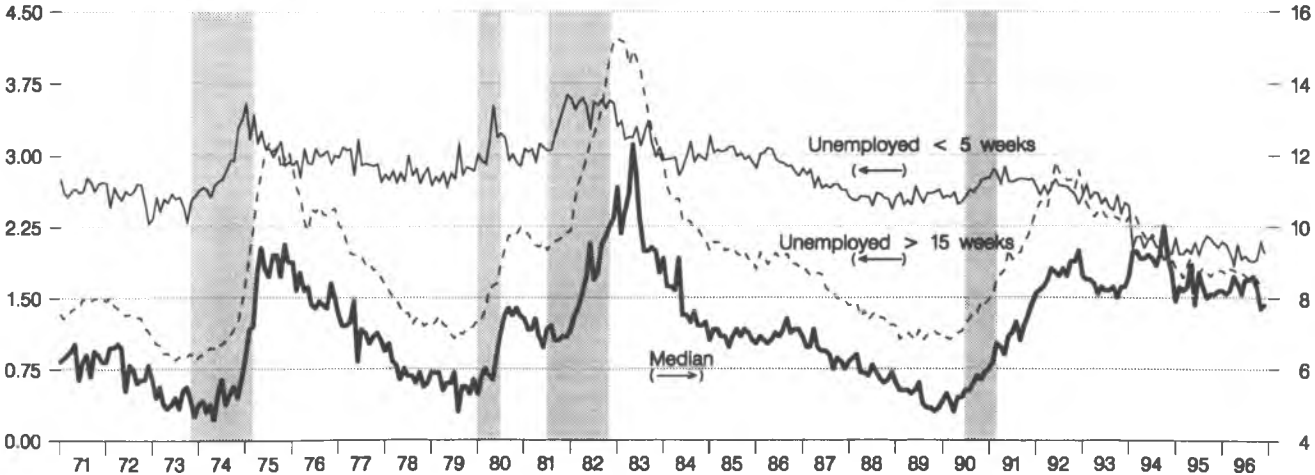
Percent of population



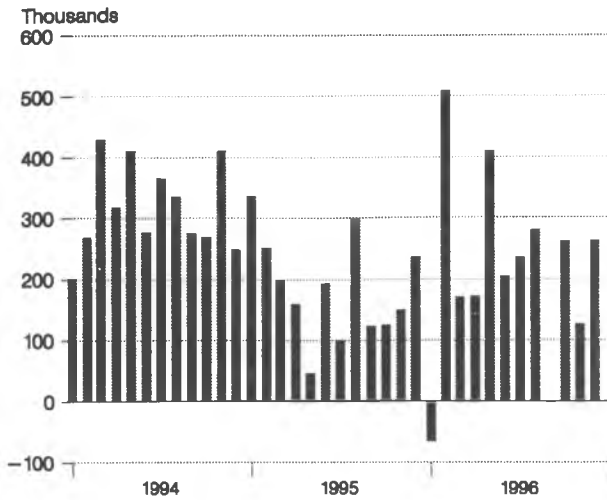
Duration of Unemployment

Percent of labor force

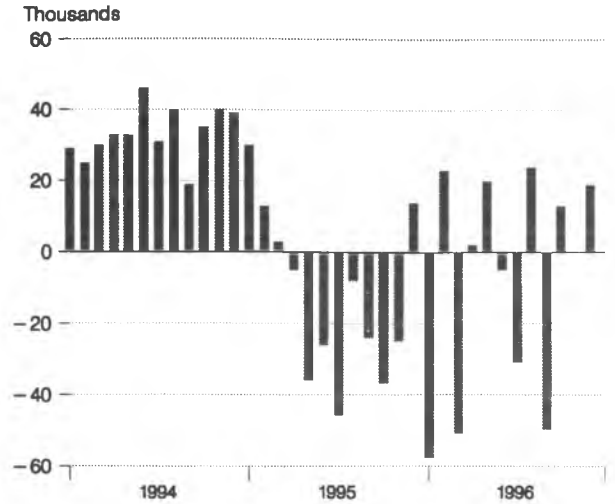
Weeks



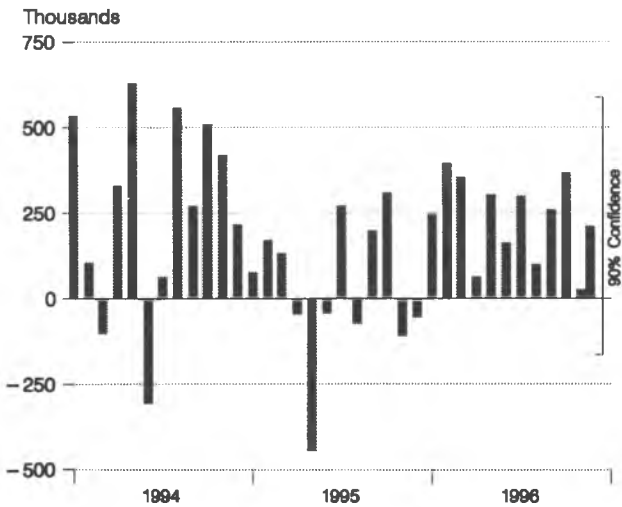
Change in Nonfarm Payrolls



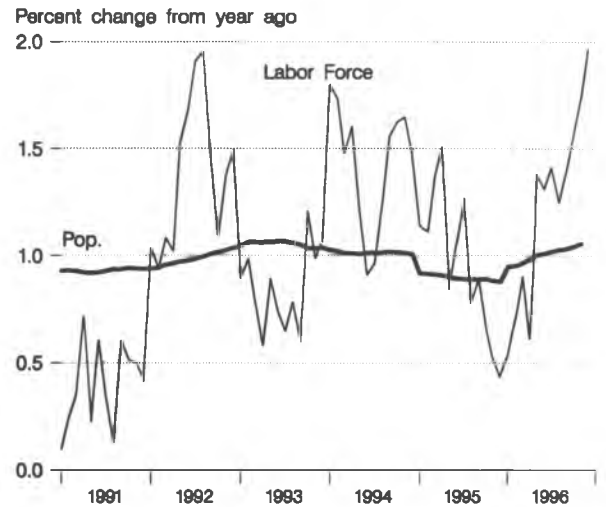
Change in Manufacturing Payrolls



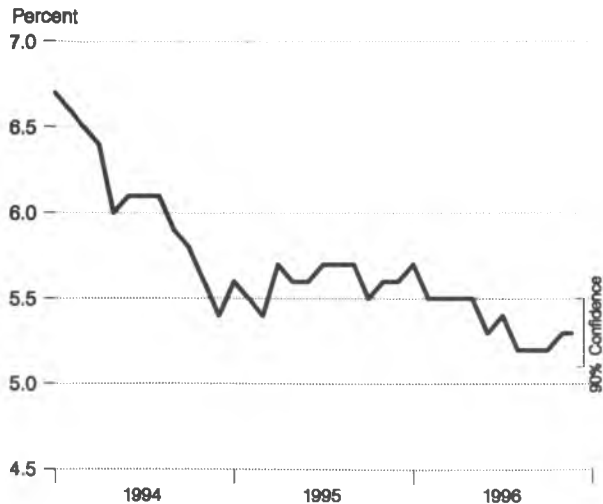
Change in Household Employment



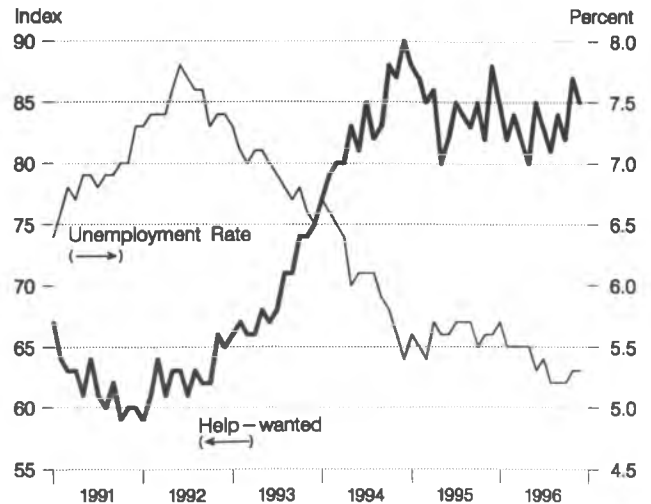
Labor Force and Population



Unemployment Rate

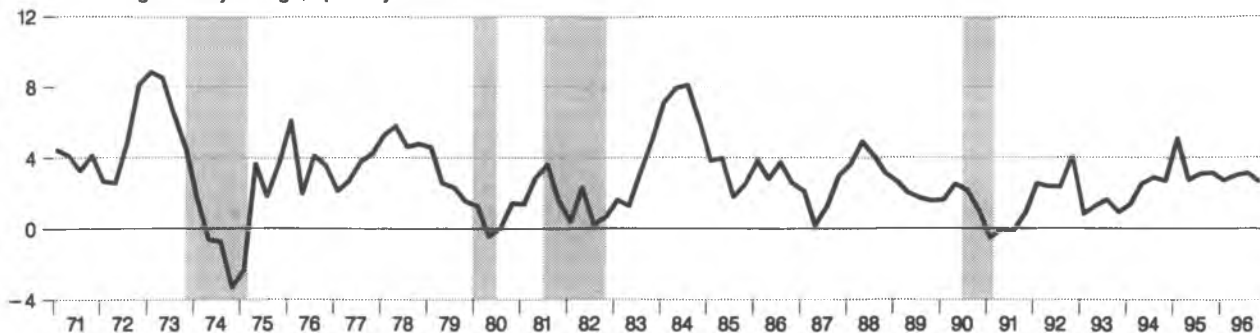


Help-Wanted Advertising



Real Disposable Income

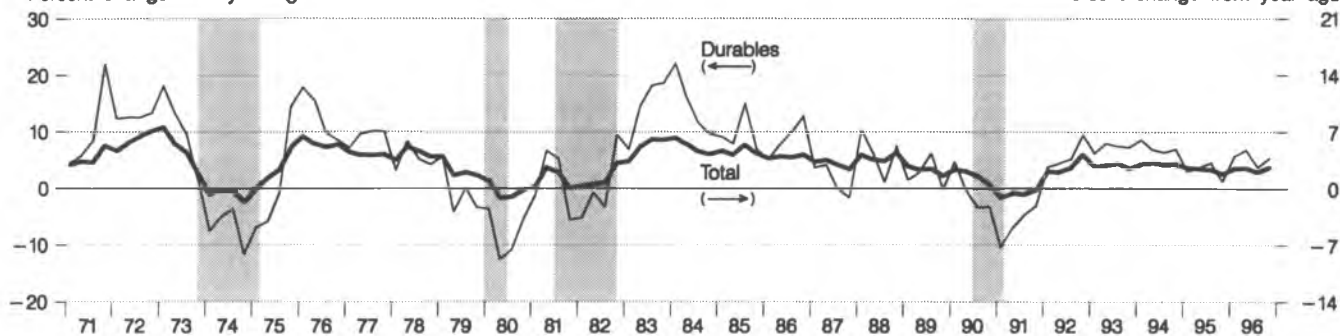
Percent change from year ago, quarterly data



Real Consumption

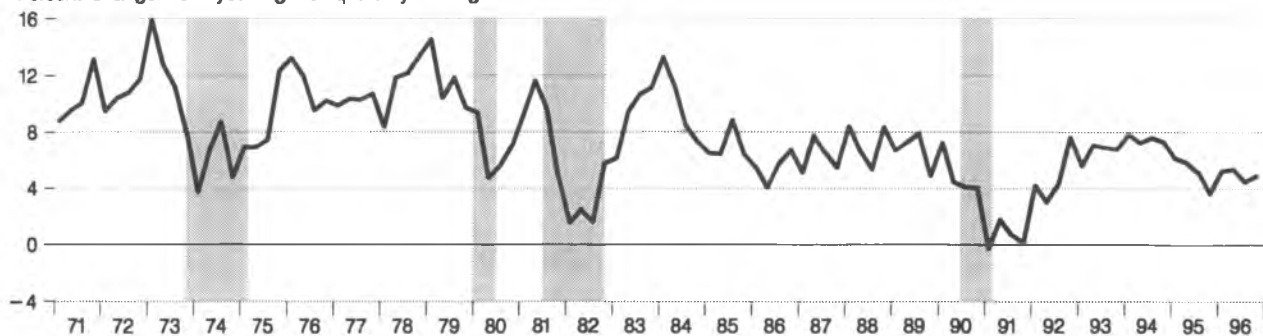
Percent change from year ago

Percent change from year ago



Retail Sales

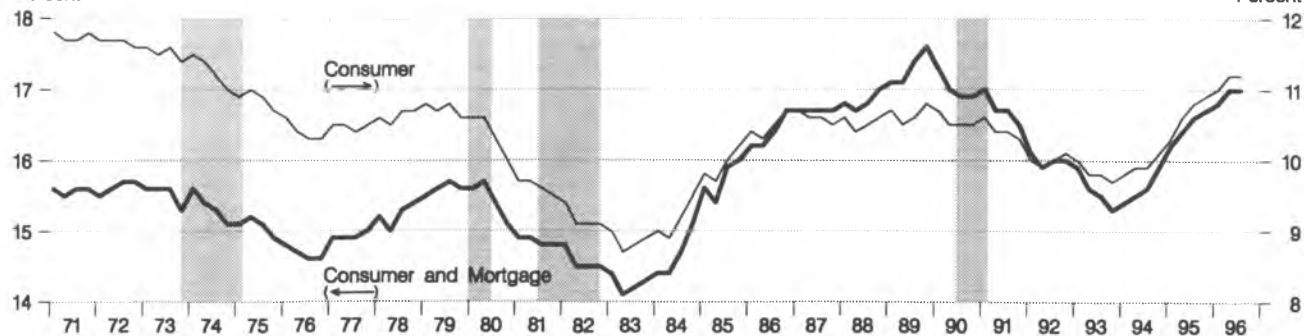
Percent change from year ago of quarterly average



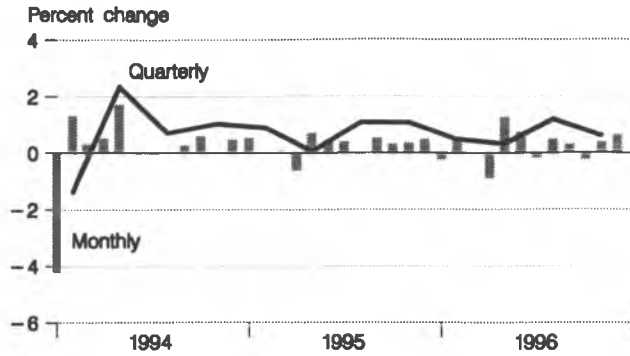
Debt Service as Percent of Disposable Income

Percent

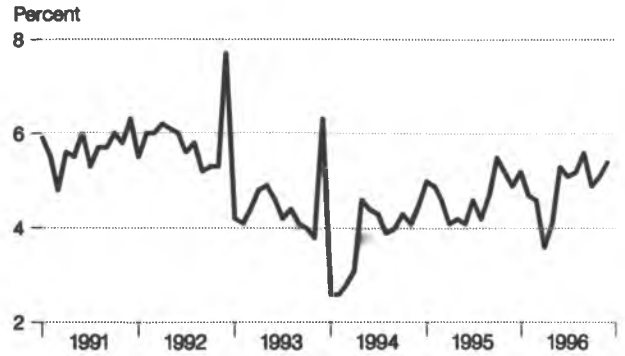
Percent



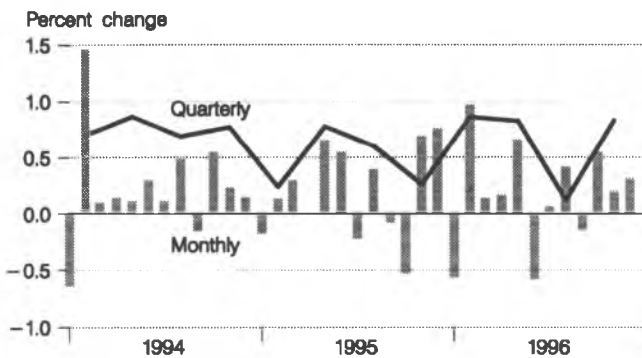
Real Disposable Income



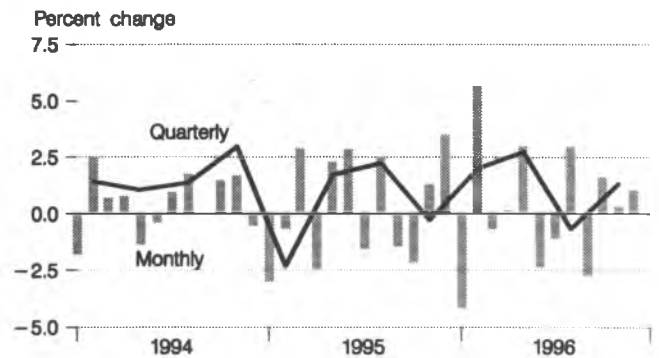
Personal Saving Rate



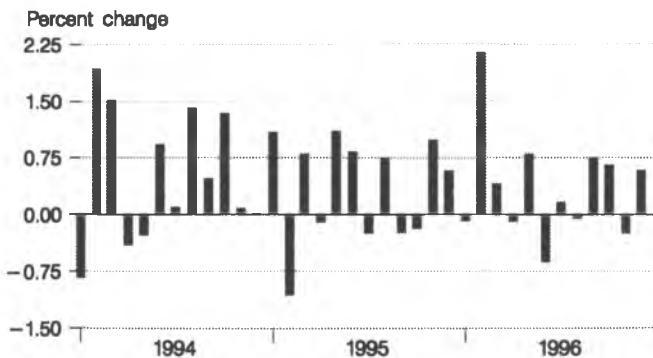
Real Consumption



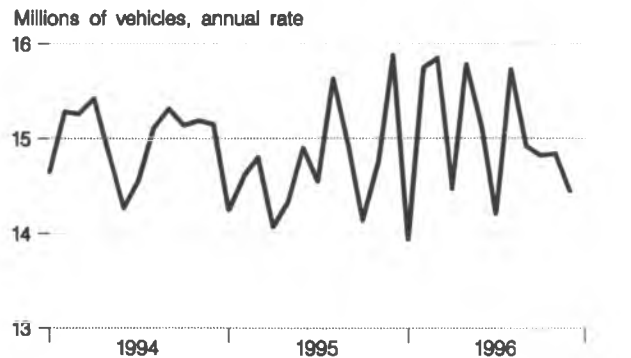
Real Durables Consumption



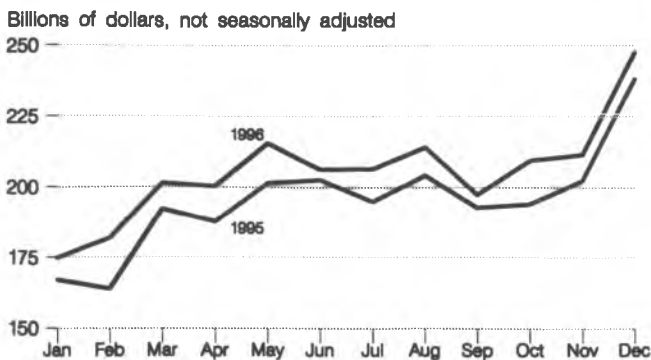
Retail Sales



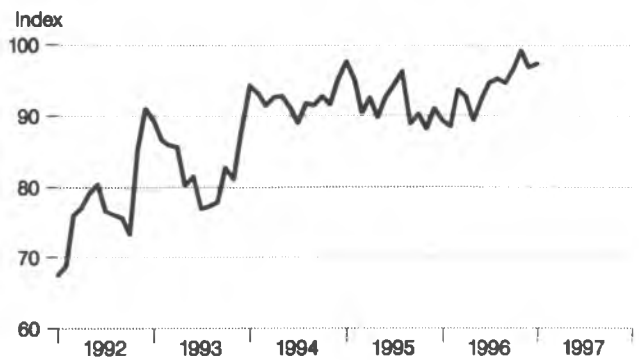
Total Auto and Light Truck Sales



Retail Sales

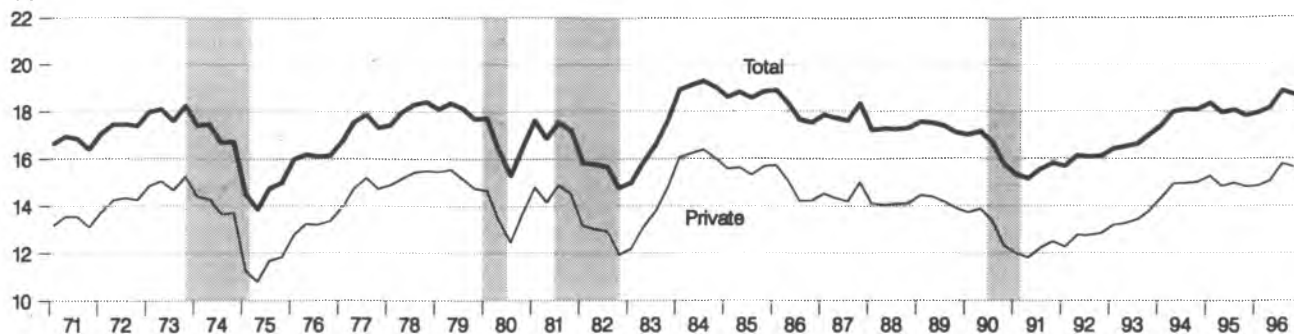


Consumer Sentiment (U. of Michigan)



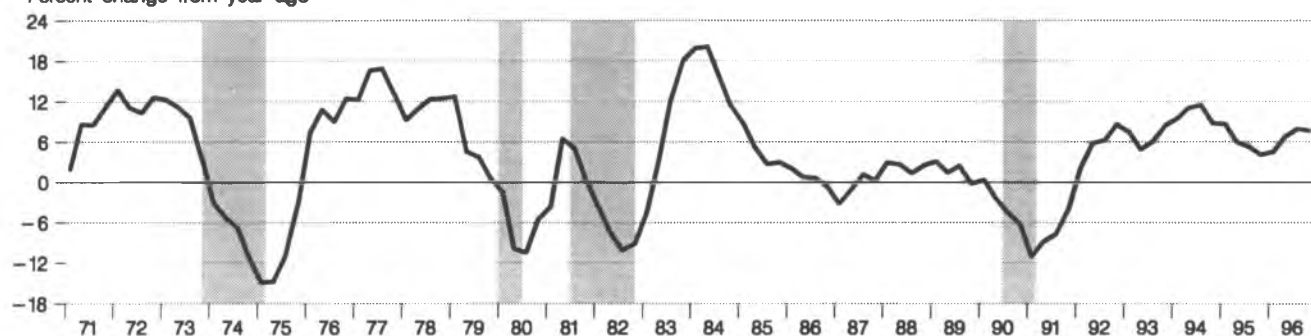
Real Investment

Percent of GDP



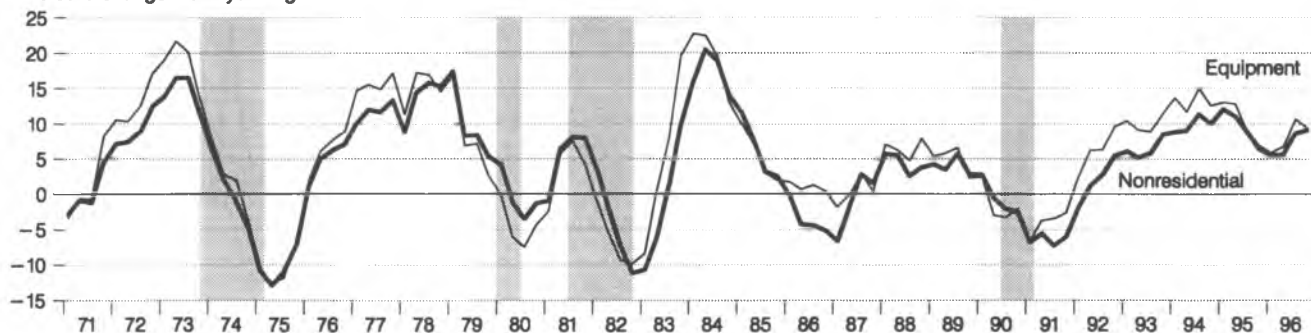
Real Private Fixed Investment

Percent change from year ago



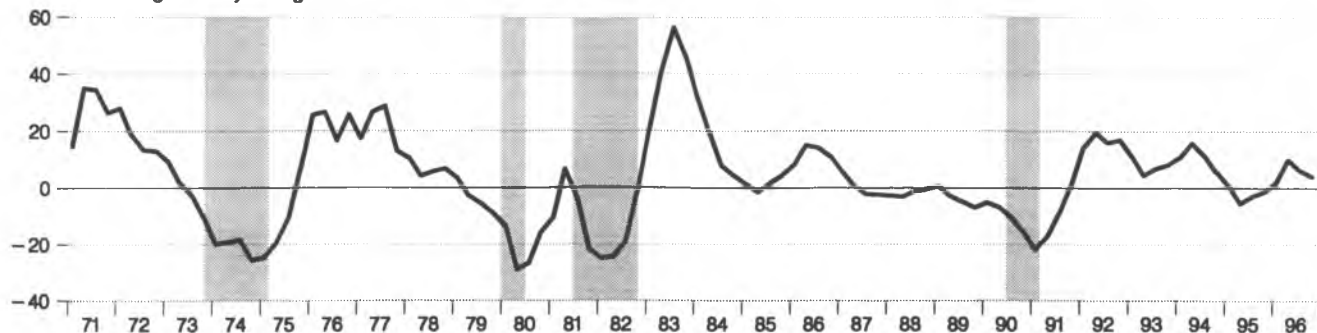
Real Nonresidential and Producers Durable Equipment Investment

Percent change from year ago

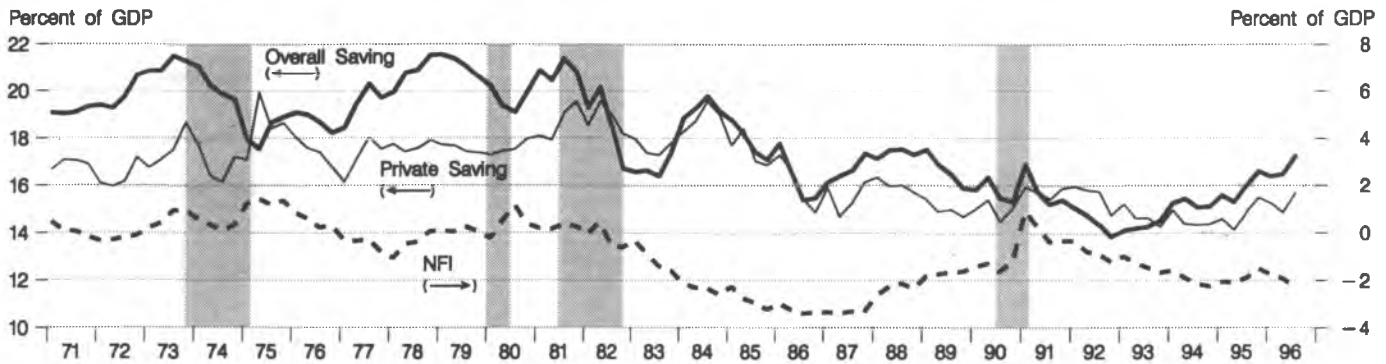


Real Residential Investment

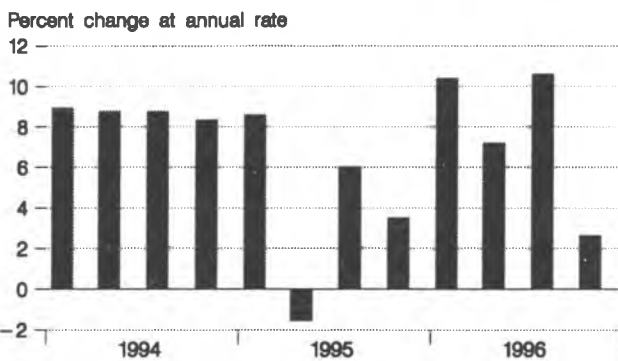
Percent change from year ago



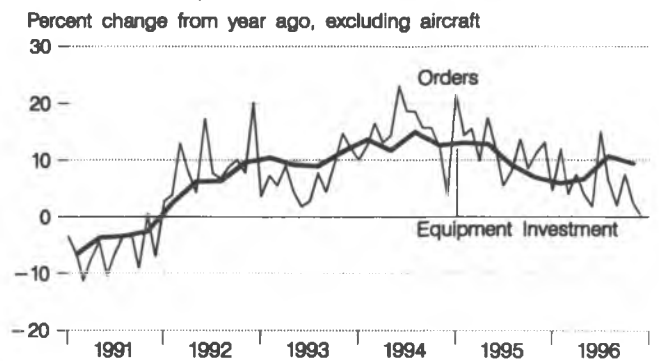
Gross Saving Rates and Net Foreign Investment



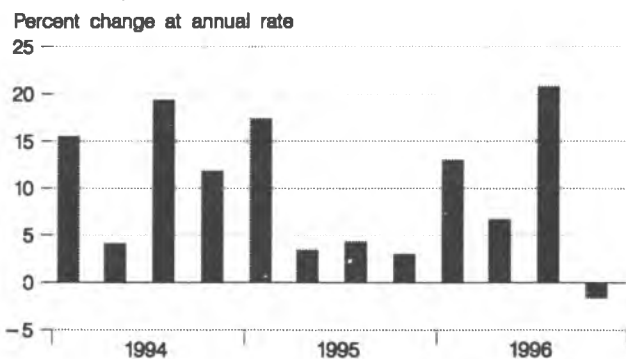
Real Private Fixed Investment



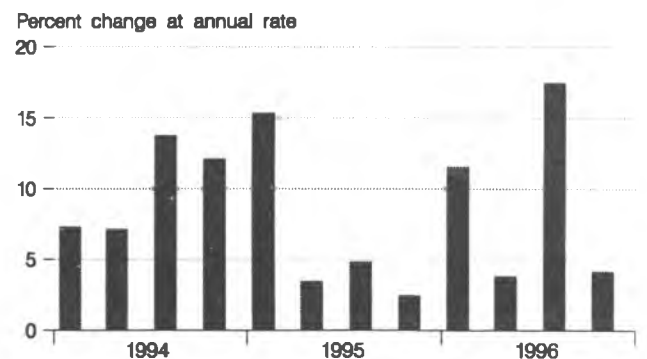
Nondefense Capital Goods Orders



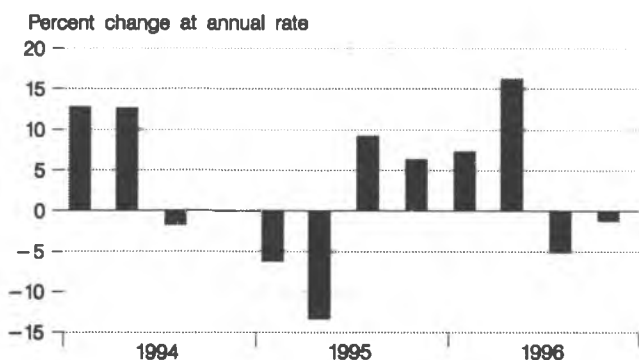
Real Equipment Investment



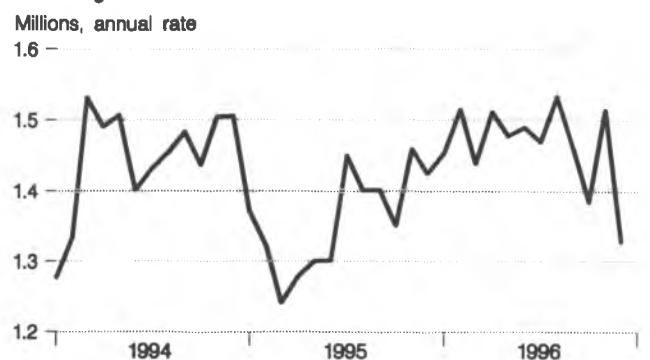
Real Nonresidential Investment



Real Residential Investment

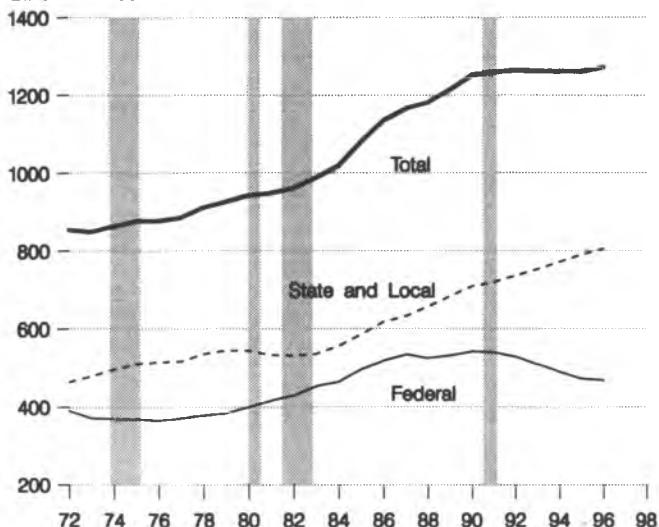


Housing Starts



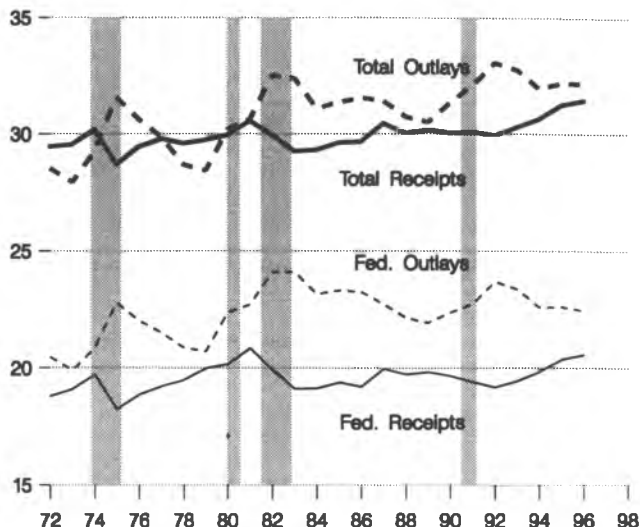
Govt. Consumption and Investment

Billions of 1992 dollars

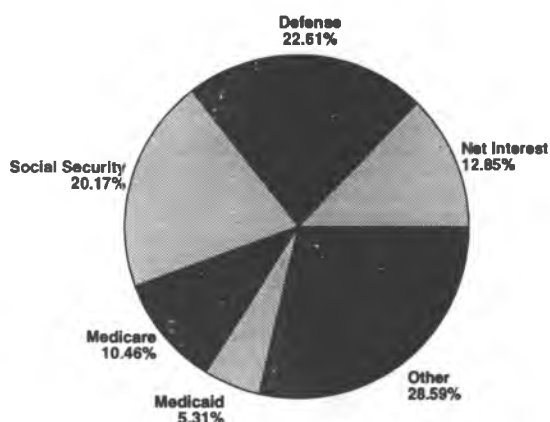


Government Receipts and Outlays

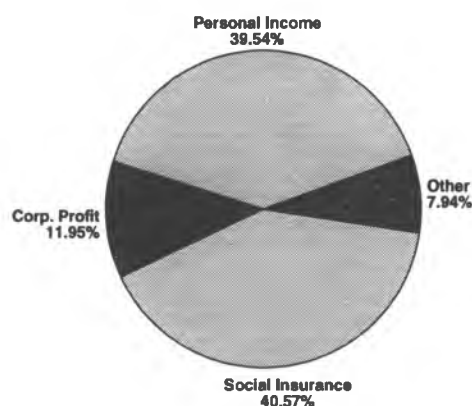
Percent of GDP



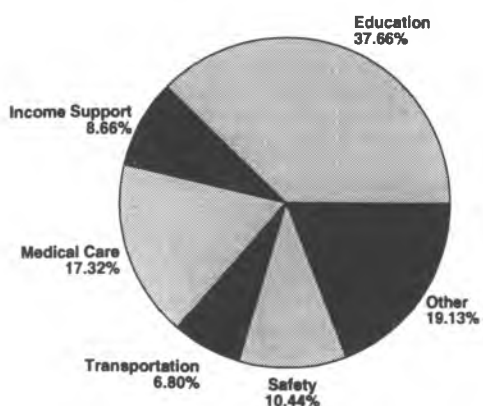
Federal Outlays, 1994



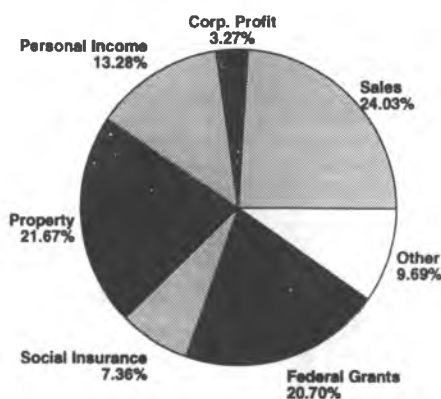
Federal Receipts, 1994



State and Local Outlays, 1994

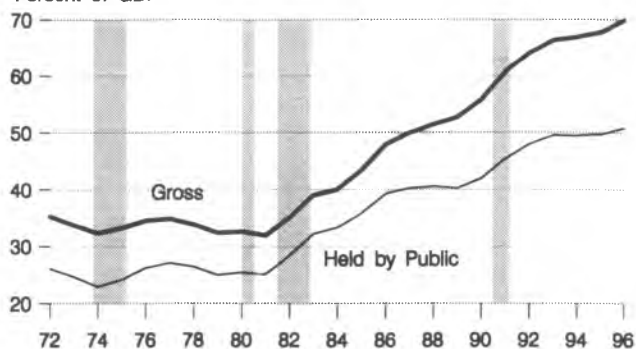


State and Local Receipts, 1994



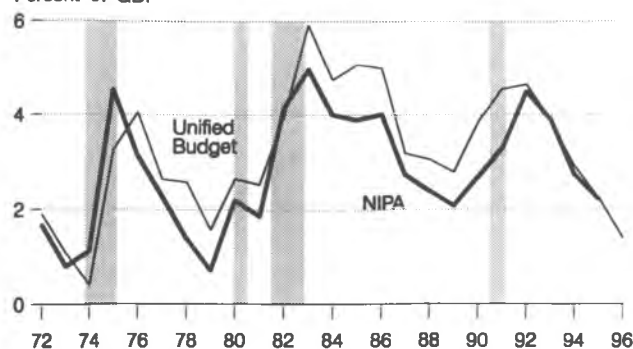
Gross Federal Debt

Percent of GDP



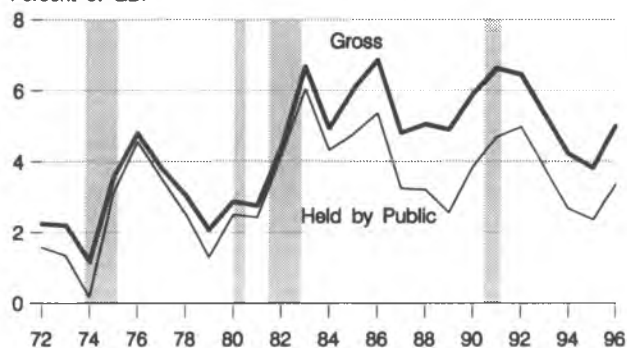
Federal Deficit

Percent of GDP



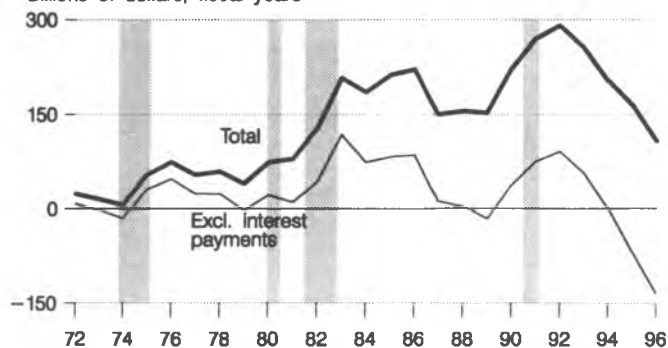
Change in Gross Federal Debt

Percent of GDP



Federal Deficit, Unified Basis

Billions of dollars, fiscal years



Government Budgets

Billions of dollars

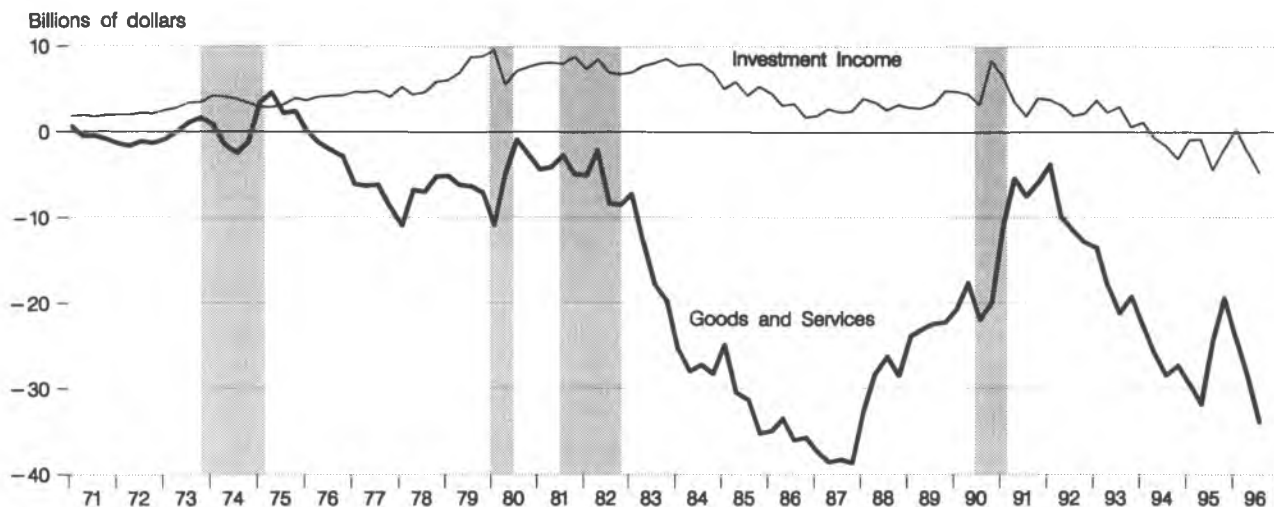
National Income Accounts
Calendar Years

	State and Local			Federal		
	Receipts	Expenditures	Surplus or Deficit(-)	Receipts	Expenditures	Surplus or Deficit(-)
1980	361.4	307.0	54.4	561.5	622.5	-61.0
1981	390.8	335.4	55.4	649.3	707.1	-57.8
1982	409.0	357.7	51.3	646.4	781.0	-134.6
1983	443.6	378.8	64.8	671.9	846.3	-174.4
1984	492.0	405.1	86.9	746.9	902.9	-156.0
1985	528.7	437.8	90.9	811.3	974.2	-162.9
1986	570.6	475.7	94.9	850.1	1027.6	-177.5
1987	594.9	511.1	83.8	937.4	1066.3	-128.9
1988	631.4	545.5	85.9	997.2	1118.5	-121.3
1989	681.0	585.9	95.1	1079.3	1192.7	-113.4
1990	728.9	648.8	80.1	1129.8	1284.5	-154.7
1991	784.2	708.4	75.8	1149.0	1345.0	-196.0
1992	844.3	758.0	86.3	1198.5	1479.4	-280.9
1993	897.1	802.2	94.9	1275.3	1530.9	-255.6
1994	946.4	846.6	99.8	1377.0	1567.3	-190.3
1995	996.1	901.1	95.0	1478.4	1640.1	-161.7
1996	NA	951.2	NA	NA	1702.0	NA

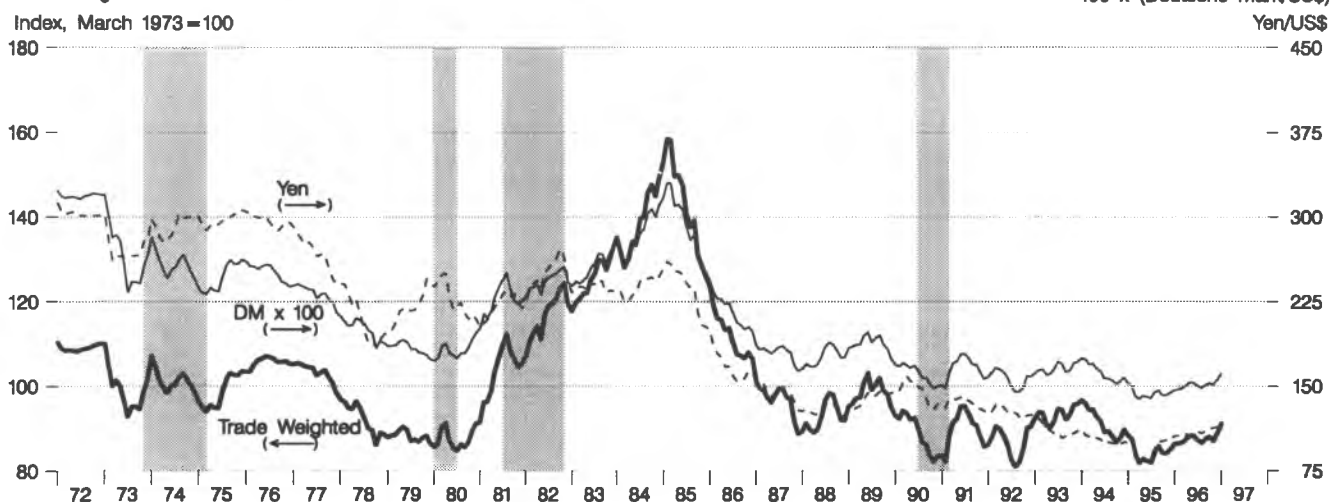
Unified Budget
Fiscal Years

	Federal		
	Receipts	Outlays	Surplus or Deficit(-)
1980	517.1	590.9	-73.8
1981	599.3	678.2	-79.0
1982	617.8	745.8	-128.0
1983	600.6	808.4	-207.8
1984	666.5	851.8	-185.4
1985	734.1	946.4	-212.3
1986	769.1	990.3	-221.2
1987	854.1	1003.9	-149.8
1988	909.0	1064.1	-155.2
1989	990.7	1143.2	-152.5
1990	1031.3	1252.5	-221.2
1991	1054.3	1323.6	-269.4
1992	1090.5	1380.9	-290.4
1993	1153.5	1408.7	-255.1
1994	1257.7	1460.8	-203.1
1995	1351.5	1515.4	-163.9
1996	1452.8	1560.1	-107.3

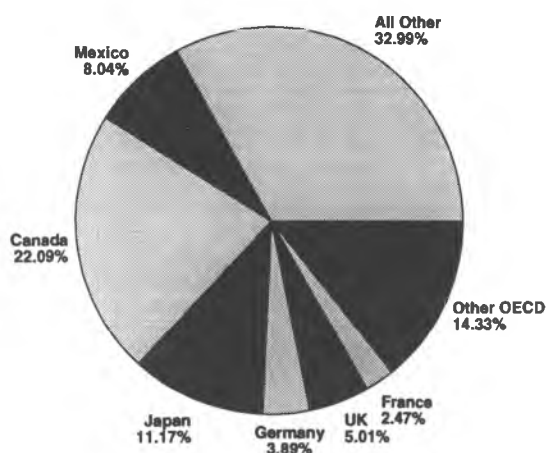
Trade and Investment Income Balances



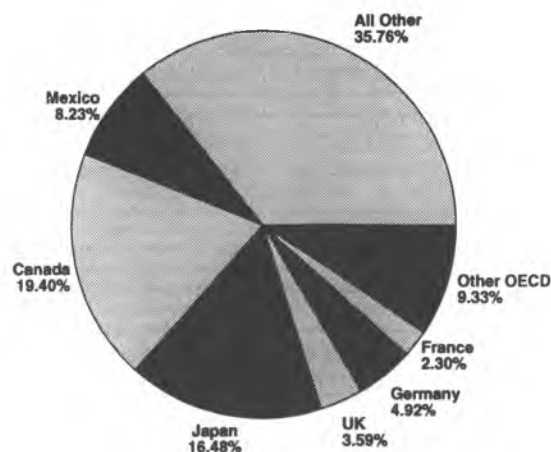
Exchange Rates



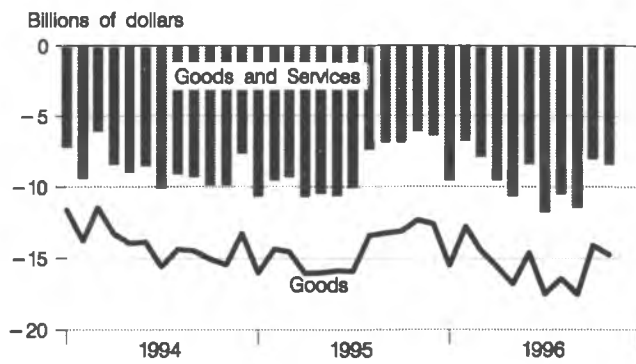
Goods Export Shares, 1995



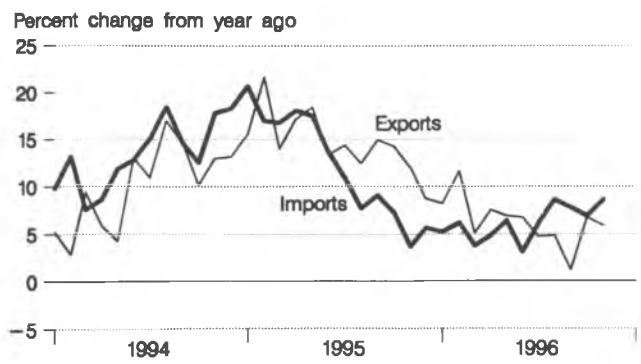
Goods Import Shares, 1995



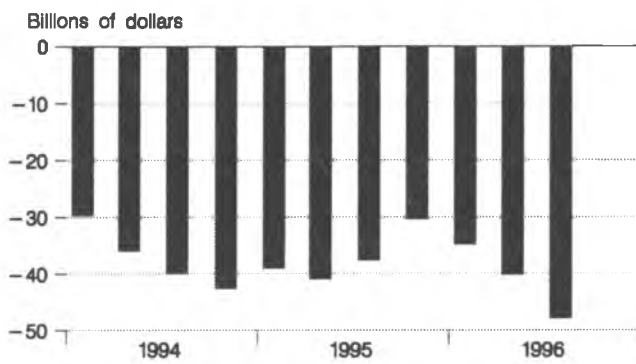
Trade Balance



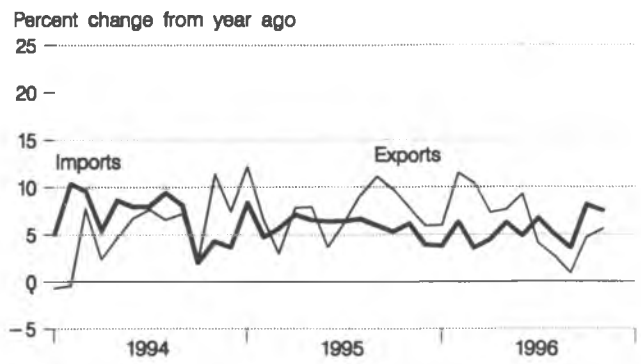
Goods Trade



Current Account Balance



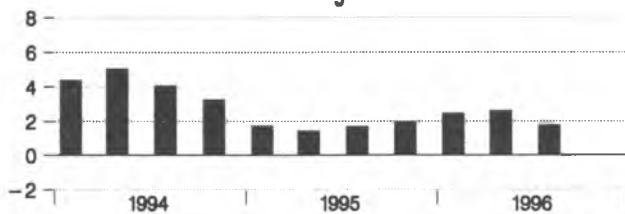
Services Trade



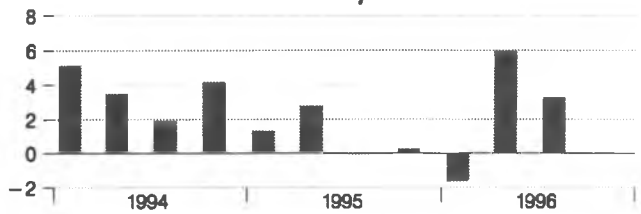
Real GDP Growth of Major Trading Partners

Percent change at annual rate

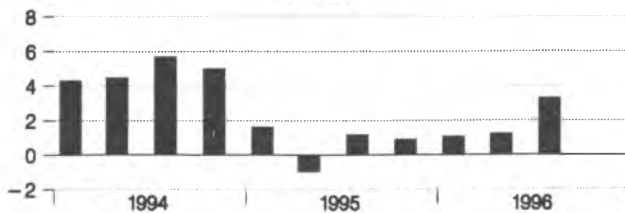
United Kingdom



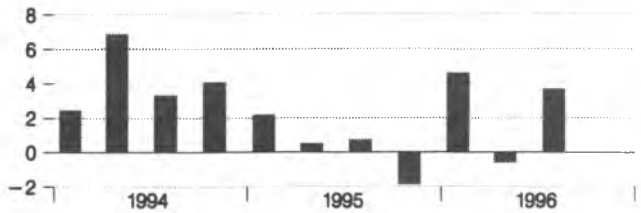
Germany



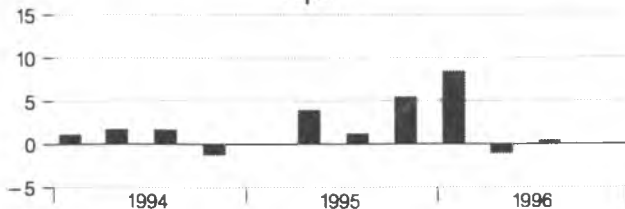
Canada



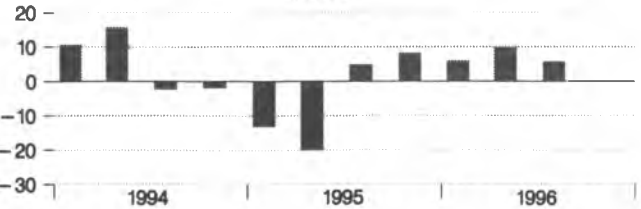
France



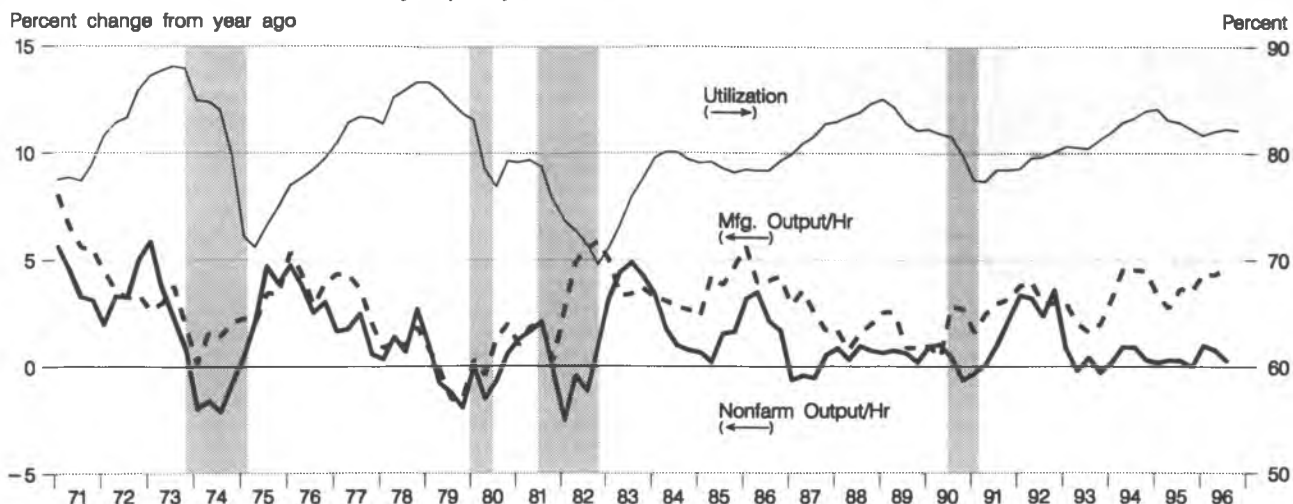
Japan



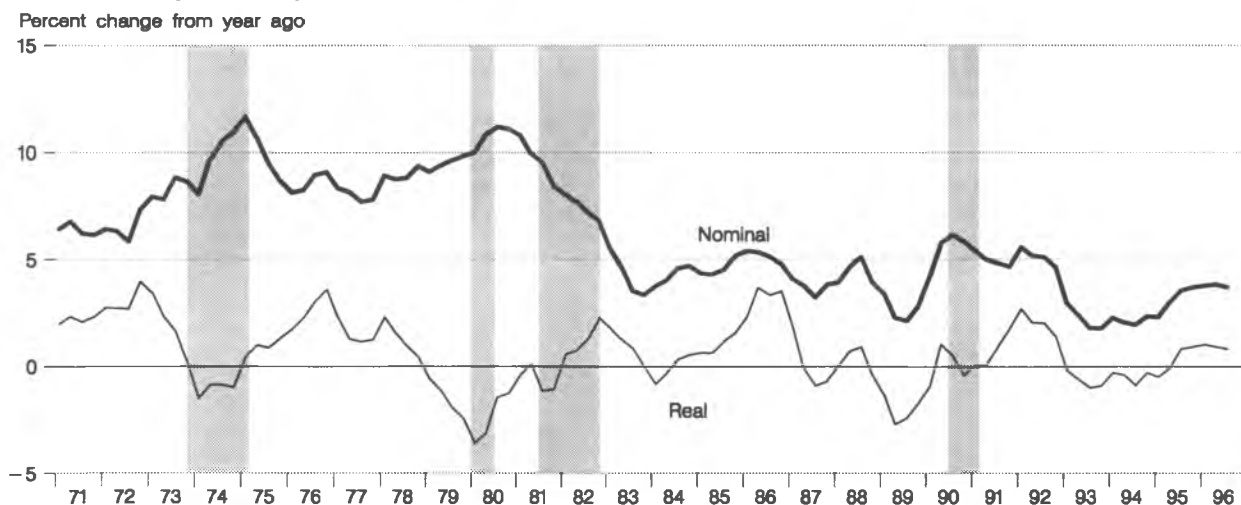
Mexico



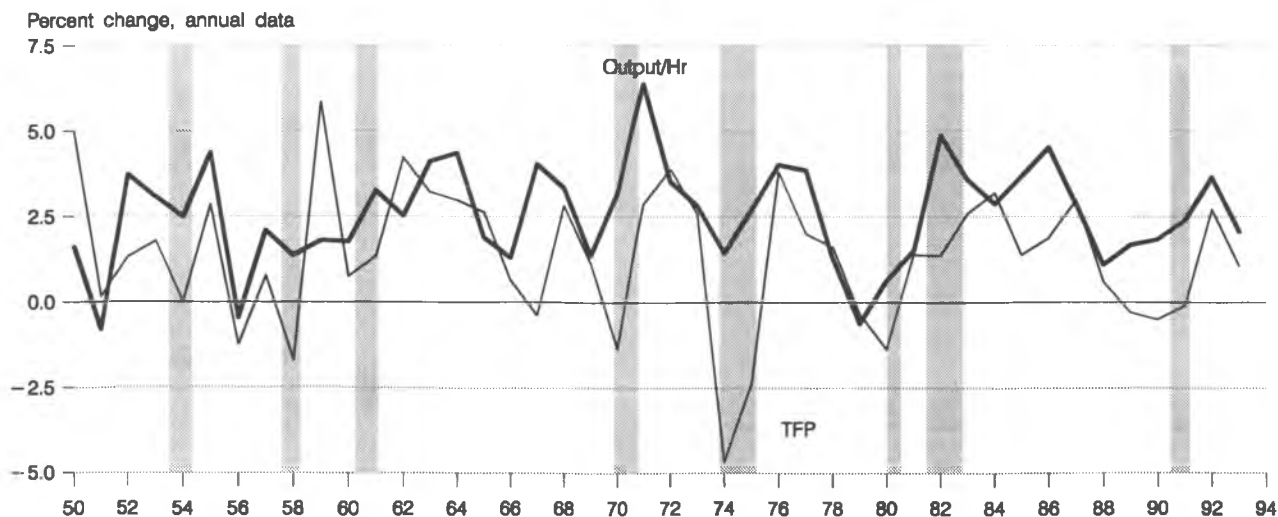
Output per Hour and Manufacturing Capacity Utilization



Nonfarm Compensation per Hour

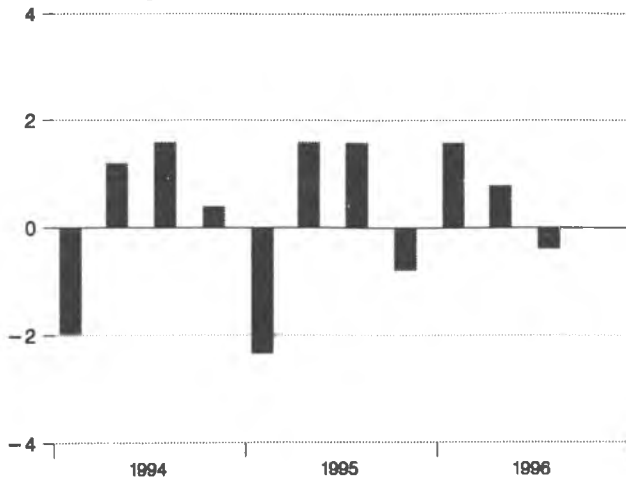


Output per Hour and Total Factor Productivity, Manufacturing



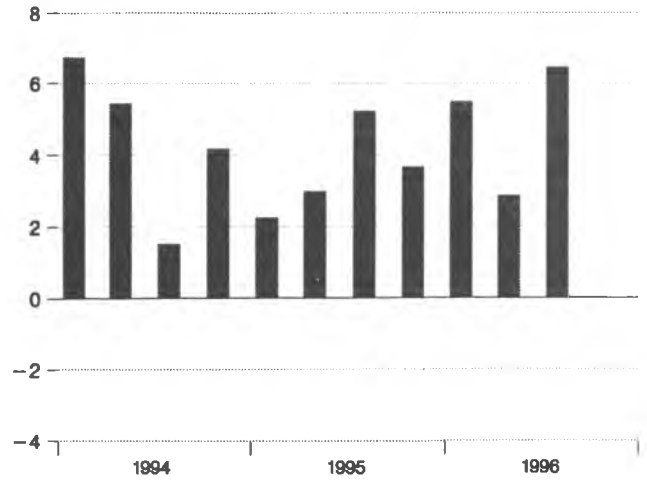
Nonfarm Output per Hour

Percent change at annual rate



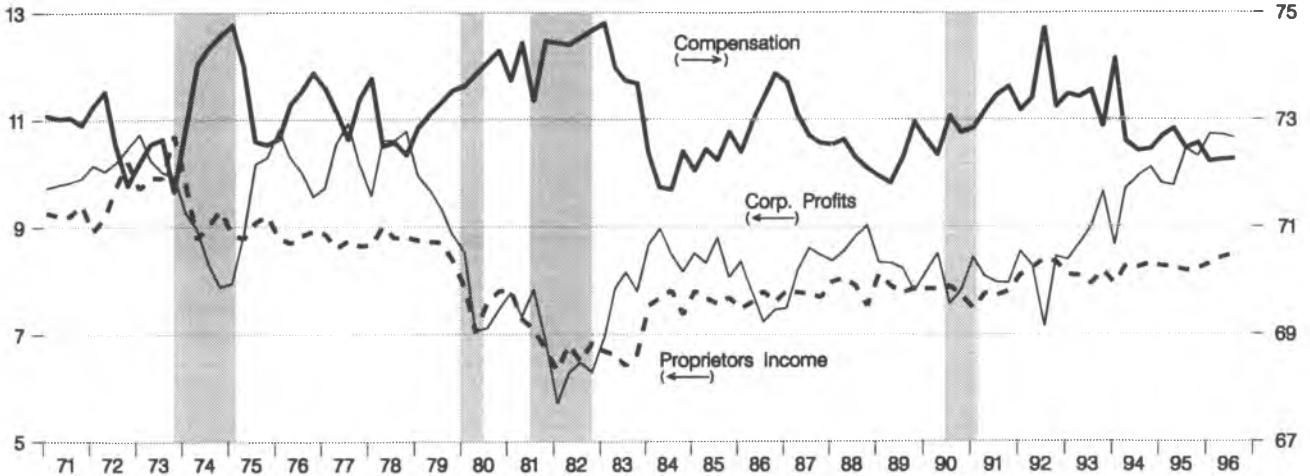
Manufacturing Output per Hour

Percent change at annual rate



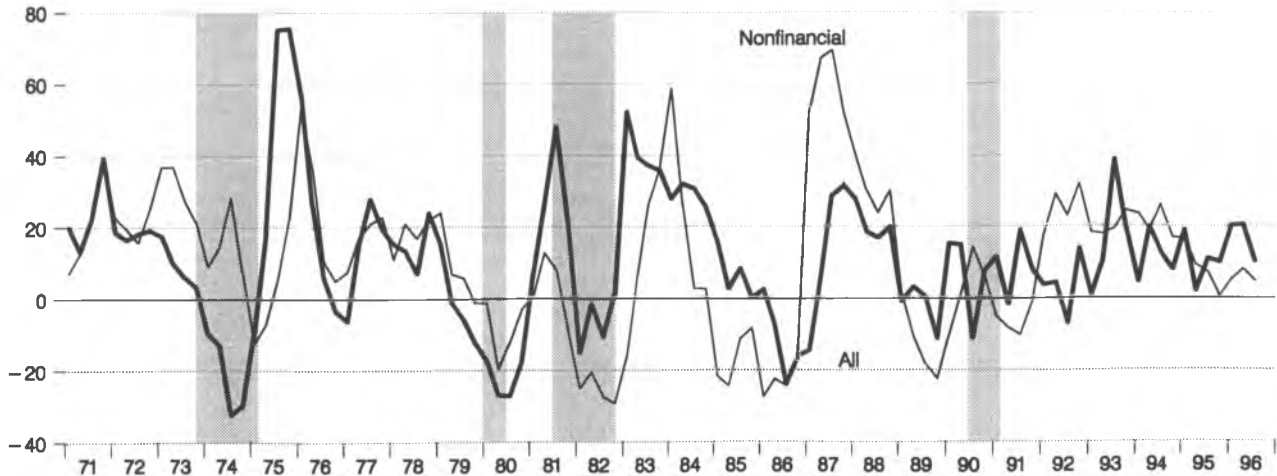
Selected Component Shares of National Income

Percent



Corporate Profits after Tax (with IVA and CCAdj)

Percent change from year ago



NationalEconomicTrends

	Nominal GDP			Real GDP			Final Sales			Change in Business Inventories		
	Percent change			Percent change			Percent change			Billions of 1992 \$		
	Billions of \$	Annual rate	Year ago	Billions of 1992 \$	Annual rate	Year ago	Billions of 1992 \$	Annual rate	Year ago	Last qtr	Year ago	
1992	6244.4		5.5	6244.442		2.7	6237.457		2.5		-2.982	
1993	6553.0		4.9	6386.363		2.3	6365.527		2.1		7.269	
1994	6935.7		5.8	6608.711		3.5	6550.717		2.9		19.075	
1995	7253.8		4.6	6742.920		2.0	6708.836		2.4		58.898	
1996	7580.0		4.5	6910.990		2.5	6892.248		2.7		33.130	
1993 1	6442.6	3.8	5.2	6326.432	-0.1	2.4	6307.113	-0.9	2.1	18.500	-0.142	
2	6506.2	4.0	4.9	6356.530	1.9	2.3	6334.496	1.7	2.1	20.846	11.294	
3	6574.4	4.3	4.8	6393.434	2.3	2.1	6371.296	2.3	1.9	19.540	12.142	
4	6688.6	7.1	4.8	6469.055	4.8	2.2	6449.202	5.0	2.0	17.414	5.782	
1994 1	6776.0	5.3	5.2	6508.519	2.5	2.9	6467.727	1.2	2.5	40.530	18.500	
2	6890.5	6.9	5.9	6587.574	4.9	3.6	6514.945	3.0	2.8	74.481	20.846	
3	6993.1	6.1	6.4	6644.898	3.5	3.9	6582.060	4.2	3.3	64.488	19.540	
4	7083.2	5.3	5.9	6693.854	3.0	3.5	6638.134	3.5	2.9	56.093	17.414	
1995 1	7149.8	3.8	5.5	6701.036	0.4	3.0	6647.366	0.6	2.8	54.510	40.530	
2	7204.9	3.1	4.6	6713.524	0.7	1.9	6682.420	2.1	2.6	30.450	74.481	
3	7309.8	6.0	4.5	6776.406	3.8	2.0	6741.364	3.6	2.4	32.976	64.488	
4	7350.6	2.3	3.8	6780.715	0.3	1.3	6764.193	1.4	1.9	14.584	56.093	
1996 1	7426.8	4.2	3.9	6814.310	2.0	1.7	6815.153	3.0	2.5	-2.999	54.510	
2	7545.1	6.5	4.7	6892.553	4.7	2.7	6884.700	4.1	3.0	7.064	30.450	
3	7616.3	3.8	4.2	6928.396	2.1	2.2	6892.747	0.5	2.2	34.450	32.976	
4	7731.7	6.2	5.2	7008.699	4.7	3.4	6976.391	4.9	3.1	31.932	14.584	
	Consumption			Durables Consumption			Private Fixed Investment			Nonresidential Investment		
	Percent change			Percent change			Percent change			Percent change		
	Billions of 1992 \$	Annual rate	Year ago	Billions of 1992 \$	Annual rate	Year ago	Billions of 1992 \$	Annual rate	Year ago	Billions of 1992 \$	Annual rate	Year ago
1992	4219.796		2.8	488.529		5.8	783.429		5.7	557.870		1.9
1993	4339.501		2.8	524.077		7.3	836.353		6.8	593.645		6.4
1994	4473.142		3.1	561.969		7.2	921.087		10.1	652.053		9.8
1995	4577.846		2.3	579.827		3.2	975.921		6.0	714.306		9.5
1996	4690.620		2.5	611.530		5.5	1041.580		6.7	766.198		7.3
1993 1	4289.676	0.7	2.8	506.010	0.8	6.3	815.422	4.9	7.5	577.495	6.0	6.1
2	4318.835	2.7	2.9	519.581	11.2	8.0	821.102	2.8	5.0	586.371	6.3	5.2
3	4359.471	3.8	3.1	528.863	7.3	7.5	835.407	7.2	6.1	593.137	4.7	5.8
4	4390.023	2.8	2.5	541.853	10.2	7.3	873.482	19.5	8.4	617.578	17.5	8.5
1994 1	4420.532	2.8	3.1	549.591	5.8	8.6	892.417	9.0	9.4	628.545	7.3	8.8
2	4458.721	3.5	3.2	555.429	4.3	6.9	911.431	8.8	11.0	639.480	7.1	9.1
3	4489.357	2.8	3.0	563.089	5.6	6.5	930.813	8.8	11.4	660.472	13.8	11.4
4	4523.959	3.1	3.1	579.768	12.4	7.0	949.686	8.4	8.7	679.713	12.2	10.1
1995 1	4534.762	1.0	2.6	566.490	-8.9	3.1	969.499	8.6	8.6	704.449	15.4	12.1
2	4569.870	3.1	2.5	576.187	7.0	3.7	965.676	-1.6	6.0	710.480	3.5	11.1
3	4597.341	2.4	2.4	589.089	9.3	4.6	979.973	6.1	5.3	718.954	4.9	8.9
4	4609.410	1.1	1.9	587.540	-1.0	1.3	988.536	3.5	4.1	723.339	2.5	6.4
1996 1	4649.076	3.5	2.5	599.202	8.2	5.8	1013.292	10.4	4.5	743.478	11.6	5.5
2	4687.603	3.4	2.6	615.621	11.4	6.8	1031.100	7.2	6.8	750.512	3.8	5.6
3	4693.468	0.5	2.1	611.605	-2.6	3.8	1057.485	10.6	7.9	781.374	17.5	8.7
4	4732.332	3.4	2.7	619.691	5.4	5.5	1064.442	2.7	7.7	789.429	4.2	9.1

	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
1992	100.000		2.8	114.3		3.7	111.9		2.9	120.5		5.6
1993	102.617		2.6	118.4		3.6	115.2		2.9	127.0		5.4
1994	104.958		2.3	122.2		3.2	118.5		2.9	132.1		4.0
1995	107.565		2.5	125.7		2.8	121.9		2.9	135.0		2.2
1996	109.870		2.1	129.2		2.8	126.0		3.3	137.4		1.8
1993 1	101.832	3.8	2.7	116.9	4.2	3.5	113.9	3.2	2.6	124.8	6.7	5.5
2	102.386	2.2	2.6	117.9	3.5	3.7	114.6	2.5	2.7	126.5	5.6	5.9
3	102.833	1.8	2.7	118.9	3.4	3.7	115.6	3.5	3.1	127.7	3.8	5.3
4	103.415	2.3	2.5	119.9	3.4	3.6	116.5	3.2	3.1	128.9	3.8	5.0
1994 1	104.149	2.9	2.3	120.8	3.0	3.3	117.2	2.4	2.9	130.3	4.4	4.4
2	104.632	1.9	2.2	121.8	3.4	3.3	118.1	3.1	3.1	131.5	3.7	4.0
3	105.248	2.4	2.3	122.8	3.3	3.3	119.0	3.1	2.9	132.9	4.3	4.1
4	105.802	2.1	2.3	123.5	2.3	3.0	119.7	2.4	2.7	133.6	2.1	3.6
1995 1	106.676	3.3	2.4	124.4	2.9	3.0	120.6	3.0	2.9	133.8	0.6	2.7
2	107.309	2.4	2.6	125.3	2.9	2.9	121.5	3.0	2.9	134.6	2.4	2.4
3	107.855	2.1	2.5	126.1	2.6	2.7	122.4	3.0	2.9	135.4	2.4	1.9
4	108.419	2.1	2.5	126.9	2.6	2.8	123.2	2.6	2.9	136.1	2.1	1.9
1996 1	109.027	2.3	2.2	127.8	2.9	2.7	124.5	4.3	3.2	136.0	-0.3	1.6
2	109.619	2.2	2.2	128.8	3.2	2.8	125.6	3.6	3.4	136.9	2.7	1.7
3	110.166	2.0	2.1	129.6	2.5	2.8	126.4	2.6	3.3	137.8	2.7	1.8
4	110.669	1.8	2.1	130.6	3.1	2.9	127.3	2.9	3.3	138.8	2.9	2.0
	Exports			Imports			Nonfarm Output per Hour			Nonfarm Compensation/Hr		
	Billions of 1992 \$	Percent change		Billions of 1992 \$	Percent change		Index	Percent change		Index	Percent change	
		Annual rate	Year ago		Annual rate	Year ago		Annual rate	Year ago		Annual rate	Year ago
1992	639.416		6.6	668.959		7.5	100.0		3.1	100.0		5.1
1993	658.217		2.9	730.246		9.2	100.2		0.2	102.3		2.2
1994	711.972		8.2	817.637		12.0	100.8		0.6	104.5		2.2
1995	775.399		8.9	883.001		8.0	101.0		0.2	107.7		3.1
1996	826.119		6.5	940.314		6.5						
1993 1	647.083	-1.3	2.2	703.069	8.3	8.5	100.1	-3.9	0.8	101.5	1.2	2.9
2	660.044	8.3	3.8	724.429	12.7	8.4	99.7	-1.6	-0.2	102.0	2.0	2.4
3	645.484	-8.5	0.9	731.707	4.1	9.1	100.1	1.6	0.4	102.5	2.0	1.8
4	680.255	23.4	4.8	761.777	17.5	10.5	100.8	2.8	-0.3	103.0	2.0	1.8
1994 1	677.647	-1.5	4.7	776.962	8.2	10.5	100.3	-2.0	0.2	103.8	3.1	2.3
2	703.108	15.9	6.5	810.404	18.4	11.9	100.6	1.2	0.9	104.1	1.2	2.1
3	719.560	9.7	11.5	831.262	10.7	13.6	101.0	1.6	0.9	104.5	1.5	2.0
4	747.573	16.5	9.9	851.919	10.3	11.8	101.1	0.4	0.3	105.4	3.5	2.3
1995 1	752.330	2.6	11.0	874.851	11.2	12.6	100.5	-2.4	0.2	106.2	3.1	2.3
2	763.226	5.9	8.6	884.605	4.5	9.2	100.9	1.6	0.3	107.2	3.8	3.0
3	782.952	10.7	8.8	884.524	-0.0	6.4	101.3	1.6	0.3	108.2	3.8	3.5
4	803.087	10.7	7.4	888.023	1.6	4.2	101.1	-0.8	0.0	109.3	4.1	3.7
1996 1	806.713	1.8	7.2	910.707	10.6	4.1	101.5	1.6	1.0	110.2	3.3	3.8
2	817.864	5.6	7.2	932.556	9.9	5.4	101.7	0.8	0.8	111.3	4.1	3.8
3	816.106	-0.9	4.2	953.541	9.3	7.8	101.6	-0.4	0.3	112.2	3.3	3.7
4	863.793	25.5	7.6	964.452	4.7	8.6						

NationalEconomicTrends

Household Survey Employment					Nonfarm Payroll Employment					Nonfarm Aggregate Hours				
		Percent change					Percent change					Percent change		
		Thousands	Change	Annual rate	Year ago	Thousands	Change	Annual rate	Year ago	Index	Monthly rate	Annual rate	Year ago	
1992		118488	775		0.7	108592	331		0.3	121.2				0.7
1993		120259	1771		1.5	110726	2134		2.0	124.6				2.8
1994		123067	2808		2.3	114153	3427		3.1	129.9				4.2
1995		124899	1833		1.5	117202	3050		2.7	133.4				2.7
1996		126705	1806		1.4	119543	2340		2.0	136.4				2.2
1994	1	122035	883	2.9	2.3	112625	792	2.9	2.7	127.6	1.1	4.3		4.0
	2	122648	614	2.0	2.2	113686	1062	3.8	3.0	129.4	1.4	5.9		4.2
	3	123178	530	1.7	2.1	114690	1003	3.6	3.3	130.5	0.8	3.2		4.1
	4	124405	1227	4.0	2.7	115611	921	3.3	3.4	132.1	1.3	5.1		4.6
1995	1	124924	519	1.7	2.4	116484	874	3.1	3.4	132.9	0.6	2.4		4.2
	2	124711	-213	-0.7	1.7	116956	472	1.6	2.9	132.9	0.0	0.1		2.7
	3	124820	109	0.4	1.3	117441	485	1.7	2.4	133.6	0.5	2.1		2.4
	4	125142	322	1.0	0.6	117928	487	1.7	2.0	134.3	0.5	2.0		1.7
1996	1	125693	551	1.8	0.6	118466	538	1.8	1.7	134.2	-0.0	-0.2		1.0
	2	126381	688	2.2	1.3	119264	797	2.7	2.0	136.1	1.4	5.6		2.4
	3	127042	661	2.1	1.8	119958	694	2.3	2.1	137.0	0.7	2.8		2.5
	4	127705	664	2.1	2.0	120483	525	1.8	2.2	138.1	0.8	3.3		2.8
1994 Dec		124689	215	2.1	2.7	115913	248	2.6	3.4	132.5	0.5	6.6		4.6
1995 Jan		124766	77	0.7	2.3	116250	337	3.5	3.5	133.2	0.5	6.5		4.4
Feb		124937	171	1.7	2.3	116502	252	2.6	3.5	132.7	-0.4	-4.4		4.7
Mar		125070	133	1.3	2.5	116701	199	2.1	3.3	132.8	0.1	0.9		3.3
Apr		125023	-47	-0.5	2.2	116861	160	1.7	3.1	133.7	0.7	8.4		3.8
May		124577	-446	-4.2	1.3	116907	46	0.5	2.8	131.9	-1.3	-15.0		1.7
Jun		124533	-44	-0.4	1.5	117100	193	2.0	2.7	133.2	1.0	12.5		2.6
Jul		124804	271	2.6	1.7	117201	101	1.0	2.5	133.5	0.2	2.7		2.6
Aug		124729	-75	-0.7	1.2	117499	298	3.1	2.4	133.4	-0.1	-0.9		2.4
Sep		124927	198	1.9	1.1	117623	124	1.3	2.3	134.0	0.4	5.5		2.3
Oct		125235	308	3.0	1.0	117749	126	1.3	2.2	134.3	0.2	2.7		1.7
Nov		125124	-111	-1.1	0.5	117899	150	1.5	1.9	134.3	0.0	0.0		1.9
Dec		125068	-56	-0.5	0.3	118136	237	2.4	1.9	134.3	0.0	0.0		1.4
1996 Jan		125311	243	2.4	0.4	118070	-66	-0.7	1.6	131.7	-1.9	-20.9		-1.1
Feb		125706	395	3.8	0.6	118579	509	5.3	1.8	135.5	2.9	40.7		2.1
Mar		126062	356	3.5	0.8	118750	171	1.7	1.8	135.5	0.0	0.0		2.0
Apr		126125	63	0.6	0.9	118922	172	1.8	1.8	135.2	-0.2	-2.6		1.1
May		126428	303	2.9	1.5	119332	410	4.2	2.1	135.3	0.1	0.9		2.6
Jun		126590	162	1.5	1.7	119537	205	2.1	2.1	137.7	1.8	23.5		3.4
Jul		126889	299	2.9	1.7	119772	235	2.4	2.2	136.1	-1.2	-13.1		1.9
Aug		126988	99	0.9	1.8	120052	280	2.8	2.2	136.9	0.6	7.3		2.6
Sep		127248	260	2.5	1.9	120050	-2	-0.0	2.1	138.0	0.8	10.1		3.0
Oct		127617	369	3.5	1.9	120311	261	2.6	2.2	137.1	-0.7	-7.6		2.1
Nov		127644	27	0.3	2.0	120438	127	1.3	2.2	138.0	0.7	8.2		2.8
Dec		127855	211	2.0	2.2	120700	262	2.6	2.2	139.2	0.9	10.9		3.6

		Unempl. Rate	Retail Sales				Industrial Production				Treasury Yields	
			Billions of dollars	Percent change			Index	Percent change			3-mo	10-yr
				Monthly rate	Annual rate	Year ago		Monthly rate	Annual rate	Year ago		
1992		7.5	1944.605			4.8	100.000			3.2	3.43	7.01
1993		6.9	2072.550			6.6	103.366			3.4	3.00	5.86
1994		6.1	2227.763			7.5	108.558			5.0	4.25	7.08
1995		5.6	2342.660			5.2	112.109			3.3	5.49	6.58
1996		5.4	2458.904			5.0	115.149			2.7	5.01	6.44
1994	1	6.6	543.502	1.8	7.4	7.8	106.303	1.5	6.2	3.6	3.24	6.07
	2	6.2	550.915	1.4	5.6	7.3	108.037	1.6	6.7	5.1	3.99	7.08
	3	6.0	560.508	1.7	7.1	7.6	109.195	1.1	4.4	5.7	4.48	7.33
	4	5.6	572.838	2.2	9.1	7.3	110.697	1.4	5.6	5.7	5.28	7.84
1995	1	5.5	576.706	0.7	2.7	6.1	111.764	1.0	3.9	5.1	5.74	7.48
	2	5.6	582.972	1.1	4.4	5.8	111.561	-0.2	-0.7	3.3	5.60	6.62
	3	5.7	589.293	1.1	4.4	5.1	112.441	0.8	3.2	3.0	5.37	6.32
	4	5.6	593.689	0.7	3.0	3.6	112.671	0.2	0.8	1.8	5.26	5.89
1996	1	5.6	606.749	2.2	9.1	5.2	113.128	0.4	1.6	1.2	4.93	5.91
	2	5.4	614.066	1.2	4.9	5.3	114.844	1.5	6.2	2.9	5.02	6.72
	3	5.3	615.445	0.2	0.9	4.4	115.774	0.8	3.3	3.0	5.10	6.78
	4	5.3	622.644	1.2	4.8	4.9	116.849	0.9	3.8	3.7	4.98	6.34
1995	Jan	5.6	193.097	1.1	13.9	8.5	111.924	0.3	4.1	5.9	5.71	7.78
	Feb	5.5	191.035	-1.1	-12.1	5.3	111.648	-0.2	-2.9	5.1	5.77	7.47
	Mar	5.4	192.574	0.8	10.1	4.6	111.720	0.1	0.8	4.4	5.73	7.20
	Apr	5.7	192.372	-0.1	-1.3	4.9	111.421	-0.3	-3.2	3.7	5.65	7.06
	May	5.6	194.493	1.1	14.1	6.3	111.523	0.1	1.1	3.2	5.67	6.63
	Jun	5.6	196.107	0.8	10.4	6.2	111.739	0.2	2.3	2.9	5.47	6.17
	Jul	5.7	195.615	-0.3	-3.0	5.9	111.716	-0.0	-0.2	2.4	5.42	6.28
	Aug	5.7	197.081	0.7	9.4	5.2	112.603	0.8	10.0	3.1	5.40	6.49
	Sep	5.7	196.597	-0.2	-2.9	4.4	113.003	0.4	4.3	3.4	5.28	6.20
	Oct	5.5	196.225	-0.2	-2.2	2.8	112.522	-0.4	-5.0	2.3	5.28	6.04
	Nov	5.6	198.159	1.0	12.5	3.8	112.704	0.2	2.0	1.9	5.36	5.93
	Dec	5.6	199.305	0.6	7.2	4.3	112.788	0.1	0.9	1.1	5.14	5.71
1996	Jan	5.7	199.129	-0.1	-1.1	3.1	112.361	-0.4	-4.4	0.4	5.00	5.65
	Feb	5.5	203.392	2.1	28.9	6.5	113.782	1.3	16.3	1.9	4.83	5.81
	Mar	5.5	204.228	0.4	5.0	6.1	113.241	-0.5	-5.6	1.4	4.96	6.27
	Apr	5.5	204.031	-0.1	-1.2	6.1	114.284	0.9	11.6	2.6	4.95	6.51
	May	5.5	205.669	0.8	10.1	5.7	114.782	0.4	5.4	2.9	5.02	6.74
	Jun	5.3	204.366	-0.6	-7.3	4.2	115.466	0.6	7.4	3.3	5.09	6.91
	Jul	5.4	204.719	0.2	2.1	4.7	115.495	0.0	0.3	3.4	5.15	6.87
	Aug	5.2	204.599	-0.1	-0.7	3.8	115.848	0.3	3.7	2.9	5.05	6.64
	Sep	5.2	206.127	0.7	9.3	4.8	115.978	0.1	1.4	2.6	5.09	6.83
	Oct	5.2	207.487	0.7	8.2	5.7	115.998	0.0	0.2	3.1	4.99	6.53
	Nov	5.3	206.972	-0.2	-2.9	4.4	116.894	0.8	9.7	3.7	5.03	6.20
	Dec	5.3	208.185	0.6	7.3	4.5	117.656	0.7	8.1	4.3	4.91	6.30
1997	Jan										5.03	6.58

NationalEconomicTrends

	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 rate	Annual rate	Year ago	Year to date		Monthly rate	Annual rate	Year ago	Year to date		Monthly rate	Annual rate	Year ago
1992	140.4			3.0		147.5			3.7		123.2			1.2
1993	144.6			3.0		152.4			3.3		124.7			1.2
1994	148.3			2.6		156.7			2.8		125.5			0.6
1995	152.5			2.8		161.4			3.0		127.9			1.9
1996	157.0			2.9		165.8			2.7		131.3			2.6
1994 1	146.7	0.5	2.0	2.5	2.0	155.1	0.7	2.8	2.9	2.8	125.0	0.5	1.8	0.2
2	147.7	0.6	2.6	2.4	2.3	156.2	0.8	3.0	2.8	2.9	125.1	0.1	0.5	-0.2
3	149.0	0.9	3.8	2.9	2.8	157.4	0.7	2.9	2.9	2.9	125.9	0.6	2.4	1.3
4	149.9	0.6	2.3	2.6	2.6	158.3	0.6	2.4	2.8	2.8	126.1	0.2	0.9	1.4
1995 1	150.9	0.7	2.9	2.9	2.9	159.6	0.8	3.2	2.9	3.2	127.2	0.8	3.3	1.8
2	152.2	0.8	3.4	3.1	3.1	160.9	0.9	3.5	3.0	3.4	127.7	0.4	1.8	2.1
3	153.0	0.5	2.0	2.6	2.8	162.0	0.7	2.8	3.0	3.2	127.9	0.1	0.5	1.6
4	153.9	0.6	2.4	2.7	2.7	163.1	0.7	2.7	3.0	3.0	128.9	0.8	3.3	2.2
1996 1	155.1	0.8	3.2	2.8	3.2	164.2	0.7	2.8	2.9	2.8	130.0	0.8	3.2	2.2
2	156.6	0.9	3.8	2.9	3.5	165.3	0.6	2.5	2.7	2.7	130.9	0.7	2.9	2.5
3	157.5	0.6	2.3	2.9	3.1	166.3	0.6	2.6	2.7	2.7	131.4	0.4	1.5	2.7
4	158.7	0.8	3.2	3.1	3.1	167.4	0.6	2.5	2.6	2.6	132.8	1.0	4.2	3.0
1994 Dec	150.2	0.2	2.4	2.7	2.7	158.6	0.2	2.3	2.7	2.7	126.8	0.5	5.9	1.8
1995 Jan	150.6	0.3	3.2	2.9	3.2	159.1	0.3	3.8	2.8	3.8	127.0	0.2	1.9	1.8
Feb	150.9	0.2	2.4	2.9	2.8	159.5	0.3	3.1	2.9	3.5	127.2	0.2	1.9	1.8
Mar	151.3	0.3	3.2	2.9	3.0	160.1	0.4	4.6	3.0	3.8	127.3	0.1	0.9	1.8
Apr	151.8	0.3	4.0	3.1	3.2	160.6	0.3	3.8	3.1	3.8	127.6	0.2	2.9	2.0
May	152.2	0.3	3.2	3.1	3.2	160.9	0.2	2.3	3.0	3.5	127.9	0.2	2.9	2.2
Jun	152.6	0.3	3.2	3.0	3.2	161.3	0.2	3.0	2.9	3.4	127.7	-0.2	-1.9	2.0
Jul	152.7	0.1	0.8	2.8	2.9	161.7	0.2	3.0	3.0	3.4	127.7	0.0	0.0	1.8
Aug	153.0	0.2	2.4	2.6	2.8	162.0	0.2	2.2	2.9	3.2	127.8	0.1	0.9	1.3
Sep	153.2	0.1	1.6	2.5	2.7	162.4	0.2	3.0	3.0	3.2	128.2	0.3	3.8	1.8
Oct	153.7	0.3	4.0	2.8	2.8	162.9	0.3	3.8	3.1	3.3	128.4	0.2	1.9	2.4
Nov	153.8	0.1	0.8	2.6	2.6	163.1	0.1	1.5	3.0	3.1	128.8	0.3	3.8	2.1
Dec	154.1	0.2	2.4	2.6	2.6	163.3	0.1	1.5	3.0	3.0	129.6	0.6	7.7	2.2
1996 Jan	154.7	0.4	4.8	2.7	4.8	163.8	0.3	3.7	3.0	3.7	129.8	0.2	1.9	2.2
Feb	155.0	0.2	2.4	2.7	3.6	164.2	0.2	3.0	2.9	3.4	129.7	-0.1	-0.9	2.0
Mar	155.6	0.4	4.7	2.8	4.0	164.7	0.3	3.7	2.9	3.5	130.4	0.5	6.7	2.4
Apr	156.2	0.4	4.7	2.9	4.1	164.9	0.1	1.5	2.7	3.0	130.7	0.2	2.8	2.4
May	156.7	0.3	3.9	3.0	4.1	165.3	0.2	3.0	2.7	3.0	130.9	0.2	1.9	2.3
Jun	156.8	0.1	0.8	2.8	3.5	165.6	0.2	2.2	2.7	2.8	131.1	0.2	1.8	2.7
Jul	157.2	0.3	3.1	2.9	3.5	166.1	0.3	3.7	2.7	3.0	131.0	-0.1	-0.9	2.6
Aug	157.4	0.1	1.5	2.9	3.2	166.2	0.1	0.7	2.6	2.7	131.5	0.4	4.7	2.9
Sep	157.8	0.3	3.1	3.0	3.2	166.7	0.3	3.7	2.6	2.8	131.7	0.2	1.8	2.7
Oct	158.3	0.3	3.9	3.0	3.3	167.1	0.2	2.9	2.6	2.8	132.2	0.4	4.7	3.0
Nov	158.7	0.3	3.1	3.2	3.3	167.4	0.2	2.2	2.6	2.7	132.7	0.4	4.6	3.0
Dec	159.1	0.3	3.1	3.2	3.2	167.6	0.1	1.4	2.6	2.6	133.4	0.5	6.5	2.9

Notes

Pages 4, 5: Final sales is gross domestic product (GDP) minus change in business 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. The **Purchasing Managers' Index** is a weighted average of diffusion indexes for new orders, production, supplier deliveries, inventories, and employment. The National Association of Purchasing Management (NAPM) surveys over 300 firms in 20 manufacturing industries, weighting responses by industry share of GDP. **Aggregate and average weekly hours** are paid hours of production and nonsupervisory employees.

Page 6: The **contribution** of a component X_t to the overall GDP growth rate in quarter t is $100 \times [(1 + (X_t - X_{t-1})/GDP_{t-1})^4 - 1]$. The sign is changed for **imports**. This calculation forces components to add up to the GDP growth rate before compounding and does not exactly match *Survey of Current Business*, Table 8.2. The **residual** line is calculated using the finest level of detail in the table.

Page 7: Ten-year **Treasury yields** are adjusted to constant maturity. Three-month yields are secondary market averages, but all rates used in the yield curves are adjusted to constant maturity. The **total return on the Standard and Poor's 500** is dividends as a percent of the value of the index plus the percent change in the index.

Pages 8,9: Oil prices are monthly averages of daily spot prices for West Texas intermediate crude (*Wall Street Journal*). **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 nonfarm, nonfederal employers. **ECI compensation** refers to a fixed sample of jobs, while **compensation per hour** covers all workers in the nonfarm business sector in a given quarter. In both cases, **compensation** is wages and salaries plus benefits.

Pages 10,11: Nonfarm payroll employment is counted in a survey of about 390,000 establishments (Current Employment Survey). It excludes self-employed individuals and workers in private households, but double-counts individuals with more than one job. The **household survey** (Current Population Survey) of about 50,000 households provides estimates of civilian employment, unemployment rate, labor force participation rate, and employment-population ratio. **Population** is civilian, noninstitutional, 16 years and over. 90 percent confidence intervals for the unemployment rate (± 0.2 percentage points) and change in household survey employment ($\pm 376,000$) measure uncertainty due to sample size. The household survey was changed in January 1994, so care should be exercised in making short-term comparisons around this date, particularly with the duration data shown on page 10. Other changes in the survey are detailed in Bureau of Labor Statistics, *Employment and Earnings*, Appendix A.

Pages 12, 13: Debt service is an estimate of scheduled interest and principal payments on outstanding debt. The **Michigan consumer sentiment index** shows changes in a summary measure of consumers' answers to five questions about their current and expected financial situation, expectations about future economic conditions, and attitudes about making large purchases. The survey is based on a representative sample of U.S. households.

Pages 14, 15: Overall **gross saving** includes government saving, which is the sum of the government surplus and capital consumption (see notes for pages 16 and 17). **Net foreign investment (NFI)** is U.S. investment abroad minus foreign investment in the U.S. Aside from a statistical discrepancy, NFI also equals the difference between gross domestic investment and saving.

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 National Income and Product Accounts (NIPA). The **unified federal budget**

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** data on these pages are from the NIPAs, except as noted. Since 1977, the federal **fiscal year** starts on October 1. **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. **Total factor productivity** estimates changes in output that do not correspond to changes in quantities of labor, capital, or intermediate inputs. **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.

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, total factor productivity

United States Department of Treasury
Unified budget receipts, outlays, deficit

Federal Reserve Board
Index of industrial production, treasury yields, exchange rates, capacity utilization, consumer debt service

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

The Conference Board
Help-wanted advertising index.

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

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