

Lean Inventory Corrections

Larger-than-anticipated inventory buildups can lead to so-called inventory corrections, which can push the economy into a recession as firms scale back production and lay off workers. There was some speculation that inventory buildup in 1994 and 1995 might herald an inventory correction and recession in 1996. Real increase in business inventories contributed \$58.9 billion to real Gross Domestic Product (GDP) in 1994. The 1995 increase in business inventories of \$33.1 billion was smaller, but could still be considered above average (see page 4). Was this inventory increase a cause for concern?

The inventory cycle is usually marked first by a rise, then a fall in the inventory-to-sales ratio. The ratio first increases, as a result of both the rise in inventory and the slowdown in sales at the beginning of a downturn, then falls as inventory overhang is corrected and sales pick up. Inventory investment began to increase in the second quarter of 1994, while the ratio of inventory to sales remained more or less flat. But the inventory-to-sales ratio had been declining since the 1990 recession and, by early 1994, was at its lowest in over two decades. So a flat ratio in 1994 reflected an end to the decline and, by 1995, the rising inventory investment began to show up as an increase in the ratio (see charts on this page and page 5). This led to the speculation by some that inventory levels were higher than desired.

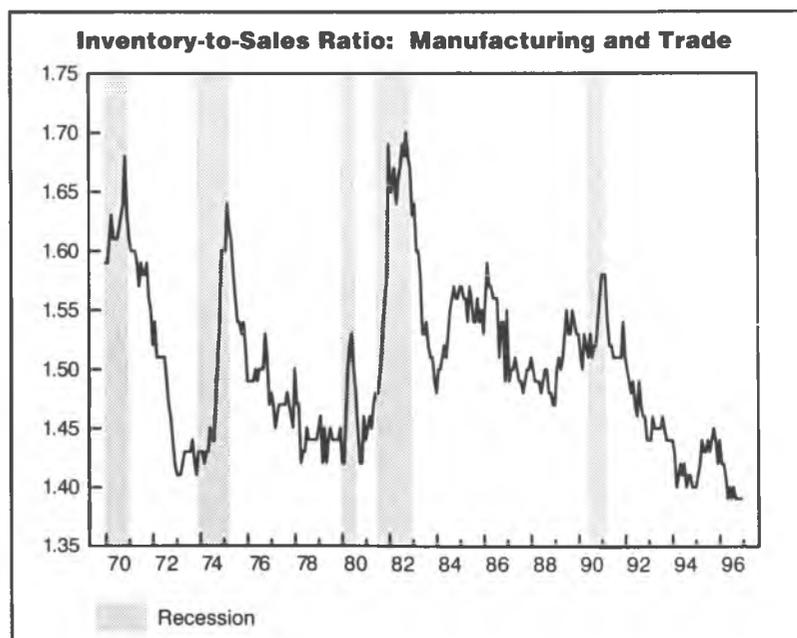
To reduce the ratio, a correction to the growth of inventory was necessary. As the chart shows, reduced inventory growth in 1996 lowered the inventory-to-sales ratio even below the early 1994 level. Although inventories have again begun to increase, the ratio has

remained low and fairly steady for a number of months. This suggests that inventories are now increasing in line *with* sales, not *faster* than sales, and therefore should not require further correction. In addition, the correction did not result in severe inventory reductions, which would have subtracted from GDP. Instead, a slower rate of inventory growth was all that was required to bring inventory back in line with sales.

Because firms had been maintaining lean inventories, as indicated by the low inventory-to-sales ratio, the buildup was not as acute as it might otherwise have been, and the subsequent correction has not been as painful. A similarly mild inventory correction occurred in the middle of the expansion period in the 1980s.

The economy is subject to occasional inventory imbalances which lead to corrections. Fortunately, some inventory corrections, like this recent one, are not severe enough to precipitate a recession.

—Donald S. Allen



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 March 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:

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

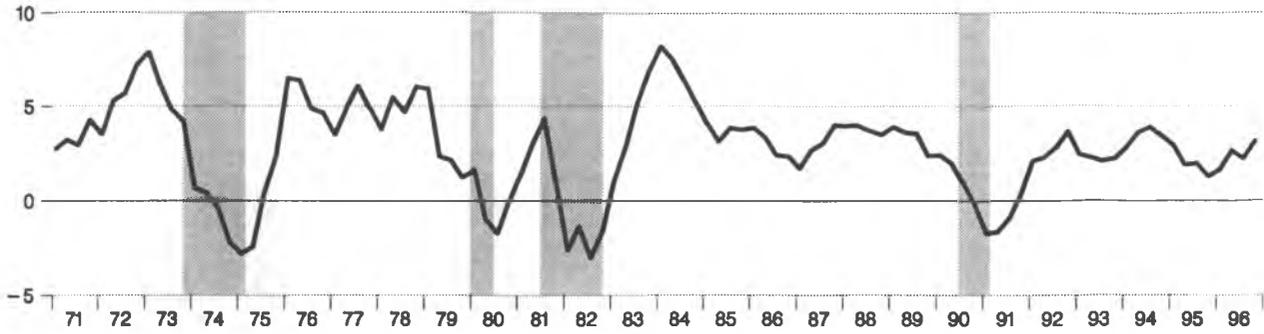
For monthly data replace 4 with 12.

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

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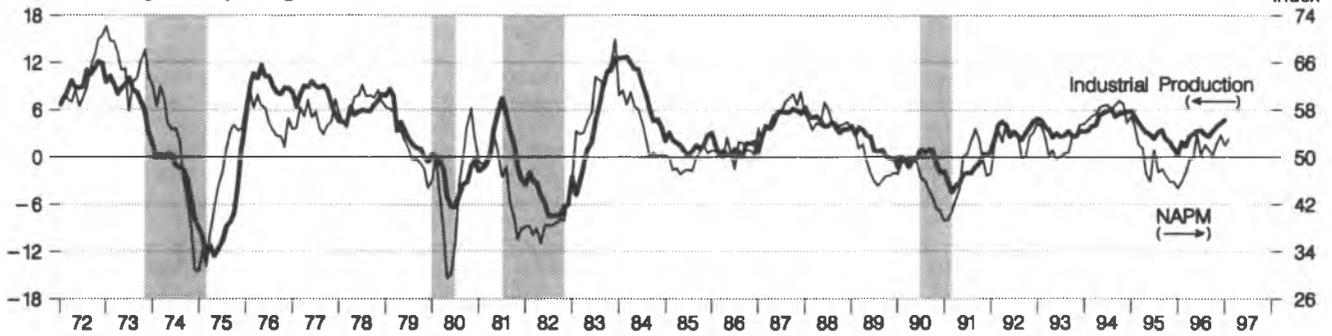
Real Gross Domestic Product

Percent change from year ago



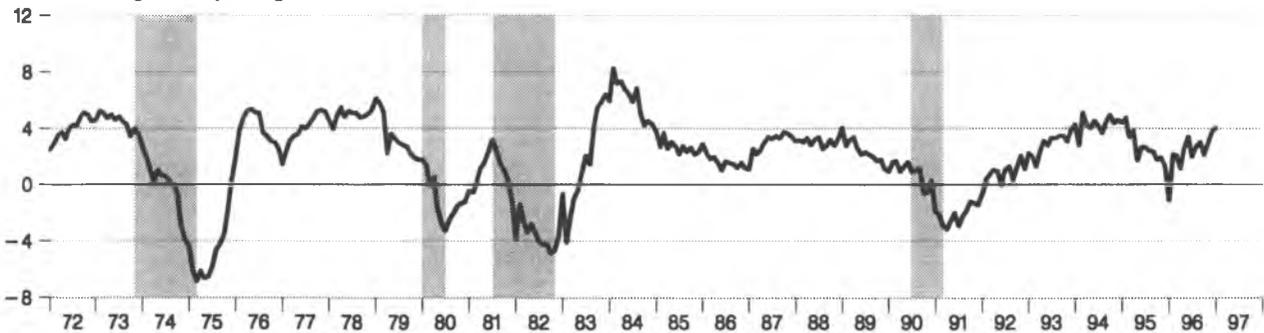
Industrial Production and Purchasing Managers' (NAPM) Indexes

Percent change from year ago



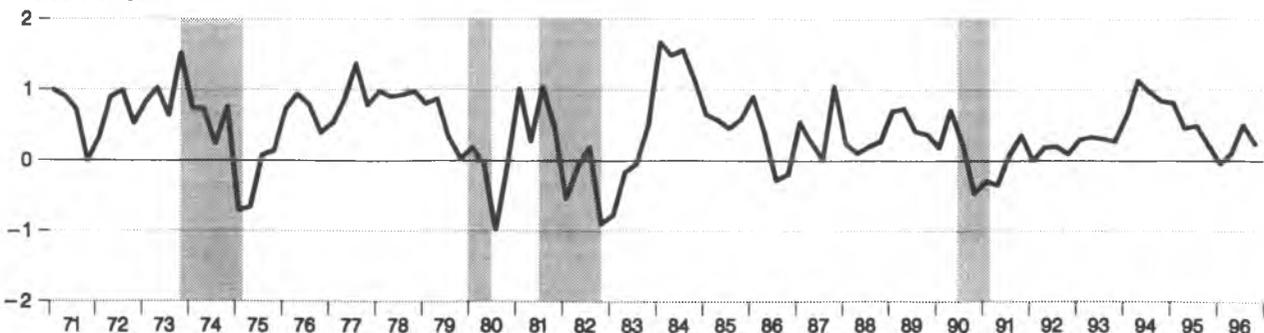
Aggregate Private Nonfarm Hours

Percent change from year ago

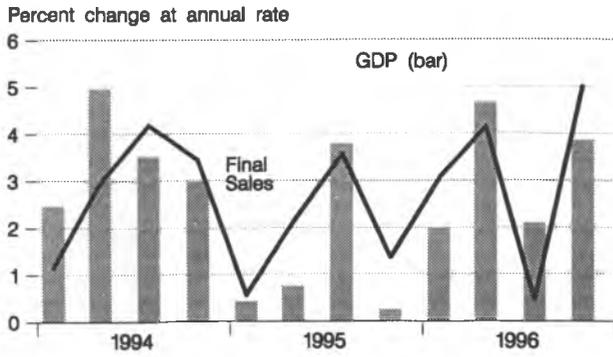


Real Change in Business Inventories

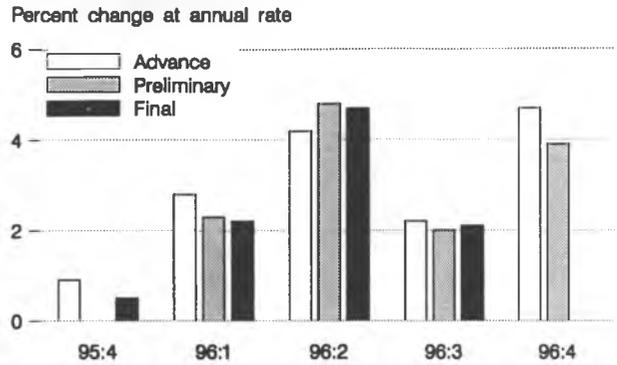
Percent of GDP



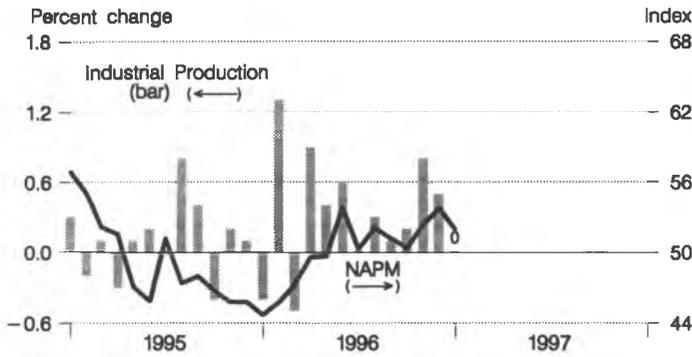
Real Final Sales and GDP



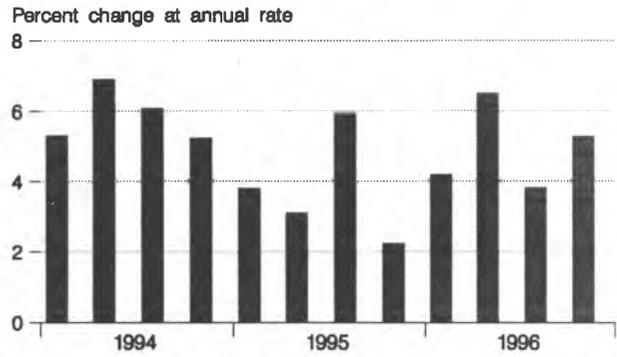
Real GDP Revisions



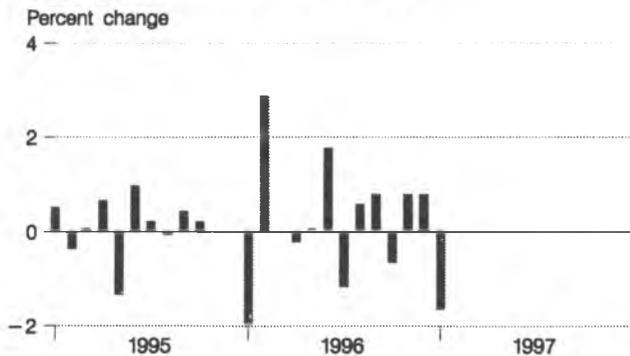
Industrial Production and NAPM Index



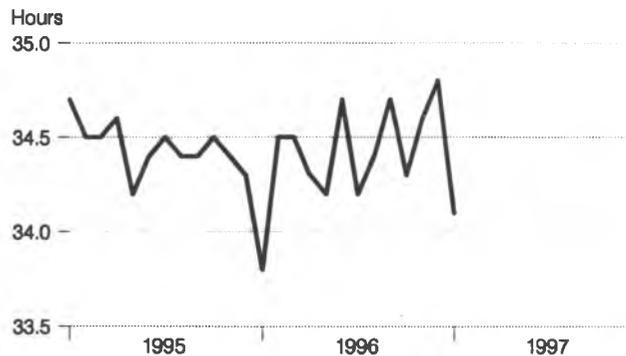
Nominal Gross Domestic Product



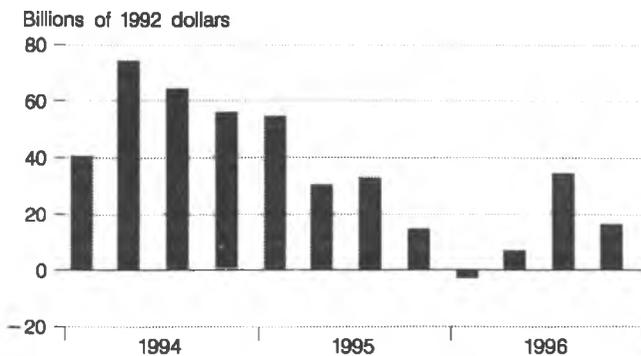
Aggregate Private Nonfarm Hours



Average Weekly Private Nonfarm Hours



Real Change in Business Inventories

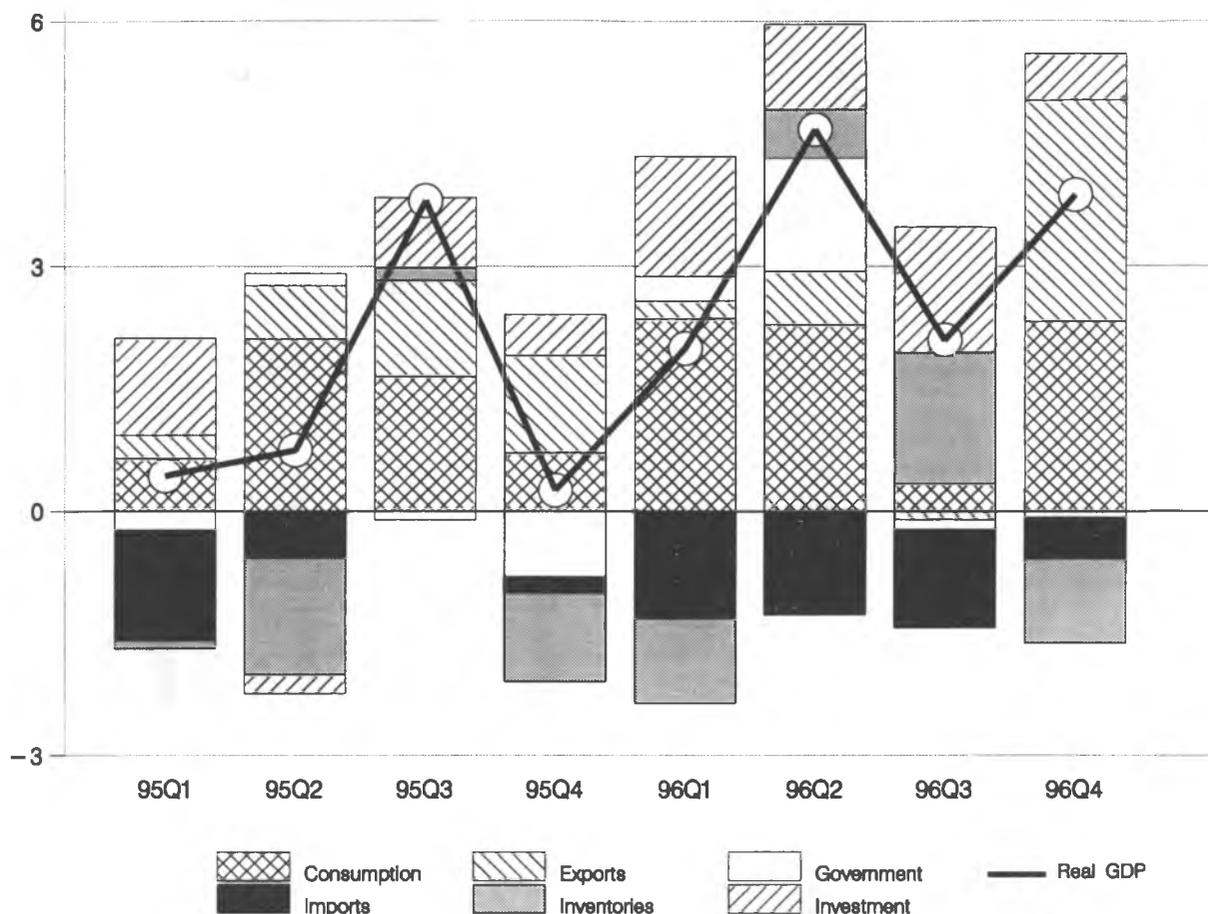


Inventory-Sales Ratio



Contribution of Components to Real GDP Growth

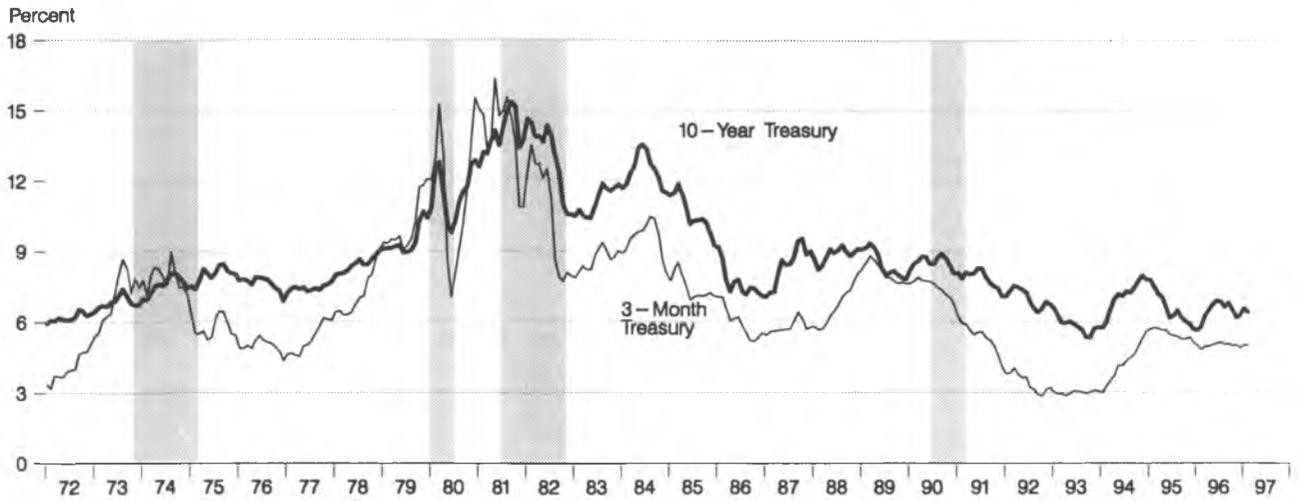
Percent change at annual rate



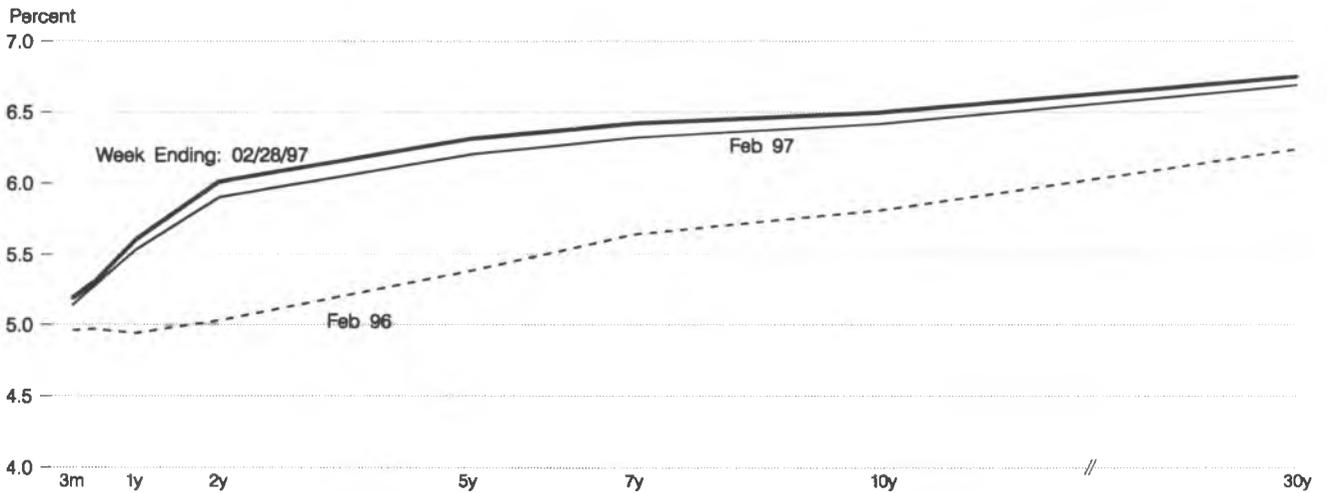
Contributions to Real GDP Growth Rate

	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	3.87
Final Sales	0.55	2.11	3.56	1.35	3.04	4.15	0.47	4.98
Change in Inventory	-0.09	-1.43	0.15	-1.08	-1.03	0.59	1.60	-1.04
Consumption	0.65	2.11	1.65	0.71	2.36	2.28	0.34	2.32
Fixed Investment	1.19	-0.23	0.85	0.51	1.47	1.05	1.54	0.58
Nonresidential	1.49	0.36	0.51	0.26	1.19	0.41	1.80	0.60
Residential	-0.26	-0.56	0.34	0.24	0.28	0.61	-0.22	-0.01
Government	-0.23	0.15	-0.11	-0.81	0.30	1.39	-0.12	-0.08
Federal	-0.49	-0.10	-0.41	-0.96	0.40	0.62	-0.24	-0.34
State and Local	0.26	0.25	0.31	0.17	-0.11	0.76	0.13	0.27
Net Exports	-1.08	0.07	1.19	0.99	-1.12	-0.63	-1.31	2.18
Exports	0.28	0.65	1.18	1.19	0.21	0.66	-0.10	2.71
Imports	-1.36	-0.58	0.00	-0.21	-1.33	-1.28	-1.21	-0.51
Residual	-0.03	0.07	0.03	-0.06	0.04	-0.03	0.01	-0.13

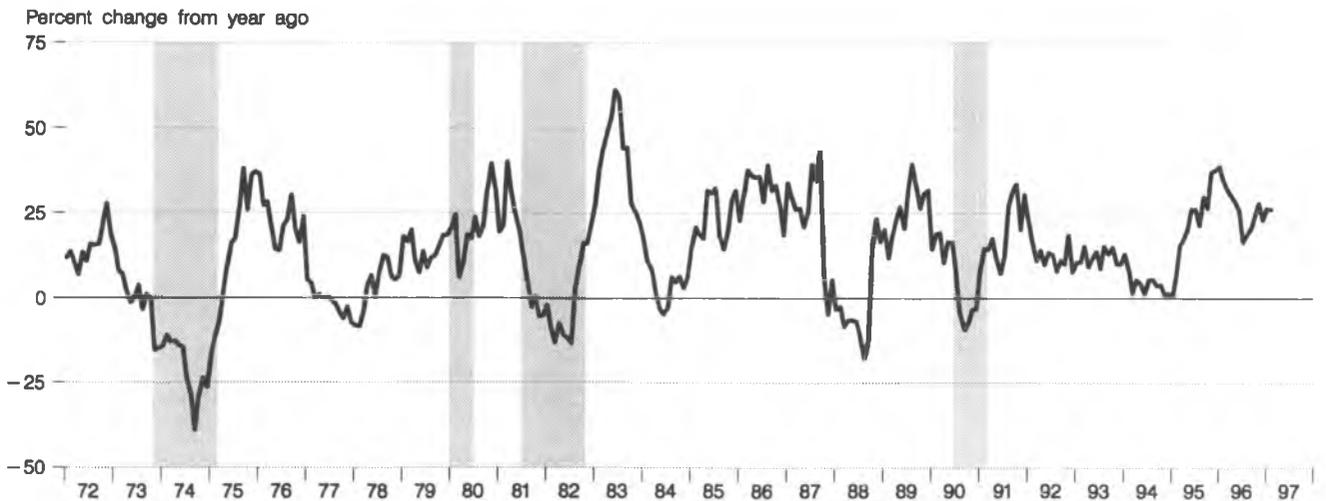
Interest Rates



Treasury Yield Curve

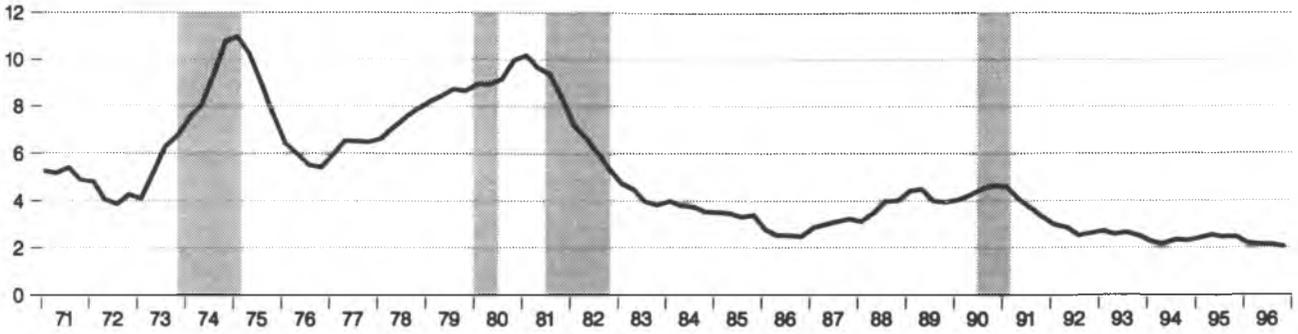


Total Return on Standard and Poor's 500



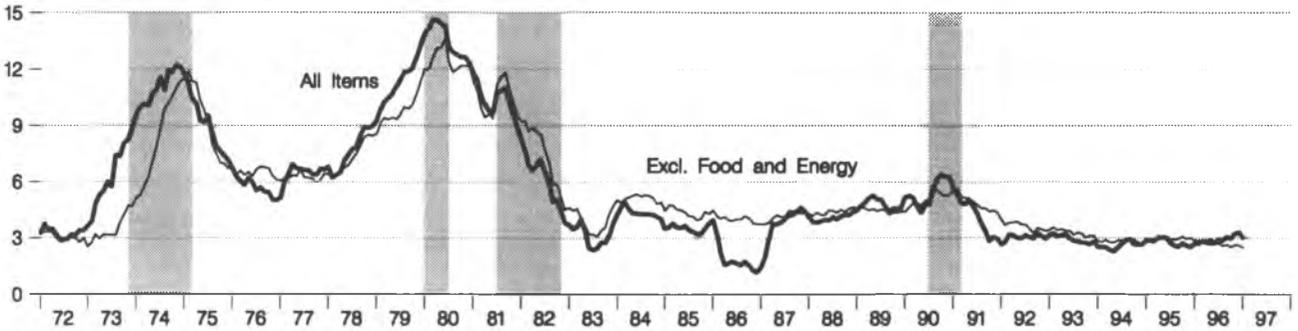
GDP Chain Price Index

Percent change from year ago



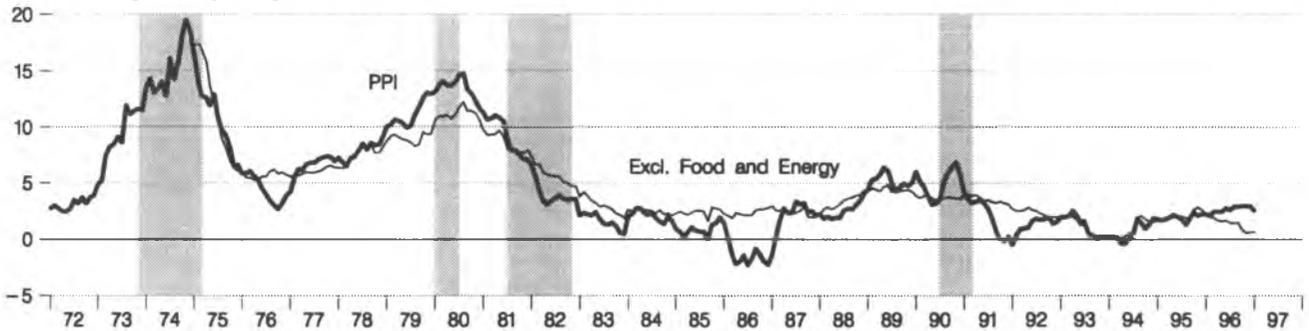
Consumer Price Index

Percent change from year ago



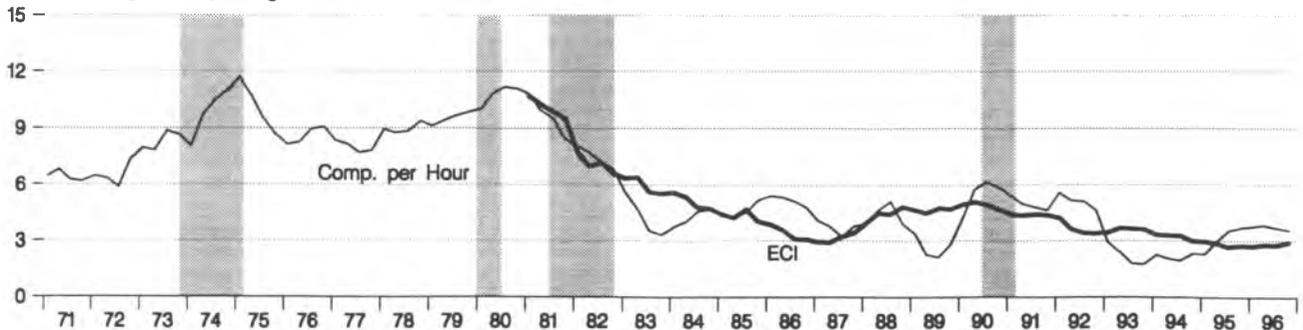
Producer Price Index, Finished Goods

Percent change from year ago



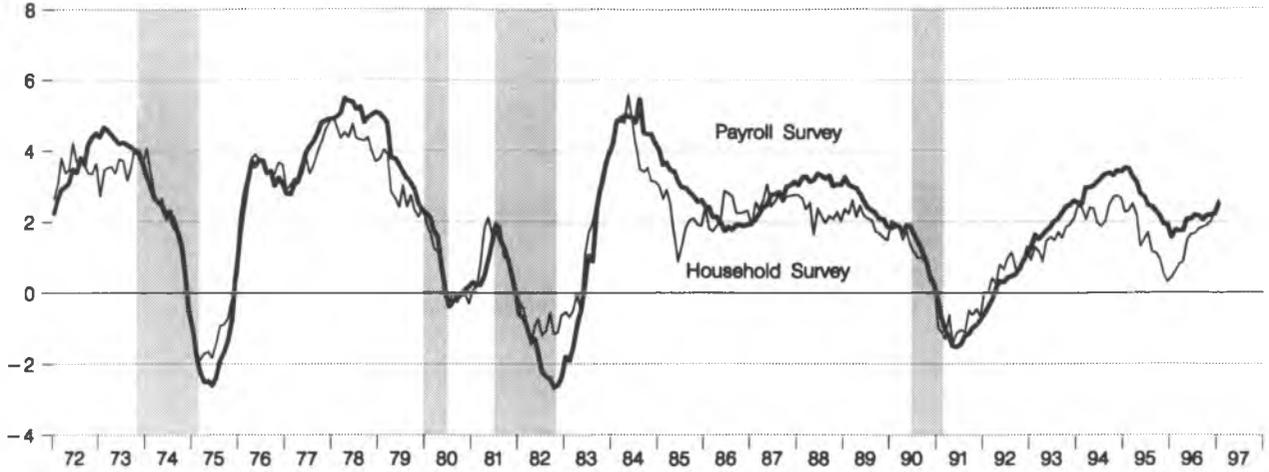
Employment Cost Index and Compensation per Hour

Percent change from year ago



Employment

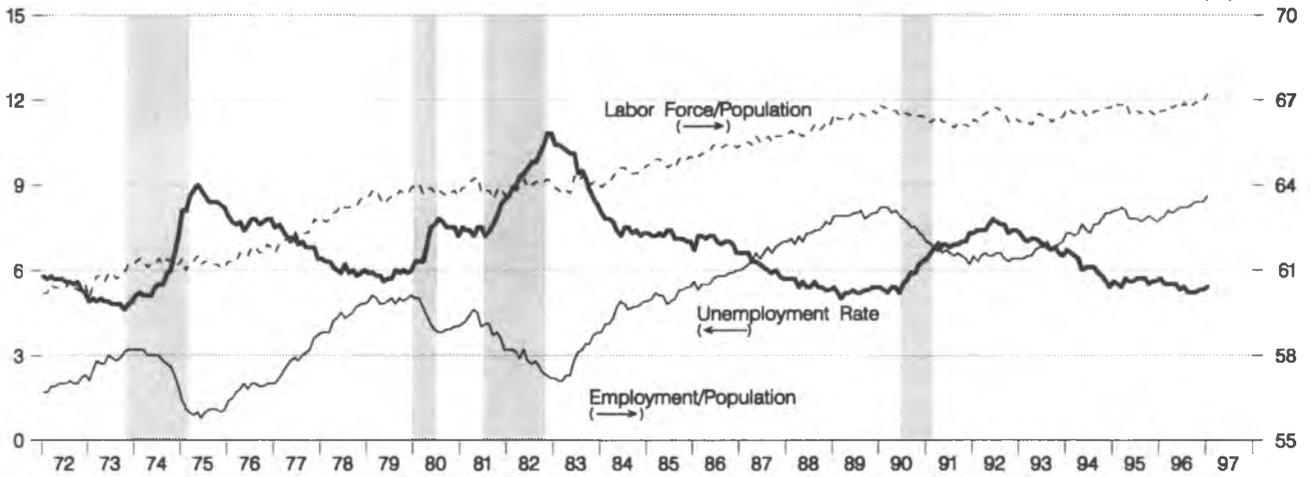
Percent change from year ago



Unemployment, Labor Force Participation and Employment Rates

Percent of labor force

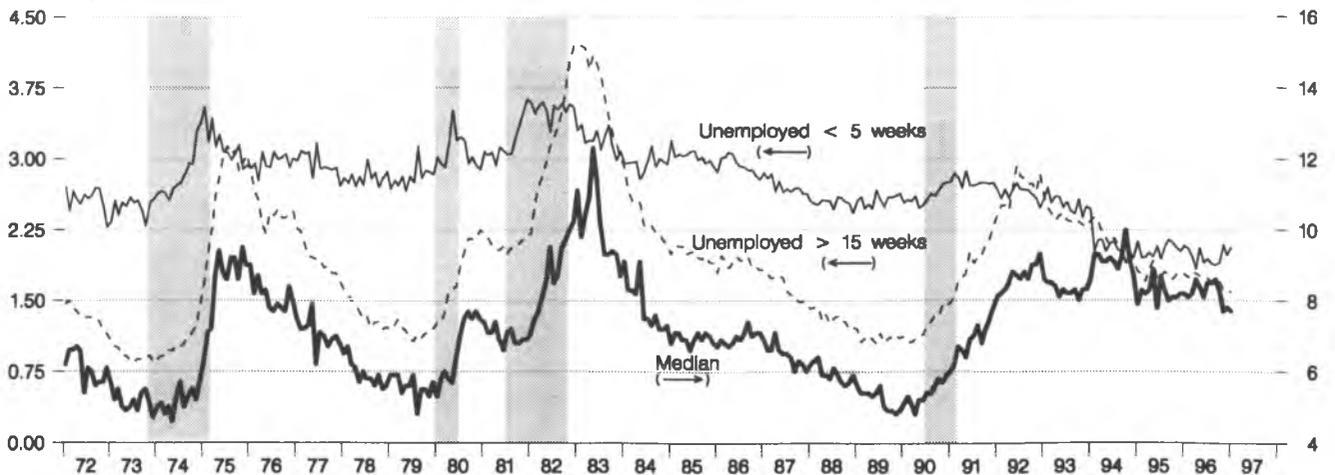
Percent of population



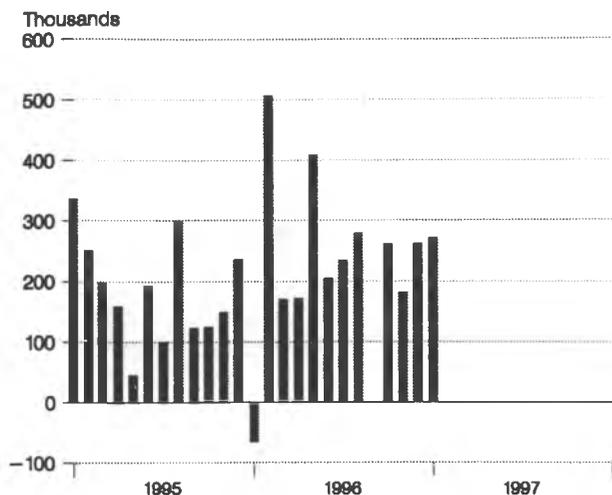
Duration of Unemployment

Percent of labor force

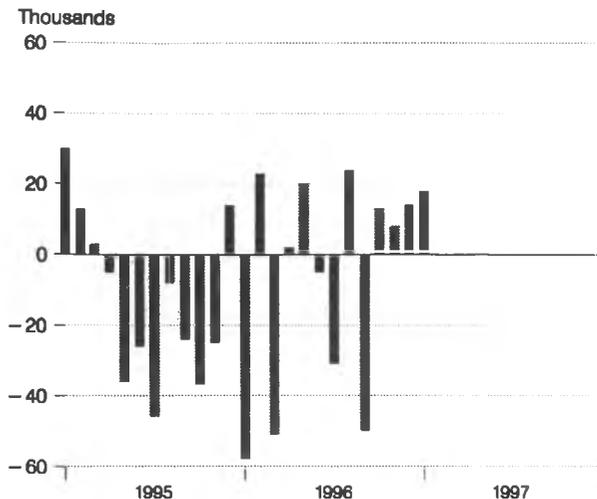
Weeks



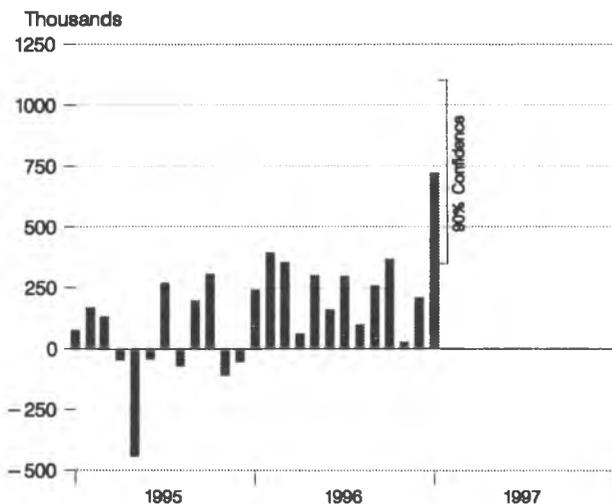
Change in Nonfarm Payrolls



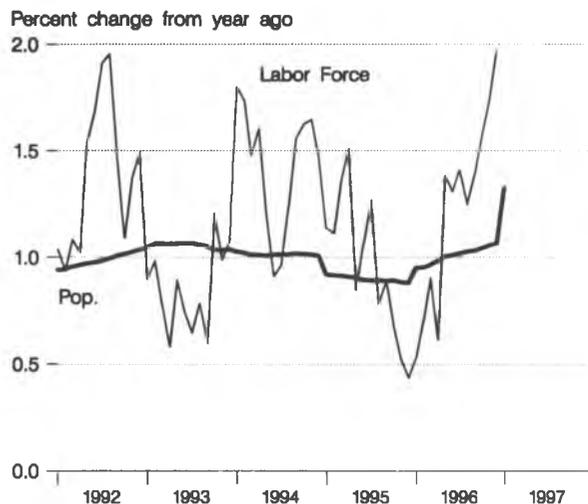
Change in Manufacturing Payrolls



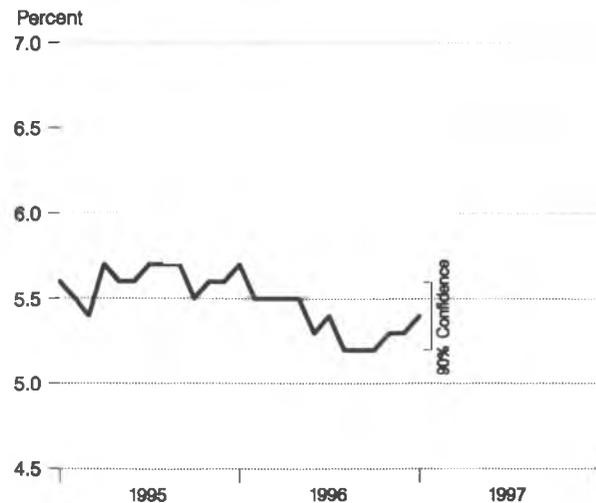
Change in Household Employment



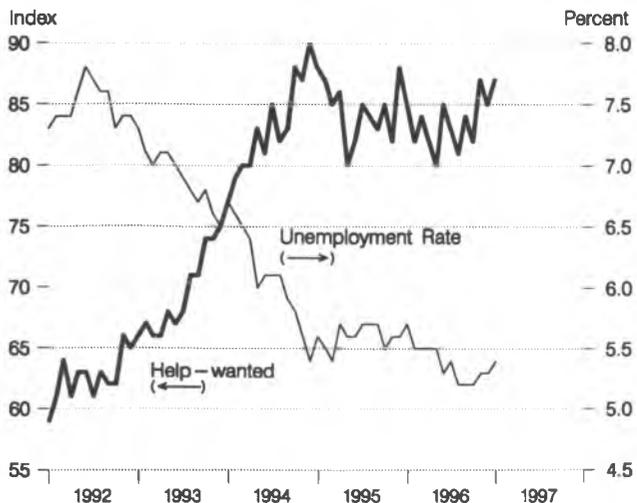
Labor Force and Population



Unemployment Rate

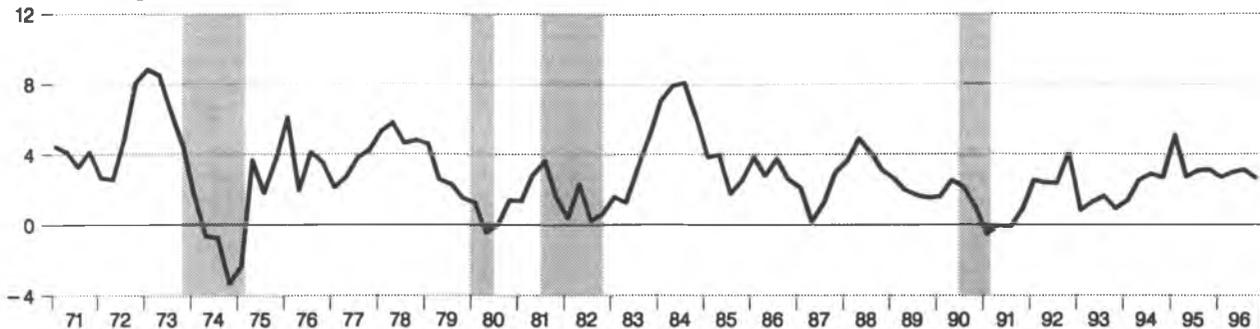


Help-Wanted Advertising



Real Disposable Income

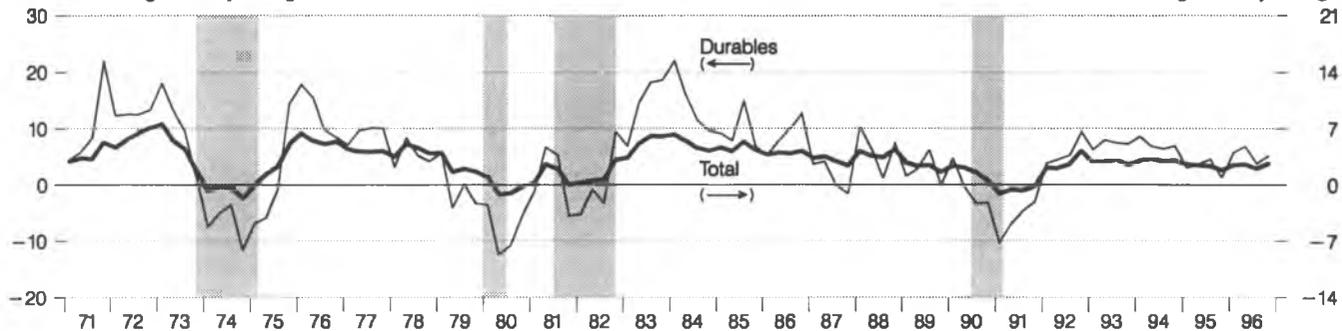
Percent change from year ago, quarterly data



Real Consumption

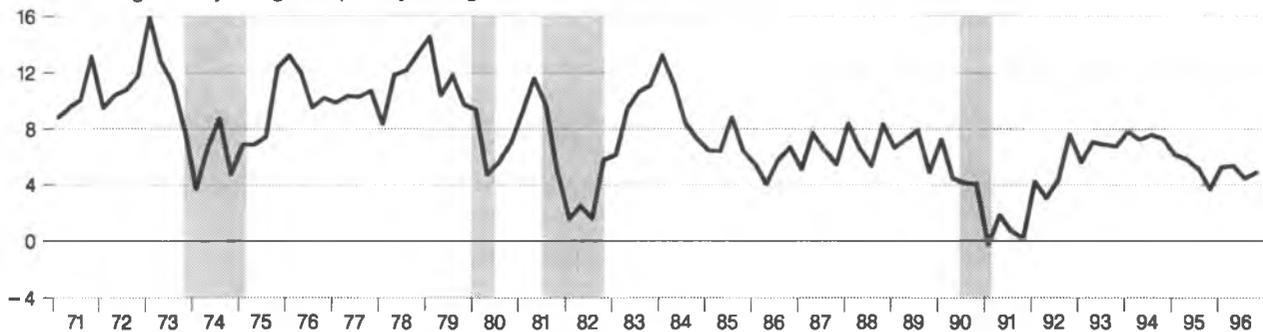
Percent change from year ago

Percent change from year ago



Retail Sales

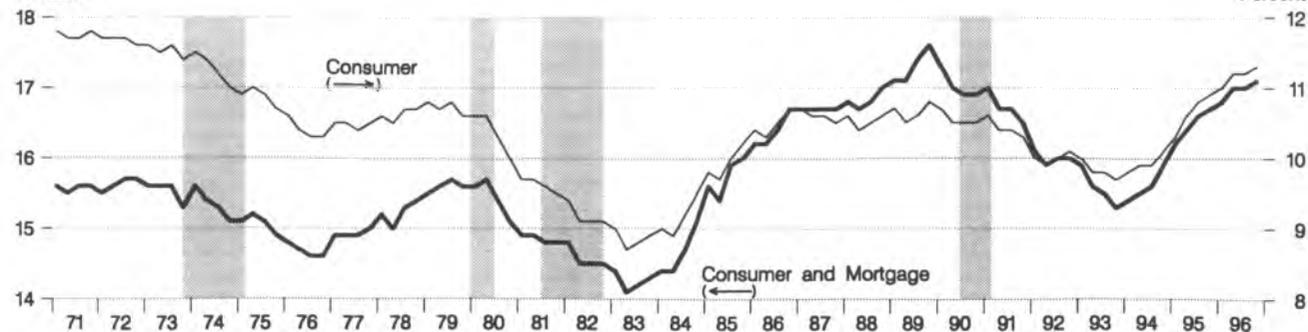
Percent change from year ago of quarterly average



Debt Service as Percent of Disposable Income

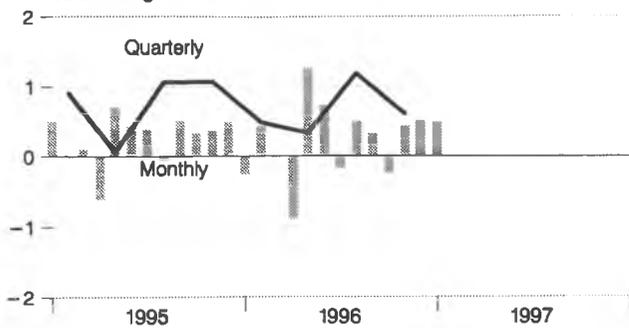
Percent

Percent



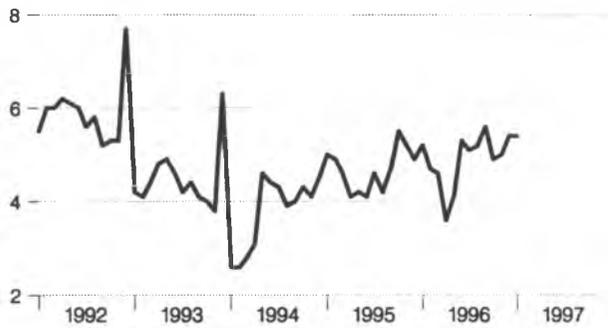
Real Disposable Income

Percent change



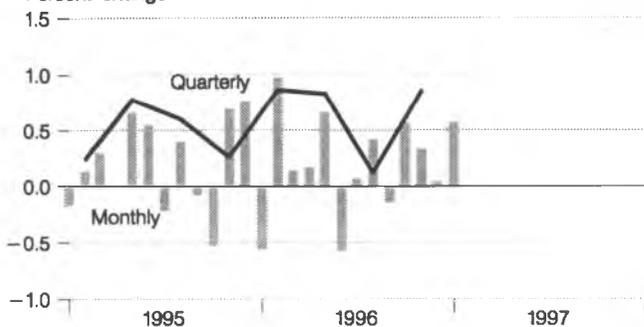
Personal Saving Rate

Percent



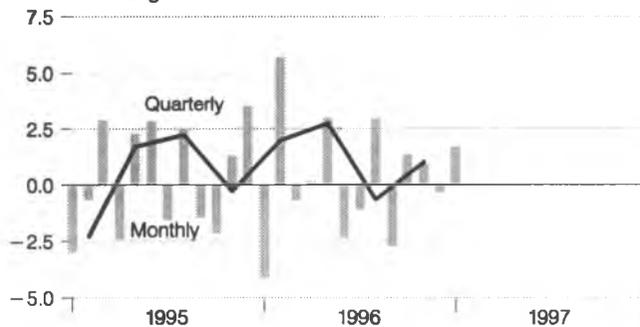
Real Consumption

Percent change



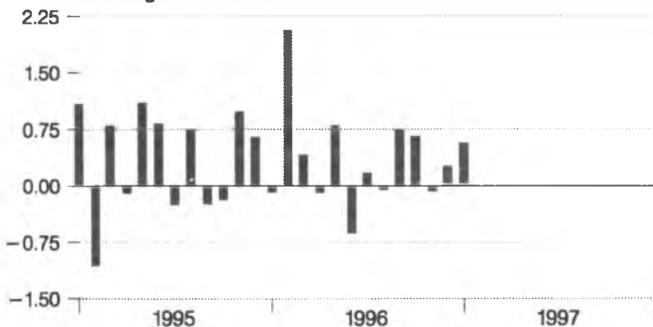
Real Durables Consumption

Percent change



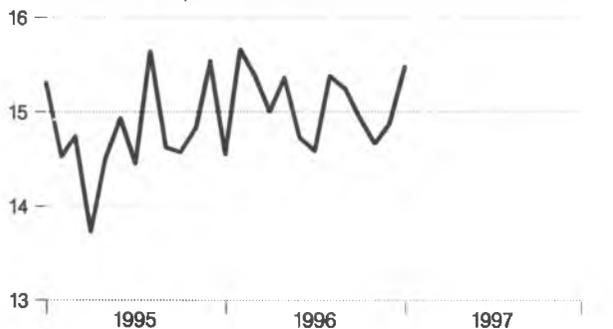
Retail Sales

Percent change



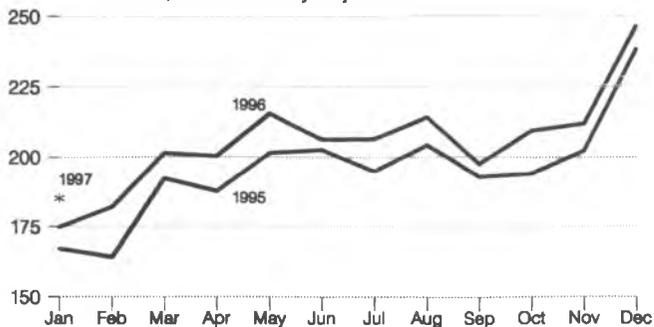
Total Auto and Light Truck Sales

Millions of vehicles, annual rate



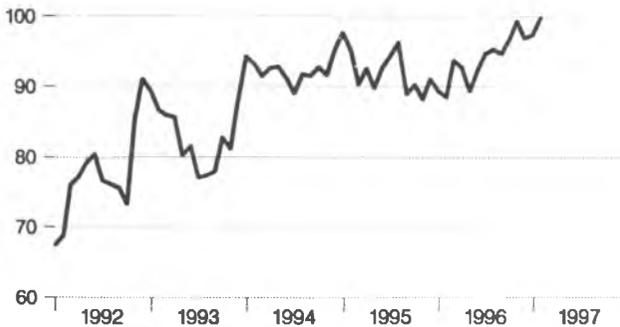
Retail Sales

Billions of dollars, not seasonally adjusted



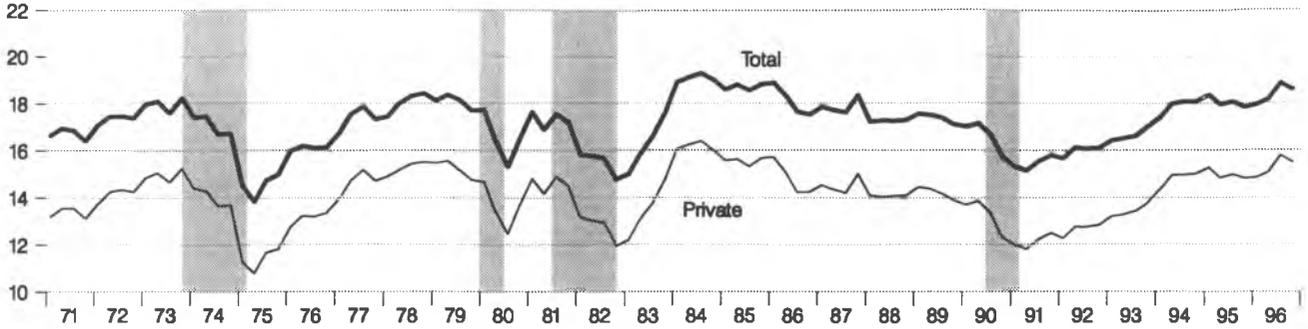
Consumer Sentiment (U. of Michigan)

Index



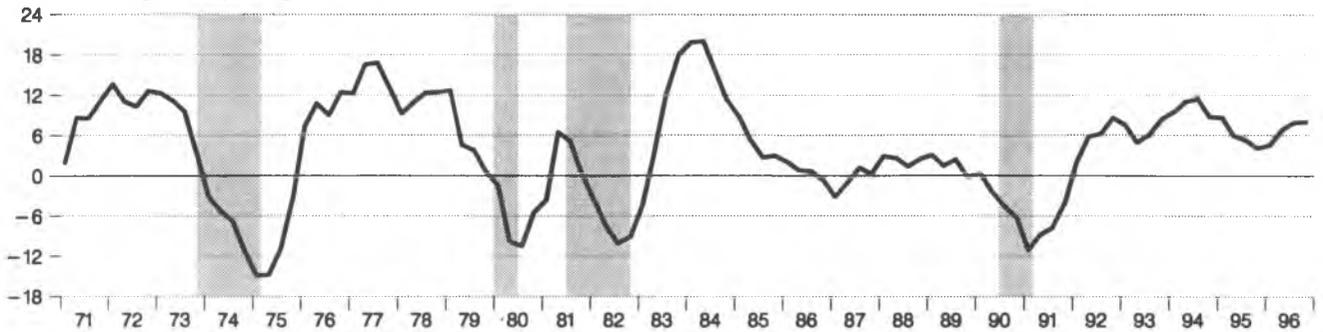
Real Investment

Percent of GDP



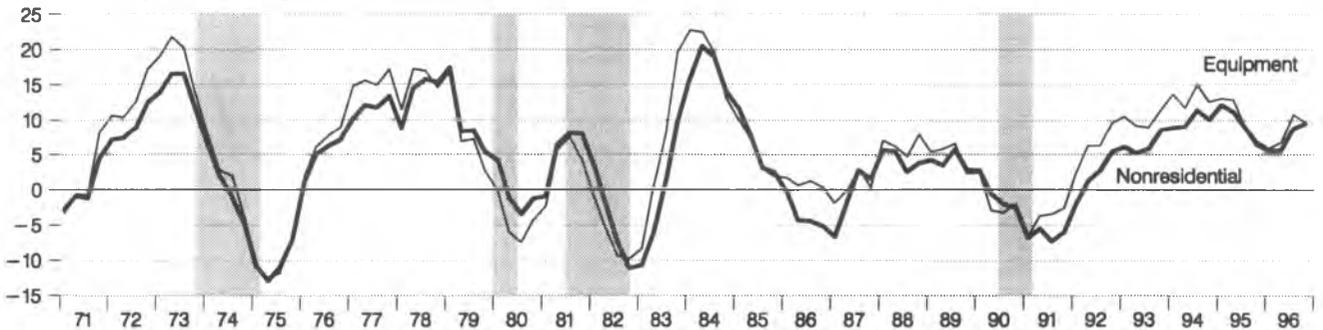
Real Private Fixed Investment

Percent change from year ago



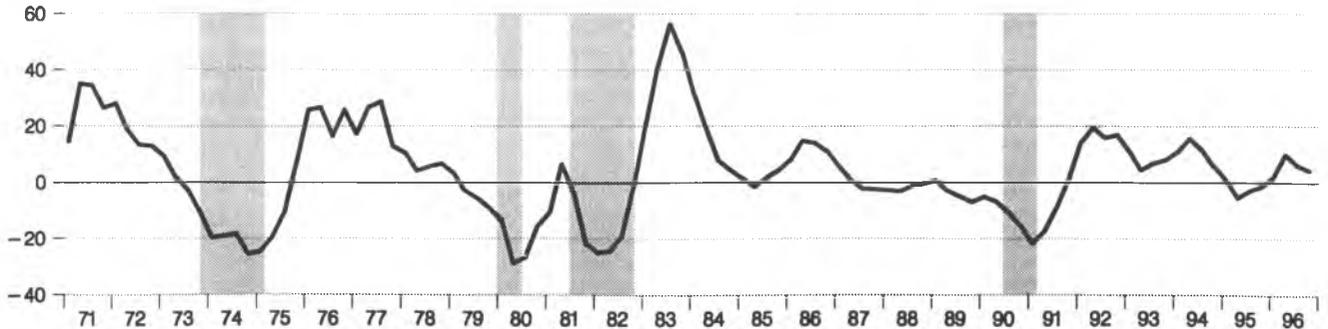
Real Nonresidential and Producers Durable Equipment Investment

Percent change from year ago

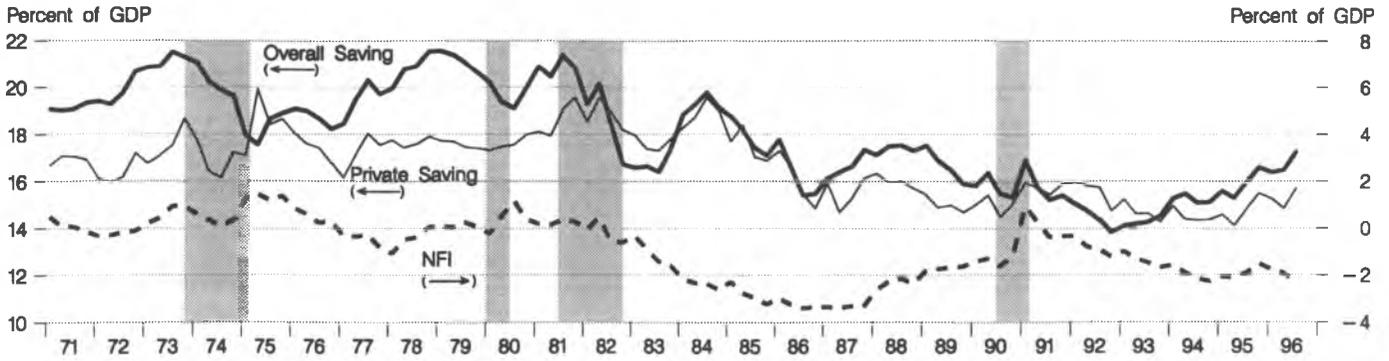


Real Residential Investment

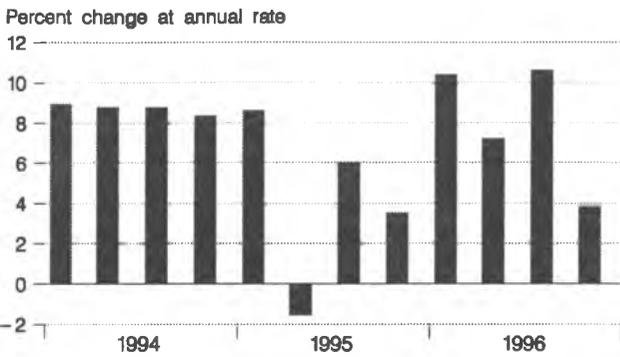
Percent change from year ago



Gross Saving Rates and Net Foreign Investment



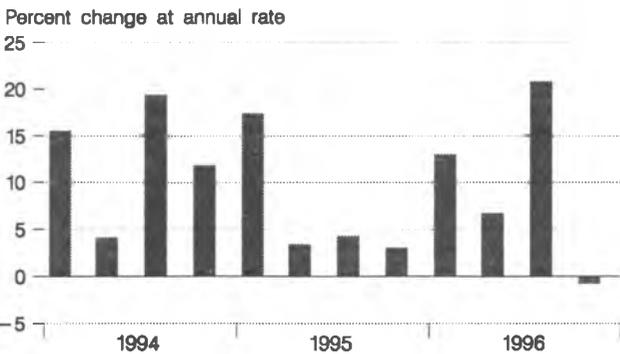
Real Private Fixed Investment



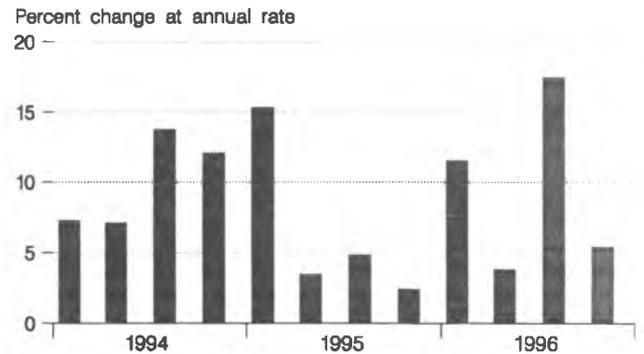
Nondense Capital Goods Orders



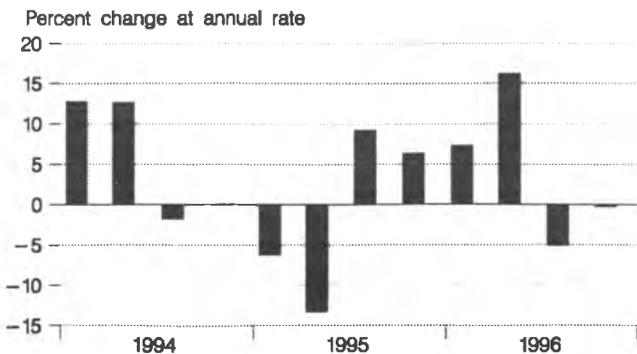
Real Equipment Investment



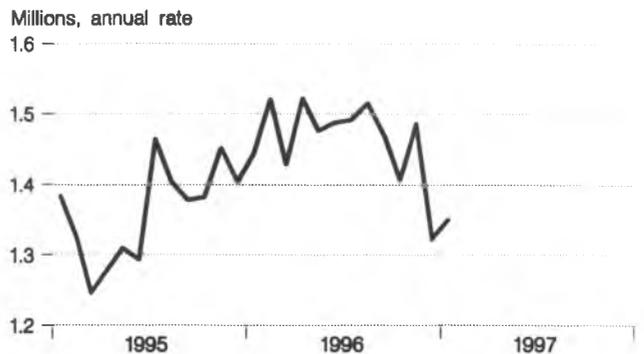
Real Nonresidential Investment



Real Residential Investment

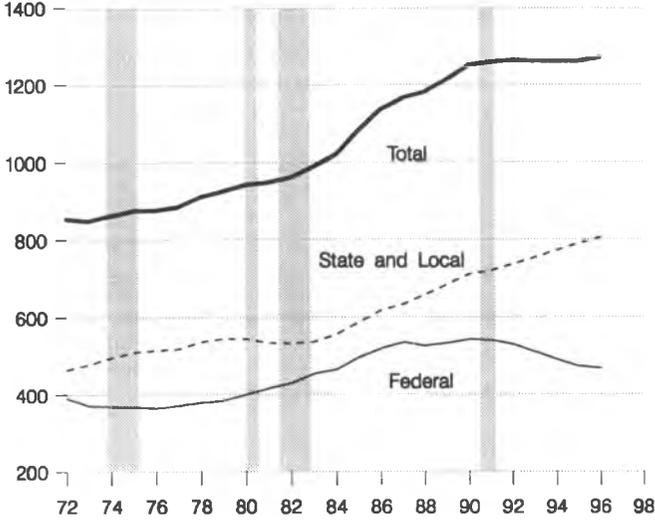


Housing Starts



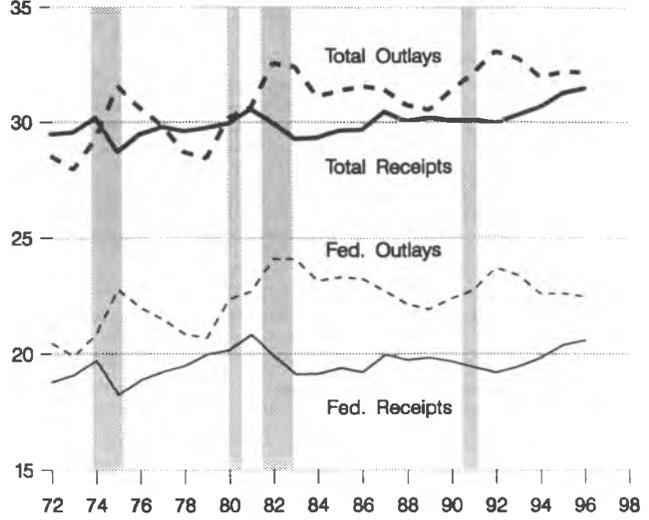
Govt. Consumption and Investment

Billions of 1992 dollars

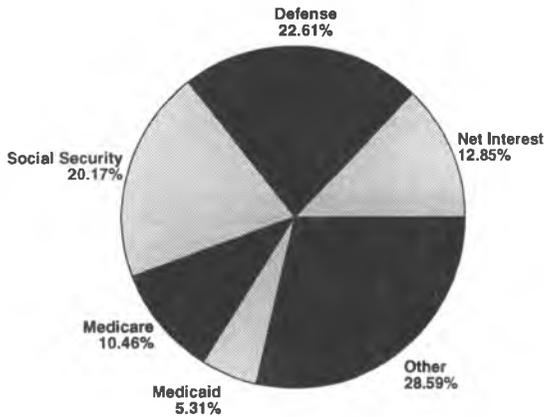


Government Receipts and Outlays

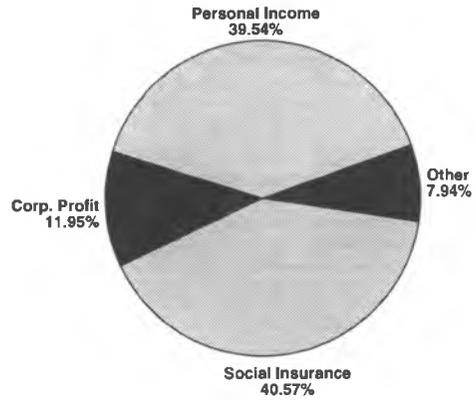
Percent of GDP



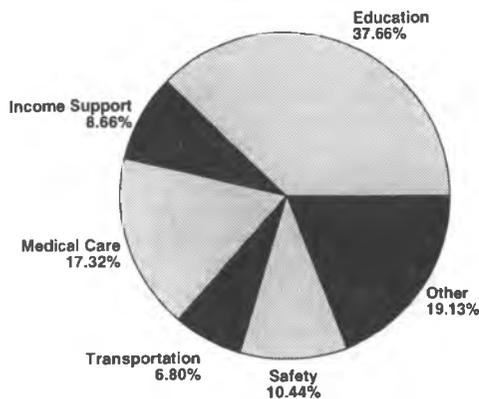
Federal Outlays, 1994



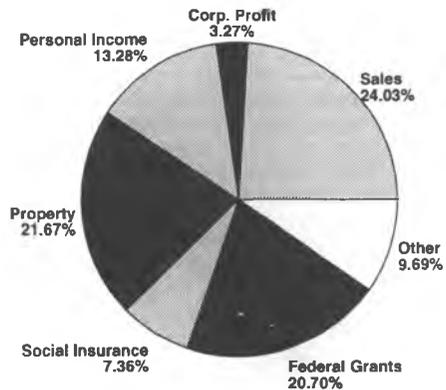
Federal Receipts, 1994



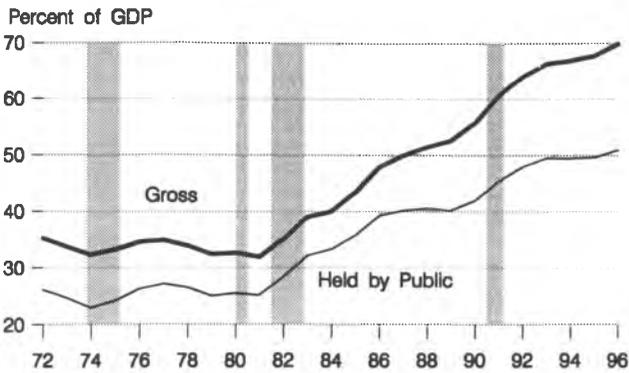
State and Local Outlays, 1994



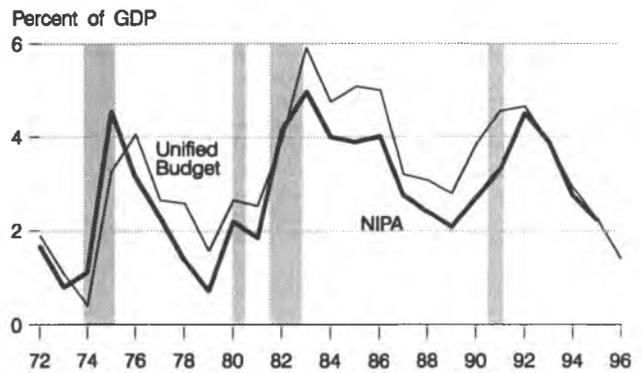
State and Local Receipts, 1994



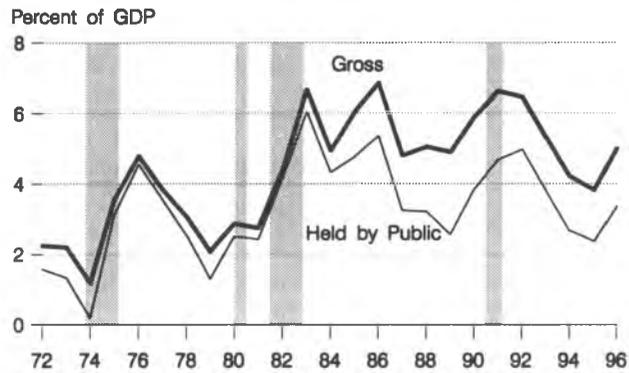
Gross Federal Debt



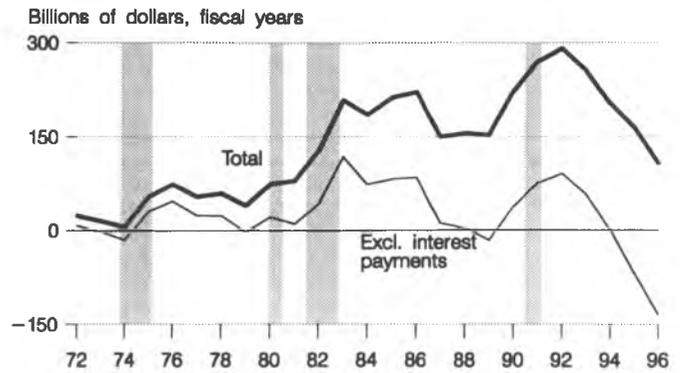
Federal Deficit



Change in Gross Federal Debt



Federal Deficit, Unified Basis



Government Budgets

Billions of dollars

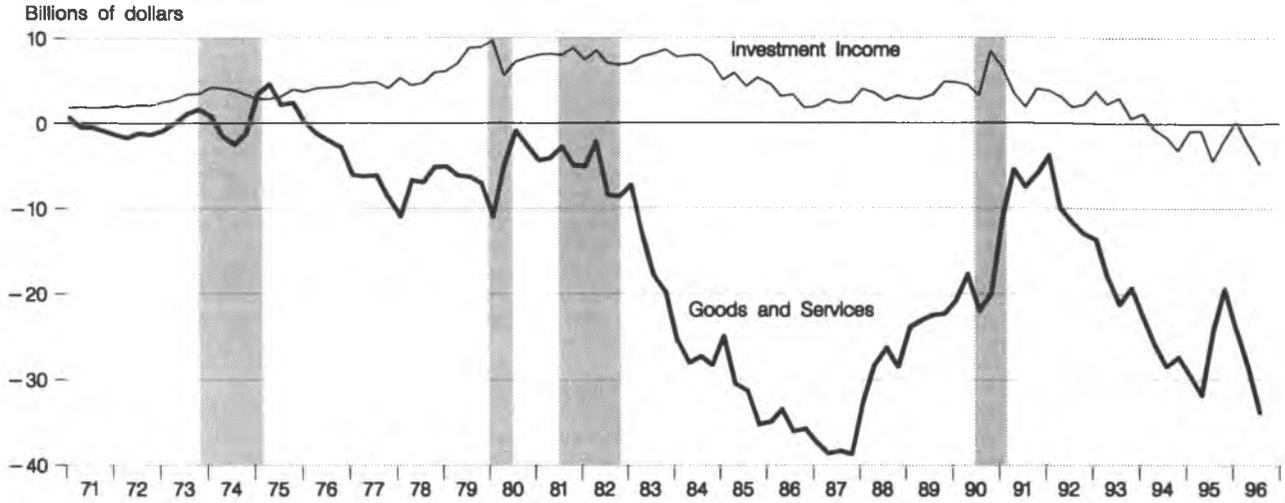
National Income Accounts Calendar Years

	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	1701.7	NA

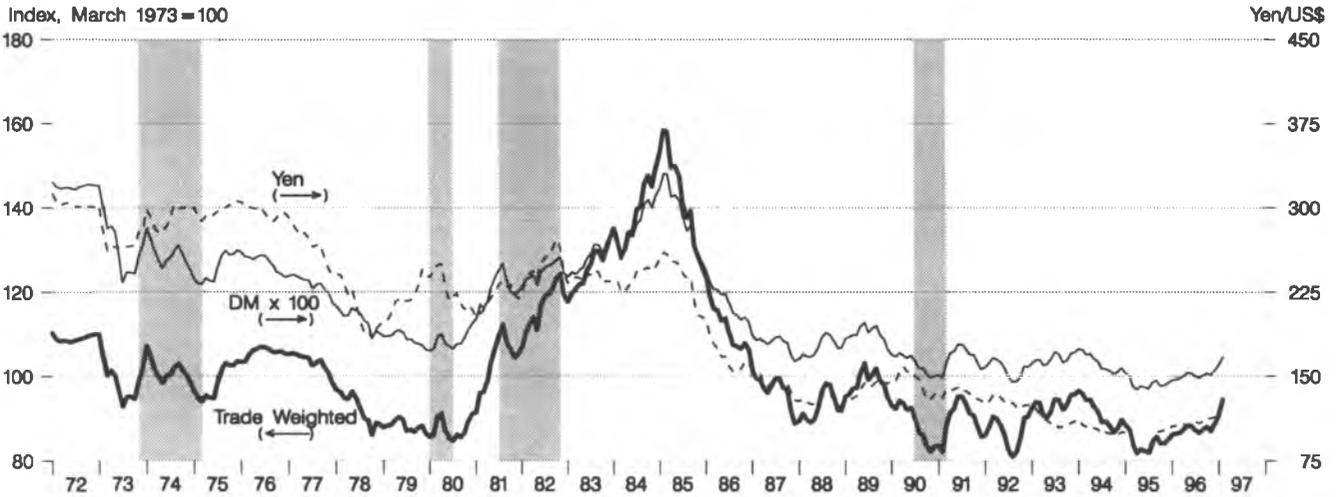
Unified Budget Fiscal Years

	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

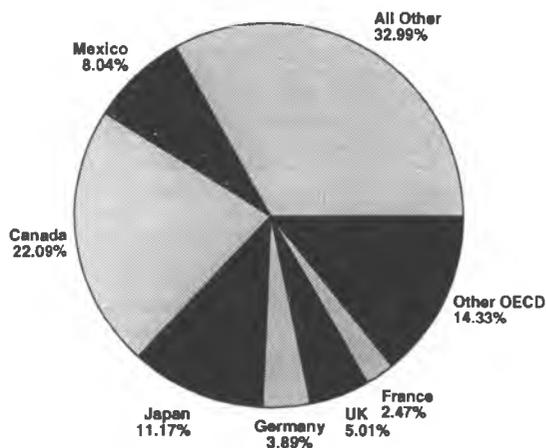
Trade and Investment Income Balances



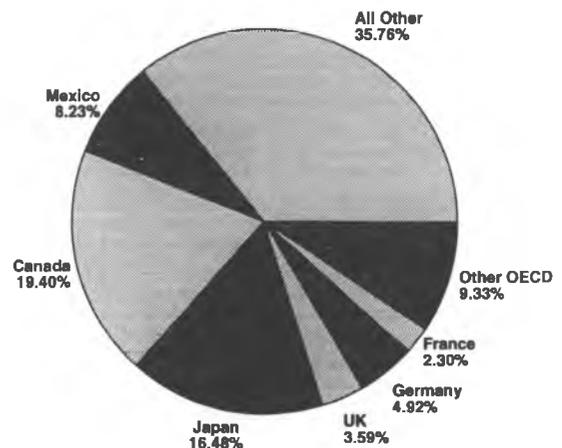
Exchange Rates



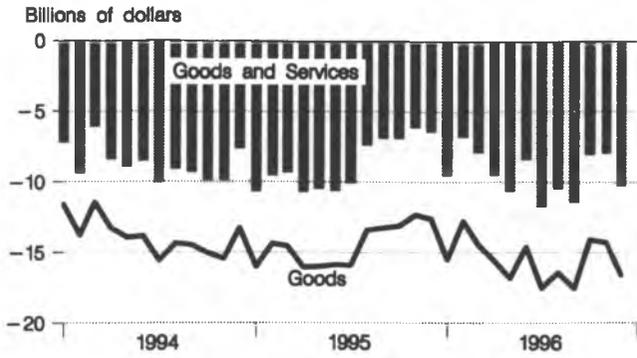
Goods Export Shares, 1995



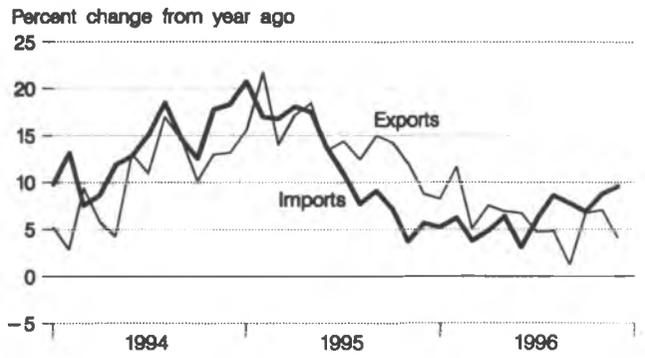
Goods Import Shares, 1995



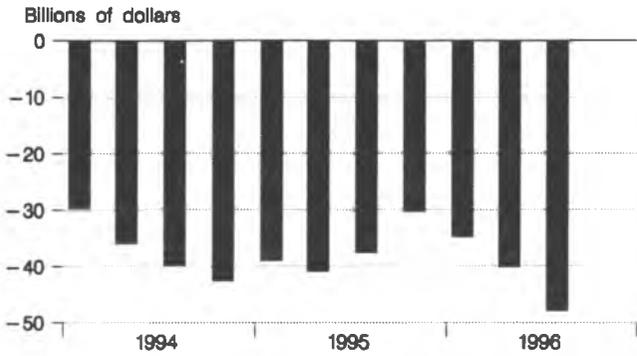
Trade Balance



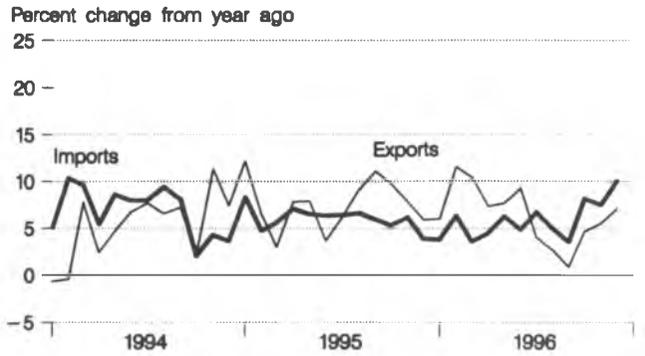
Goods Trade



Current Account Balance



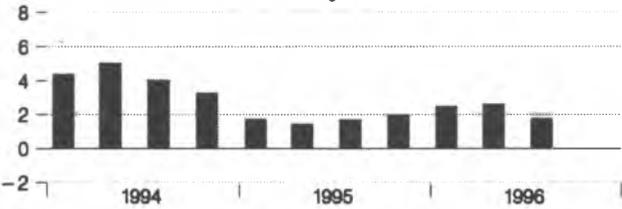
Services Trade



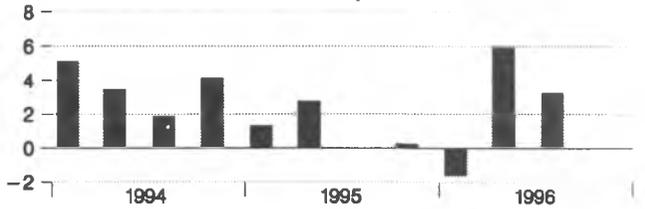
Real GDP Growth of Major Trading Partners

Percent change at annual rate

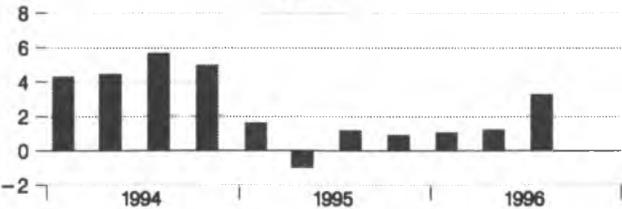
United Kingdom



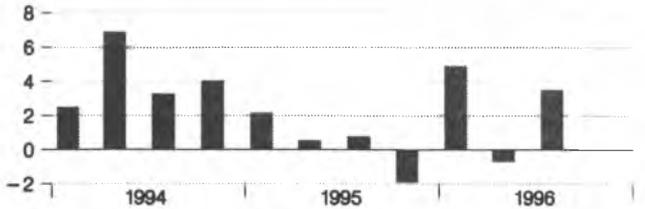
Germany



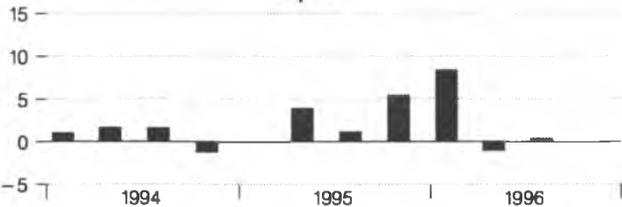
Canada



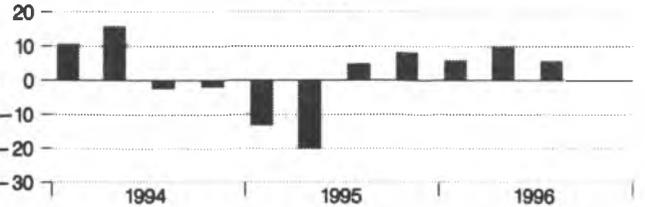
France



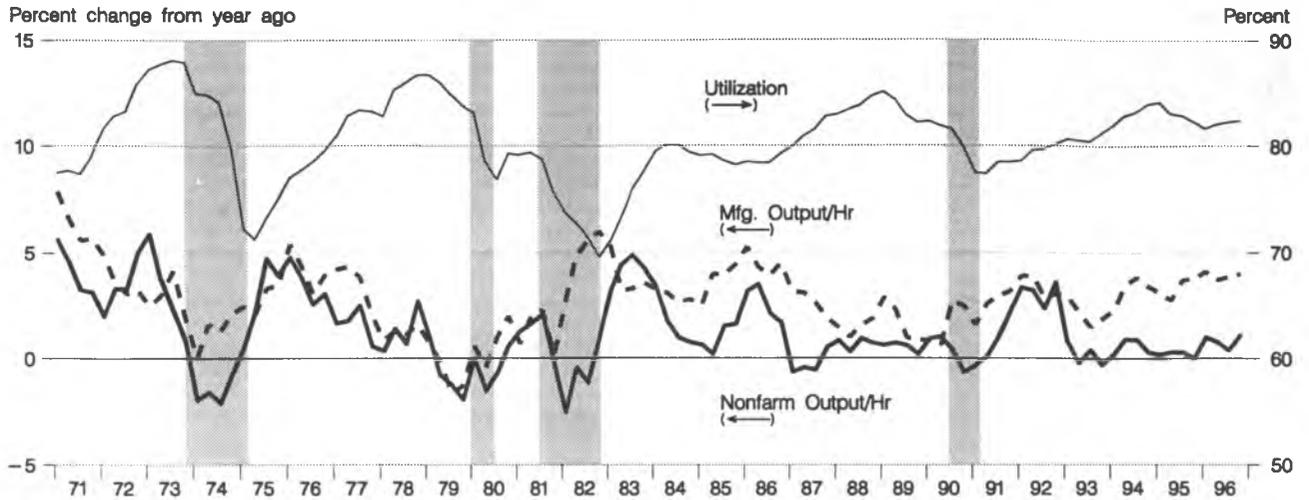
Japan



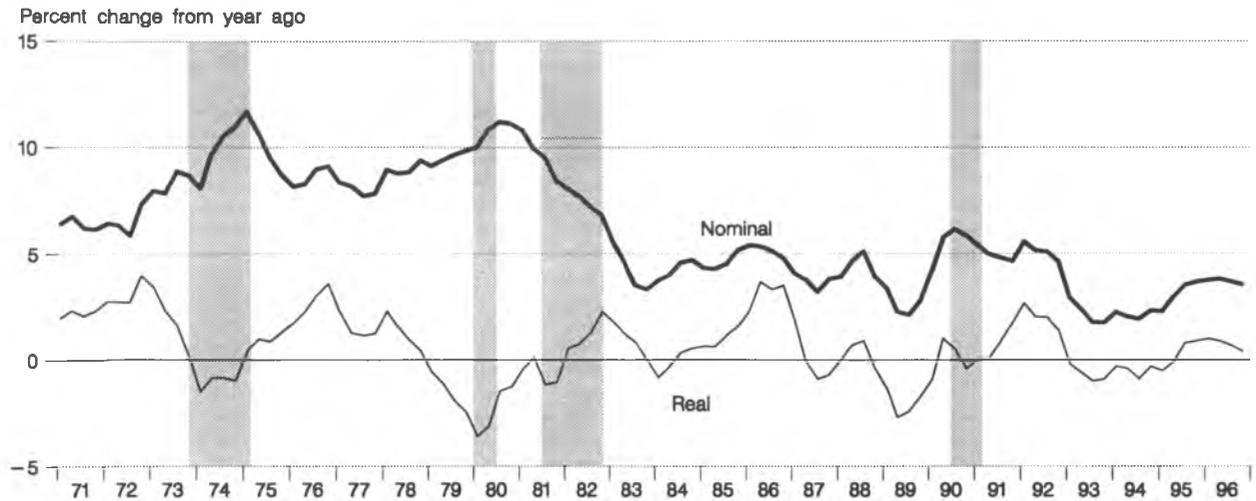
Mexico



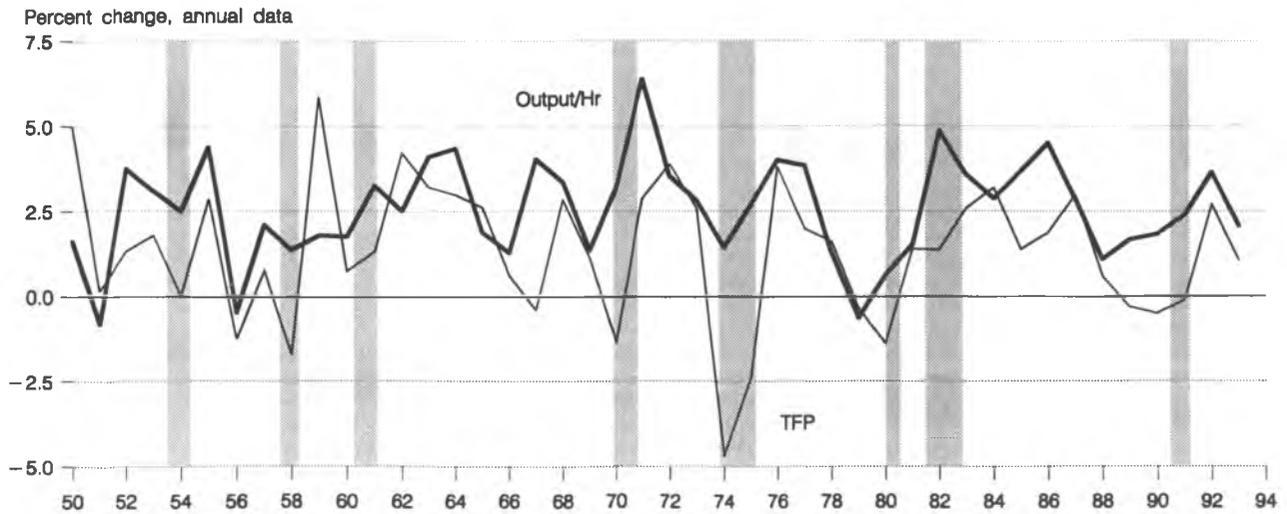
Output per Hour and Manufacturing Capacity Utilization



Nonfarm Compensation per Hour

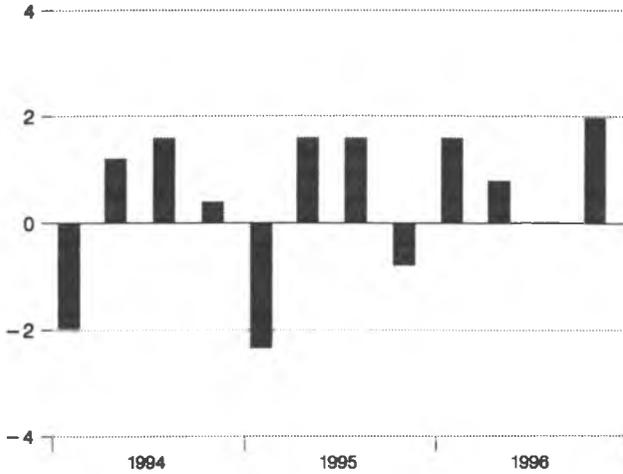


Output per Hour and Total Factor Productivity, Manufacturing



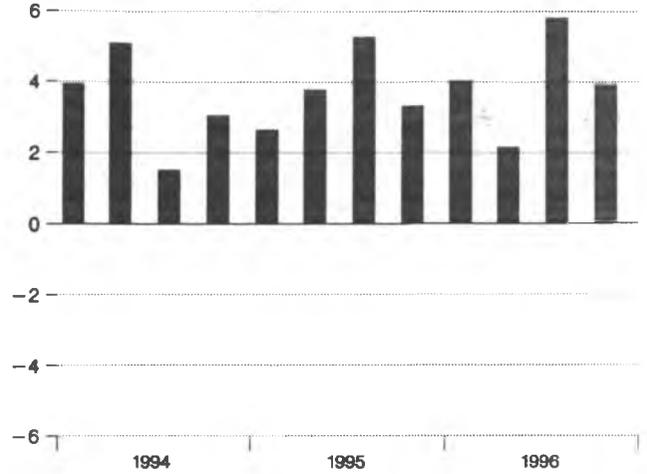
Nonfarm Output per Hour

Percent change at annual rate



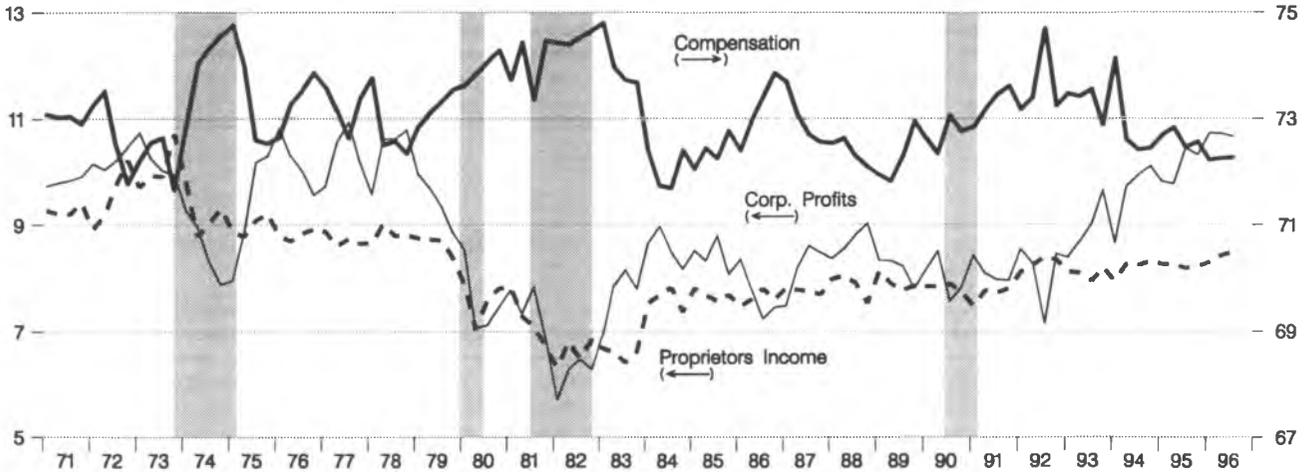
Manufacturing Output per Hour

Percent change at annual rate



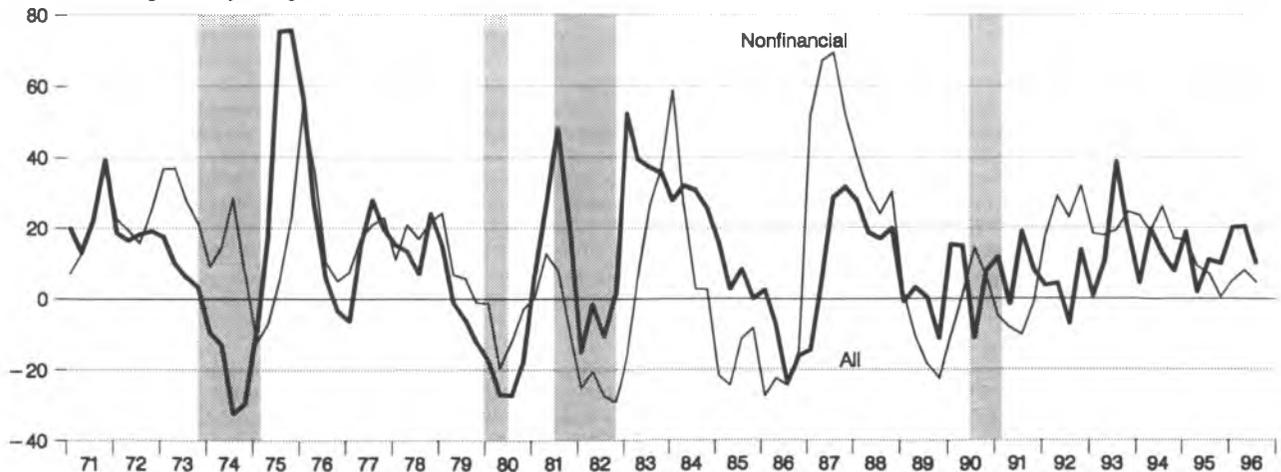
Selected Component Shares of National Income

Percent



Corporate Profits after Tax (with IVA and CCAadj)

Percent change from year ago



National Economic Trends

	Nominal GDP			Real GDP			Final Sales			Change in Business Inventories		
	Billions of \$	Percent change		Billions of 1992 \$	Percent change		Billions of 1992 \$	Percent change		Billions of 1992 \$		
		Annual rate	Year ago		Annual rate	Year ago		Annual rate	Year ago	Last qtr	Year/Year ago	
1992	6244.4		5.5	6244.442		2.7	6237.441		2.5		-2.979	
1993	6553.0		4.9	6386.378		2.3	6365.496		2.1		7.268	
1994	6935.7		5.8	6608.680		3.5	6550.685		2.9		19.073	
1995	7253.8		4.6	6742.936		2.0	6708.867		2.4		58.900	
1996	7575.9		4.4	6907.414		2.4	6892.497		2.7		33.128	
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	7715.4	5.3	5.0	6994.399	3.9	3.2	6977.389	5.0	3.2	16.377	14.584	
	Consumption			Durables Consumption			Private Fixed Investment			Nonresidential Investment		
	Billions of 1992 \$	Percent change		Billions of 1992 \$	Percent change		Billions of 1992 \$	Percent change		Billions of 1992 \$	Percent change	
		Annual rate	Year ago		Annual rate	Year ago		Annual rate	Year ago		Annual rate	Year ago
1992	4219.796		2.8	488.530		5.8	783.427		5.7	557.869		1.9
1993	4339.512		2.8	524.075		7.3	836.355		6.8	593.645		6.4
1994	4473.153		3.1	561.971		7.2	921.083		10.1	652.054		9.8
1995	4577.846		2.3	579.826		3.2	975.923		6.0	714.307		9.5
1996	4690.852		2.5	611.059		5.4	1042.340		6.8	766.798		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	4733.261	3.4	2.7	617.810	4.1	5.2	1067.482	3.8	8.0	791.828	5.5	9.5

National Economic Trends

	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	102.616		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	109.867		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	110.657	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		3.2	100.0		5.2
1993	658.215		2.9	730.249		9.2	100.2		0.2	102.3		2.3
1994	711.971		8.2	817.635		12.0	100.7		0.5	104.3		2.0
1995	775.401		8.9	882.999		8.0	100.9		0.2	107.7		3.3
1996	825.799		6.5	939.820		6.4	101.7		0.8	111.6		3.6
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	101.7	0.0	0.4	112.2	3.3	3.7
4	862.515	24.8	7.4	962.478	3.8	8.4	102.2	2.0	1.1	113.2	3.6	3.6

National Economic Trends

	Household Survey Employment				Nonfarm Payroll Employment				Nonfarm Aggregate Hours				
	Thousands	Change	Percent change		Thousands	Change	Percent change		Index	Percent change			
			Annual rate	Year ago			Annual rate	Year ago		Monthly rate	Annual rate	Year ago	
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	119552	2349		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	120519	561	1.9	2.2	138.2	0.9	3.5	2.9
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	120492	181	1.8	2.2	138.2	0.8	10.1	2.9
	Dec	127855	211	2.0	2.2	120753	261	2.6	2.2	139.3	0.8	10.0	3.7
1997	Jan	128580	725	7.0	2.6	121024	271	2.7	2.5	137.0	-1.7	-18.1	4.0

		Unempl. Rate	Billions of dollars	Retail Sales			Industrial Production				Treasury Yields	
				Percent change			Percent change					
				Monthly rate	Annual rate	Year ago	Index	Monthly rate	Annual rate	Year ago	3-mo	10-yr
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	2342.801			5.2	112.109			3.3	5.49	6.58
1996		5.4	2459.073			5.0	115.188			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	593.830	0.8	3.1	3.7	112.671	0.2	0.8	1.8	5.26	5.89
1996	1	5.6	606.882	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	4.8	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	622.680	1.2	4.8	4.9	117.005	1.1	4.3	3.8	4.98	6.34
1995	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	199.446	0.6	8.1	4.4	112.788	0.1	0.9	1.1	5.14	5.71
1996	Jan	5.7	199.262	-0.1	-1.1	3.2	112.361	-0.4	-4.4	0.4	5.00	5.65
	Feb	5.5	203.392	2.1	27.9	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	116.231	0.2	2.6	3.3	4.99	6.53
	Nov	5.3	207.324	-0.1	-0.9	4.6	117.113	0.8	9.5	3.9	5.03	6.20
	Dec	5.3	207.869	0.3	3.2	4.2	117.670	0.5	5.9	4.3	4.91	6.30
1997	Jan	5.4	209.052	0.6	7.0	4.9	117.689	0.0	0.2	4.7	5.03	6.58
	Feb										5.01	6.42

National Economic Trends

	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		125.6			0.7	
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	146.8	0.5	2.0	2.5	2.0	155.0	0.6	2.6	2.9	2.6	124.9	0.4	1.6	0.2
	2	147.6	0.6	2.4	2.4	2.2	156.2	0.8	3.1	2.8	2.9	125.1	0.1	0.5	-0.2
	3	149.0	0.9	3.8	2.9	2.7	157.3	0.7	2.8	2.9	2.9	126.0	0.7	2.9	1.3
	4	149.9	0.6	2.5	2.7	2.7	158.3	0.6	2.6	2.8	2.8	126.2	0.1	0.5	1.4
1995	1	151.0	0.7	2.8	2.9	2.8	159.6	0.8	3.3	3.0	3.3	127.1	0.7	3.0	1.7
	2	152.1	0.8	3.1	3.0	3.0	161.0	0.8	3.4	3.0	3.4	127.6	0.4	1.7	2.0
	3	152.9	0.5	2.1	2.6	2.7	162.0	0.6	2.6	3.0	3.1	128.0	0.3	1.3	1.6
	4	153.9	0.6	2.5	2.6	2.6	163.1	0.7	2.8	3.0	3.0	129.0	0.7	2.9	2.2
1996	1	155.1	0.8	3.3	2.8	3.3	164.2	0.7	2.6	2.9	2.6	129.9	0.7	3.0	2.2
	2	156.4	0.8	3.4	2.8	3.4	165.3	0.6	2.6	2.7	2.6	130.9	0.7	2.9	2.5
	3	157.5	0.7	2.7	3.0	3.1	166.3	0.6	2.5	2.7	2.6	131.6	0.6	2.3	2.8
	4	158.8	0.8	3.3	3.2	3.2	167.4	0.6	2.6	2.6	2.6	132.8	0.9	3.6	2.9
1995	Jan	150.6	0.2	2.4	2.9	2.4	159.2	0.4	4.6	3.0	4.6	126.9	0.1	1.0	1.8
	Feb	151.0	0.3	3.2	2.9	2.8	159.6	0.3	3.1	3.0	3.8	127.1	0.2	1.9	1.7
	Mar	151.3	0.2	2.4	2.9	2.7	160.1	0.3	3.8	3.0	3.8	127.3	0.2	1.9	1.8
	Apr	151.8	0.3	4.0	3.1	3.0	160.6	0.3	3.8	3.1	3.8	127.5	0.2	1.9	1.9
	May	152.1	0.2	2.4	3.0	2.9	161.0	0.2	3.0	3.1	3.7	127.7	0.2	1.9	2.2
	Jun	152.5	0.3	3.2	3.0	2.9	161.3	0.2	2.3	2.9	3.4	127.7	0.0	0.0	2.0
	Jul	152.6	0.1	0.8	2.8	2.6	161.6	0.2	2.3	3.0	3.3	127.9	0.2	1.9	1.8
	Aug	153.0	0.3	3.2	2.6	2.7	162.0	0.2	3.0	2.9	3.2	127.9	0.0	0.0	1.3
	Sep	153.2	0.1	1.6	2.5	2.6	162.4	0.2	3.0	3.0	3.2	128.3	0.3	3.8	1.8
	Oct	153.7	0.3	4.0	2.7	2.7	162.9	0.3	3.8	3.1	3.3	128.5	0.2	1.9	2.4
	Nov	153.8	0.1	0.8	2.6	2.5	163.1	0.1	1.5	3.0	3.1	128.8	0.2	2.8	2.1
	Dec	154.1	0.2	2.4	2.5	2.5	163.4	0.2	2.2	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	0.2	3.0	2.9	3.0	129.7	0.1	0.9	2.2
	Feb	155.1	0.3	3.1	2.7	4.0	164.2	0.2	3.0	2.9	3.0	129.7	0.0	0.0	2.0
	Mar	155.6	0.3	3.9	2.8	4.0	164.6	0.2	3.0	2.8	3.0	130.4	0.5	6.7	2.4
	Apr	156.1	0.3	3.9	2.8	3.9	164.9	0.2	2.2	2.7	2.8	130.6	0.2	1.9	2.4
	May	156.5	0.3	3.1	2.9	3.8	165.3	0.2	3.0	2.7	2.8	130.8	0.2	1.9	2.4
	Jun	156.7	0.1	1.5	2.8	3.4	165.6	0.2	2.2	2.7	2.7	131.2	0.3	3.7	2.7
	Jul	157.1	0.3	3.1	2.9	3.4	166.0	0.2	2.9	2.7	2.7	131.2	0.0	0.0	2.6
	Aug	157.4	0.2	2.3	2.9	3.2	166.2	0.1	1.5	2.6	2.6	131.6	0.3	3.7	2.9
	Sep	157.9	0.3	3.9	3.1	3.3	166.7	0.3	3.7	2.6	2.7	132.0	0.3	3.7	2.9
	Oct	158.3	0.3	3.1	3.0	3.3	167.0	0.2	2.2	2.5	2.6	132.3	0.2	2.8	3.0
	Nov	158.8	0.3	3.9	3.3	3.3	167.4	0.2	2.9	2.6	2.7	132.6	0.2	2.8	3.0
	Dec	159.2	0.3	3.1	3.3	3.3	167.7	0.2	2.2	2.6	2.6	133.4	0.6	7.5	2.9
1997	Jan	159.4	0.1	1.5	3.0	1.5	167.9	0.1	1.4	2.5	1.4	133.0	-0.3	-3.5	2.5

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. The inventory-sales ratio uses nominal (current-dollar) inventory and sales data.

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. New population controls introduced in January 1997 affect levels and growth rates of household survey employment, labor force and population. The unemployment rate and other ratios are minimally affected. 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** 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 (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, 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)

Federal Reserve Bank of St. Louis
Post Office Box 442
St. Louis, Missouri 63166

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