June 1998

National Economic Trends

THE FEDERAL RESERVE BANK of ST. LOUIS

School and Work

It is a truism that education helps you get a job, but few people realize just how true this is. The Bureau of Labor Statistics has recently begun to publish employment statistics broken down into four educational levels: About 17 percent of the noninstitutional population over age 25 has not finished high school; 34 percent finished high school, but did not attend college; 25 percent started college, but did not graduate or have an associate degree; and about 25 percent have a college degree. This breakdown is more informative than a demographic one, because educational levels correspond much more closely than demographic categories to skill levels that employers care about.

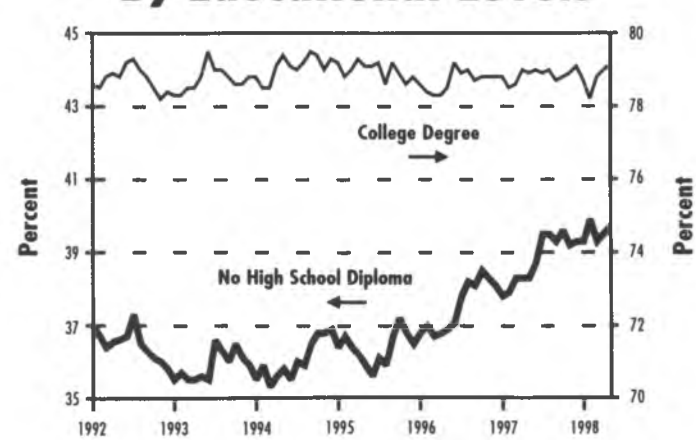
The chart shows employment-population ratios for the most and least educated groups. The two data series are plotted against different axes to highlight changes over time, but the difference in the levels is dramatic. During the first 4 months of 1998, an average of only 39.6 percent of those who did not finish high school were at work, but 78.7 percent of college-educated adults held jobs. The figures for those with a high school diploma and those with some college lie in between, at 62.9 percent and 72.3 percent, respectively.

Unemployment rates produce a less dramatic picture, ranging from 7.1 percent for those who did not finish high school down to only 1.9 percent for those with a college degree. But official unemployment totals represent only a fraction of those who do not have jobs, so unemployment rates can be misleading about the economic opportunities of different groups. The statistical distinction between unemployed individuals and those who are not in the labor force is based entirely on whether an individual searched for a job in the recent past. Workers with low skill levels (for which education is a good proxy) have limited labor market opportunities—wages are low for jobs they can get. The value of other opportunities (staying home to take care of children or early retirement, for example) may exceed the prospective value of a job, so they are less likely to seek one.

The chart also illustrates an important aspect of labor market tightness. Though the overall employment-population ratio has recently been at record levels (see page 10), the average hides considerable diversity among different segments of the population. The ratio for college graduates has shown no trend since 1992. This is why there are widespread reports that businesses are having trouble hiring high-skill workers as the expansion continues. Meanwhile, as the chart suggests, lower-skill groups have increased their employment rates significantly; since 1994 the ratio for those who did not finish high school has risen by about 3 percentage points. (Employment rates for the two intermediate groups rose more slowly.) This pattern across educational groups is consistent with the fact that employment in blue-collar occupations (generally low-skill) varies more over the business cycle than white-collar employment.

–Joseph A. Ritter

Employment-Population Ratios By Educational Levels



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

Table of Contents

Conventions used in this publication:

1. Charts and tables contain data that were current on June 1, 1998.

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:

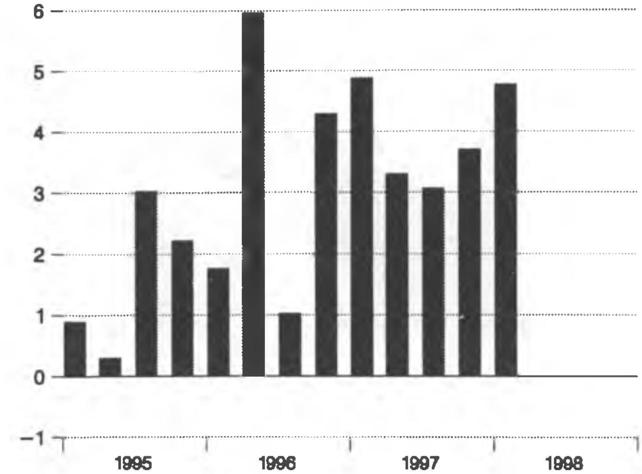
$$100 \times \left[\left(\frac{X_t}{X_{t-1}} \right)^4 - 1 \right]$$

   For monthly data replace 4 with 12.

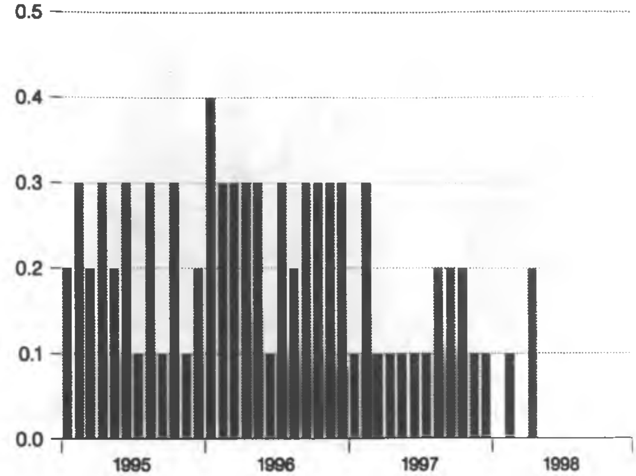
4. All data with significant seasonal patterns are seasonally adjusted, unless labeled NSA.

National Economic Trends is published monthly by the Research Division of the Federal Reserve Bank of St. Louis. For more information on data, please call (314) 444-8573. Single-copy subscriptions are available free of charge by writing to the Public Affairs Office, Federal Reserve Bank of St. Louis, Post Office Box 442, St. Louis, MO 63166-0442 or by calling (314) 444-8808 or (314) 444-8809. Information in this publication is also included on the Federal Reserve Economic Data (FRED) electronic bulletin board at (314) 621-1824 or Internet World Wide Web server at http://www.stls.frb.org/fred.

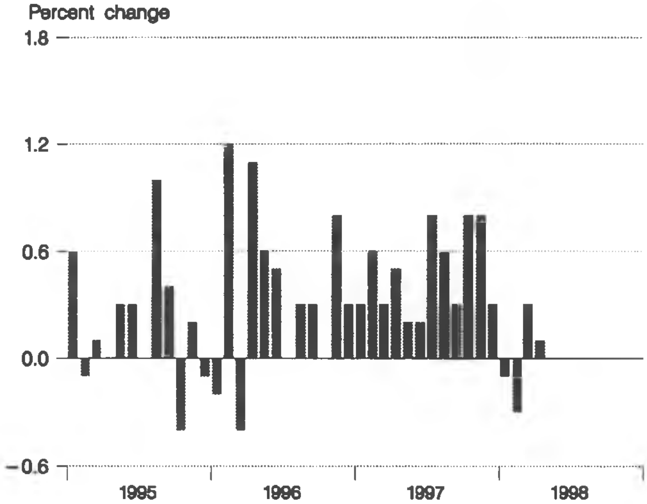
Real GDP Growth



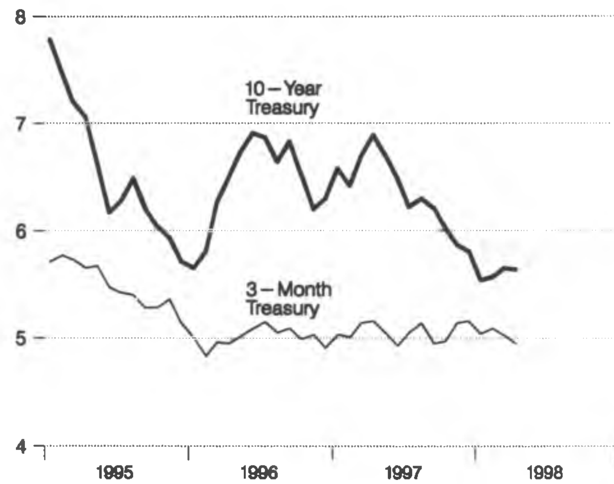
Consumer Price Index



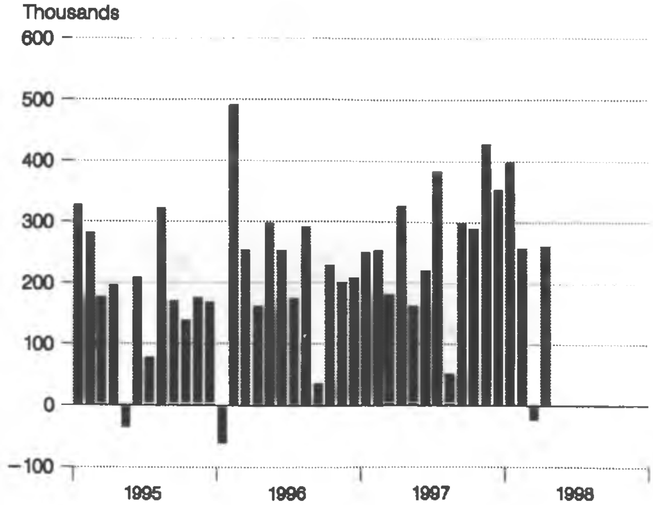
Industrial Production



Interest Rates



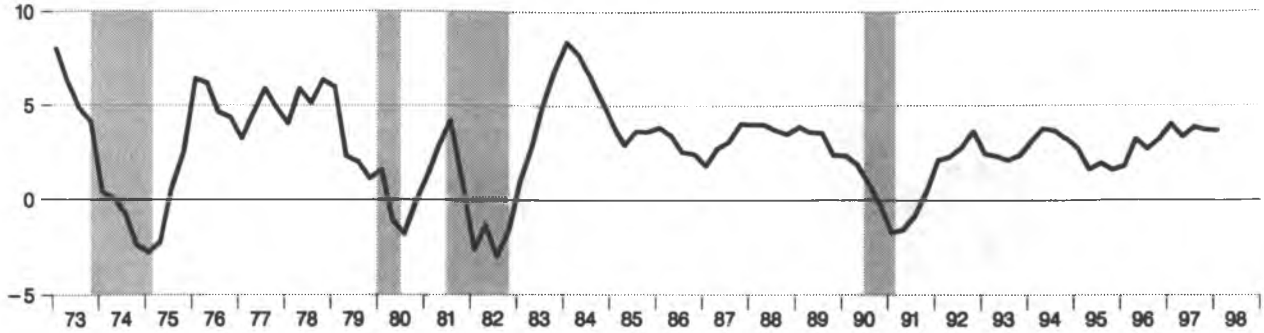
Change in Nonfarm Payrolls



Unemployment Rate

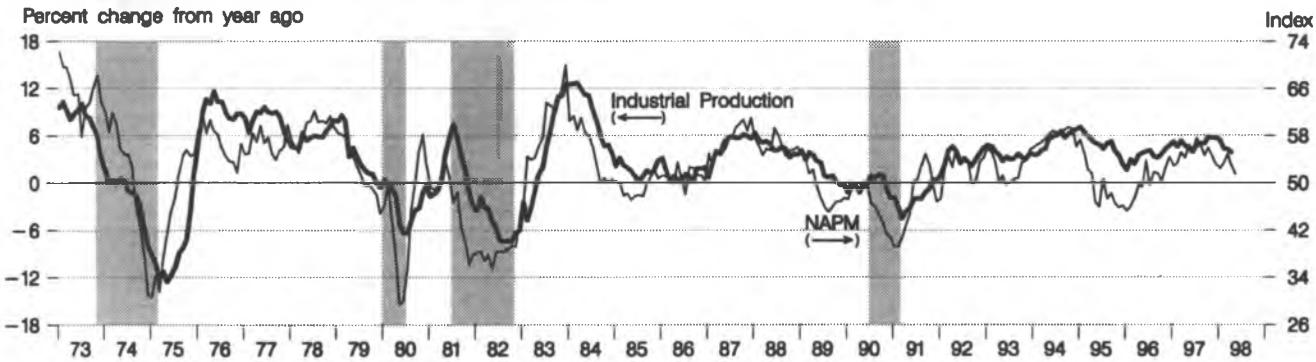
Real Gross Domestic Product

Percent change from year ago



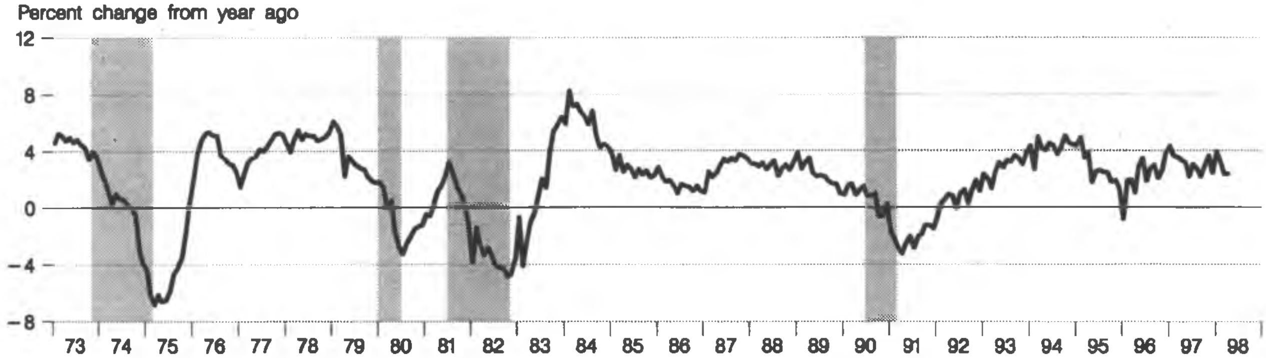
Industrial Production and Purchasing Managers' (NAPM) Indexes

Percent change from year ago



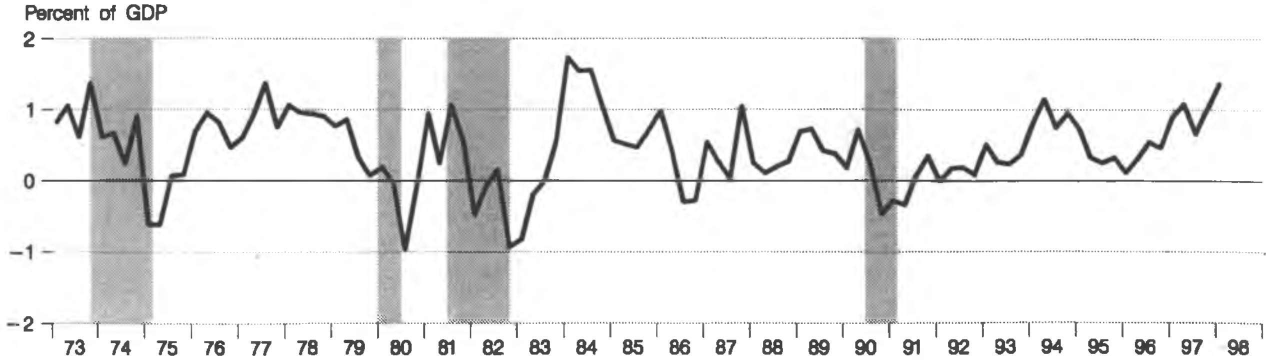
Aggregate Private Nonfarm Hours

Percent change from year ago



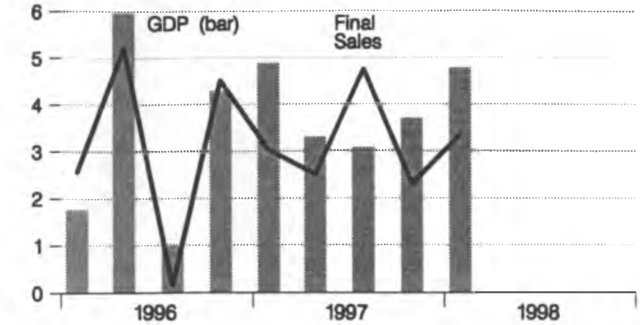
Real Change in Business Inventories

Percent of GDP



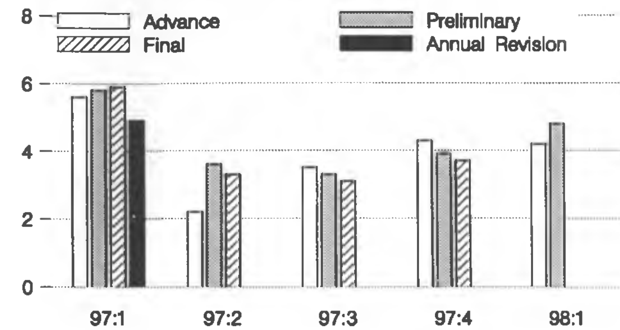
Real Final Sales and GDP

Percent change at annual rate



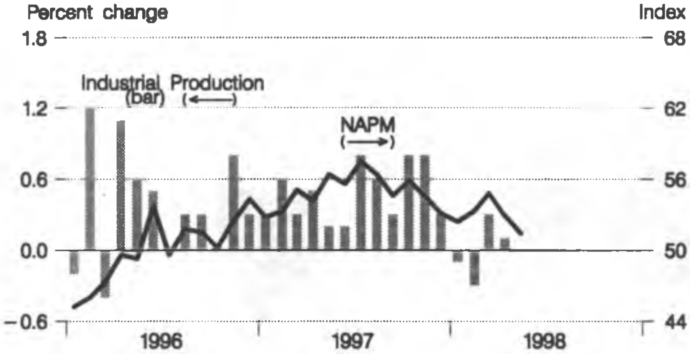
Real GDP Revisions

Percent change at annual rate



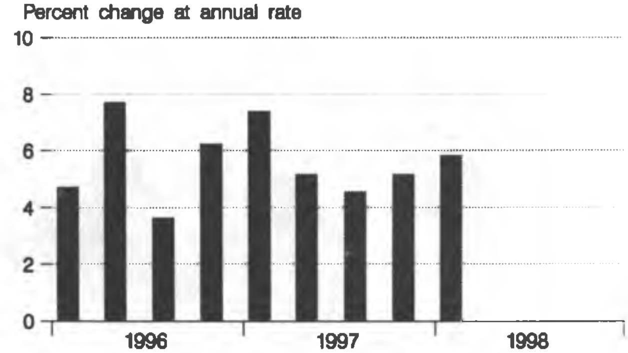
Industrial Production and NAPM Index

Percent change
Index



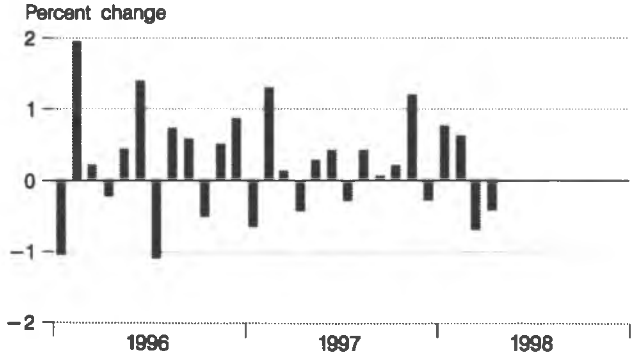
Nominal Gross Domestic Product

Percent change at annual rate



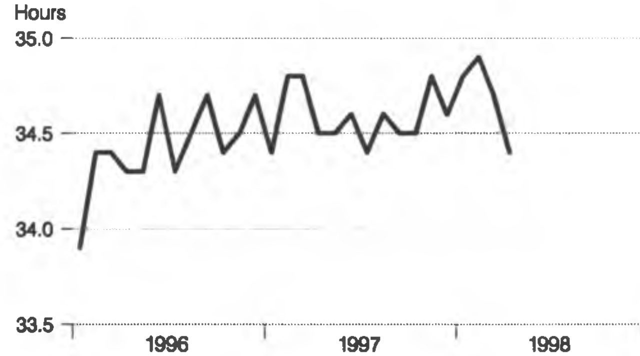
Aggregate Private Nonfarm Hours

Percent change



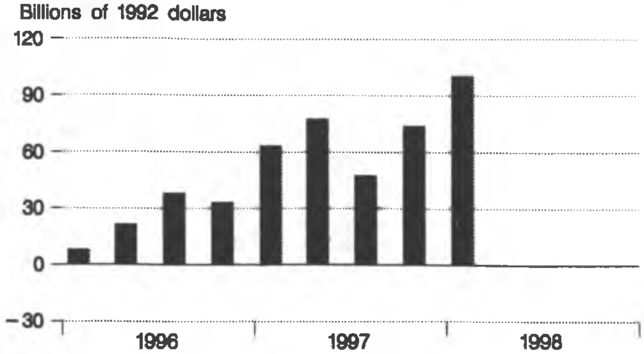
Average Weekly Private Nonfarm Hours

Hours



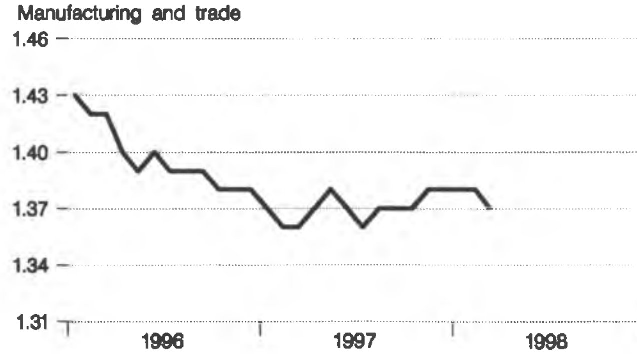
Real Change in Business inventories

Billions of 1992 dollars



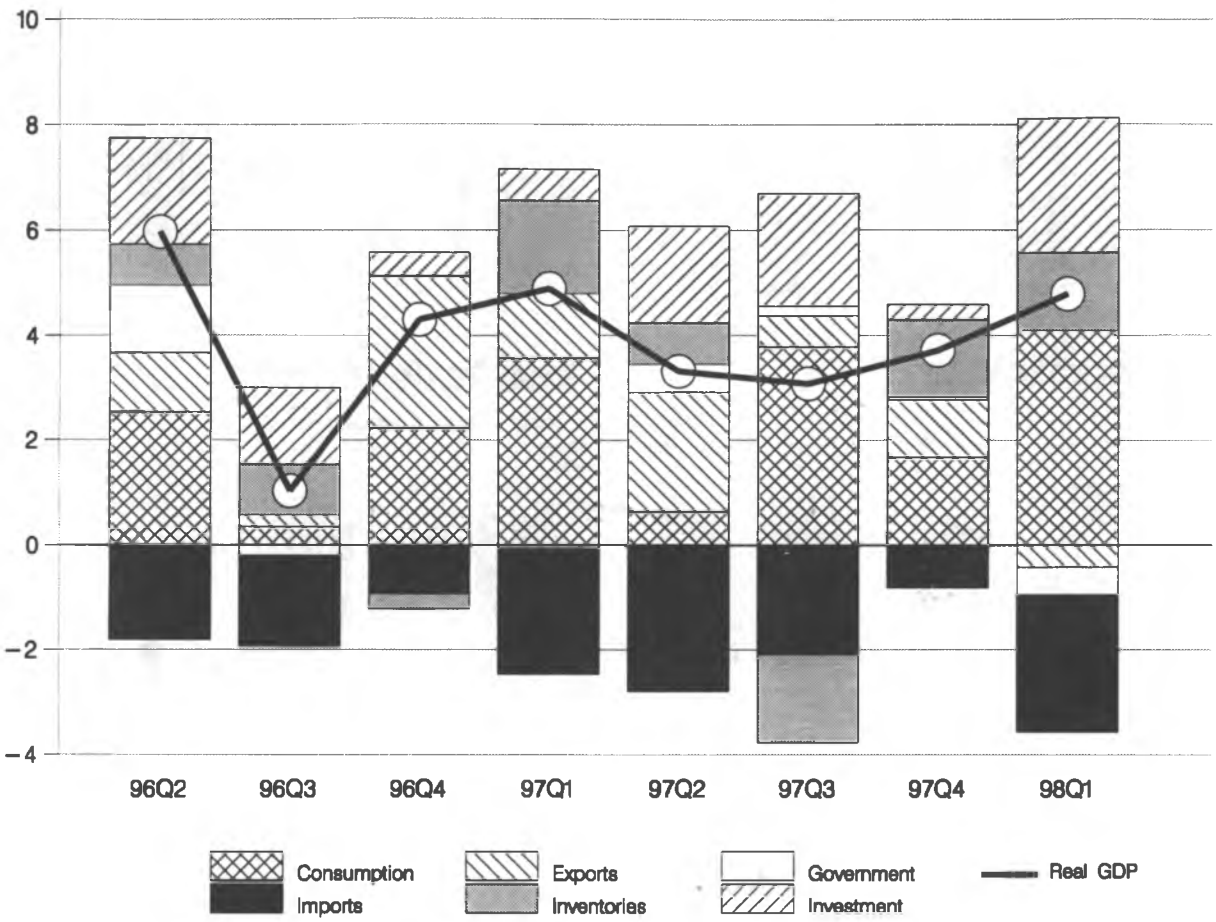
Inventory-Sales Ratio

Manufacturing and trade



Contribution of Components to Real GDP Growth

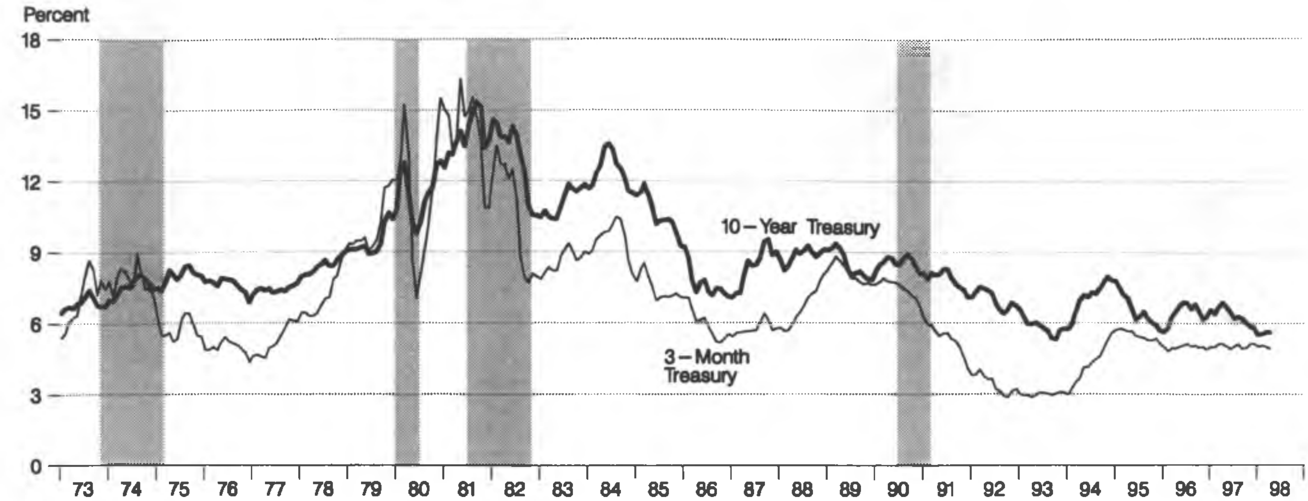
Percent change at annual rate



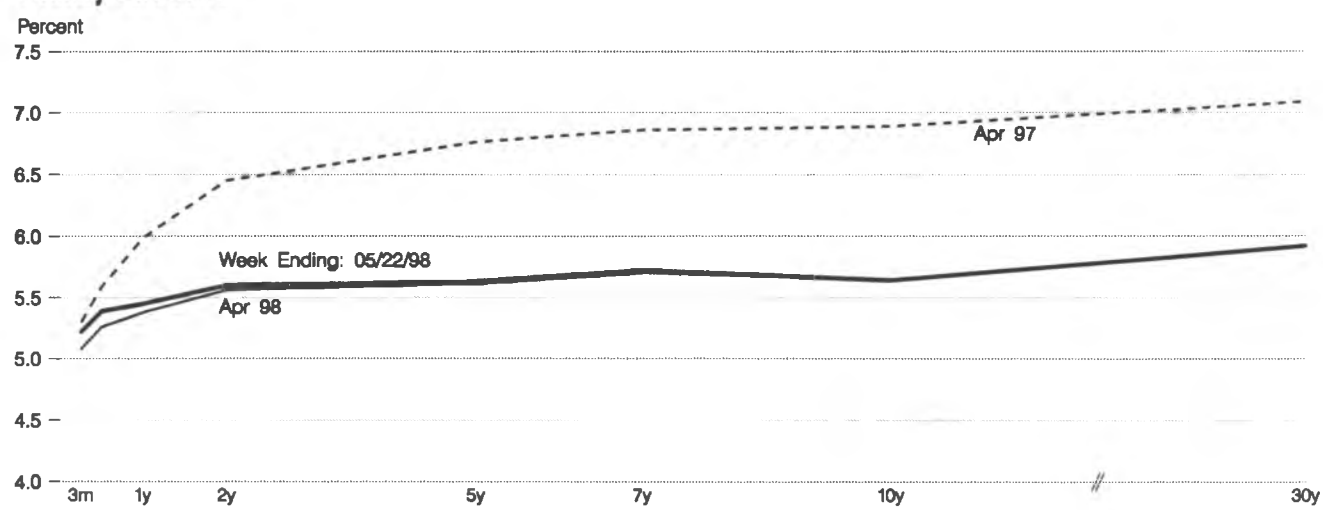
Contributions to Real GDP Growth Rate

	1996 2nd	1996 3rd	1996 4th	1997 1st	1997 2nd	1997 3rd	1997 4th	1998 1st
Real GDP	5.97	1.03	4.31	4.89	3.31	3.07	3.71	4.79
Final Sales	5.22	0.16	4.49	3.02	2.48	4.69	2.28	3.32
Change in Inventory	0.78	0.96	−0.29	1.76	0.79	−1.67	1.48	1.47
Consumption	2.53	0.35	2.22	3.56	0.64	3.78	1.67	4.09
Fixed Investment	2.02	1.46	0.45	0.59	1.84	2.13	0.29	2.55
Nonresidential	1.34	1.72	0.66	0.47	1.59	2.11	−0.10	1.95
Residential	0.66	−0.18	−0.17	0.13	0.28	0.10	0.34	0.60
Government	1.29	−0.20	0.02	−0.08	0.54	0.19	0.05	−0.54
Federal	0.58	−0.29	−0.35	−0.38	0.41	−0.07	−0.15	−0.64
State and Local	0.71	0.08	0.37	0.31	0.13	0.26	0.20	0.10
Net Exports	−0.69	−1.51	1.93	−1.18	−0.58	−1.53	0.27	−3.02
Exports	1.13	0.23	2.89	1.24	2.26	0.59	1.09	−0.42
Imports	−1.81	−1.73	−0.94	−2.39	−2.80	−2.11	−0.81	−2.61
Residual	−0.03	−0.08	−0.10	0.20	0.02	0.14	−0.04	0.26

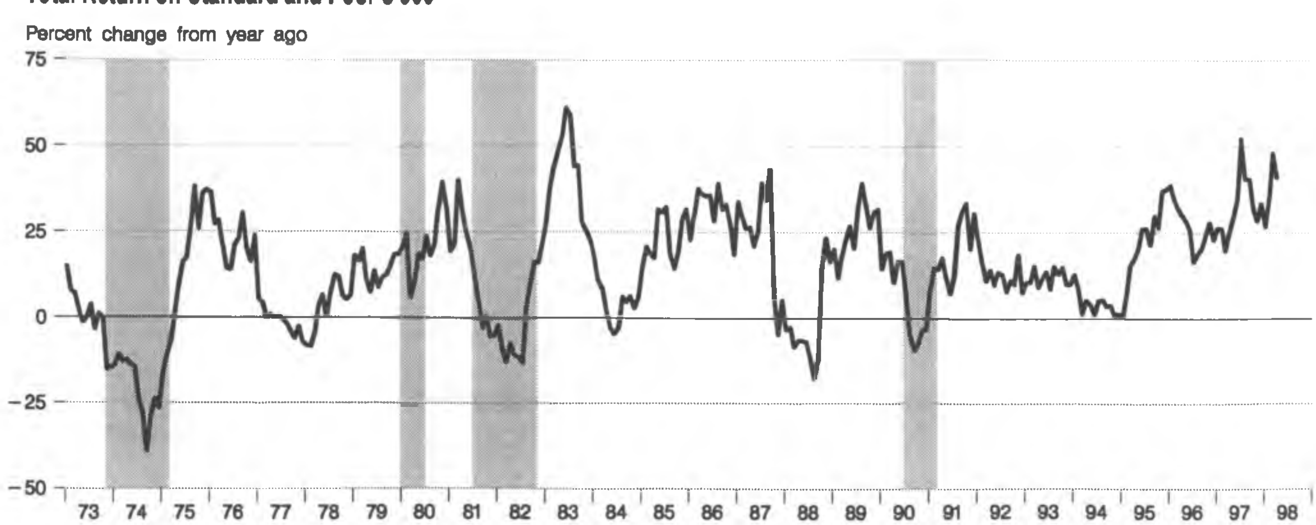
Interest Rates



Treasury Yield Curve

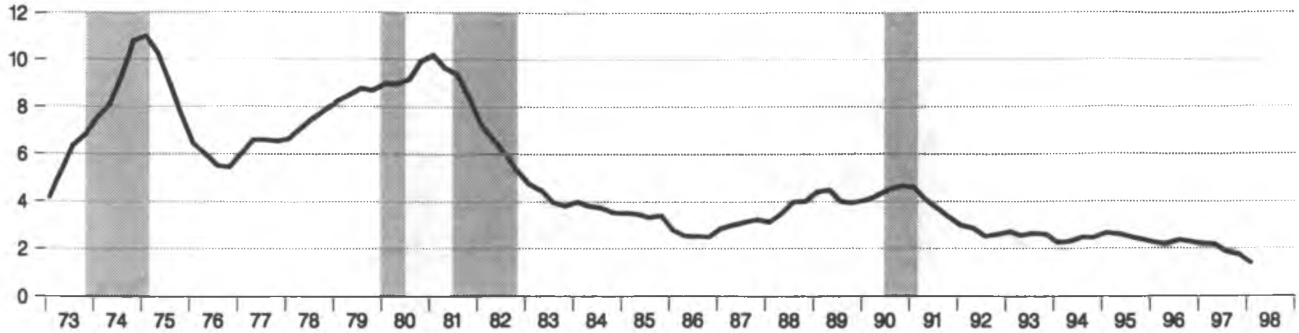


Total Return on Standard and Poor's 500



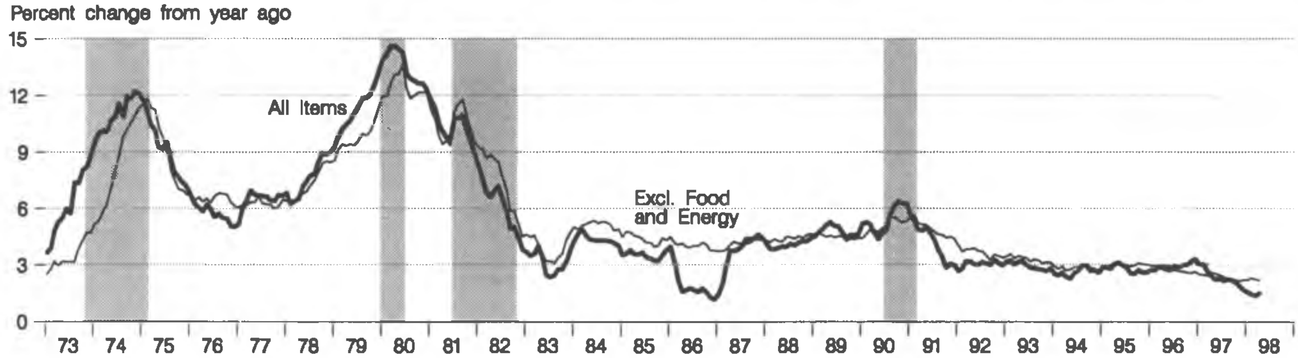
GDP Chain Price Index

Percent change from year ago



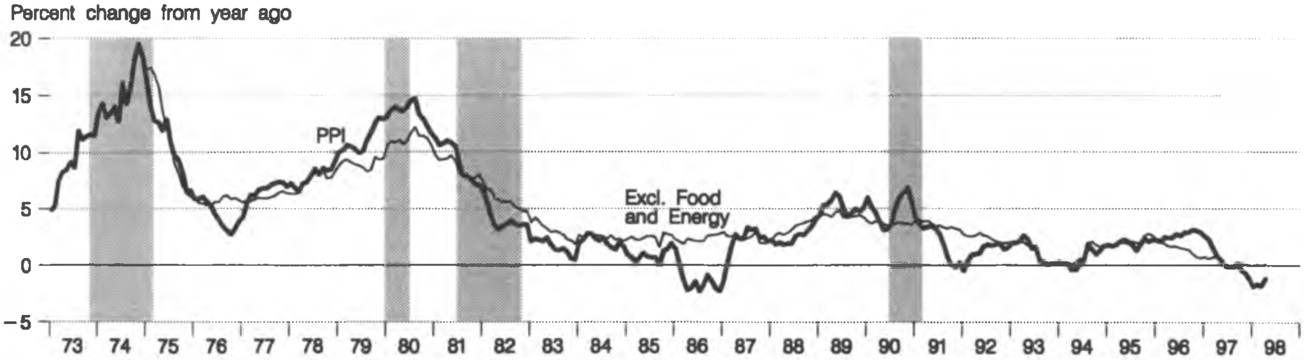
Consumer Price Index

Percent change from year ago



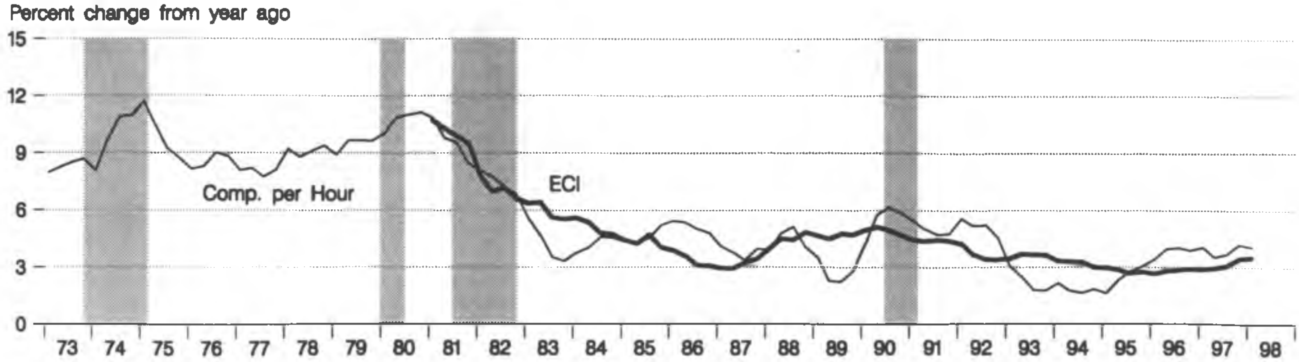
Producer Price Index, Finished Goods

Percent change from year ago



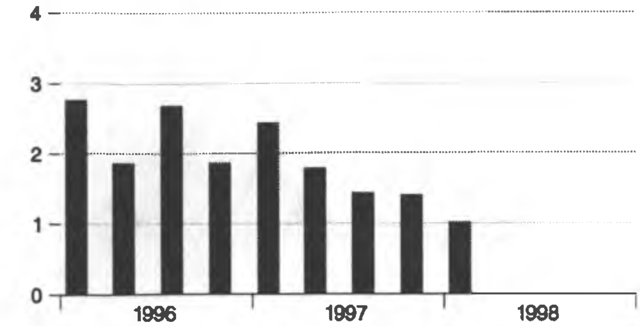
Employment Cost Index and Compensation per Hour

Percent change from year ago



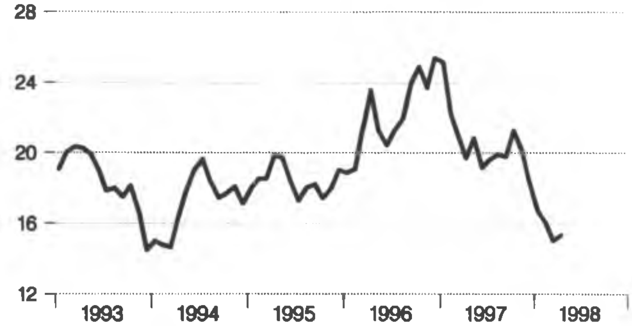
GDP Chain Price Index

Percent change at annual rate



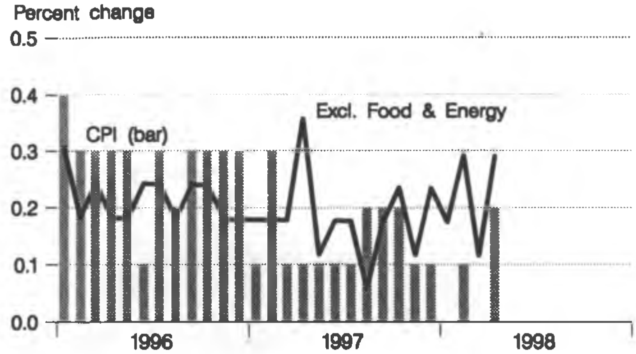
Crude Oil Price

Dollars per barrel



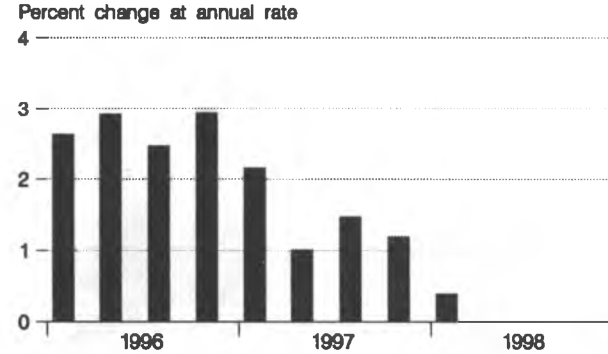
Consumer Price Index

Percent change



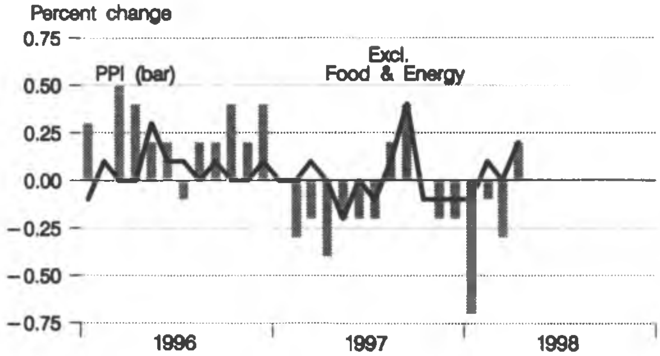
Consumption Chain Price Index

Percent change at annual rate



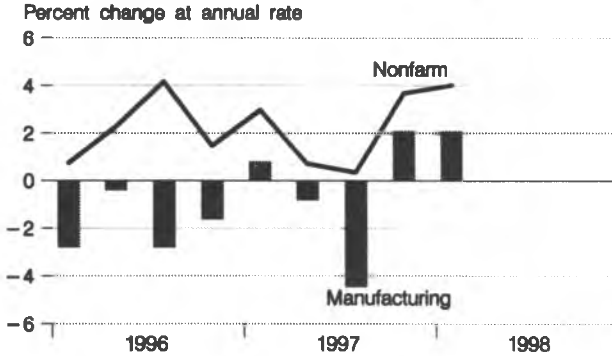
Producer Price Index, Finished Goods

Percent change



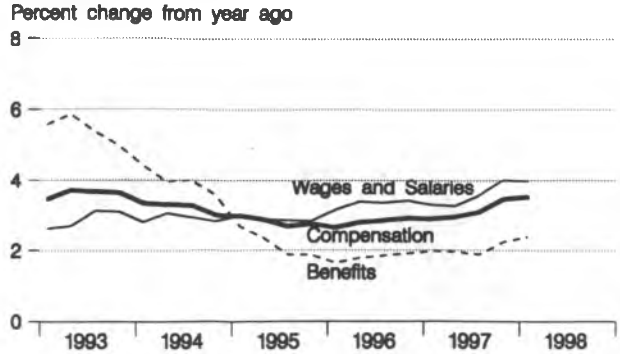
Unit Labor Cost

Percent change at annual rate



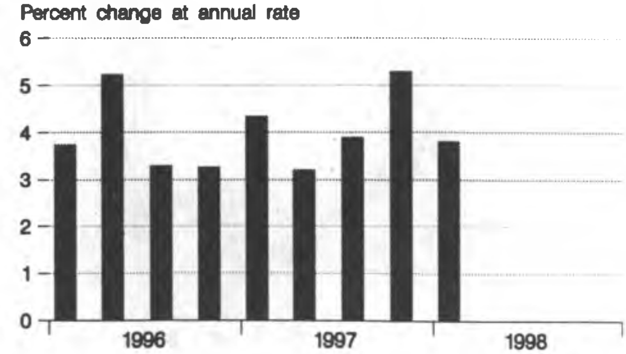
Employment Cost Index

Percent change from year ago

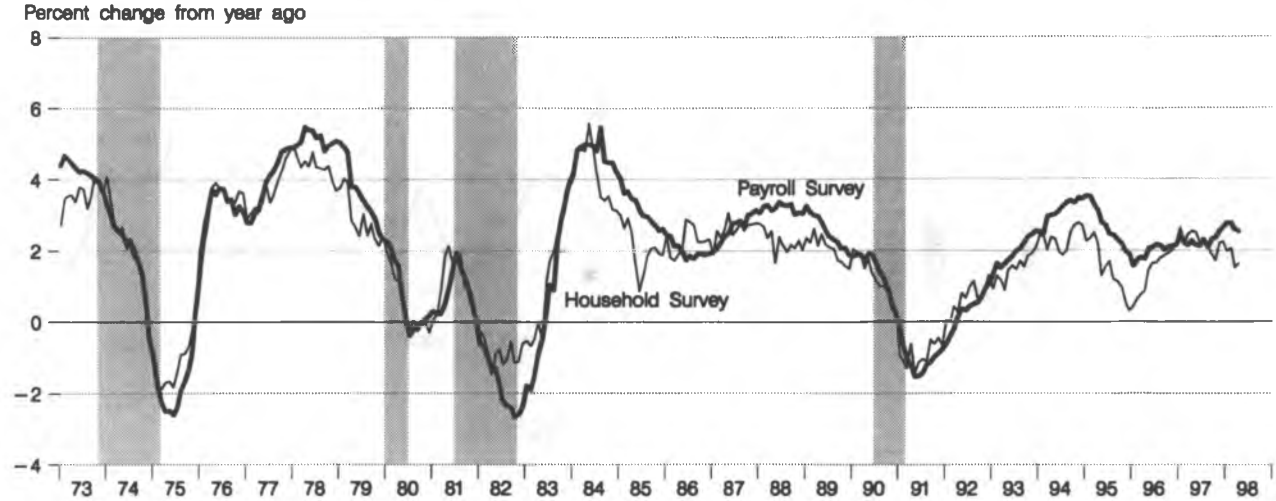


Compensation per Hour

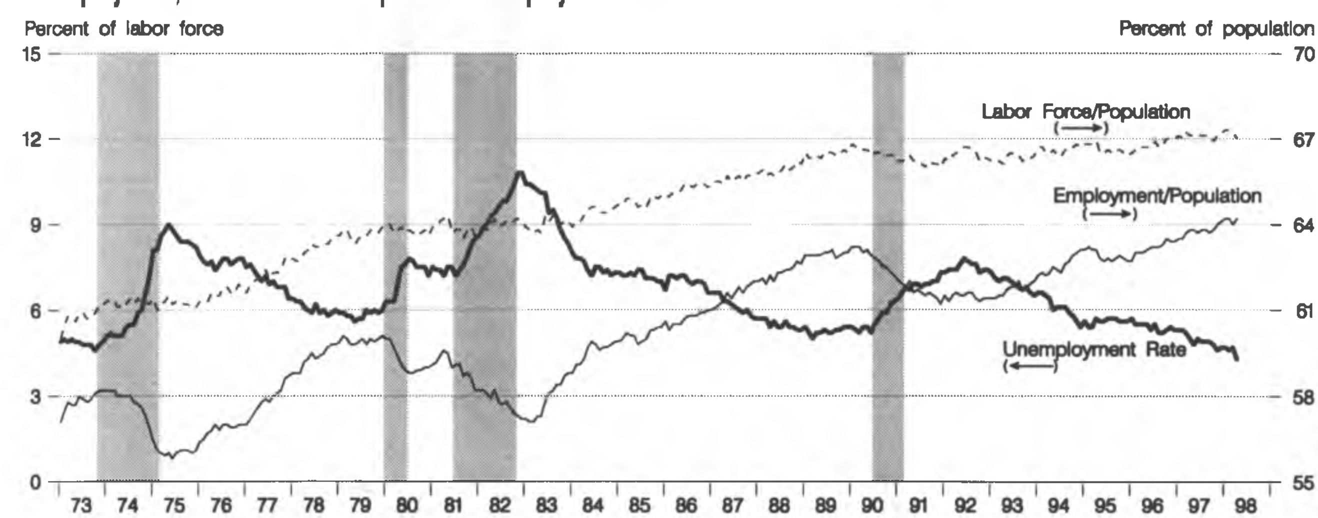
Percent change at annual rate



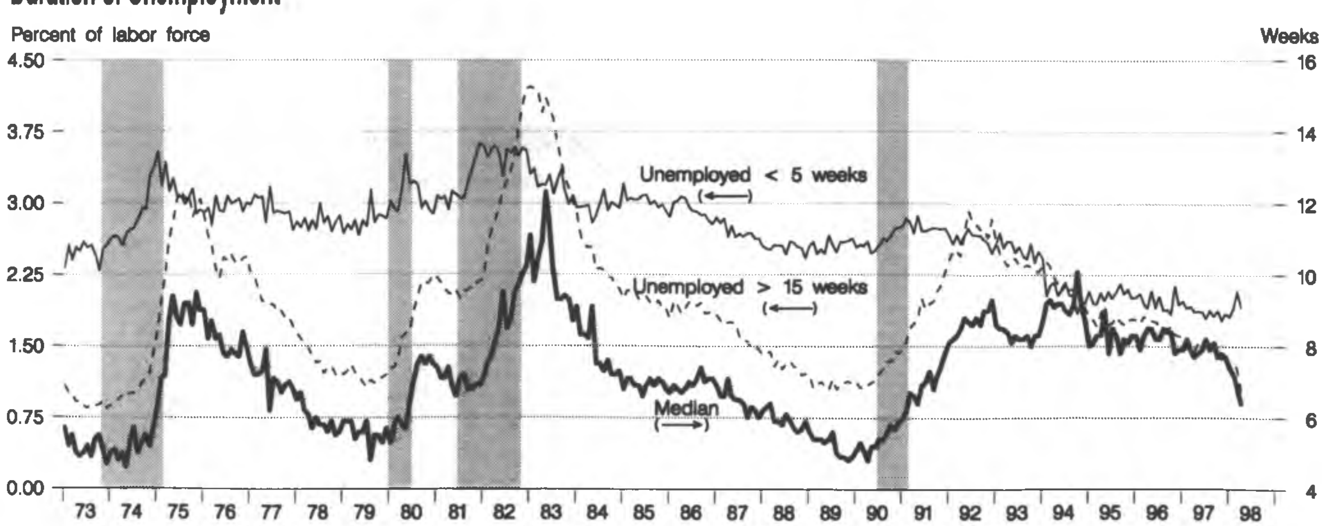
Employment



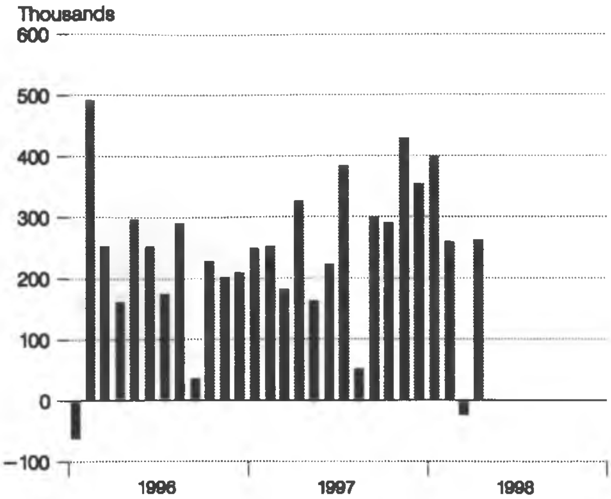
Unemployment, Labor Force Participation and Employment Rates



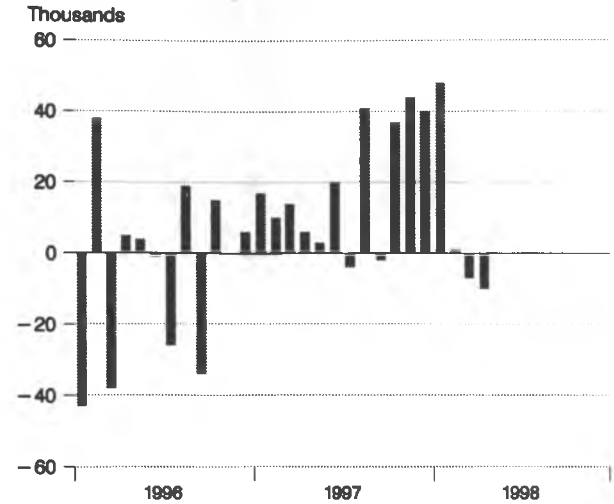
Duration of Unemployment



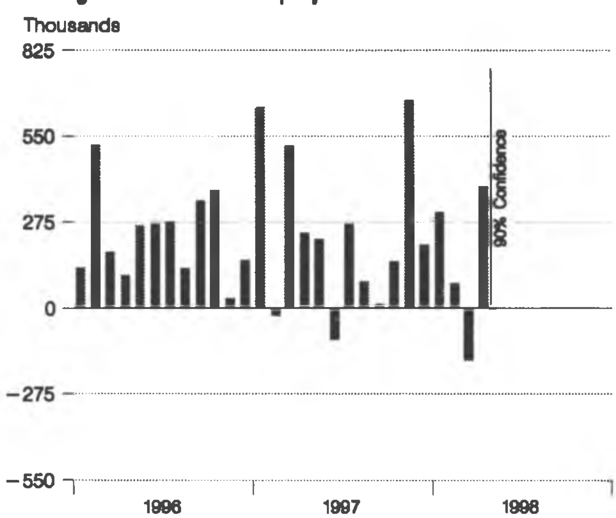
Change in Nonfarm Payrolls



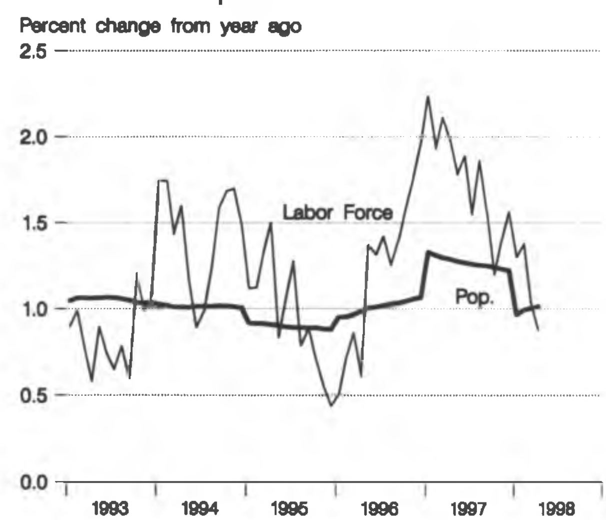
Change in Manufacturing Payrolls



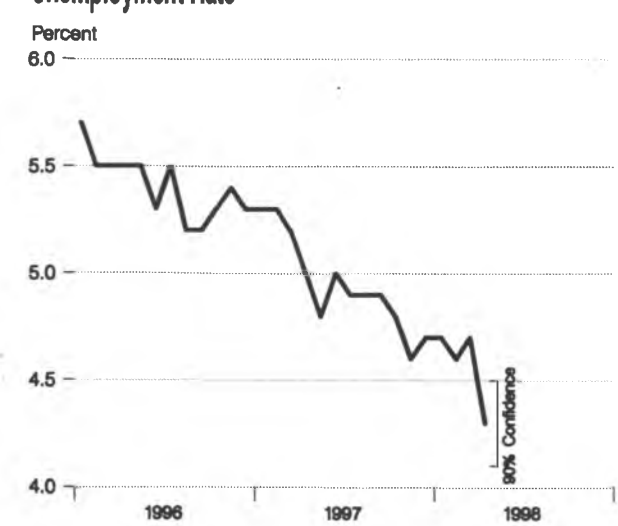
Change in Household Employment



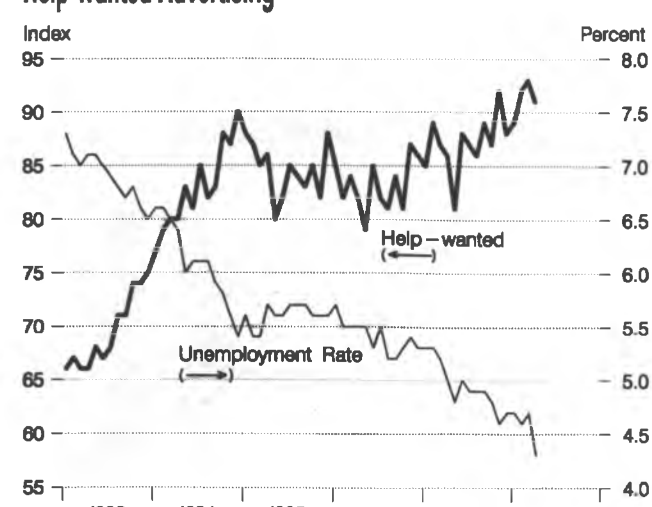
Labor Force and Population



Unemployment Rate

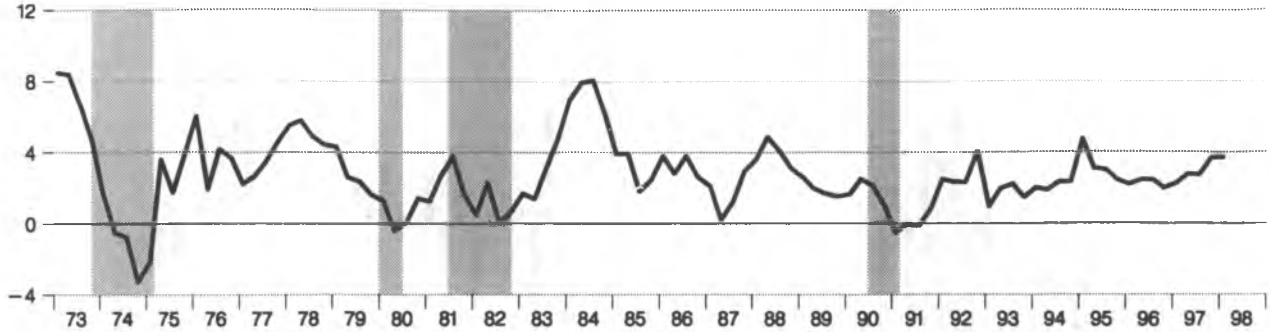


Help-Wanted Advertising



Real Disposable Income

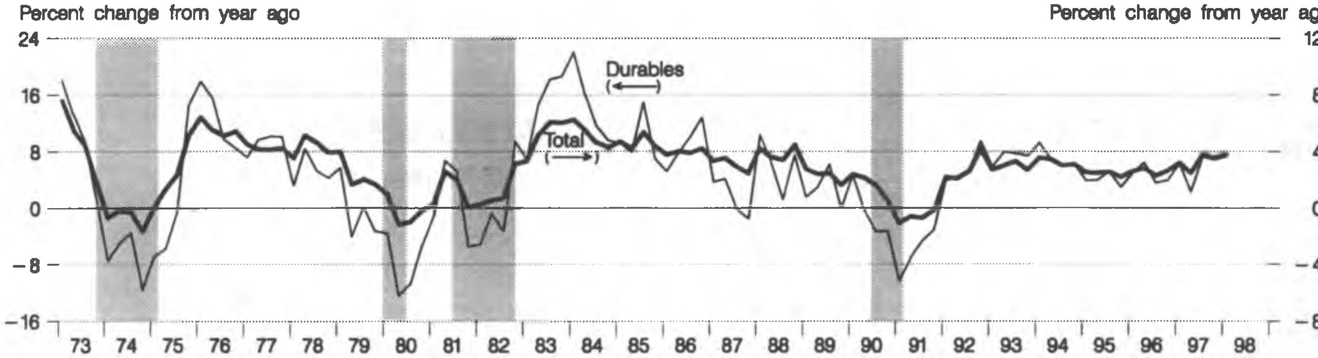
Percent change from year ago, quarterly data



Real Consumption

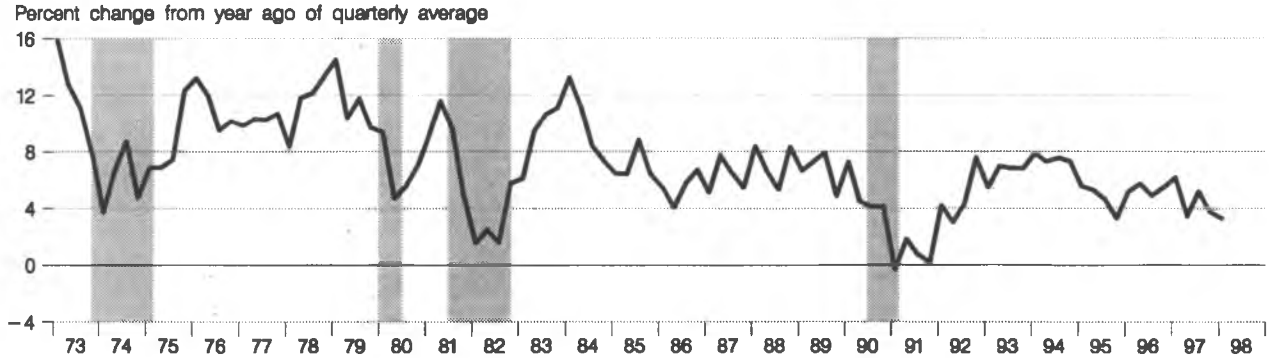
Percent change from year ago

Percent change from year ago



Retail Sales

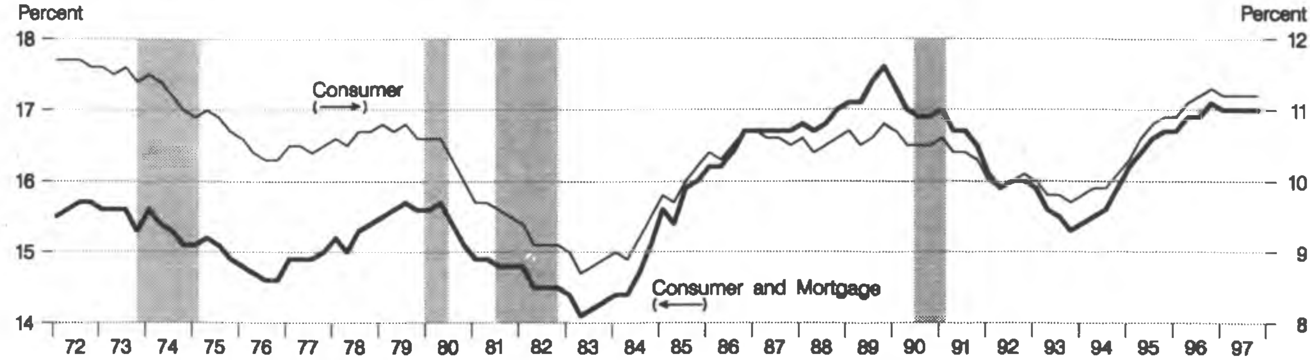
Percent change from year ago of quarterly average



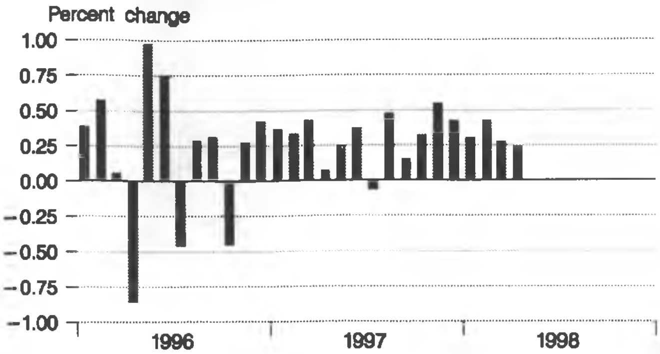
Debt Service as Percent of Disposable Income

Percent

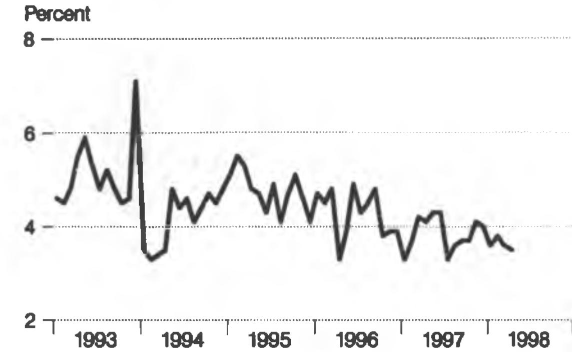
Percent



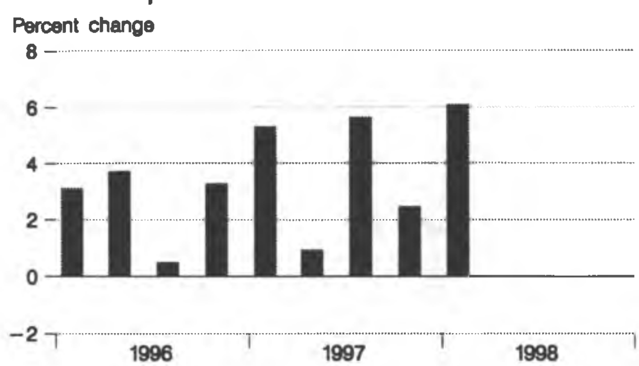
Real Disposable Income



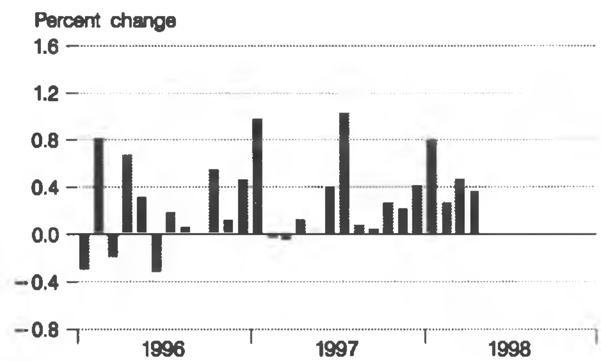
Personal Saving Rate



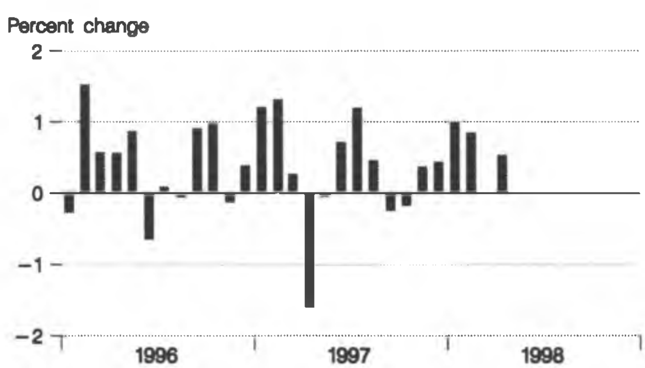
Real Consumption



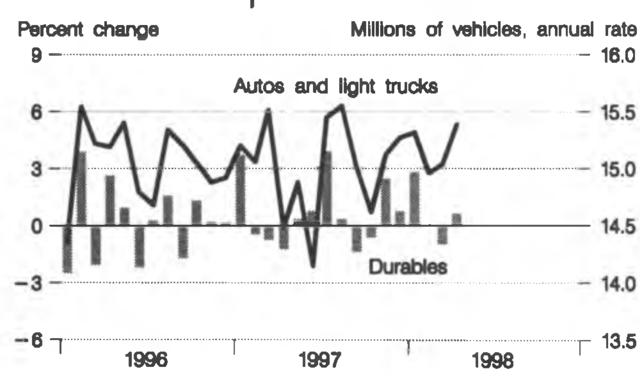
Real Consumption



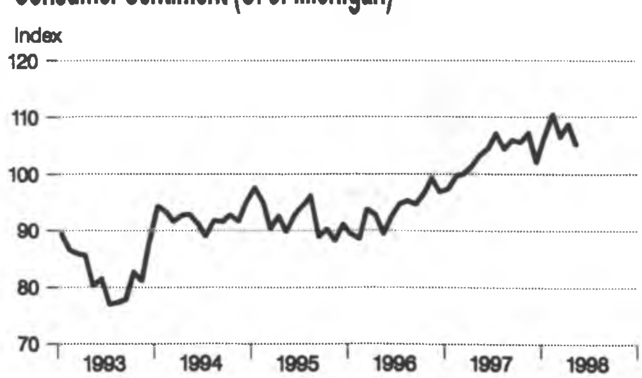
Retail Sales



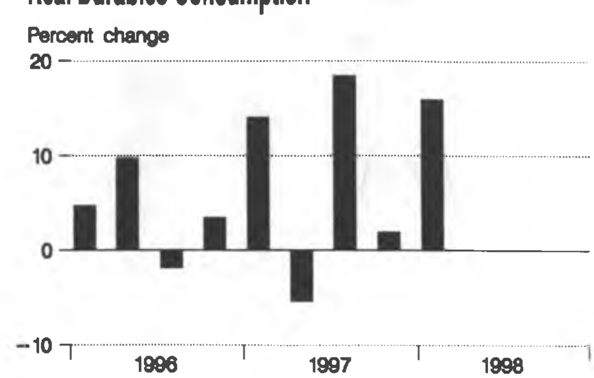
Real Durables Consumption and Vehicle Sales



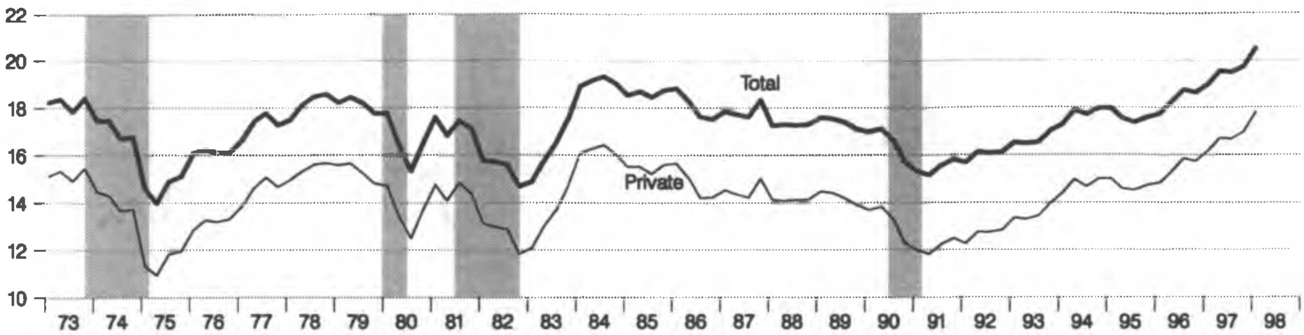
Consumer Sentiment (U. of Michigan)



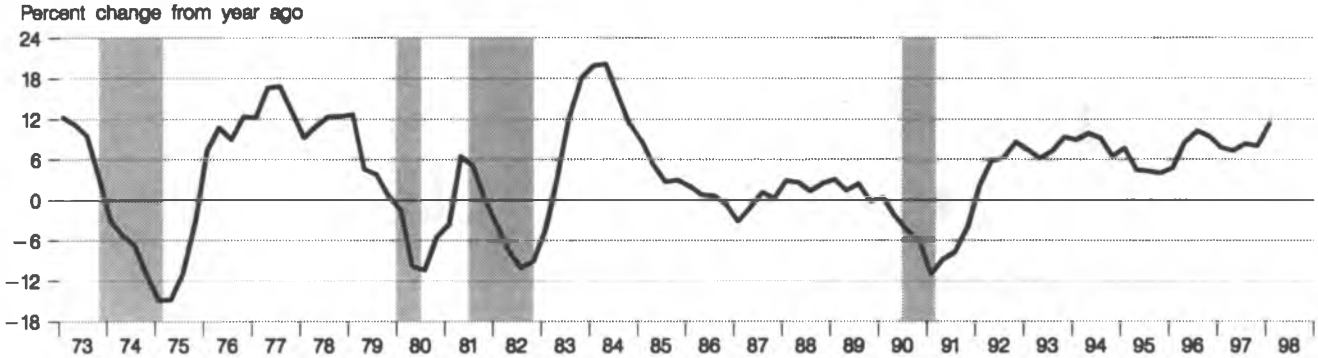
Real Durables Consumption



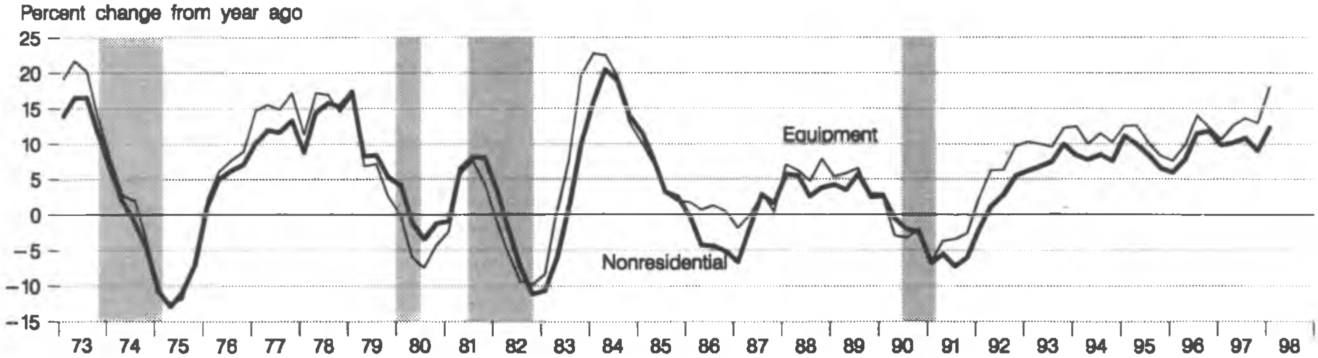
Real Investment



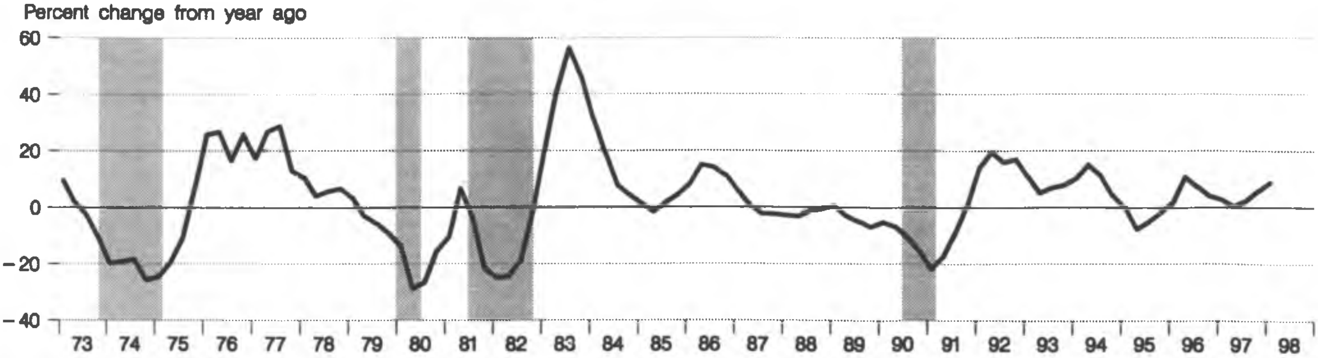
Real Private Fixed Investment



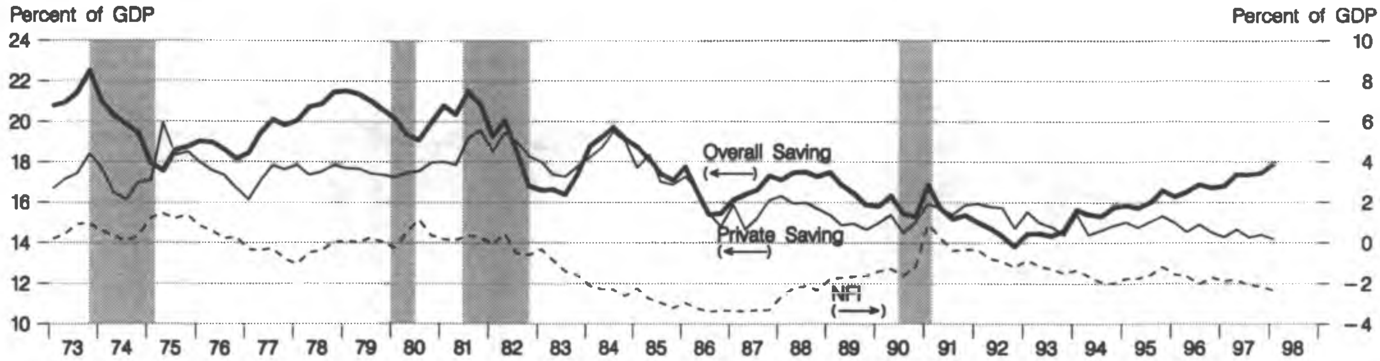
Real Nonresidential and Producers Durable Equipment Investment



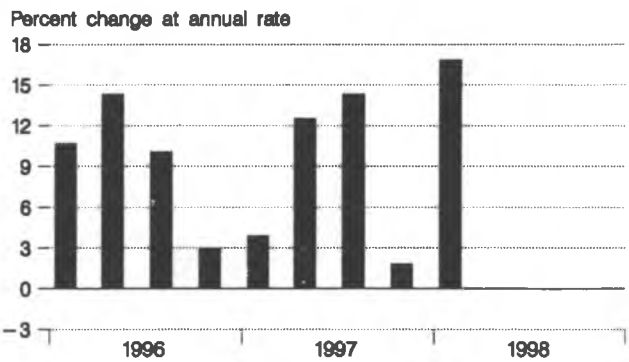
Real Residential Investment



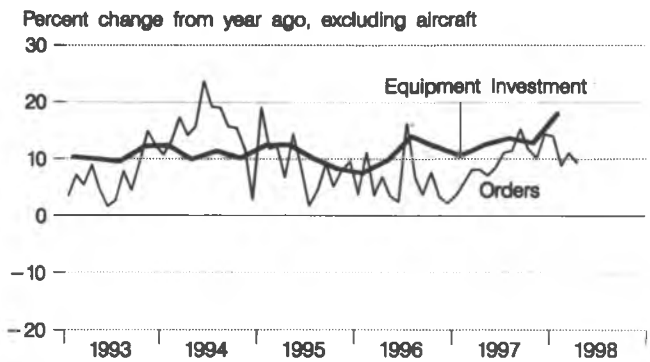
Gross Saving Rates and Net Foreign Investment



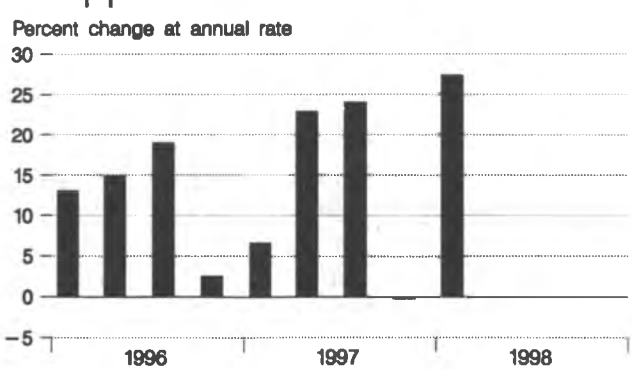
Real Private Fixed Investment



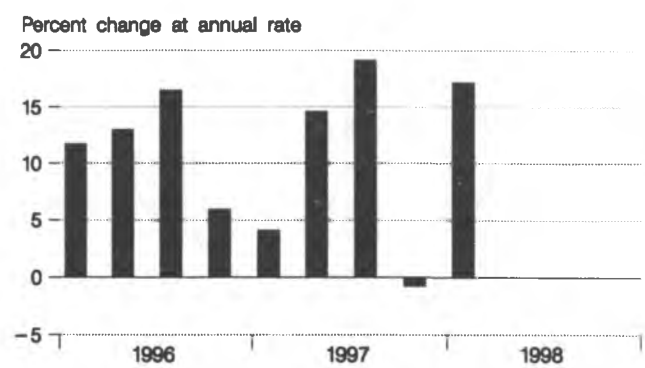
Nondefense Capital Goods Orders



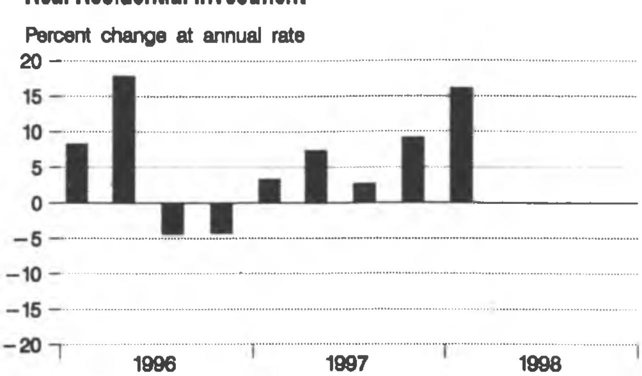
Real Equipment Investment



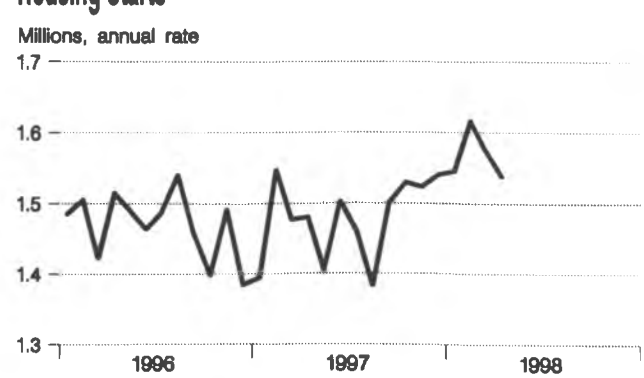
Real Nonresidential Investment



Real Residential Investment

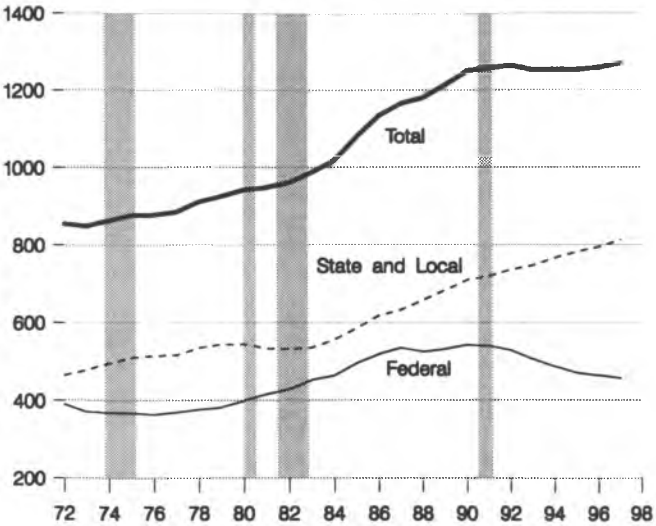


Housing Starts



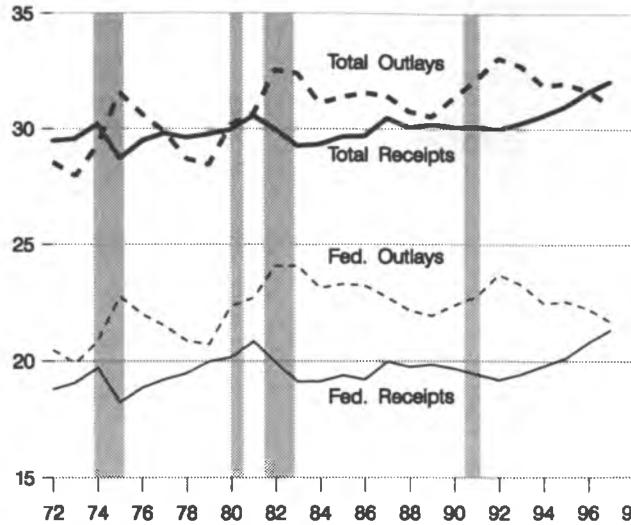
Govt. Consumption and Investment

Billions of 1992 dollars



Government Receipts and Outlays

Percent of GDP



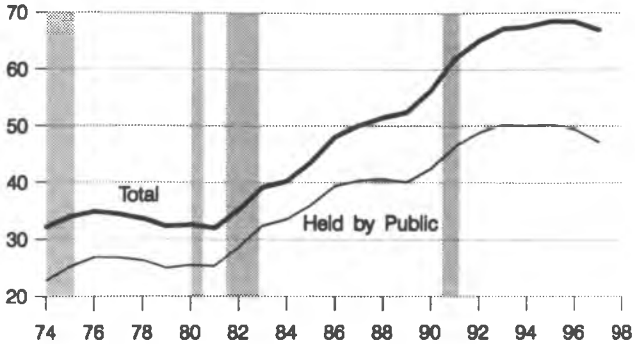
Government Budgets

Billions of dollars

	National Income Accounts Calendar Years						Unified Budget Fiscal Years		
	State and Local			Federal			Federal		
	Receipts	Expenditures	Surplus or Deficit(-)	Receipts	Expenditures	Surplus or Deficit(-)	Receipts	Outlays	Surplus or Deficit(-)
1975	225.6	198.0	27.6	297.4	371.3	−73.9	279.1	332.3	−53.2
1976	253.9	217.9	36.0	343.1	400.3	−57.2	298.1	371.8	−73.7
1977	281.9	237.1	44.8	389.6	435.9	−46.3	355.6	409.2	−53.7
1978	309.3	256.7	52.6	446.5	478.1	−31.6	399.6	458.7	−59.2
1979	330.6	278.3	52.3	511.1	529.5	−18.4	463.3	504.0	−40.7
1980	361.4	307.0	54.4	561.5	622.5	−61.0	517.1	590.9	−73.8
1981	390.8	335.4	55.4	649.3	707.1	−57.8	599.3	678.2	−79.0
1982	409.0	357.7	51.3	646.4	781.0	−134.6	617.8	745.8	−128.0
1983	443.6	378.8	64.8	671.9	846.3	−174.4	600.6	808.4	−207.8
1984	492.0	405.1	86.9	746.9	902.9	−156.0	666.5	851.9	−185.4
1985	528.7	437.8	90.9	811.3	974.2	−162.9	734.1	946.4	−212.3
1986	570.6	475.7	94.9	850.1	1027.6	−177.5	769.2	990.5	−221.2
1987	594.9	511.1	83.8	937.4	1066.3	−128.9	854.4	1004.1	−149.8
1988	631.4	545.5	85.9	997.2	1118.5	−121.3	909.3	1064.5	−155.2
1989	681.0	585.9	95.1	1079.3	1192.7	−113.4	991.2	1143.7	−152.5
1990	728.9	648.8	80.1	1129.8	1284.5	−154.7	1032.0	1253.2	−221.2
1991	784.2	708.4	75.8	1149.0	1345.0	−196.0	1055.0	1324.4	−269.4
1992	844.3	758.0	86.3	1198.5	1479.4	−280.9	1091.3	1381.7	−290.4
1993	894.4	807.0	87.4	1275.1	1525.7	−250.6	1154.4	1409.4	−255.0
1994	949.2	852.3	96.9	1374.8	1561.4	−186.6	1258.6	1461.7	−203.1
1995	999.0	895.9	103.1	1463.2	1637.6	−174.4	1351.8	1515.7	−163.9
1996	1043.4	938.0	105.4	1587.6	1698.1	−110.5	1453.1	1560.5	−107.5
1997	1090.4	982.6	107.8	1723.4	1752.2	−28.8	1579.3	1601.2	−21.9

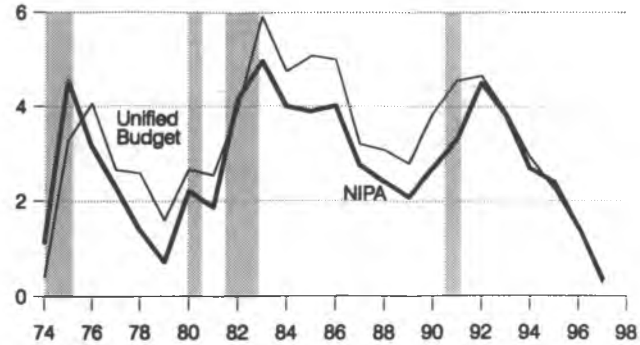
Federal Debt

Percent of GDP



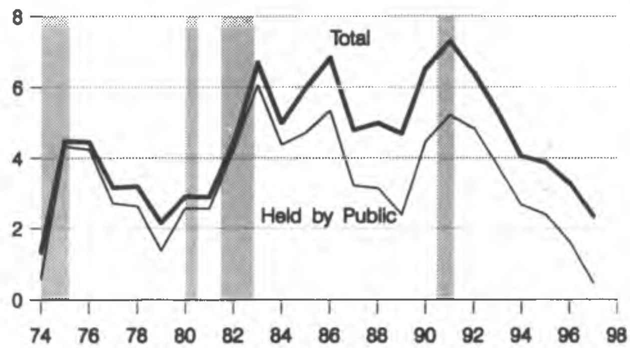
Federal Deficit

Percent of GDP



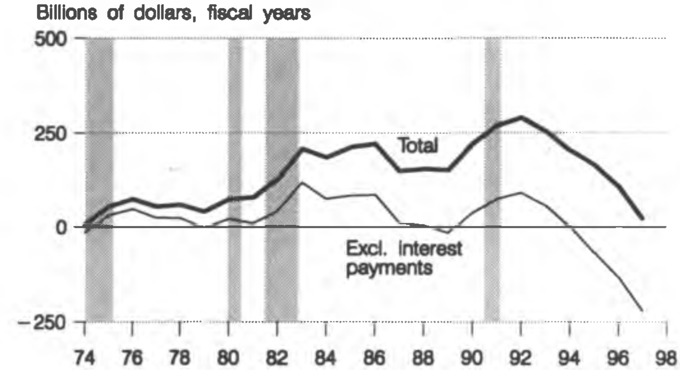
Change in Federal Debt

Percent of GDP



Federal Deficit, Unified Basis

Billions of dollars, fiscal years

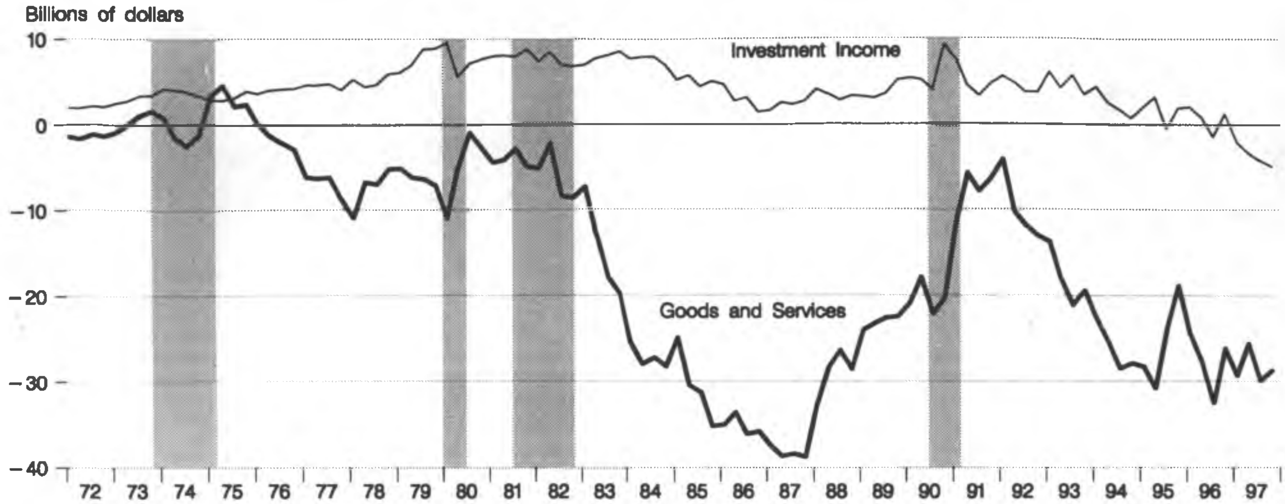


Federal Government Debt

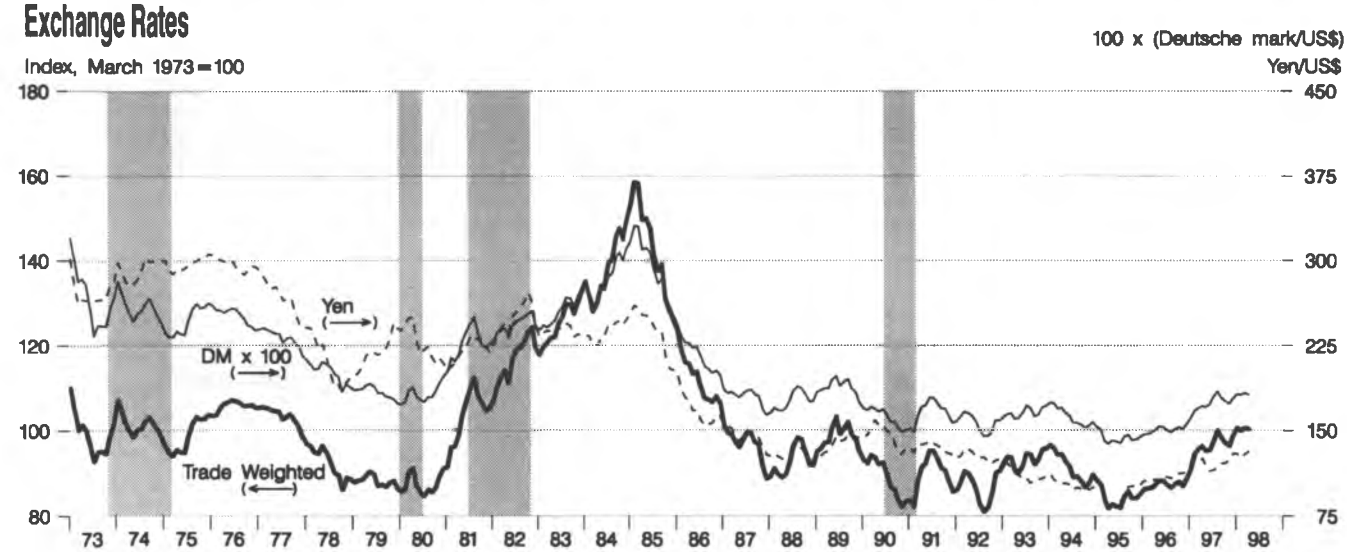
Billions of dollars, end of month or fiscal year, excluding agency-issued debt

		Total Public Debt	Held by Agencies and Trusts	Held by Public: Total	Held by Public: Federal Reserve Banks	Held by Private Investors: Total	Held by Private Investors: Foreign and International
1993		4411.5	1116.7	3294.8	325.7	2983.0	591.3
1994		4692.8	1213.1	3479.7	355.2	3127.8	655.8
1995		4974.0	1320.8	3653.2	374.1	3279.5	848.4
1996		5224.8	1447.0	3777.8	390.9	3386.2	1026.1
1997		5413.1	1598.5	3814.7	436.5	3388.9	1266.8
1995	March	4864.1	1254.7	3609.5	369.3	3239.2	729.2
	June	4951.4	1316.6	3634.8	389.0	3245.0	784.2
	September	4974.0	1320.8	3653.2	374.1	3279.5	848.4
	December	4988.7	1304.5	3684.2	391.0	3294.9	862.2
1996	March	5117.8	1353.8	3764.0	381.0	3382.8	936.6
	June	5161.1	1422.4	3738.6	391.0	3347.3	960.3
	September	5224.8	1447.0	3777.8	390.9	3386.2	1026.1
	December	5323.2	1497.2	3826.0	410.9	3411.2	1135.6
1997	March	5380.9	1506.8	3874.1	405.6	3451.7	1192.0
	June	5376.2	1571.6	3804.6	426.4	3361.7	1221.7
	September	5413.1	1598.5	3814.7	436.5	3388.9	1266.8
	December	5502.4	1655.7	3846.7	451.9	3393.4	1278.2

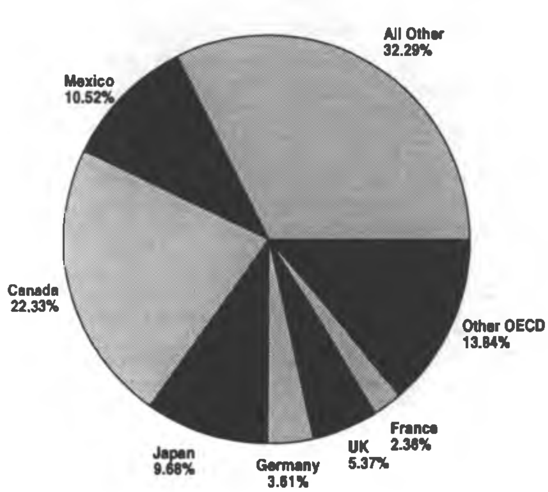
Trade and Investment Income Balances



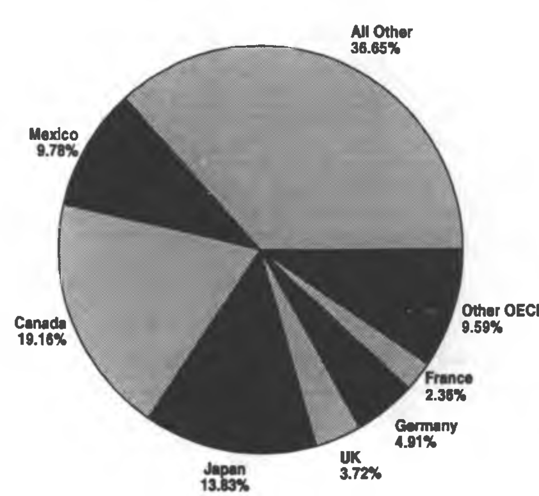
Exchange Rates



Goods Export Shares, 1997

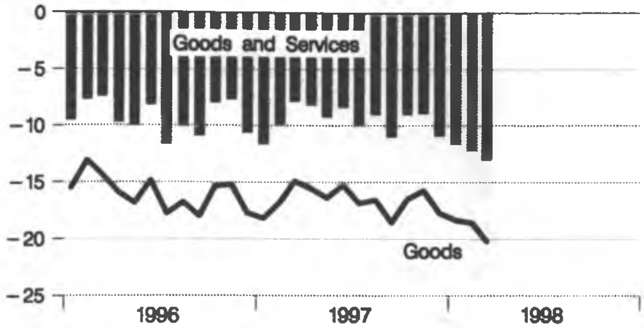


Goods Import Shares, 1997



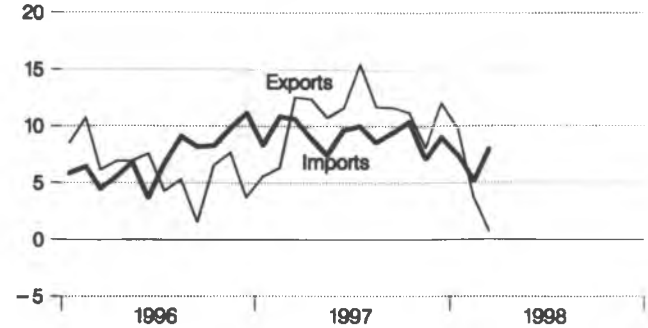
Trade Balance

Billions of dollars



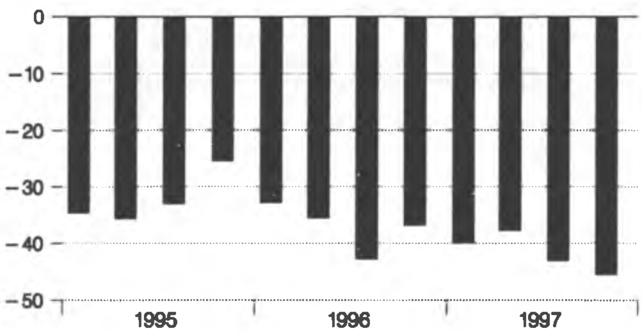
Goods Trade

Percent change from year ago



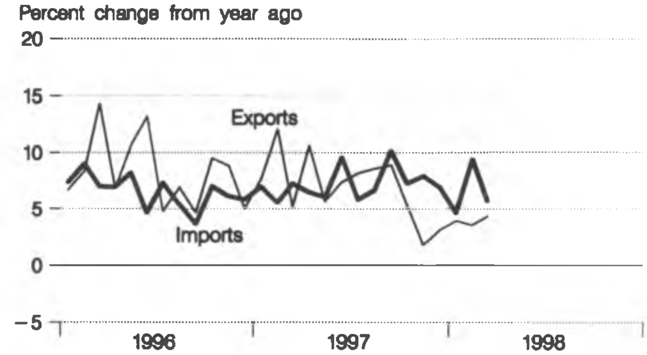
Current Account Balance

Billions of dollars



Services Trade

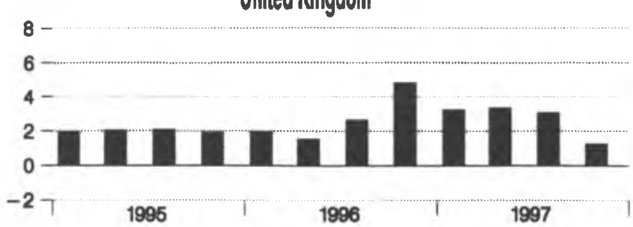
Percent change from year ago



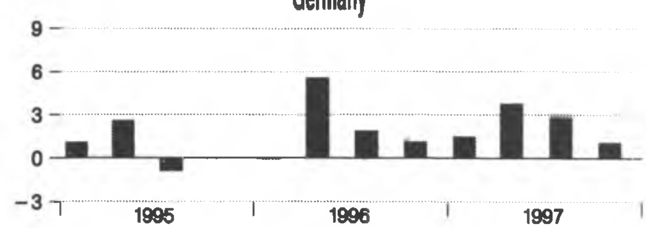
Real GDP Growth of Major Trading Partners

Percent change at annual rate

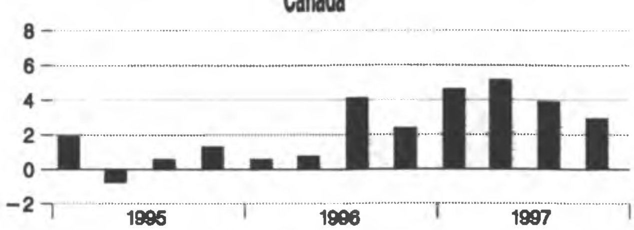
United Kingdom



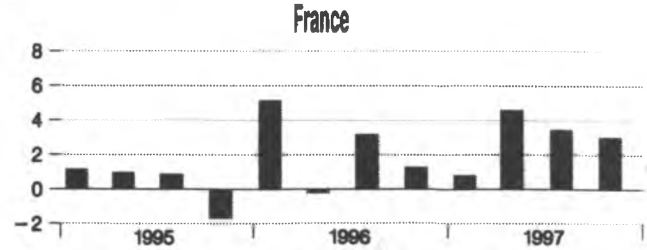
Germany



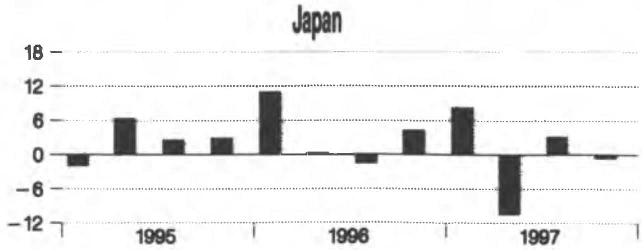
Canada



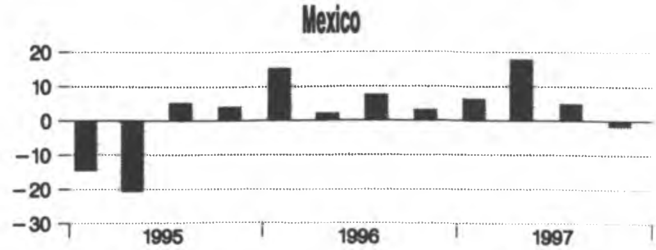
France



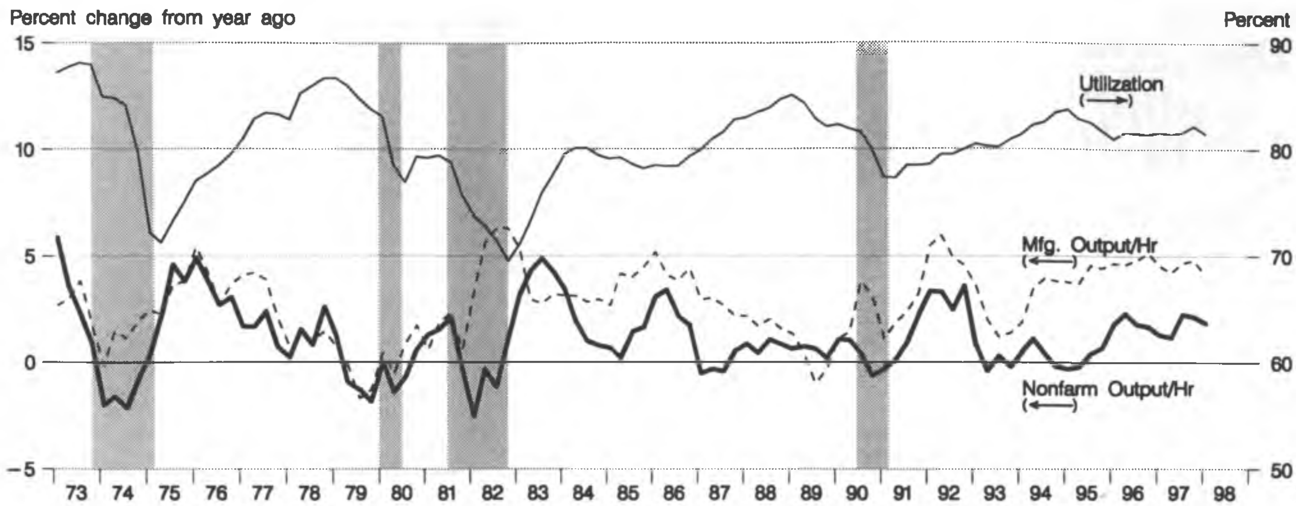
Japan



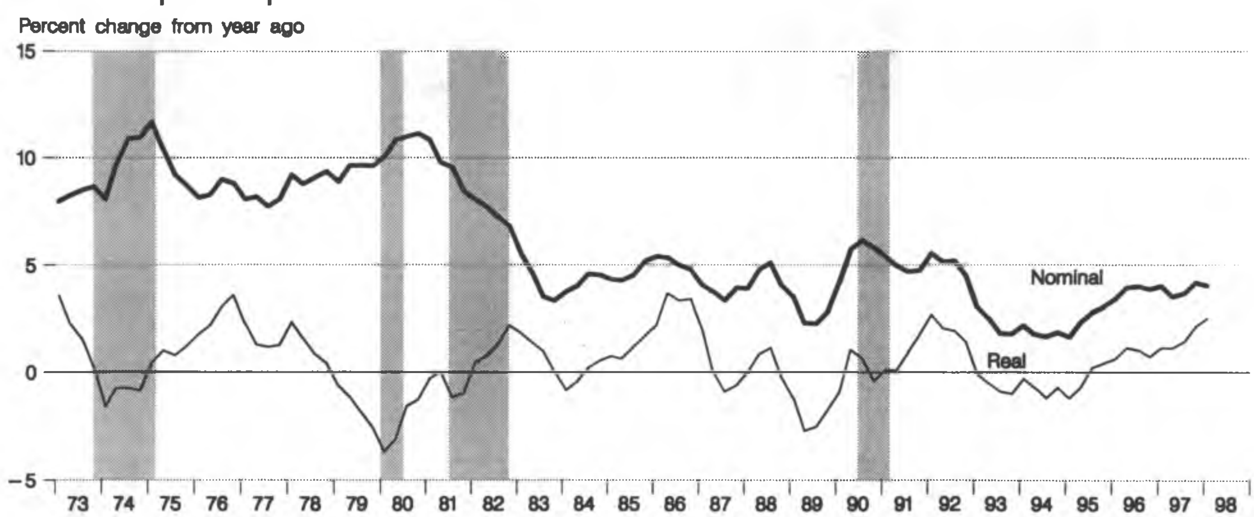
Mexico



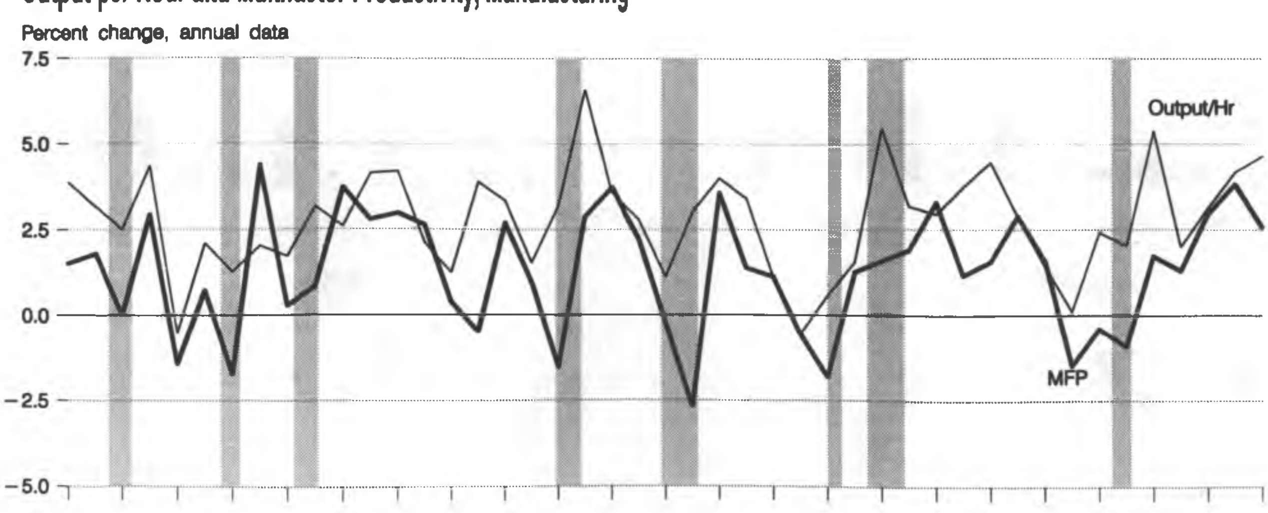
Output per Hour and Manufacturing Capacity Utilization



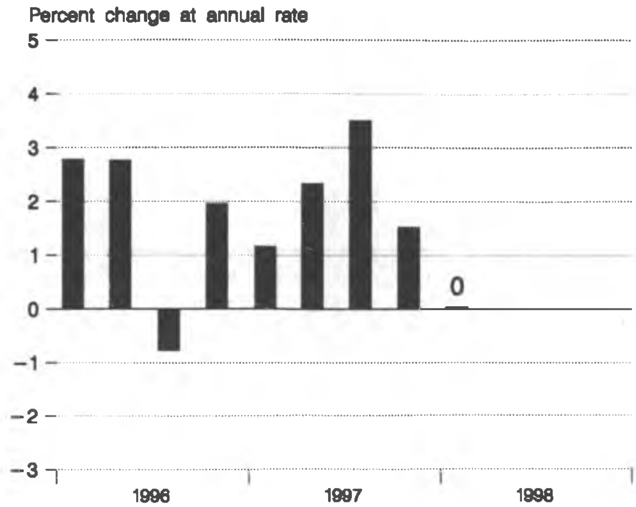
Nonfarm Compensation per Hour



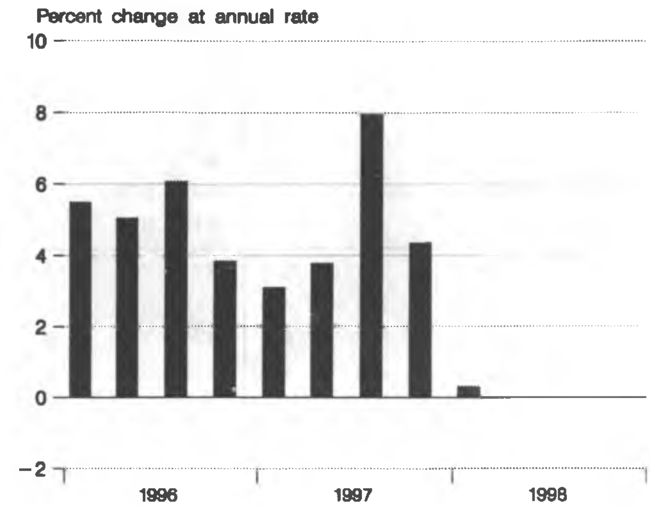
Output per Hour and Multifactor Productivity, Manufacturing



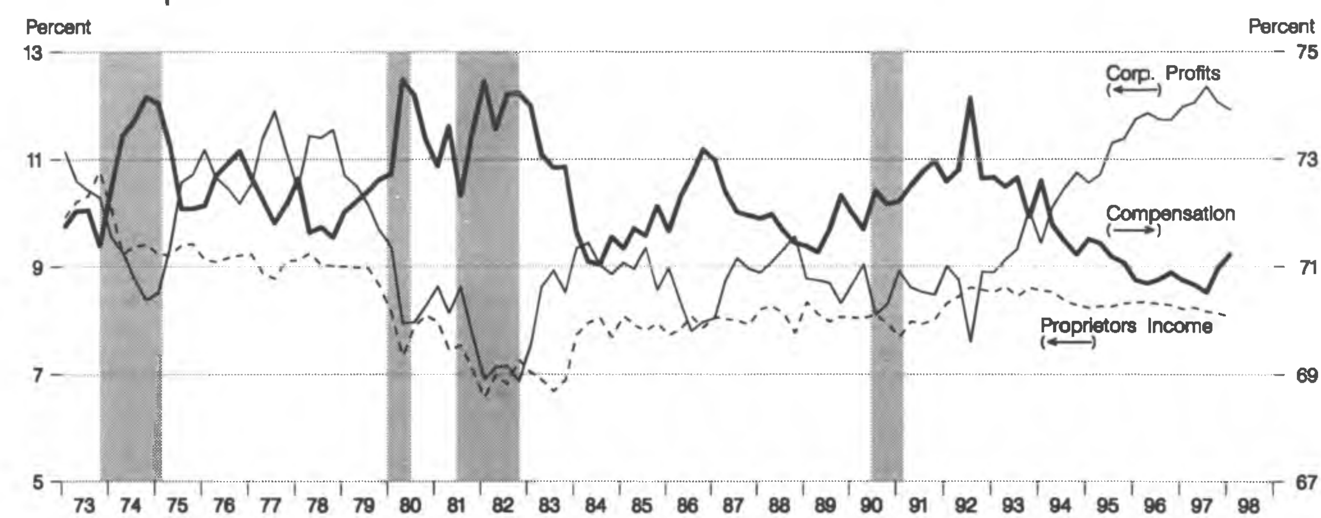
Nonfarm Output per Hour



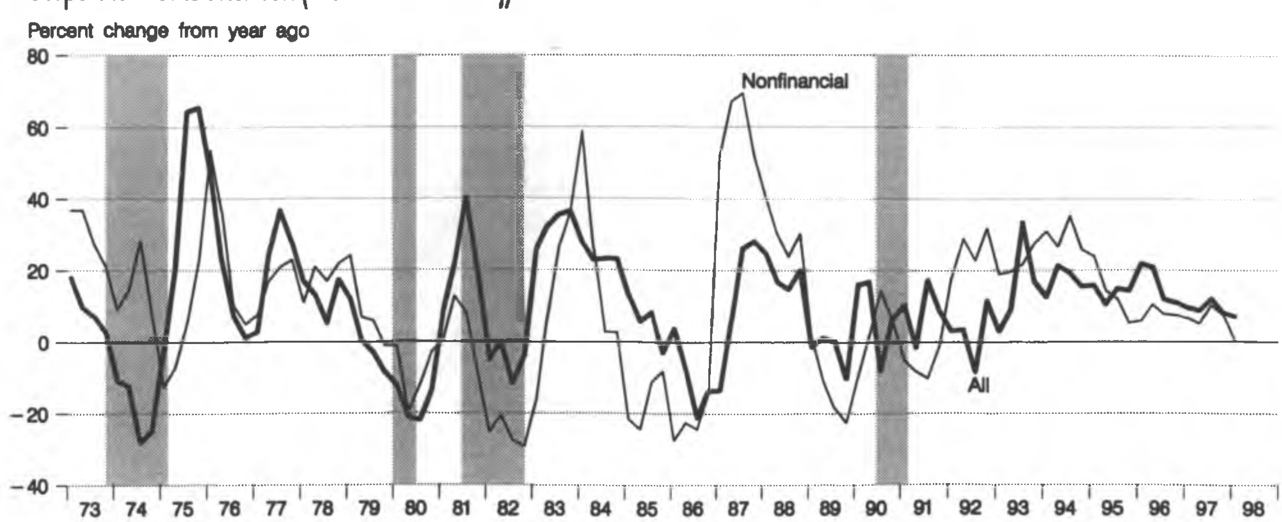
Manufacturing Output per Hour



Selected Component Shares of National Income



Corporate Profits after Tax (with IVA and CCAdj)



	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/Year ago
1993	6558.1		5.0	6389.563		2.3	6368.864		2.1		7.001
1994	6947.0		5.9	6610.741		3.5	6551.247		2.9		22.102
1995	7265.4		4.6	6742.062		2.0	6712.672		2.5		60.552
1996	7636.0		5.1	6928.396		2.8	6900.980		2.8		27.341
1997	8079.9		5.8	7188.820		3.8	7118.324		3.1		25.038
1995 1	7168.9	4.2	5.5	6703.721	0.9	2.7	6654.289	1.8	2.8	48.479	53.061
2	7209.5	2.3	4.3	6708.841	0.3	1.6	6685.289	1.9	2.4	21.638	75.896
3	7301.3	5.2	4.5	6759.234	3.0	2.0	6739.306	3.3	2.4	17.023	49.662
4	7381.9	4.5	4.0	6796.513	2.2	1.6	6771.927	2.0	2.2	22.223	63.590
1996 1	7467.5	4.7	4.2	6826.362	1.8	1.8	6814.966	2.6	2.4	8.039	48.479
2	7607.7	7.7	5.5	6926.023	6.0	3.2	6902.290	5.2	3.2	21.288	21.638
3	7676.0	3.6	5.1	6943.820	1.0	2.7	6905.034	0.2	2.5	37.903	17.023
4	7792.9	6.2	5.6	7017.379	4.3	3.2	6981.692	4.5	3.1	32.922	22.223
1997 1	7933.6	7.4	6.2	7101.617	4.9	4.0	7034.087	3.0	3.2	63.657	8.039
2	8034.3	5.2	5.6	7159.627	3.3	3.4	7077.749	2.5	2.5	77.603	21.288
3	8124.3	4.6	5.8	7214.017	3.1	3.9	7160.333	4.7	3.7	47.539	37.903
4	8227.4	5.2	5.6	7280.020	3.7	3.7	7201.126	2.3	3.1	74.049	32.922
1998 1	8344.9	5.8	5.2	7365.632	4.8	3.7	7260.880	3.4	3.2	100.712	63.657

	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
1993	4343.563		2.9	523.841		7.2	842.772		7.6	600.167		7.6
1994	4485.981		3.3	561.189		7.1	915.536		8.6	648.361		8.0
1995	4595.273		2.4	583.598		4.0	962.119		5.1	706.513		9.0
1996	4714.061		2.6	611.107		4.7	1041.699		8.3	771.683		9.2
1997	4867.461		3.3	645.548		5.6	1123.564		7.9	848.268		9.9
1995 1	4551.303	1.5	2.5	572.230	−3.0	3.9	955.820	7.6	7.7	695.674	14.2	11.1
2	4583.458	2.9	2.5	577.706	3.9	3.9	954.034	−0.7	4.5	705.353	5.7	10.0
3	4612.912	2.6	2.5	590.755	9.3	5.2	962.315	3.5	4.3	708.231	1.6	8.4
4	4633.463	1.8	2.2	593.701	2.0	3.0	976.315	5.9	4.0	716.800	4.9	6.5
1996 1	4669.373	3.1	2.6	600.662	4.8	5.0	1001.533	10.7	4.8	736.939	11.7	5.9
2	4712.204	3.7	2.8	614.771	9.7	6.4	1035.683	14.4	8.6	759.734	13.0	7.7
3	4718.196	0.5	2.3	611.864	−1.9	3.6	1060.886	10.1	10.2	789.290	16.5	11.4
4	4756.427	3.3	2.7	617.131	3.5	3.9	1068.696	3.0	9.5	800.771	5.9	11.7
1997 1	4818.079	5.3	3.2	637.766	14.1	6.2	1079.006	3.9	7.7	808.932	4.1	9.8
2	4829.430	0.9	2.5	628.992	−5.4	2.3	1111.393	12.6	7.3	836.993	14.6	10.2
3	4896.187	5.6	3.8	656.140	18.4	7.2	1149.303	14.4	8.3	874.482	19.2	10.8
4	4926.148	2.5	3.6	659.296	1.9	6.8	1154.552	1.8	8.0	872.663	−0.8	9.0
1998 1	4999.530	6.1	3.8	684.123	15.9	7.3	1200.461	16.9	11.3	907.954	17.2	12.2

	GDP Chain Price Index			Employment Cost Index			ECI: Wages			ECI: Benefits		
		Percent change			Percent change			Percent change			Percent change	
	Index	Annual rate	Year ago	Index	Annual rate	Year ago	Index	Annual rate	Year ago	Index	Annual rate	Year ago
1993	102.643		2.6	118.4		3.6	115.2		2.9	127.0		5.4
1994	105.088		2.4	122.2		3.2	118.5		2.9	132.1		4.0
1995	107.763		2.5	125.7		2.8	121.9		2.9	135.0		2.2
1996	110.224		2.3	129.2		2.8	126.0		3.3	137.4		1.8
1997	112.447		2.0	133.2		3.1	130.4		3.5	140.2		2.0
1995 1	106.933	3.3	2.7	124.4	2.9	3.0	120.6	2.7	3.0	133.9	1.2	2.7
2	107.485	2.1	2.6	125.3	2.9	2.9	121.5	3.0	2.9	134.6	2.1	2.4
3	108.031	2.0	2.5	126.1	2.6	2.7	122.4	3.0	2.9	135.3	2.1	1.9
4	108.603	2.1	2.4	126.9	2.6	2.8	123.2	2.6	2.8	136.0	2.1	1.9
1996 1	109.349	2.8	2.3	127.7	2.5	2.7	124.4	4.0	3.2	136.1	0.3	1.6
2	109.857	1.9	2.2	128.8	3.5	2.8	125.6	3.9	3.4	137.0	2.7	1.8
3	110.588	2.7	2.4	129.7	2.8	2.9	126.5	2.9	3.3	137.8	2.4	1.8
4	111.103	1.9	2.3	130.6	2.8	2.9	127.4	2.9	3.4	138.6	2.3	1.9
1997 1	111.775	2.4	2.2	131.4	2.5	2.9	128.5	3.5	3.3	138.8	0.6	2.0
2	112.272	1.8	2.2	132.6	3.7	3.0	129.7	3.8	3.3	139.7	2.6	2.0
3	112.673	1.4	1.9	133.7	3.4	3.1	131.0	4.1	3.6	140.4	2.0	1.9
4	113.068	1.4	1.8	135.1	4.3	3.4	132.5	4.7	4.0	141.7	3.8	2.2
1998 1	113.355	1.0	1.4	136.0	2.7	3.5	133.6	3.4	4.0	142.1	1.1	2.4

	Exports			Imports			Nonfarm Output per Hour			Nonfarm Compensation/Hr		
		Percent change			Percent change			Percent change			Percent change	
	Billions of 1992 $	Annual rate	Year ago	Billions of 1992 $	Annual rate	Year ago	Index	Annual rate	Year ago	Index	Annual rate	Year ago
1993	658.183		2.9	728.409		8.9	100.1		0.1	102.3		2.3
1994	712.399		8.2	817.026		12.2	100.5		0.4	104.1		1.8
1995	791.213		11.1	890.057		8.9	100.7		0.2	106.7		2.5
1996	857.022		8.3	971.469		9.1	102.6		1.9	110.8		3.8
1997	962.710		12.3	1109.233		14.2	104.3		1.7	115.0		3.8
1995 1	760.368	7.2	12.5	873.861	10.0	13.0	100.3	−1.6	−0.3	105.5	2.3	1.6
2	777.447	9.3	10.4	890.284	7.7	10.2	100.5	0.8	−0.2	106.3	3.1	2.3
3	802.435	13.5	11.1	895.368	2.3	7.5	100.8	1.2	0.4	107.1	3.0	2.8
4	824.604	11.5	10.3	900.720	2.4	5.6	101.4	2.4	0.7	108.1	3.8	3.1
1996 1	828.178	1.7	8.9	928.963	13.1	6.3	102.1	2.8	1.8	109.1	3.8	3.4
2	847.444	9.6	9.0	960.043	14.1	7.8	102.8	2.8	2.3	110.5	5.2	4.0
3	851.382	1.9	6.1	990.240	13.2	10.6	102.6	−0.8	1.8	111.4	3.3	4.0
4	901.071	25.5	9.3	1006.623	6.8	11.8	103.1	2.0	1.7	112.3	3.3	3.9
1997 1	922.652	9.9	11.4	1048.941	17.9	12.9	103.4	1.2	1.3	113.5	4.3	4.0
2	962.500	18.4	13.6	1099.106	20.5	14.5	104.0	2.3	1.2	114.4	3.2	3.5
3	973.025	4.4	14.3	1137.097	14.6	14.8	104.9	3.5	2.2	115.5	3.9	3.7
4	992.661	8.3	10.2	1151.787	5.3	14.4	105.3	1.5	2.1	117.0	5.3	4.2
1998 1	985.040	−3.0	6.8	1199.751	17.7	14.4	105.3	0.0	1.8	118.1	3.8	4.1

	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
1993	120259	1771		1.5	110707	2116		1.9	124.5			2.9
1994	123069	2810		2.3	114145	3438		3.1	129.8			4.2
1995	124903	1834		1.5	117195	3051		2.7	133.4			2.8
1996	126708	1805		1.4	119517	2322		2.0	136.4			2.2
1997	129557	2849		2.2	122263	2746		2.3	140.6			3.1
1996 1	125656	449	1.4	0.6	118471	522	1.8	1.7	134.3	0.1	0.4	1.0
2	126323	667	2.1	1.3	119248	778	2.7	2.0	136.1	1.3	5.5	2.5
3	127067	744	2.4	1.8	119898	649	2.2	2.1	137.0	0.7	2.7	2.5
4	127787	720	2.3	2.1	120452	555	1.9	2.1	138.1	0.8	3.1	2.9
1997 1	128697	910	2.9	2.4	121138	686	2.3	2.3	139.5	1.0	4.1	3.8
2	129387	690	2.2	2.4	121854	715	2.4	2.2	140.1	0.4	1.7	2.9
3	129723	336	1.0	2.1	122575	721	2.4	2.2	140.6	0.4	1.6	2.6
4	130421	698	2.2	2.1	123487	912	3.0	2.5	142.2	1.1	4.5	3.0
1998 1	131080	659	2.0	1.9	124430	943	3.1	2.7	143.9	1.2	4.8	3.2
1996 Apr	126057	106	1.0	0.9	118966	162	1.6	1.8	135.1	−0.2	−2.6	1.0
May	126321	264	2.5	1.5	119263	297	3.0	2.1	135.7	0.4	5.5	2.9
Jun	126591	270	2.6	1.7	119516	253	2.6	2.1	137.6	1.4	18.2	3.5
Jul	126867	276	2.6	1.7	119691	175	1.8	2.2	136.1	−1.1	−12.3	1.9
Aug	126995	128	1.2	1.8	119983	292	3.0	2.1	137.1	0.7	9.2	2.8
Sep	127338	343	3.3	1.9	120019	36	0.4	2.0	137.9	0.6	7.2	3.0
Oct	127715	377	3.6	1.9	120248	229	2.3	2.1	137.2	−0.5	−5.9	2.1
Nov	127746	31	0.3	2.0	120450	202	2.0	2.1	137.9	0.5	6.3	2.7
Dec	127899	153	1.4	2.2	120659	209	2.1	2.1	139.1	0.9	11.0	3.9
1997 Jan	128541	642	6.2	2.6	120909	250	2.5	2.4	138.2	−0.6	−7.5	4.3
Feb	128515	−26	−0.2	2.2	121162	253	2.5	2.2	140.0	1.3	16.8	3.6
Mar	129035	520	5.0	2.4	121344	182	1.8	2.1	140.2	0.1	1.7	3.5
Apr	129275	240	2.3	2.6	121671	327	3.3	2.3	139.6	−0.4	−5.0	3.3
May	129494	219	2.1	2.5	121834	163	1.6	2.2	140.0	0.3	3.5	3.2
Jun	129392	−102	−0.9	2.2	122056	222	2.2	2.1	140.6	0.4	5.3	2.2
Jul	129661	269	2.5	2.2	122440	384	3.8	2.3	140.2	−0.3	−3.4	3.0
Aug	129747	86	0.8	2.2	122492	52	0.5	2.1	140.8	0.4	5.3	2.7
Sep	129761	14	0.1	1.9	122792	300	3.0	2.3	140.9	0.1	0.9	2.2
Oct	129910	149	1.4	1.7	123083	291	2.9	2.4	141.2	0.2	2.6	2.9
Nov	130575	665	6.3	2.2	123512	429	4.3	2.5	142.9	1.2	15.4	3.6
Dec	130777	202	1.9	2.3	123866	354	3.5	2.7	142.5	−0.3	−3.3	2.4
1998 Jan	131083	306	2.8	2.0	124265	399	3.9	2.8	143.6	0.8	9.7	3.9
Feb	131163	80	0.7	2.1	124524	259	2.5	2.8	144.5	0.6	7.8	3.2
Mar	130994	−169	−1.5	1.5	124500	−24	−0.2	2.6	143.5	−0.7	−8.0	2.4
Apr	131383	389	3.6	1.6	124762	262	2.6	2.5	142.9	−0.4	−4.9	2.4

	Unempl. Rate	Retail Sales: Billions of dollars	Retail Sales Percent change: Monthly/ quarterly	Retail Sales Percent change: Annual rate	Retail Sales Percent change: Year ago	Industrial Production: Index	Industrial Production Percent change: Monthly/ quarterly	Industrial Production Percent change: Annual rate	Industrial Production Percent change: Year ago	Treasury Yields: 3-mo	Treasury Yields: 10-yr
1993	6.9	2072.434			6.5	103.554			3.6	3.00	5.86
1994	6.1	2227.838			7.5	109.171			5.4	4.25	7.08
1995	5.6	2331.617			4.7	114.543			4.9	5.49	6.58
1996	5.4	2455.234			5.3	118.499			3.5	5.01	6.44
1997	5.0	2568.598			4.6	124.423			5.0	5.06	6.35
1996 1	5.6	602.441	1.7	7.1	5.2	116.105	0.5	2.0	2.3	4.93	5.91
2	5.4	613.436	1.8	7.5	5.7	118.228	1.8	7.5	3.8	5.02	6.72
3	5.3	614.749	0.2	0.9	4.9	119.270	0.9	3.6	3.5	5.10	6.78
4	5.3	624.608	1.6	6.6	5.5	120.393	0.9	3.8	4.2	4.98	6.34
1997 1	5.3	639.631	2.4	10.0	6.2	121.940	1.3	5.2	5.0	5.06	6.56
2	4.9	634.532	−0.8	−3.2	3.4	123.312	1.1	4.6	4.3	5.05	6.70
3	4.9	646.541	1.9	7.8	5.2	125.119	1.5	6.0	4.9	5.05	6.24
4	4.7	647.894	0.2	0.8	3.7	127.321	1.8	7.2	5.8	5.09	5.90
1998 1	4.7	660.707	2.0	8.1	3.3	127.625	0.2	1.0	4.7	5.05	5.59
1996 Apr	5.5	203.736	0.6	7.0	6.4	117.530	1.1	13.6	3.5	4.95	6.51
May	5.5	205.513	0.9	11.0	6.0	118.257	0.6	7.7	3.8	5.02	6.74
Jun	5.3	204.187	−0.6	−7.5	4.8	118.897	0.5	6.7	4.0	5.09	6.91
Jul	5.5	204.374	0.1	1.1	5.1	118.943	0.0	0.5	4.1	5.15	6.87
Aug	5.2	204.256	−0.1	−0.7	4.3	119.253	0.3	3.2	3.3	5.05	6.64
Sep	5.2	206.119	0.9	11.5	5.2	119.613	0.3	3.7	3.2	5.09	6.83
Oct	5.3	208.113	1.0	12.2	6.4	119.650	0.0	0.4	3.7	4.99	6.53
Nov	5.4	207.844	−0.1	−1.5	5.2	120.587	0.8	9.8	4.3	5.03	6.20
Dec	5.3	208.651	0.4	4.8	4.9	120.943	0.3	3.6	4.7	4.91	6.30
1997 Jan	5.3	211.170	1.2	15.5	6.4	121.288	0.3	3.5	5.2	5.03	6.58
Feb	5.3	213.945	1.3	17.0	6.2	122.064	0.6	8.0	4.6	5.01	6.42
Mar	5.2	214.516	0.3	3.3	5.9	122.468	0.3	4.0	5.3	5.14	6.69
Apr	5.0	211.074	−1.6	−17.6	3.6	123.073	0.5	6.1	4.7	5.16	6.89
May	4.8	210.972	−0.0	−0.6	2.7	123.316	0.2	2.4	4.3	5.05	6.71
Jun	5.0	212.486	0.7	9.0	4.1	123.546	0.2	2.3	3.9	4.93	6.49
Jul	4.9	215.031	1.2	15.4	5.2	124.527	0.8	10.0	4.7	5.05	6.22
Aug	4.9	216.022	0.5	5.7	5.8	125.246	0.6	7.2	5.0	5.14	6.30
Sep	4.9	215.488	−0.2	−2.9	4.5	125.585	0.3	3.3	5.0	4.95	6.21
Oct	4.8	215.113	−0.2	−2.1	3.4	126.550	0.8	9.6	5.8	4.97	6.03
Nov	4.6	215.914	0.4	4.6	3.9	127.528	0.8	9.7	5.8	5.14	5.87
Dec	4.7	216.867	0.4	5.4	3.9	127.884	0.3	3.4	5.7	5.16	5.81
1998 Jan	4.7	219.004	1.0	12.5	3.7	127.813	−0.1	−0.7	5.4	5.04	5.54
Feb	4.6	220.866	0.9	10.7	3.2	127.370	−0.3	−4.1	4.3	5.09	5.57
Mar	4.7	220.837	−0.0	−0.2	2.9	127.692	0.3	3.1	4.3	5.03	5.65
Apr	4.3	222.019	0.5	6.6	5.2	127.808	0.1	1.1	3.8	4.95	5.64

	Consumer Price Index					Consumer Price Index less Food and Energy					Producer Price Index Finished Goods			
		Percent change					Percent change					Percent change		
	Index	Monthly/ quarterly	Annual rate	Year ago	Year to date	Index	Monthly/ quarterly	Annual rate	Year ago	Year to date	Index	Monthly/ quarterly	Annual rate	Year ago
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
1997	160.6			2.3		169.7			2.4		131.8			0.4
1996 1	155.1	0.8	3.2	2.8	3.2	164.2	0.7	2.6	2.9	2.6	129.9	0.9	3.8	2.2
2	156.5	0.9	3.7	2.9	3.5	165.2	0.6	2.5	2.7	2.5	131.1	0.9	3.7	2.5
3	157.5	0.6	2.4	2.9	3.1	166.3	0.7	2.7	2.7	2.6	131.5	0.3	1.2	2.8
4	158.8	0.8	3.3	3.2	3.2	167.4	0.6	2.6	2.6	2.6	132.6	0.8	3.3	3.0
1997 1	159.6	0.5	2.2	2.9	2.2	168.3	0.5	2.2	2.5	2.2	132.7	0.1	0.2	2.1
2	160.2	0.3	1.3	2.3	1.8	169.4	0.7	2.7	2.5	2.4	131.7	−0.8	−3.0	0.4
3	160.9	0.5	1.9	2.2	1.8	170.2	0.4	1.7	2.3	2.2	131.4	−0.2	−0.8	−0.1
4	161.8	0.5	2.1	1.9	1.9	171.1	0.5	2.1	2.2	2.2	131.6	0.2	0.6	−0.8
1998 1	162.0	0.1	0.5	1.5	0.5	172.1	0.6	2.4	2.3	2.4	130.3	−1.0	−3.9	−1.8
1996 Apr	156.2	0.4	4.7	2.9	4.1	164.9	0.2	2.2	2.7	2.8	130.9	0.4	4.7	2.4
May	156.6	0.3	3.1	2.9	3.9	165.2	0.2	2.2	2.7	2.7	131.1	0.2	1.8	2.4
Jun	156.8	0.1	1.5	2.8	3.5	165.6	0.2	2.9	2.7	2.7	131.4	0.2	2.8	2.7
Jul	157.2	0.3	3.1	2.9	3.5	166.0	0.2	2.9	2.7	2.7	131.3	−0.1	−0.9	2.6
Aug	157.4	0.1	1.5	2.9	3.2	166.3	0.2	2.2	2.7	2.7	131.5	0.2	1.8	2.9
Sep	157.8	0.3	3.1	3.0	3.2	166.7	0.2	2.9	2.6	2.7	131.8	0.2	2.8	2.9
Oct	158.3	0.3	3.9	3.0	3.3	167.1	0.2	2.9	2.6	2.7	132.3	0.4	4.6	3.1
Nov	158.8	0.3	3.9	3.2	3.3	167.4	0.2	2.2	2.6	2.7	132.5	0.2	1.8	3.0
Dec	159.2	0.3	3.1	3.3	3.3	167.7	0.2	2.2	2.6	2.6	133.0	0.4	4.6	2.9
1997 Jan	159.4	0.1	1.5	3.0	1.5	168.0	0.2	2.2	2.5	2.2	133.0	0.0	0.0	2.5
Feb	159.7	0.2	2.3	3.0	1.9	168.3	0.2	2.2	2.5	2.2	132.6	−0.3	−3.5	2.2
Mar	159.8	0.1	0.8	2.7	1.5	168.6	0.2	2.2	2.4	2.2	132.4	−0.2	−1.8	1.5
Apr	160.0	0.1	1.5	2.4	1.5	169.2	0.4	4.4	2.6	2.7	131.9	−0.4	−4.4	0.8
May	160.1	0.1	0.8	2.2	1.4	169.4	0.1	1.4	2.5	2.5	131.7	−0.2	−1.8	0.5
Jun	160.4	0.2	2.3	2.3	1.5	169.7	0.2	2.1	2.5	2.4	131.4	−0.2	−2.7	0.0
Jul	160.6	0.1	1.5	2.2	1.5	170.0	0.2	2.1	2.4	2.4	131.1	−0.2	−2.7	−0.2
Aug	160.9	0.2	2.3	2.2	1.6	170.1	0.1	0.7	2.3	2.2	131.3	0.2	1.8	−0.2
Sep	161.3	0.2	3.0	2.2	1.8	170.4	0.2	2.1	2.2	2.2	131.8	0.4	4.7	0.0
Oct	161.6	0.2	2.3	2.1	1.8	170.8	0.2	2.9	2.2	2.2	131.8	0.0	0.0	−0.4
Nov	161.8	0.1	1.5	1.9	1.8	171.0	0.1	1.4	2.2	2.1	131.6	−0.2	−1.8	−0.7
Dec	161.9	0.1	0.7	1.7	1.7	171.4	0.2	2.8	2.2	2.2	131.4	−0.2	−1.8	−1.2
1998 Jan	161.9	0.0	0.0	1.6	0.0	171.7	0.2	2.1	2.2	2.1	130.5	−0.7	−7.9	−1.9
Feb	162.0	0.1	0.7	1.4	0.4	172.2	0.3	3.6	2.3	2.8	130.4	−0.1	−0.9	−1.7
Mar	162.0	0.0	0.0	1.4	0.2	172.4	0.1	1.4	2.3	2.4	130.0	−0.3	−3.6	−1.8
Apr	162.4	0.2	3.0	1.5	0.9	172.9	0.3	3.5	2.2	2.6	130.3	0.2	2.8	−1.2

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 private nonfarm employers. **ECI compensation** refers to a fixed sample of jobs, while **compensation per hour** covers all workers in the nonfarm business sector in a given quarter. In both cases, **compensation** is wages and salaries plus benefits.

Pages 10,11: **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 (± 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** are from the NIPAs, except as noted. Since 1977, the federal **fiscal year** starts on October 1. Excluded agency debt was 0.6 percent of federal debt at the end of fiscal 1997. **Federal debt held by the public** includes holdings of the Federal Reserve System and excludes holdings of the social security and other federal trust funds. Federal grants in aid to state and local governments appear in both state and local receipts and federal outlays.

Pages 18, 19: The **trade balance** (shown on a balance of payments basis) is the difference between exports and imports of goods (merchandise) and services. It is nearly identical in concept to the **net exports** component of GDP, but differs slightly in accounting details. The **investment income balance** equals income received from U.S.-owned assets in other countries minus income paid on foreign-owned assets in the U.S. The investment income balance is nearly identical in concept to the difference between gross national product and gross domestic product, but differs in accounting details. The **current account balance** is the trade balance plus the balance on investment income plus net unilateral transfers to the U.S. from other countries.

Pages 20, 21: **Output per hour** (Y/H), **unit labor cost** (C/Y), and **compensation per hour** (C/H) are indexes which approximately obey the following relationship: %(Y/H) + %(C/Y) = %(C/H) with %() meaning percent changes. Unit labor cost is shown on page 9. **Real compensation per hour** uses the CPI to adjust for the effects of inflation. **Multifactor 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, debt

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

Subscriber:
Please include address label with
subscription inquiries or address changes.