



National Economic Trends

Online Taxation

In a recent report, the Federal Trade Commission analyzed the economic implications of the Internet.* A major issue is online taxation. Currently, the Internet allows out-of-state vendors who do not pay sales tax to compete with local brick-and-mortar stores that are subject to sales taxes levied by local and state governments. It seems natural to call for a level playing field on equity and efficiency grounds. However, in this respect, it is not all that straightforward what a level playing field means.

In the debate on online taxation, theoretical arguments and empirical evidence are brought forward on either side. The “infant industry” argument figures prominently. According to this reasoning, a developing industry should receive protection from competition until it is “mature” and able to compete on equal footing; otherwise, a market failure may result with the industry not being able to fully utilize its comparative advantages. E-commerce could be viewed as such an industry. Opponents of online taxation point to network externalities that deserve to be subsidized via tax exemption. Generally, a good possesses network externalities if it becomes more valuable to the consumer as the number of users increases. Thus, the marginal consumer generates benefits for all the existing consumers without being compensated. If e-commerce generates such an externality, a tax exemption on online purchases is a way to correct for it. Proponents of Internet taxation, however, point out that “infant industry” policies rarely produce the desired outcome. Once a developing industry enjoys protection, it has little incentive to become competitive.

Empirical research in the area of e-commerce offers some insights into the pros and cons of online taxation. Current empirical evidence points out three key findings. The first is that consumers who live in areas with high sales taxes are more inclined to purchase online than consumers in areas where sales taxes are low. A sec-

ond finding is that governments do not lose a sizeable portion of tax revenue through e-commerce due to the still relatively low volume of business-to-consumer Internet transactions. For 1998, it is estimated that the tax exemption amounted to \$170-430 million based on a business-to-consumer Internet sales volume of \$2.5-2.6 billion. Even a projected loss in sales taxes by the year 2002 of around \$2.5 billion is less than two percent of projected sales tax revenue.

The third finding concerns the burden that tax collection would represent to online retailers. Currently 46 states and almost 7,500 local governments impose sales taxes of various forms, differing across goods and jurisdictions. With online taxation, Internet retailers would have to determine which tax rate applies for every good and destination, and would be responsible for tax collection. A field study conducted by the Washington State Department of Revenue among brick-and-mortar retailers in Washington and Oregon indicates that the burden on online retailers for collecting and remitting sales taxes would be significant. This study estimated that the cost of tax collection and processing to retailers amounts to about 4.23% of total state and local sales taxes. Thus, the cost of compliance already is high, even though brick-and-mortar retailers only deal with one set of tax codes pertaining to their place of business.

In summary, Internet taxation remains a challenging issue. Given the small volume of business-to-consumer transactions, the government is in no hurry to act. As the Internet grows in importance, however, the tax issue will not remain in the background. A uniform tax rate for online sales would help minimize the cost of compliance, but it might prove difficult for state and local governments to coordinate on this solution.

* Alan E. Wiseman, July 2000, *Economic Perspectives on the Internet*, Federal Trade Commission.

—Judith H. Hazen
—Frank A. Schmid

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Conventions used in this publication:

1. Shaded areas indicate recessions, as determined by the National Bureau of Economic Research.
2. *Percent change* refers to simple percent changes. *Percent change from year ago* refers to the percent change from the same month or quarter 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:

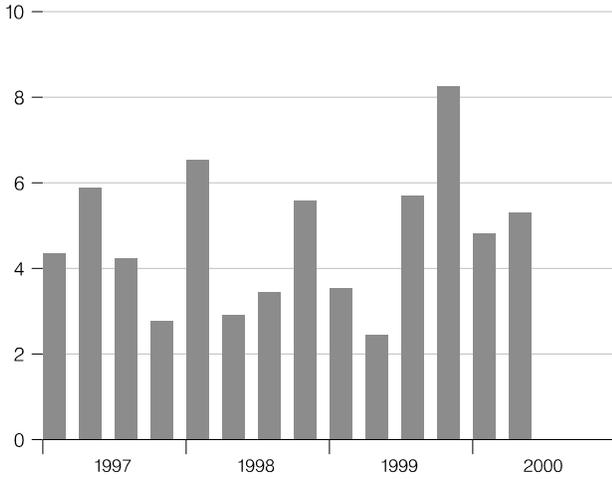
$$100 \times \left[\left(\frac{X_t}{X_{t-1}} \right)^4 - 1 \right]$$

For monthly data replace 4 with 12.

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

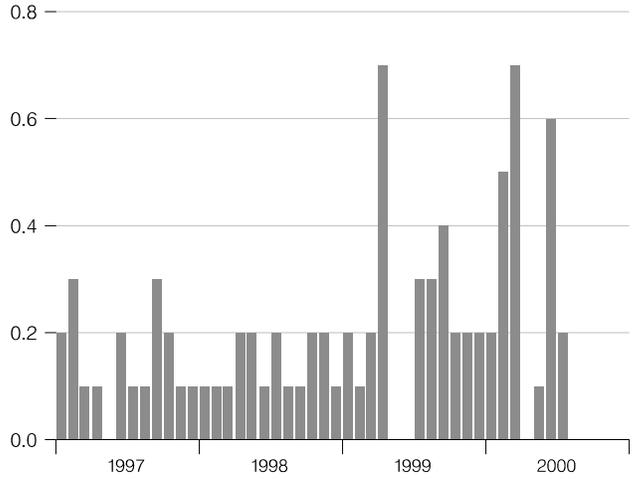
Real GDP Growth

Percent change at annual rate



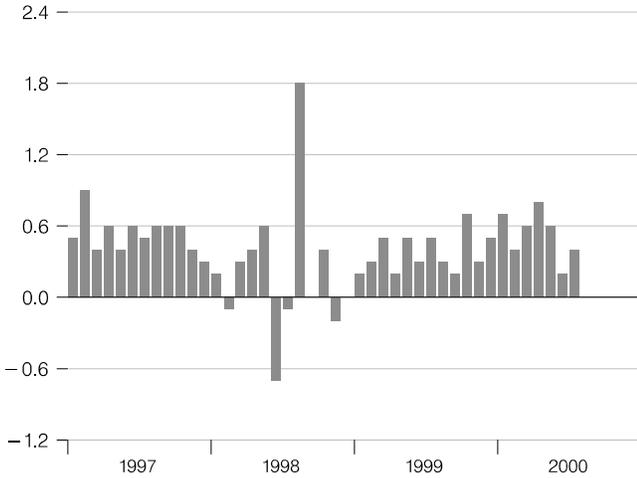
Consumer Price Index

Percent change



Industrial Production

Percent change



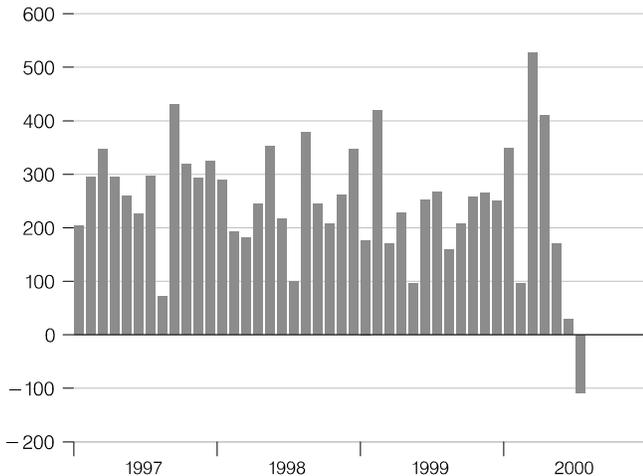
Interest Rates

Percent



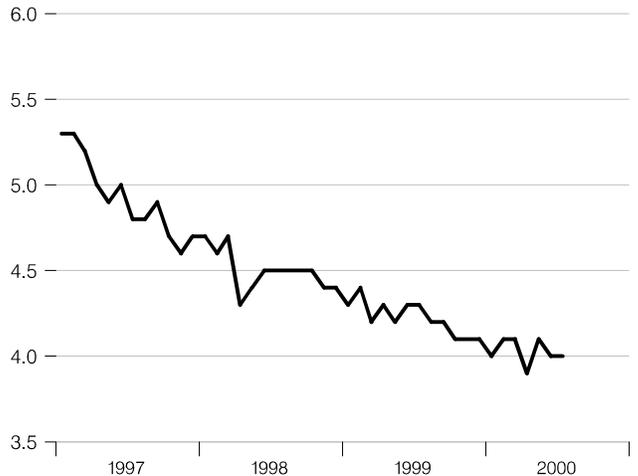
Change in Nonfarm Payrolls

Thousands



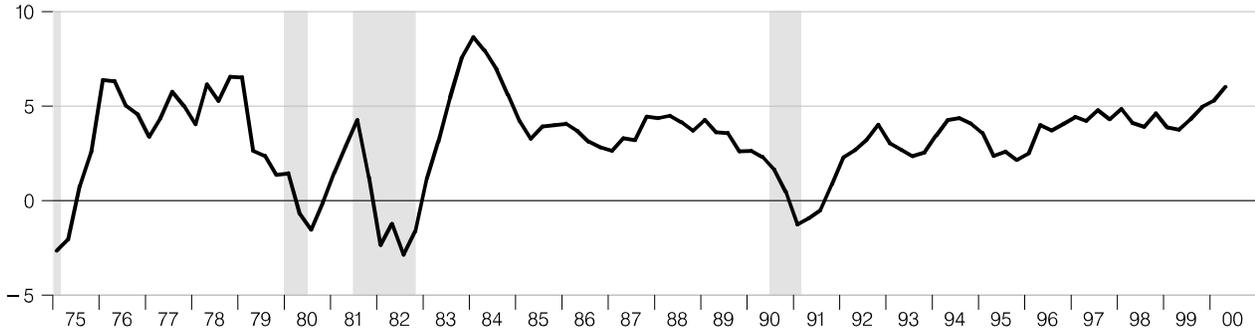
Unemployment Rate

Percent of labor force



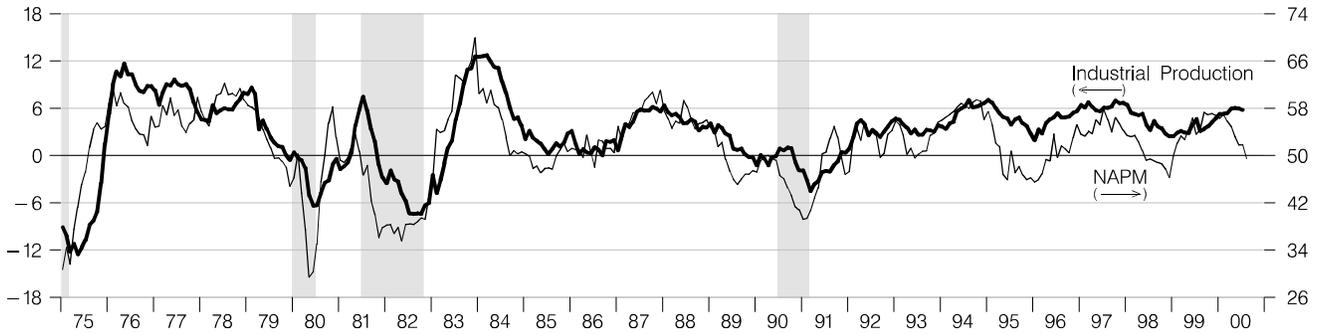
Real Gross Domestic Product

Percent change from year ago



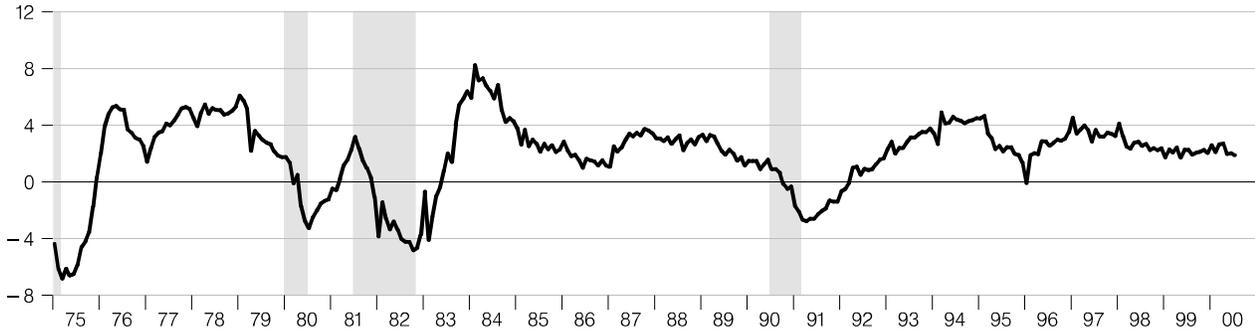
Industrial Production and Purchasing Managers' (NAPM) Indexes

Percent change from year ago



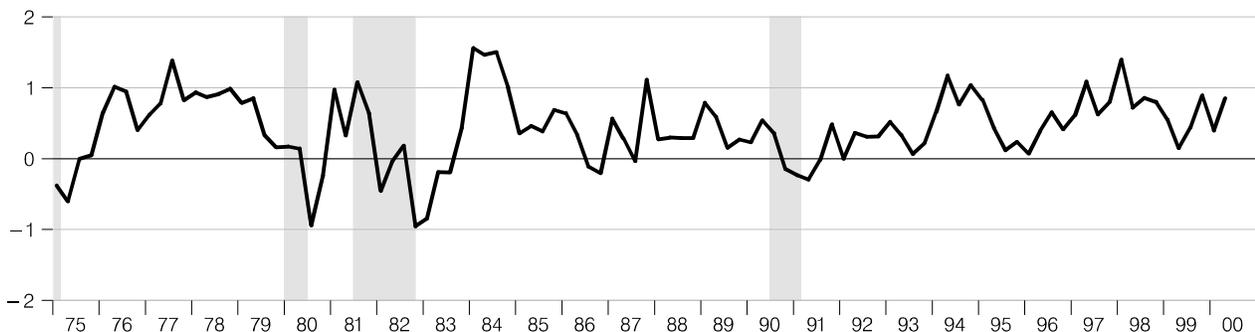
Aggregate Private Nonfarm Hours

Percent change from year ago

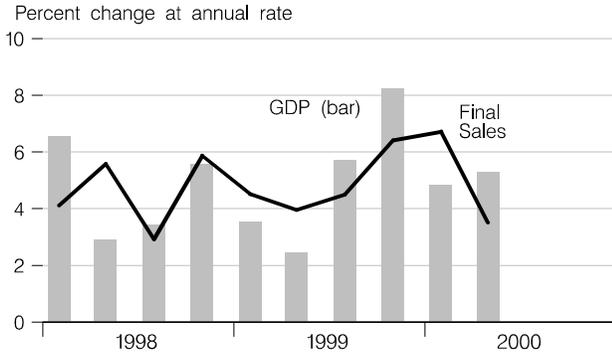


Real Change in Private Inventories

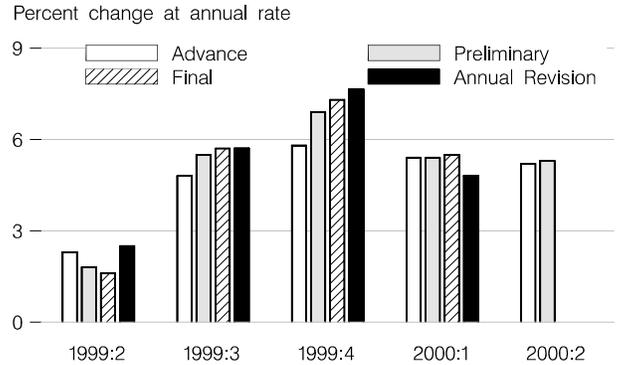
Percent of GDP



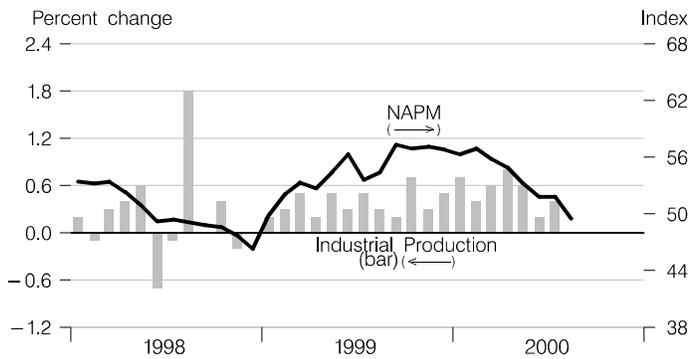
Real Final Sales and GDP



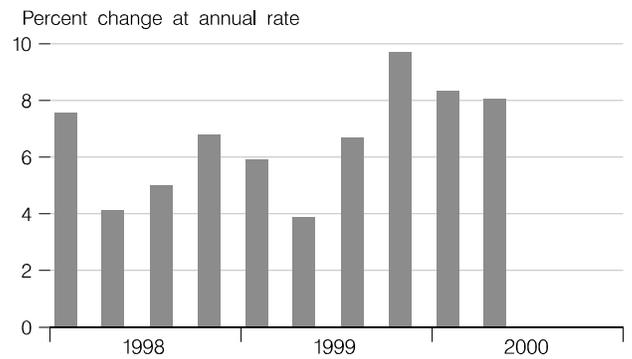
Real GDP Revisions



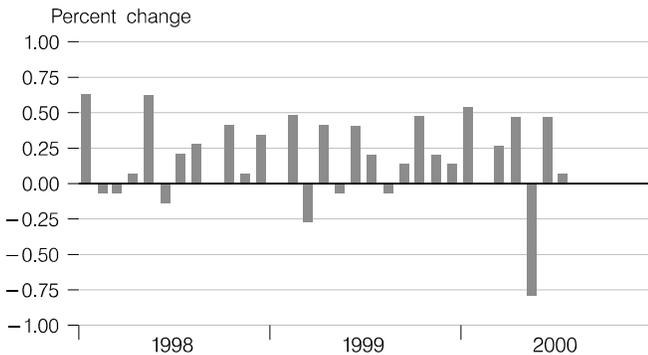
Industrial Production and NAPM Index



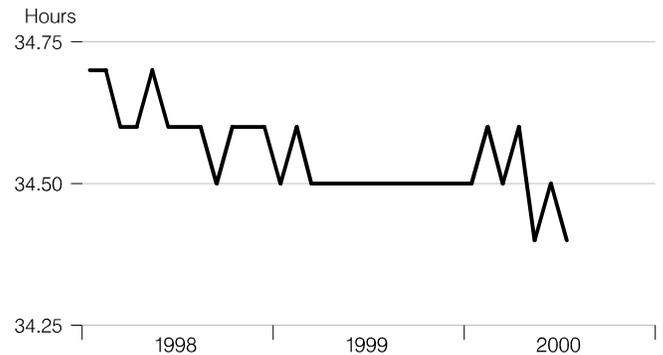
Nominal Gross Domestic Product



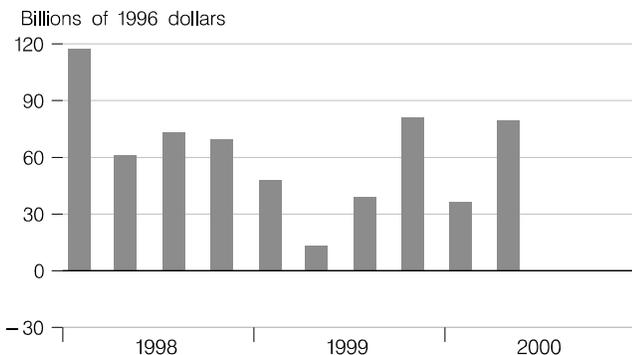
Aggregate Private Nonfarm Hours



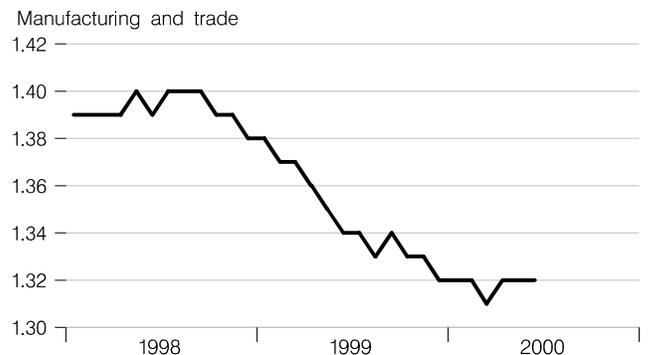
Average Weekly Private Nonfarm Hours



Real Change in Private Inventories

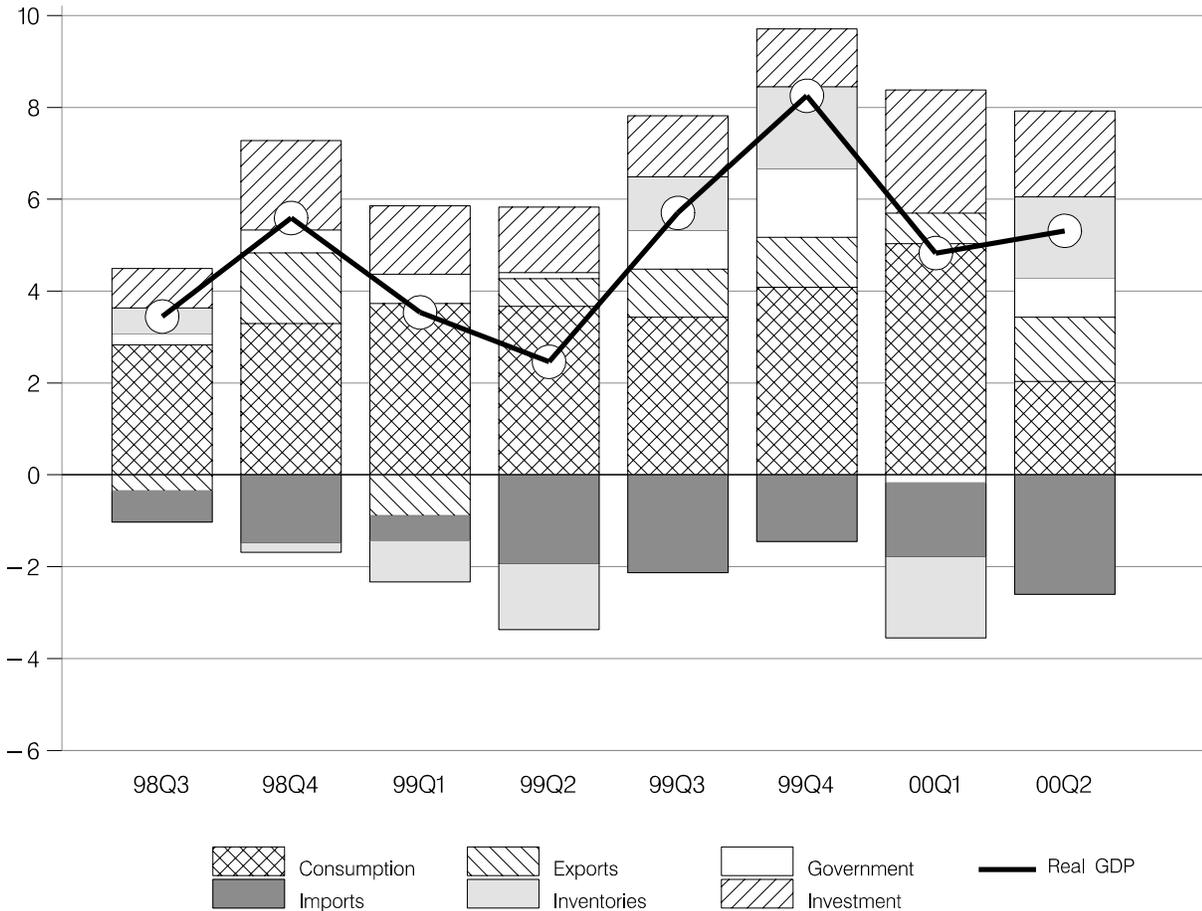


Inventory-Sales Ratio



Contribution of Components to Real GDP Growth

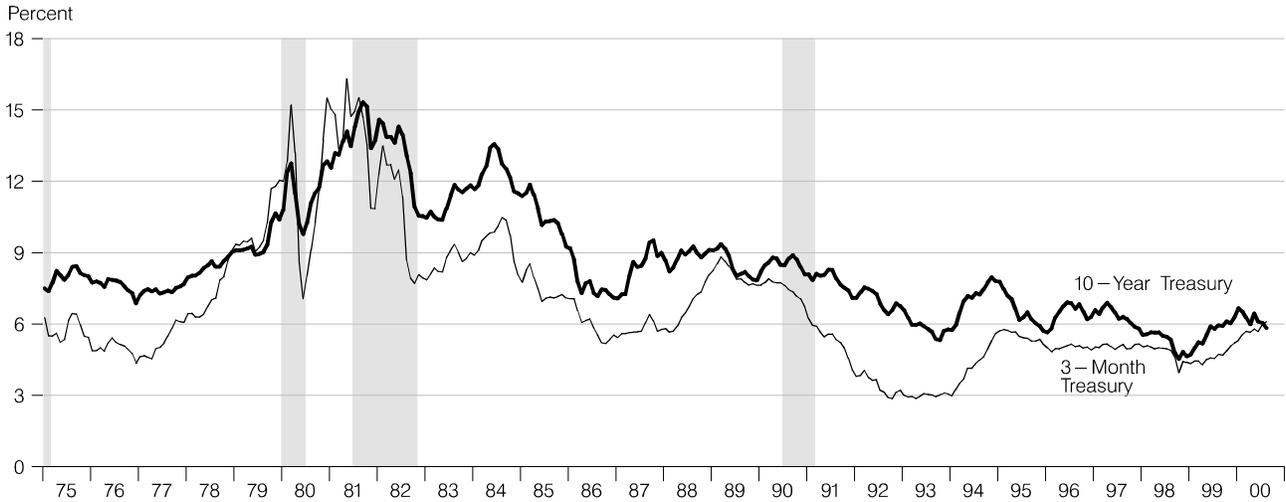
Percent change at annual rate



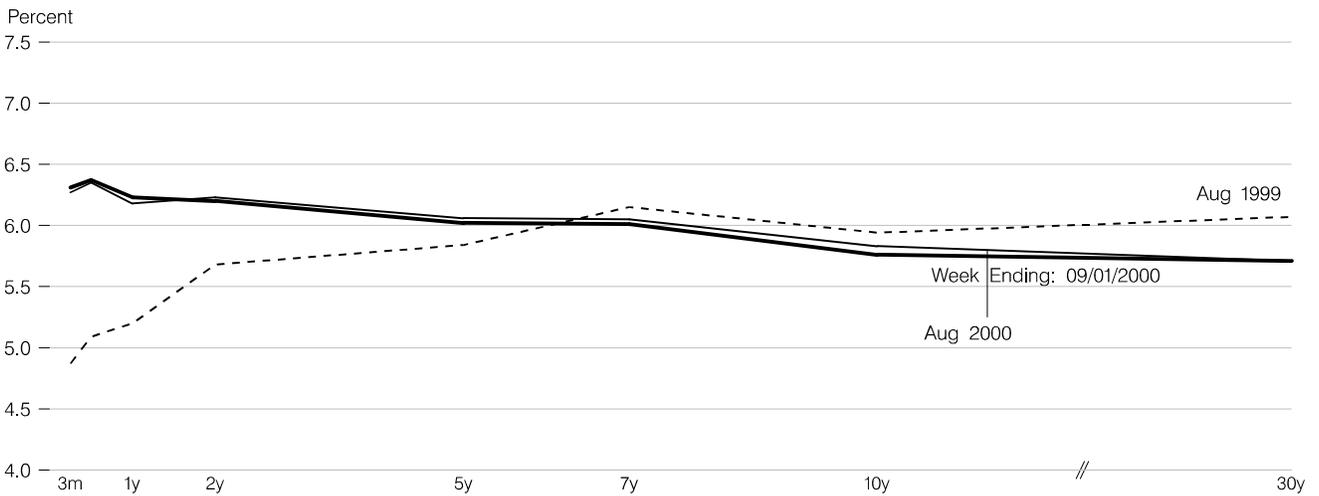
Contributions to Real GDP Growth Rate

	1998		1999				2000	
	3rd	4th	1st	2nd	3rd	4th	1st	2nd
Real GDP	3.45	5.59	3.54	2.46	5.70	8.25	4.83	5.31
Final Sales	2.90	5.79	4.43	3.88	4.53	6.47	6.59	3.55
Change in Inventory	0.55	-0.20	-0.89	-1.42	1.17	1.78	-1.76	1.76
Consumption	2.83	3.29	3.73	3.67	3.43	4.08	5.03	2.03
Fixed Investment	0.86	1.95	1.49	1.43	1.33	1.26	2.68	1.87
Nonresidential	0.44	1.58	1.15	1.18	1.47	1.22	2.54	1.87
Residential	0.41	0.37	0.34	0.25	-0.13	0.03	0.14	0.00
Government	0.25	0.50	0.64	0.13	0.84	1.50	-0.18	0.86
Federal	-0.20	0.23	-0.13	0.12	0.41	0.79	-0.93	0.95
State and Local	0.45	0.27	0.78	0.01	0.43	0.71	0.75	-0.09
Net Exports	-1.04	0.05	-1.44	-1.35	-1.08	-0.37	-0.94	-1.20
Exports	-0.35	1.54	-0.89	0.60	1.05	1.09	0.67	1.40
Imports	-0.68	-1.49	-0.55	-1.95	-2.13	-1.45	-1.61	-2.60
Residual	0.06	-0.07	0.16	0.31	0.05	-0.11	0.10	-0.10

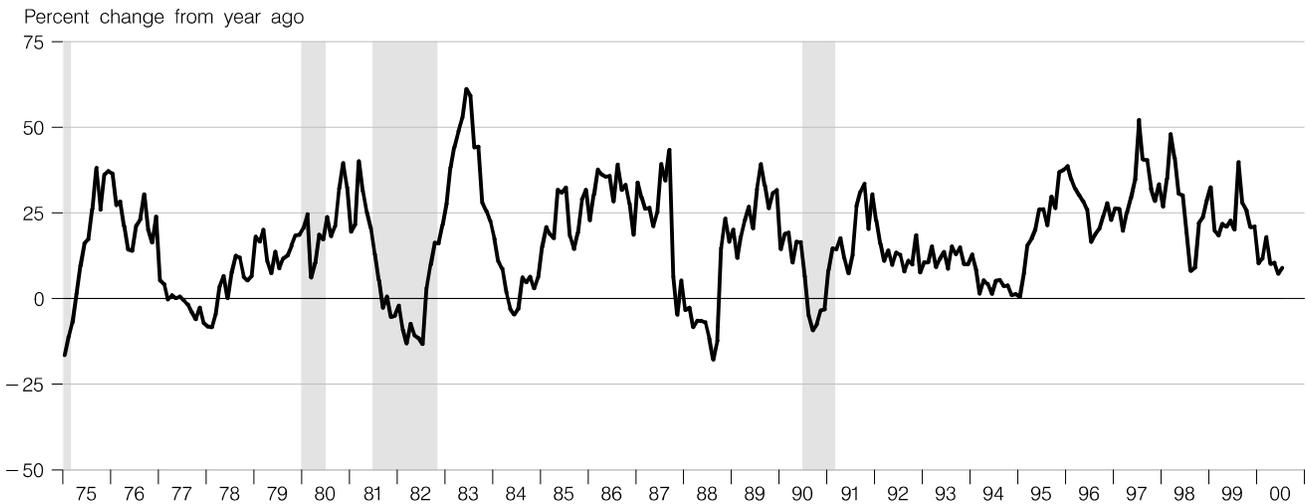
Interest Rates



Treasury Yield Curve

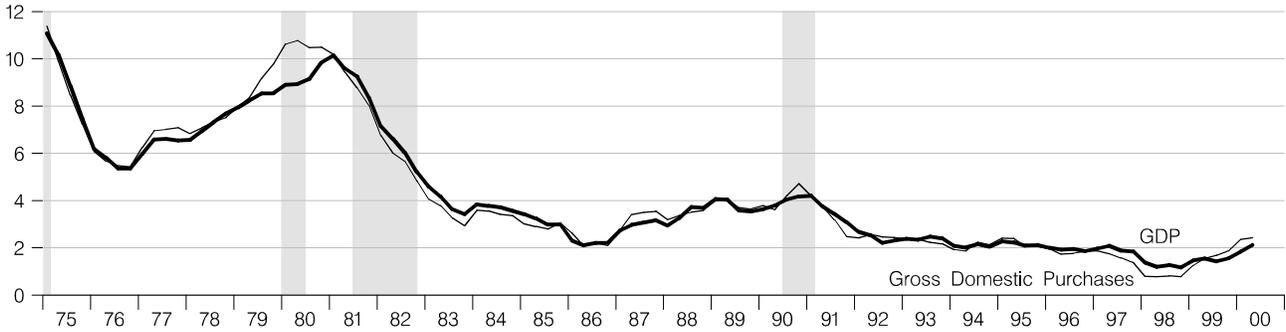


Standard and Poor's 500 Index with Reinvested Dividends



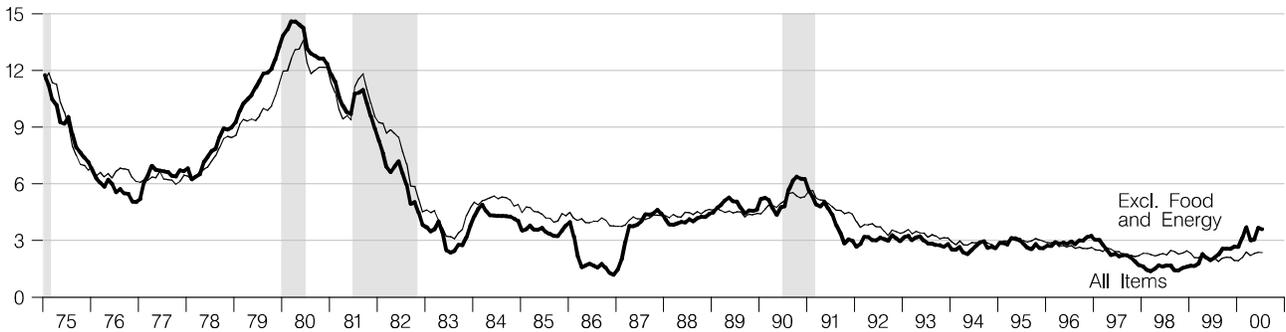
NIPA Chain Price Indexes

Percent change from year ago



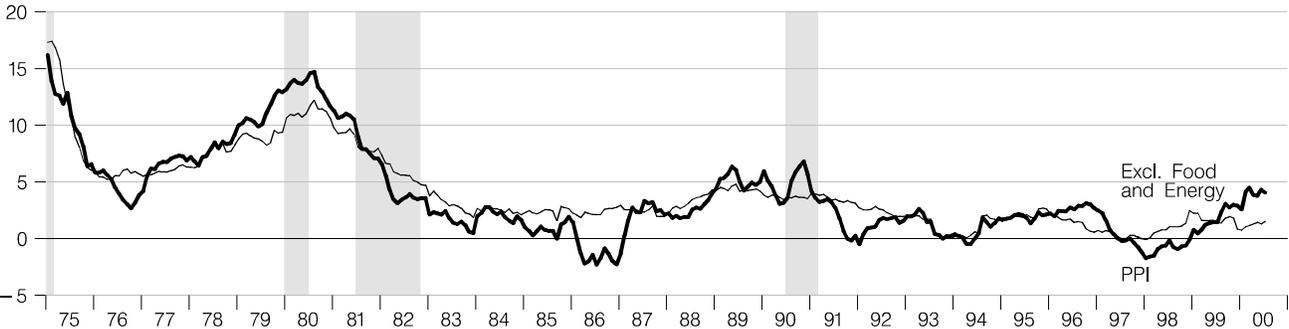
Consumer Price Index

Percent change from year ago



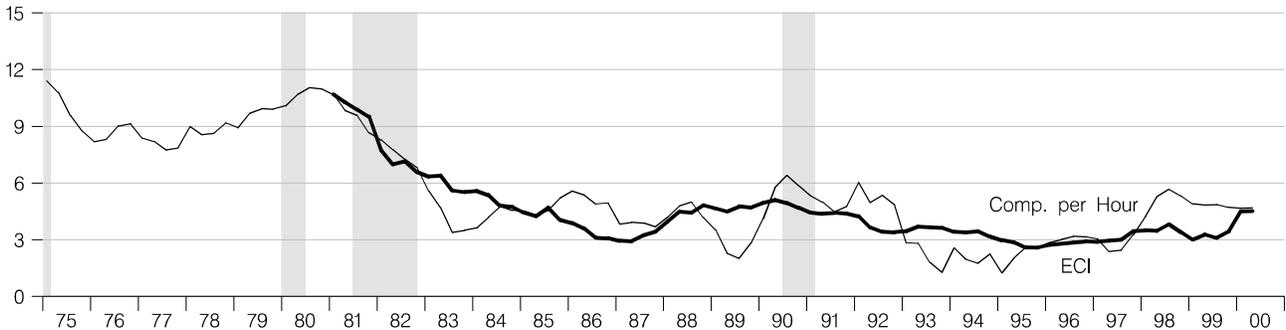
Producer Price Index, Finished Goods

Percent change from year ago



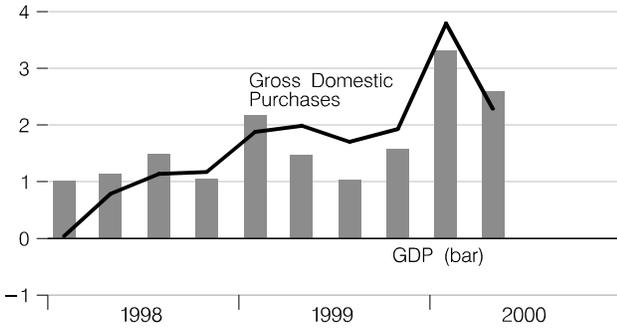
Employment Cost Index and Compensation per Hour

Percent change from year ago



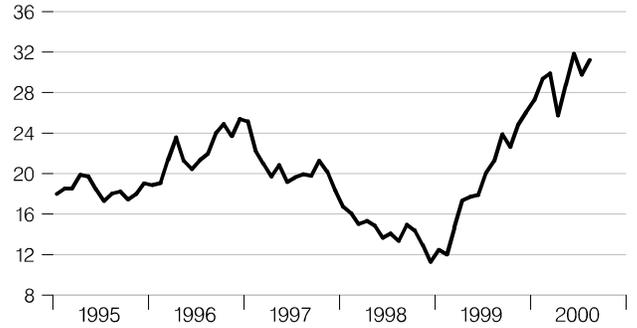
NIPA Chain Price Indexes

Percent change at annual rate



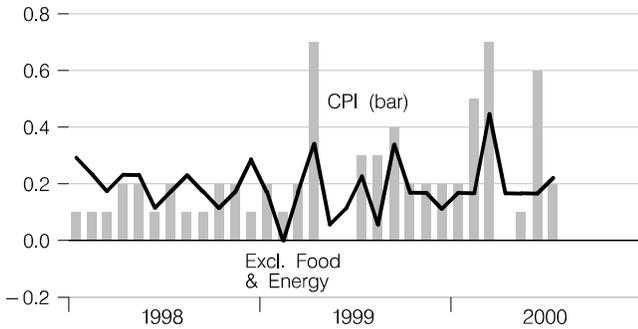
Crude Oil Price

Dollars per barrel



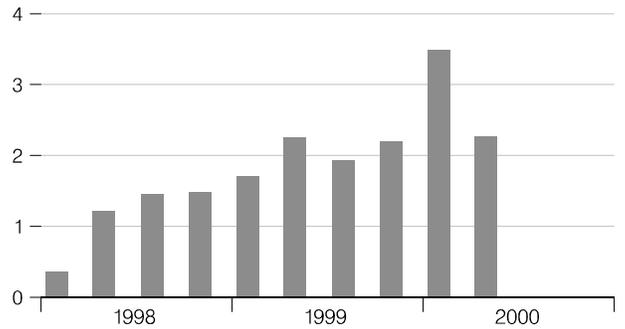
Consumer Price Index

Percent change



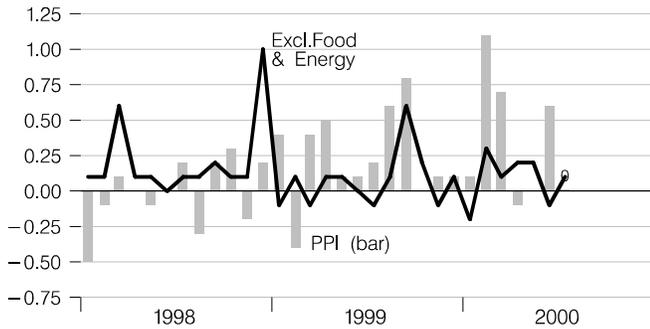
Consumption Chain Price Index

Percent change at annual rate



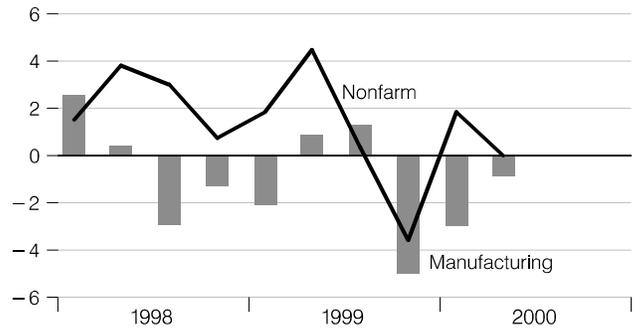
Producer Price Index, Finished Goods

Percent change



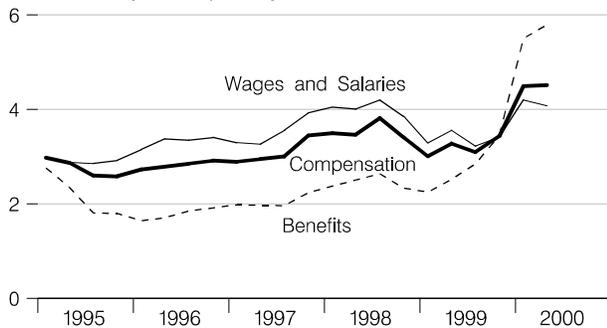
Unit Labor Cost

Percent change at annual rate



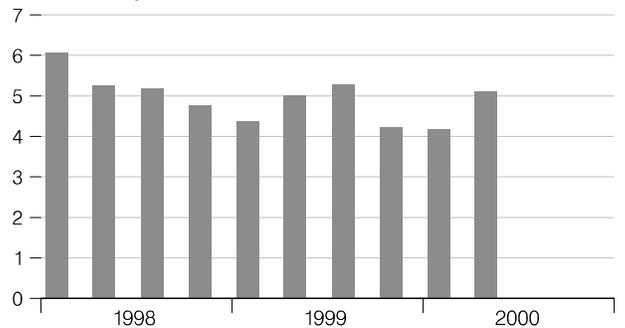
Employment Cost Index

Percent change from year ago



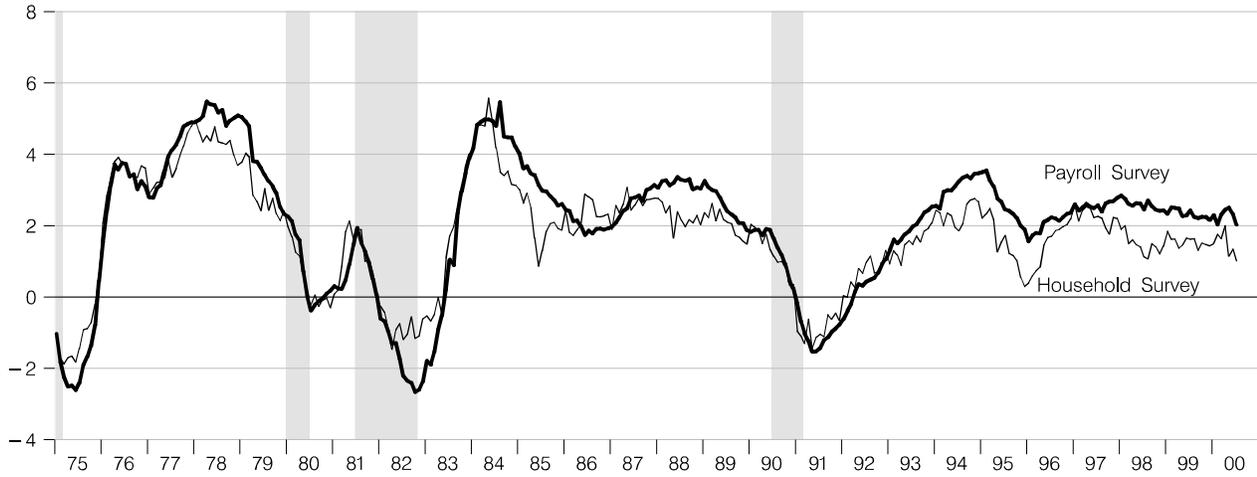
Compensation per Hour

Percent change at annual rate



Employment

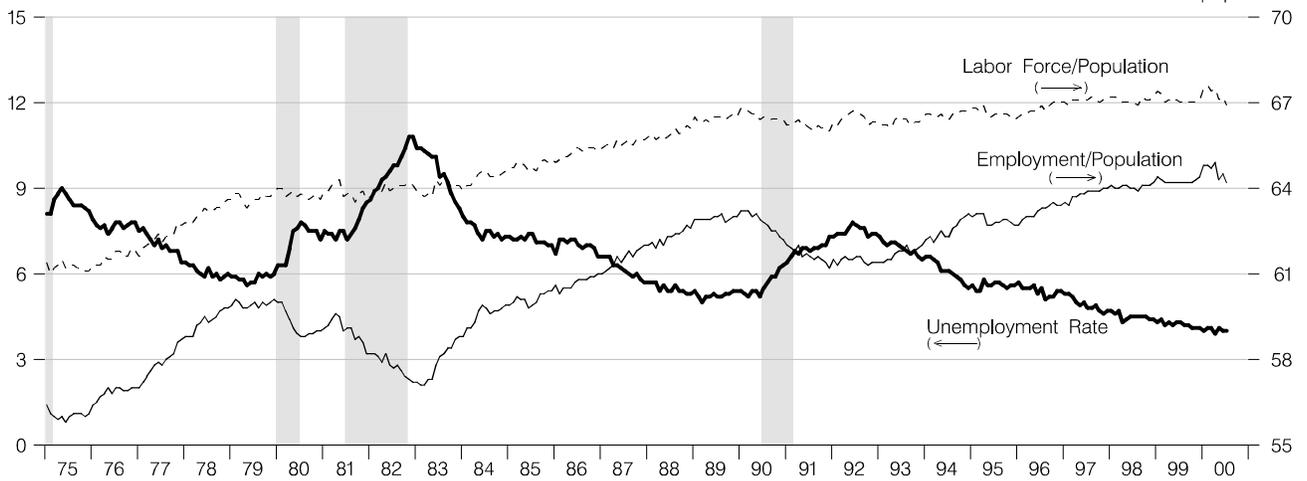
Percent change from year ago



Unemployment, Labor Force Participation and Employment Rates

Percent of labor force

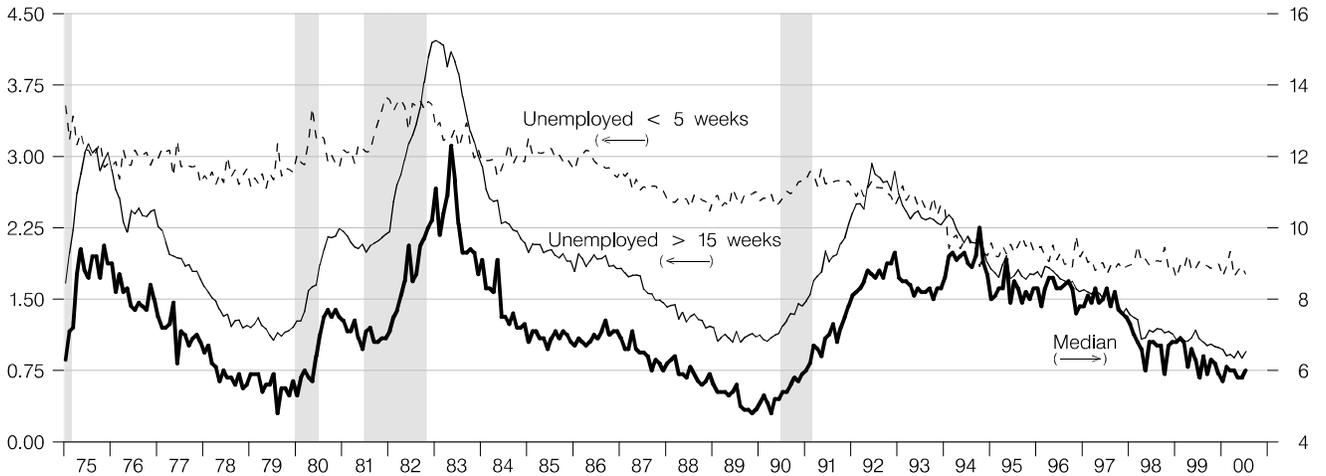
Percent of population



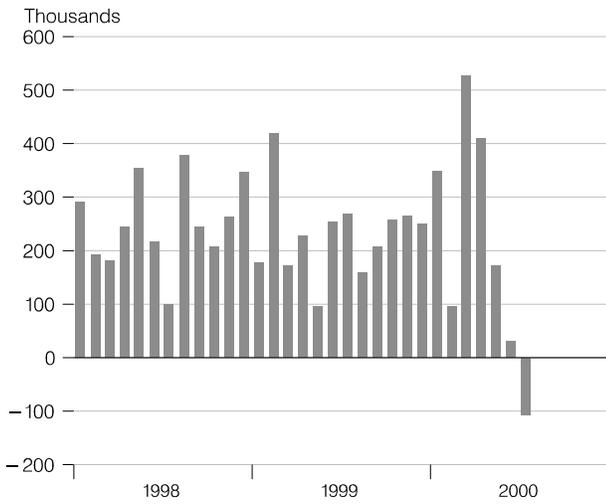
Duration of Unemployment

Percent of labor force

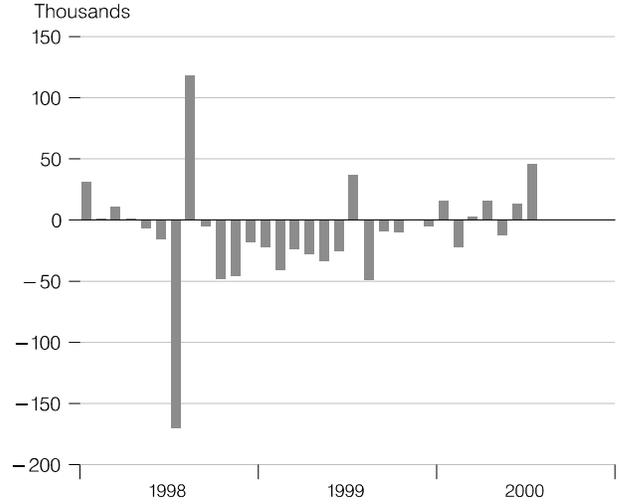
Weeks



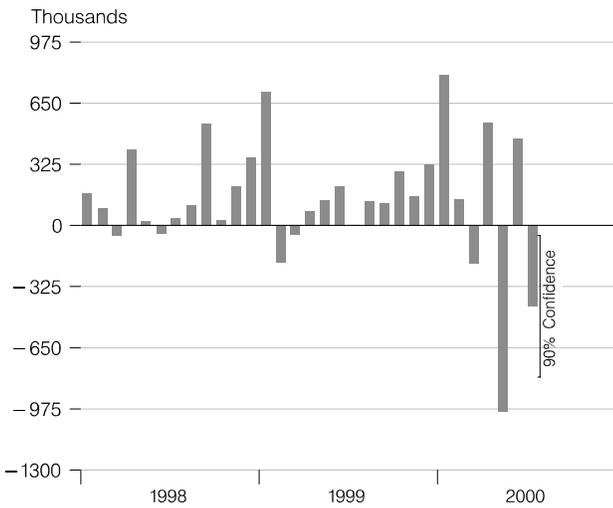
Change in Nonfarm Payrolls



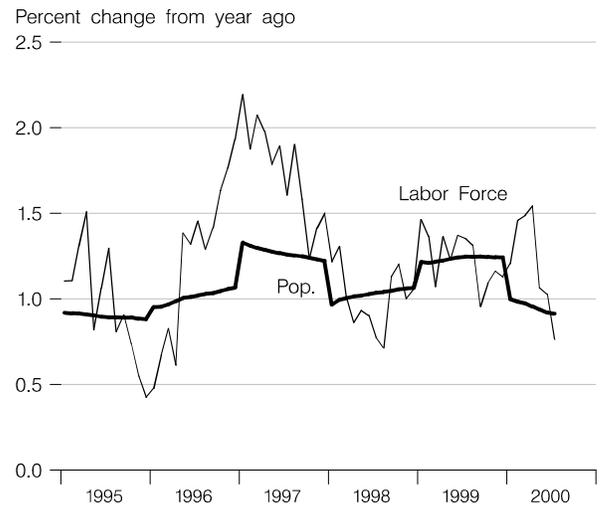
Change in Manufacturing Payrolls



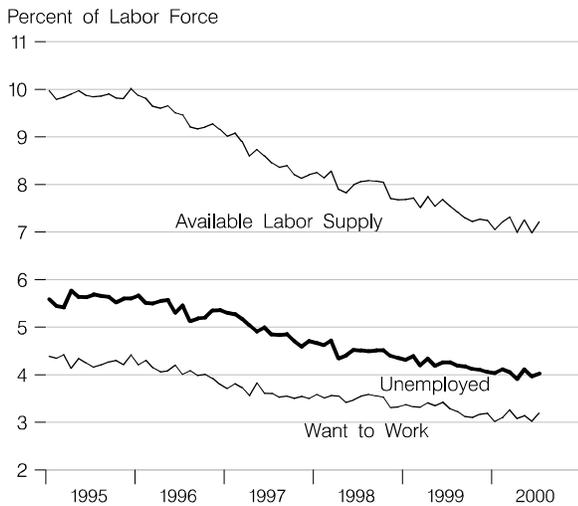
Change in Household Employment



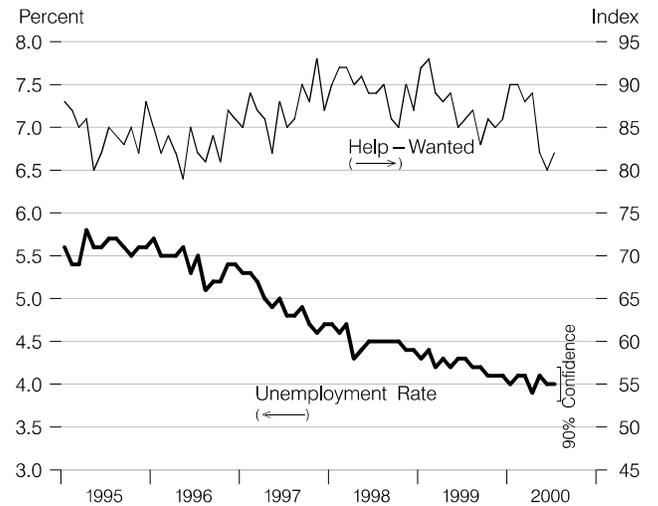
Labor Force and Population



Available Labor Supply and Components

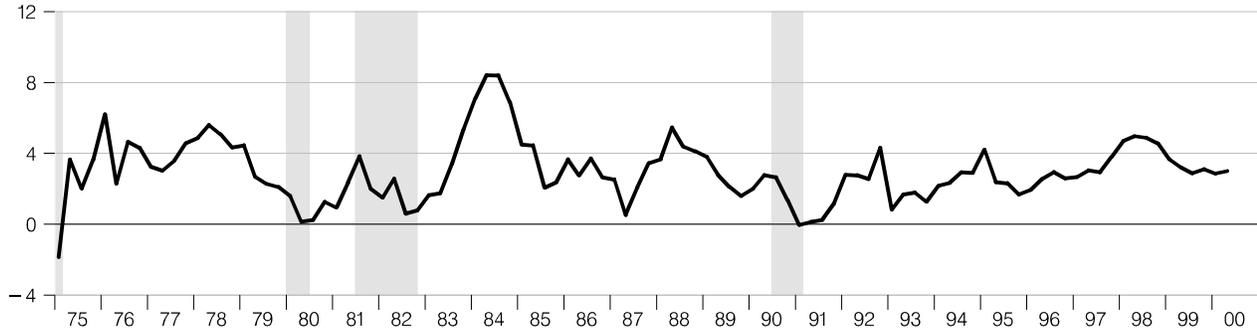


Unemployment Rate and Help-Wanted Advertising Index



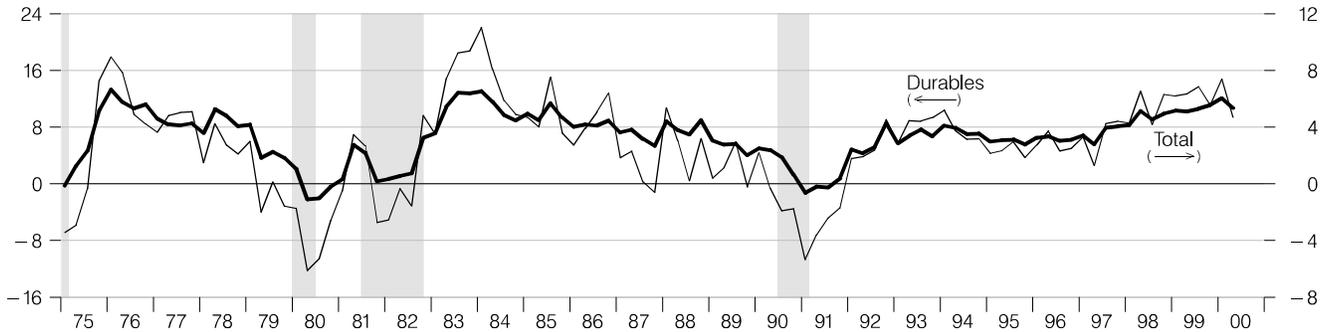
Real Disposable Personal Income

Percent change from year ago, quarterly data



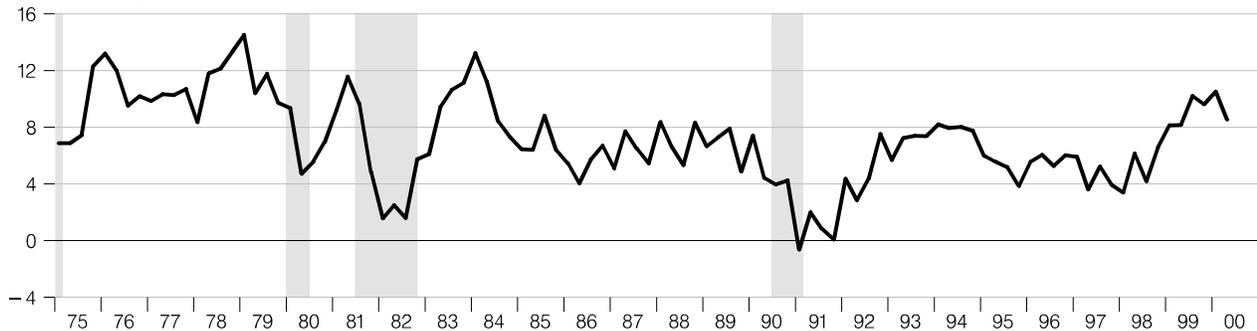
Real Consumption

Percent change from year ago, quarterly data



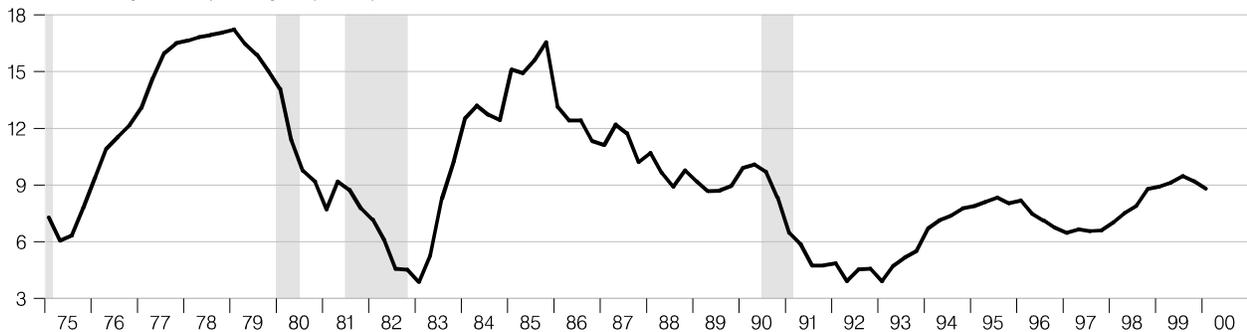
Retail Sales

Percent change from year ago, quarterly average



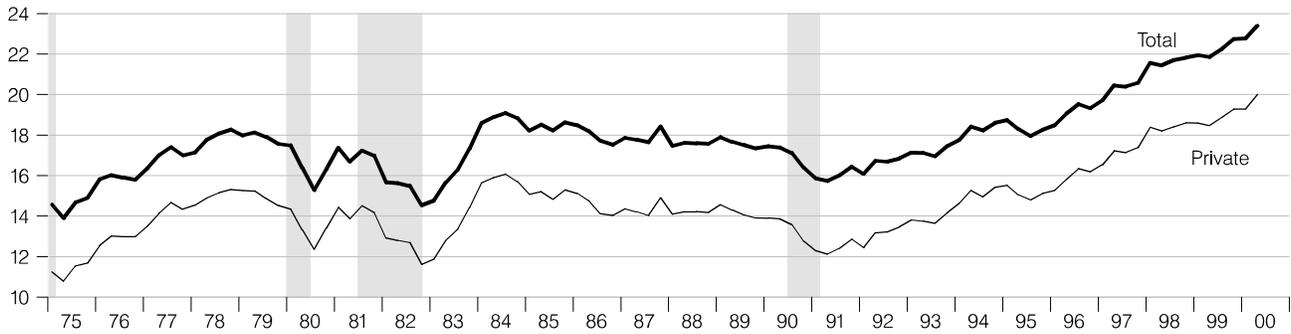
Household Debt Outstanding

Percent change from year ago, quarterly data



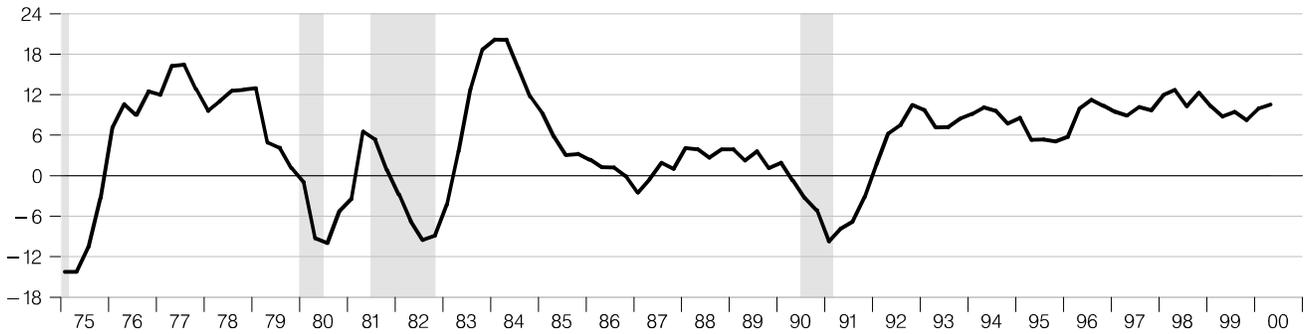
Real Investment

Percent of GDP



Real Private Fixed Investment

Percent change from year ago



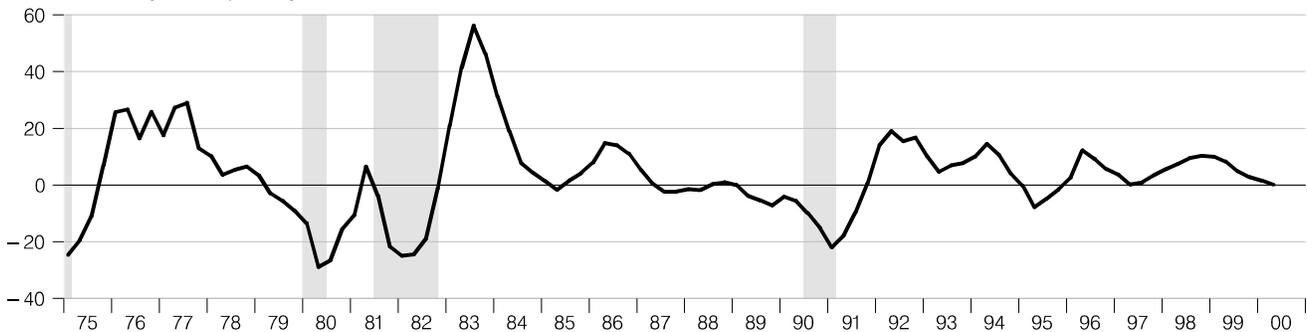
Real Nonresidential Fixed and Equipment & Software Investment

Percent change from year ago

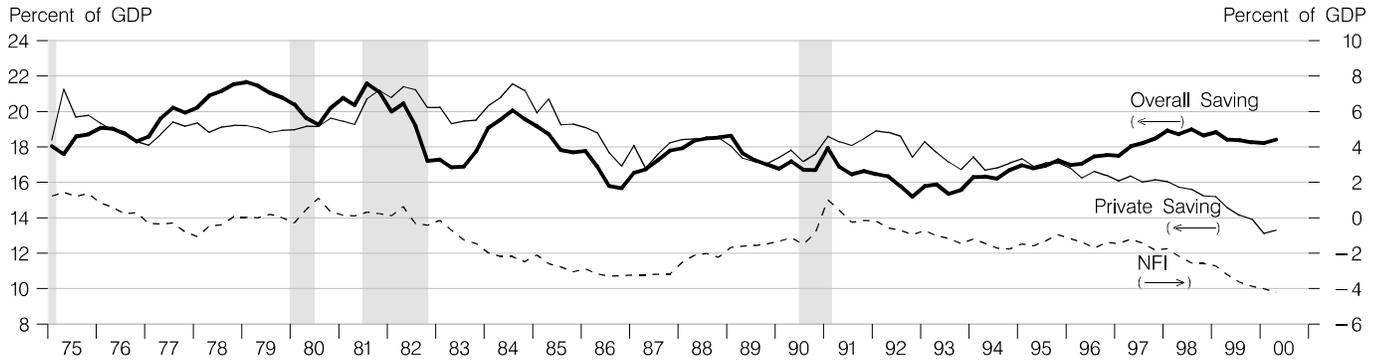


Real Residential Fixed Investment

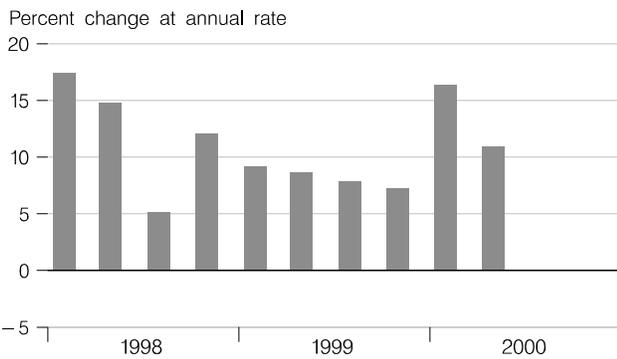
Percent change from year ago



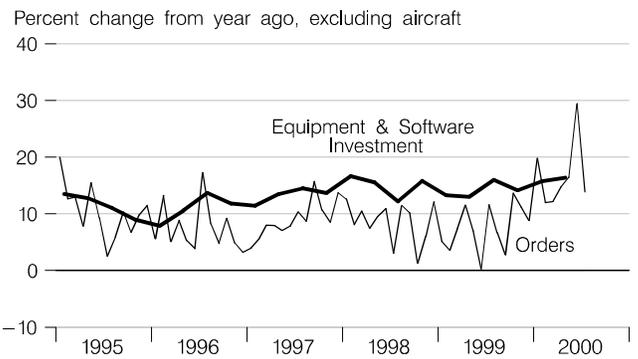
Gross Saving Rates and Net Foreign Investment



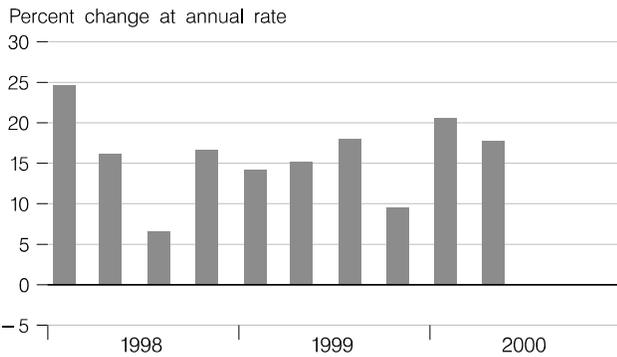
Real Private Fixed Investment



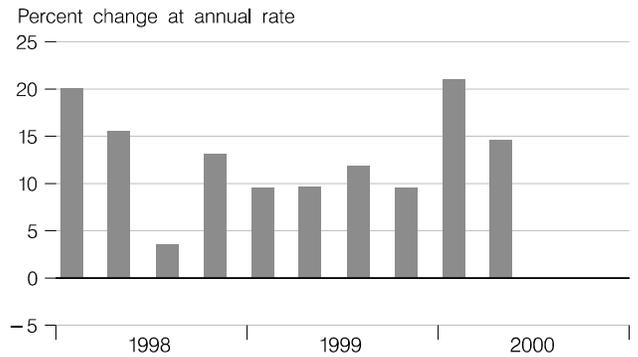
Nondefense Capital Goods Orders



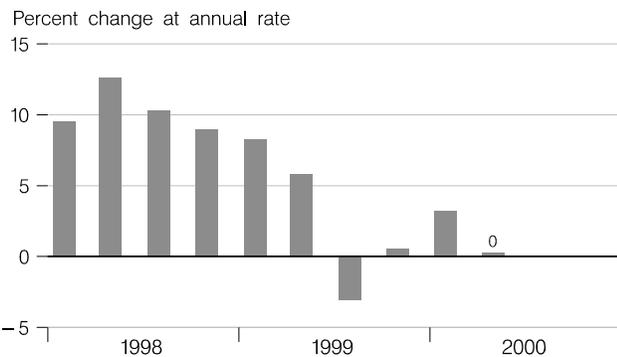
Real Equipment & Software Investment



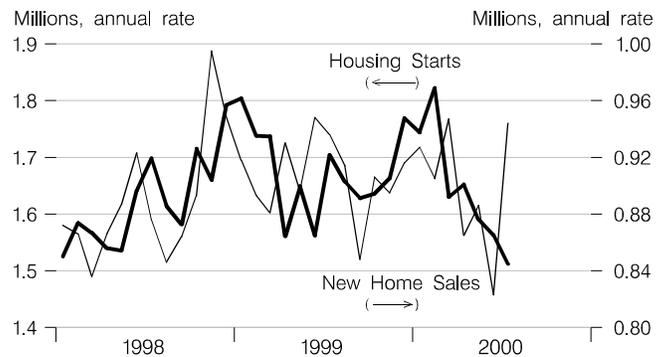
Real Nonresidential Fixed Investment



Real Residential Fixed Investment

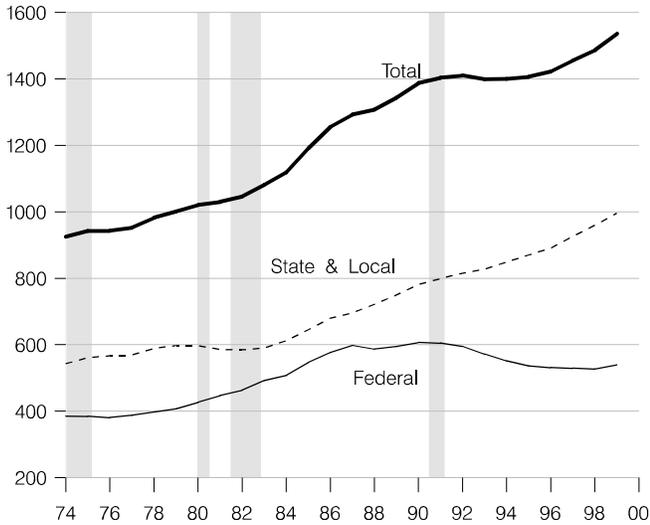


Housing Starts and New Home Sales



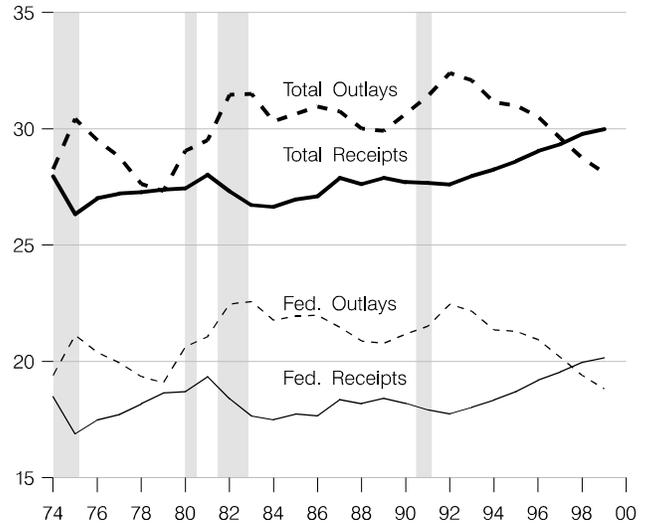
Govt. Consumption and Investment

Billions of 1996 dollars



Government Receipts and Outlays

Percent of GDP



Government Budgets

Billions of dollars

National Income Accounts

Calendar Years

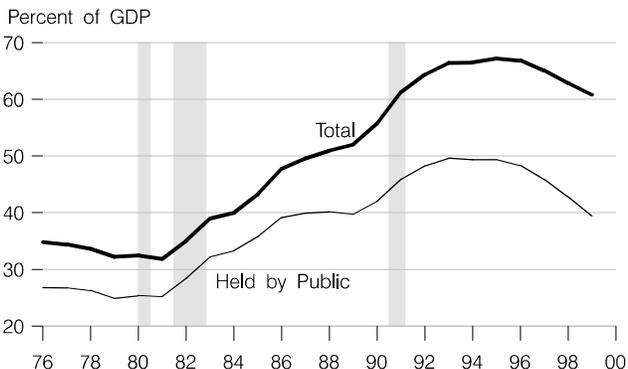
	State and Local			Federal		
	Receipts	Expenditures	Surplus or Deficit(-)	Receipts	Expenditures	Surplus or Deficit(-)
1975	199.6	197.2	2.4	276.1	345.4	-69.3
1976	224.5	217.2	7.3	318.9	371.9	-53.0
1977	249.5	236.4	13.1	359.9	405.0	-45.1
1978	274.3	255.6	18.7	417.3	444.2	-26.9
1979	290.8	277.8	13.0	478.3	489.6	-11.3
1980	316.6	307.8	8.8	522.8	576.6	-53.8
1981	344.4	336.9	7.5	605.6	659.3	-53.7
1982	360.3	362.5	-2.2	599.5	732.1	-132.6
1983	392.1	387.3	4.8	623.9	797.8	-173.9
1984	436.4	412.6	23.8	688.1	856.1	-168.0
1985	469.2	447.0	22.2	747.4	924.6	-177.2
1986	507.9	487.2	20.7	786.4	978.5	-192.1
1987	536.0	523.8	12.2	870.5	1018.4	-147.9
1988	573.7	558.1	15.6	928.9	1066.2	-137.3
1989	618.9	599.6	19.3	1010.3	1140.3	-130.0
1990	663.4	660.8	2.6	1055.7	1228.7	-173.0
1991	716.0	723.8	-7.8	1072.3	1287.6	-215.3
1992	772.2	777.2	-5.0	1121.3	1418.9	-297.6
1993	823.2	821.7	1.5	1197.3	1471.5	-274.2
1994	873.8	865.2	8.6	1293.7	1506.0	-212.3
1995	917.9	902.5	15.4	1383.7	1575.7	-192.0
1996	960.4	939.0	21.4	1499.1	1635.9	-136.8
1997	1011.3	980.3	31.0	1625.5	1678.8	-53.3
1998	1072.3	1030.6	41.7	1754.0	1705.0	49.0
1999	1142.7	1092.7	50.0	1874.6	1750.2	124.4

Unified Budget

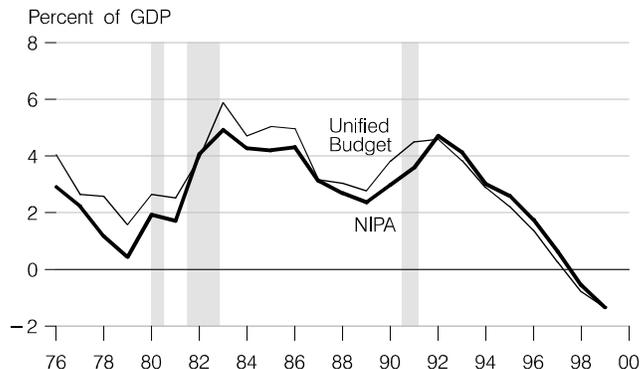
Fiscal Years

	Federal		
	Receipts	Outlays	Surplus or Deficit(-)
1975	279.1	332.3	-53.2
1976	298.1	371.8	-73.7
1977	355.6	409.2	-53.7
1978	399.6	458.7	-59.2
1979	463.3	504.0	-40.7
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	851.9	-185.4
1985	734.1	946.4	-212.3
1986	769.2	990.5	-221.2
1987	854.4	1004.1	-149.8
1988	909.3	1064.5	-155.2
1989	991.2	1143.7	-152.5
1990	1032.0	1253.2	-221.2
1991	1055.0	1324.4	-269.4
1992	1091.3	1381.7	-290.4
1993	1154.4	1409.5	-255.1
1994	1258.6	1461.9	-203.3
1995	1351.8	1515.8	-164.0
1996	1453.1	1560.6	-107.5
1997	1579.3	1601.3	-22.0
1998	1721.8	1652.6	69.2
1999	1827.5	1703.0	124.4

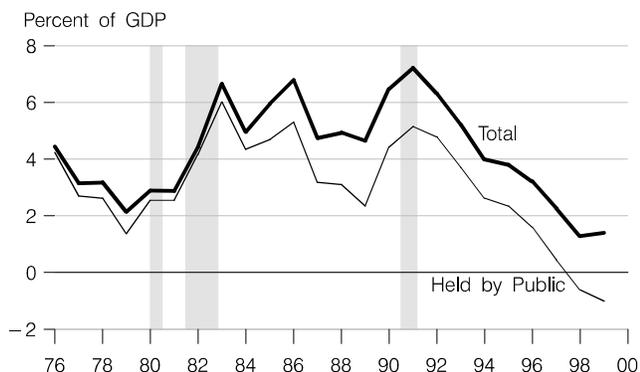
Federal Debt



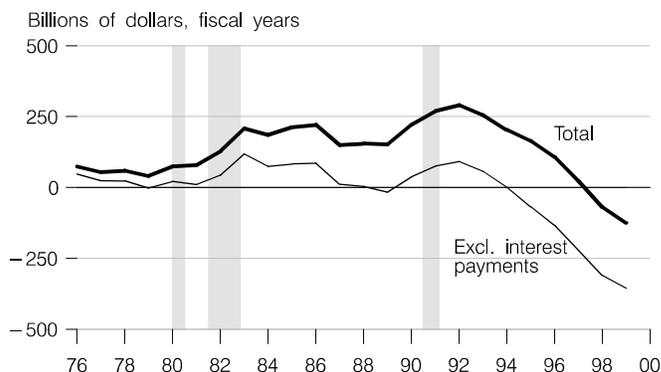
Federal Deficit



Change in Federal Debt



Federal Deficit, Unified Basis

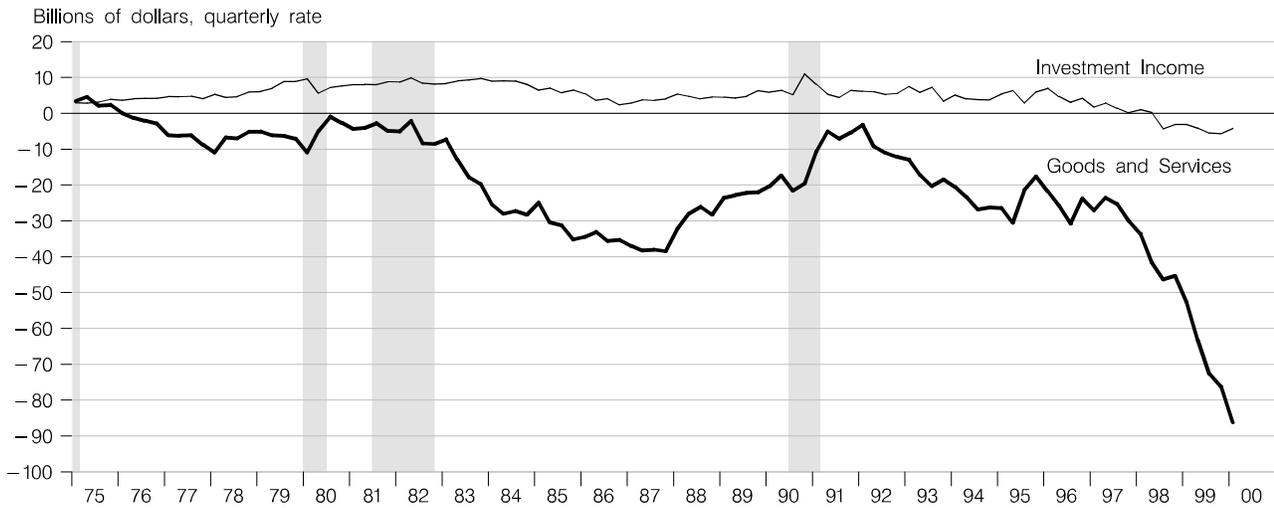


Federal Government Debt

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

		Total Public Debt	Held by Agencies and Trusts	Held by Public		Held by Private Investors	
				Total	Federal Reserve Banks	Total	Foreign and International
1997		5413.1	1598.5	3814.7	436.5	3401.6	1230.5
1998		5526.2	1765.6	3760.6	458.1	3301.0	1224.2
1999		5656.3	1989.1	3667.2	496.5	3175.4	1281.3
1997	March	5380.9	1506.8	3874.1	405.6	3452.2	1157.6
	June	5376.2	1571.6	3804.6	426.4	3377.3	1182.7
	September	5413.1	1598.5	3814.7	436.5	3401.6	1230.5
	December	5502.4	1655.7	3846.7	451.9	3393.3	1241.6
1998	March	5542.4	1670.4	3872.1	400.0	3430.6	1250.5
	June	5547.9	1757.6	3790.4	458.4	3330.6	1256.0
	September	5526.2	1765.6	3760.6	458.1	3301.0	1224.2
	December	5614.2	1826.8	3787.4	471.7	3334.0	1278.7
1999	March	5651.6	1857.1	3794.5	464.5	3327.5	1272.1
	June	5638.8	1953.6	3685.2	493.8	3199.2	1258.6
	September	5656.3	1989.1	3667.2	496.5	3175.4	1281.3
	December	5776.1	2060.6	3715.5	477.7	3233.9	1268.8
2000	March	5773.4	2085.4	3688.0	501.7	3182.8	1274.0

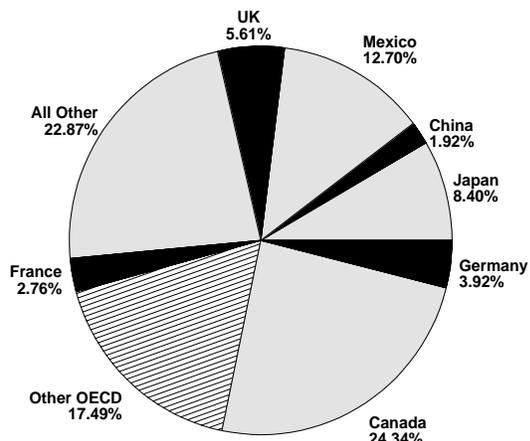
Trade and Investment Income Balances



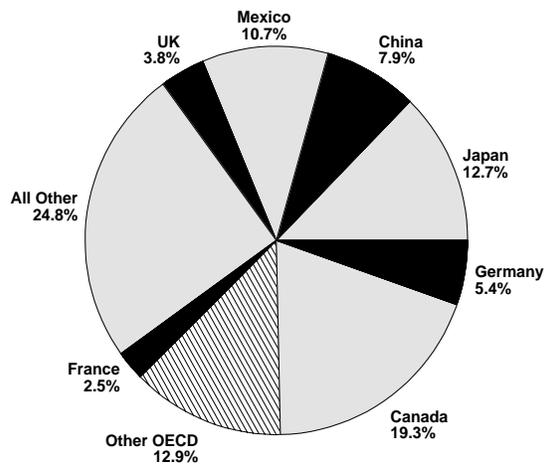
Exchange Rates



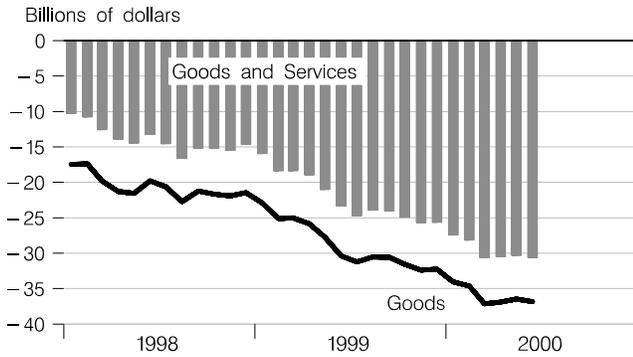
Goods Export Shares, 1999



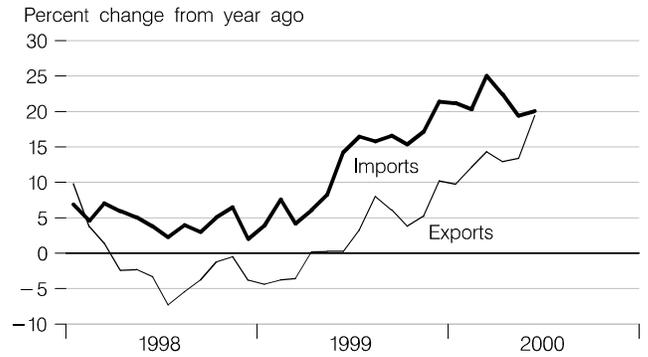
Goods Import Shares, 1999



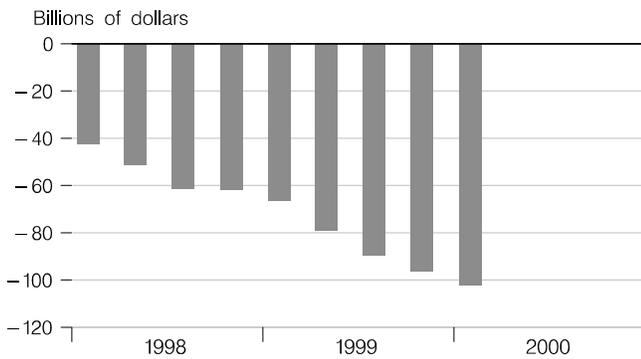
Trade Balance



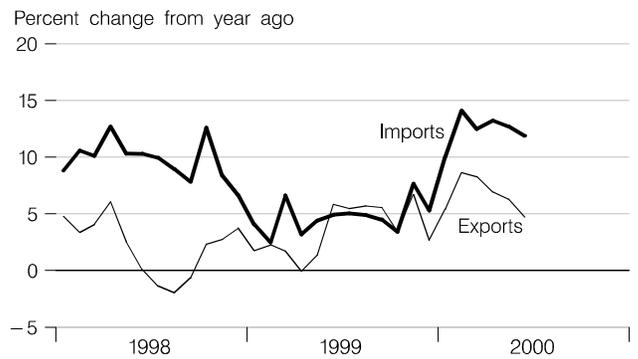
Goods Trade



Current Account Balance



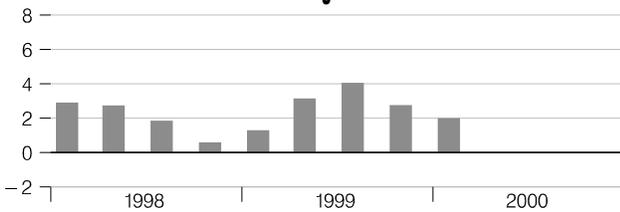
Services Trade



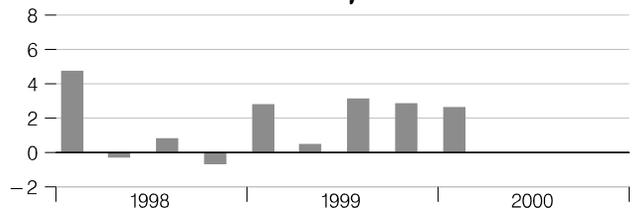
Real GDP Growth of Major Trading Partners

Percent change at annual rate

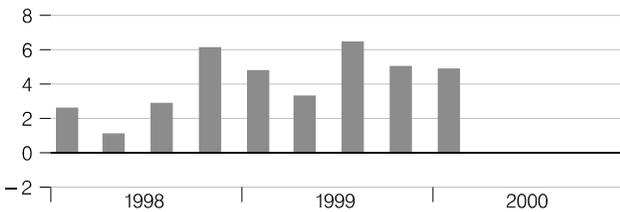
United Kingdom



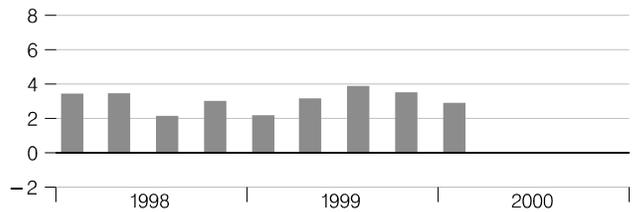
Germany



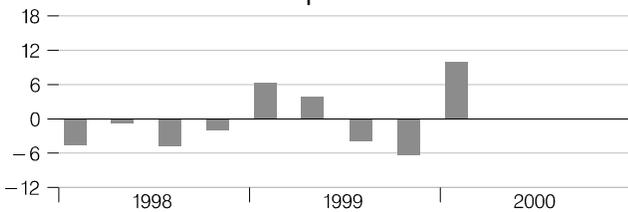
Canada



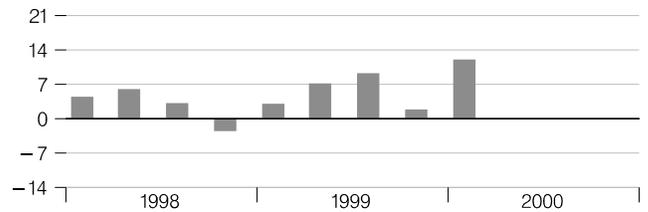
France



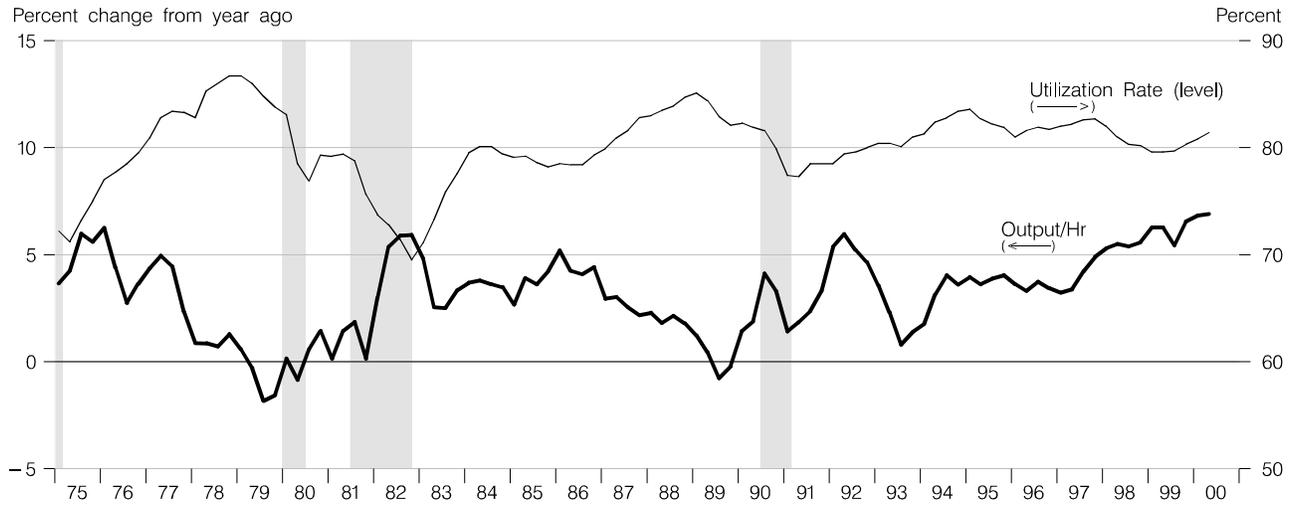
Japan



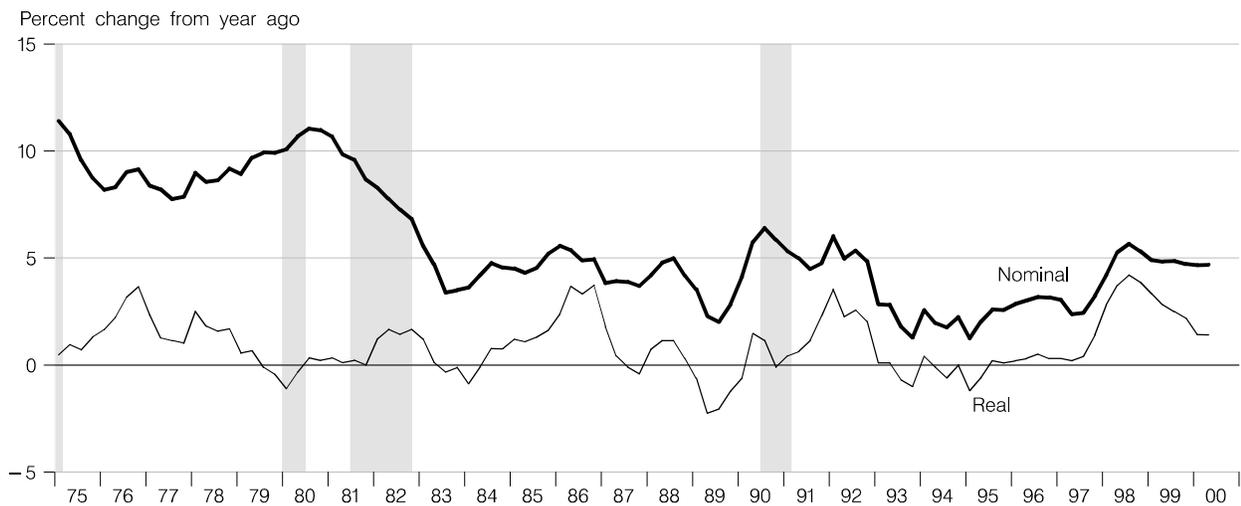
Mexico



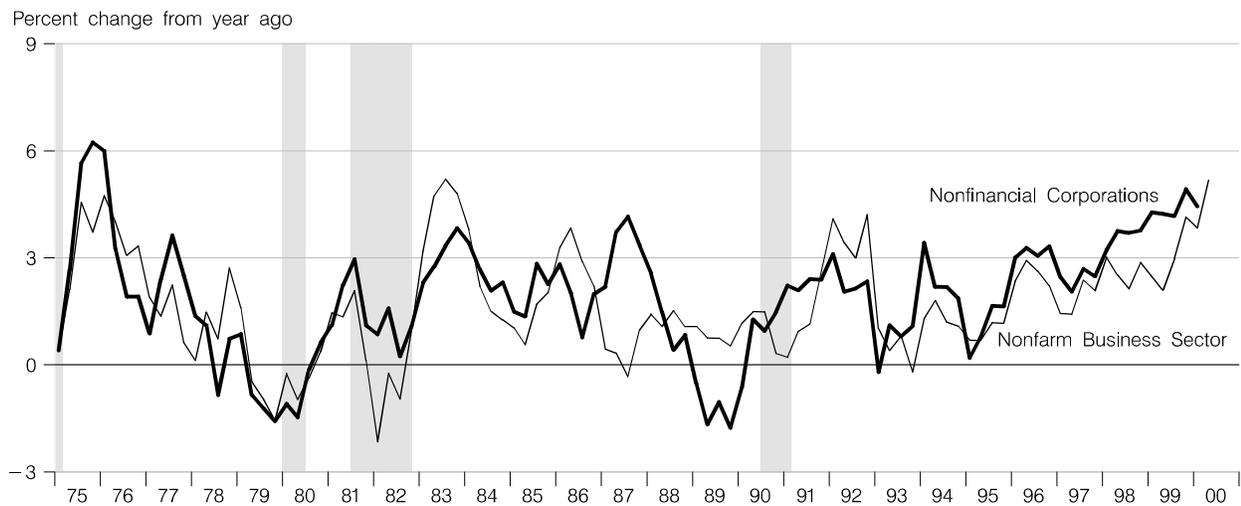
Output per Hour and Capacity Utilization, Manufacturing



Nonfarm Compensation per Hour

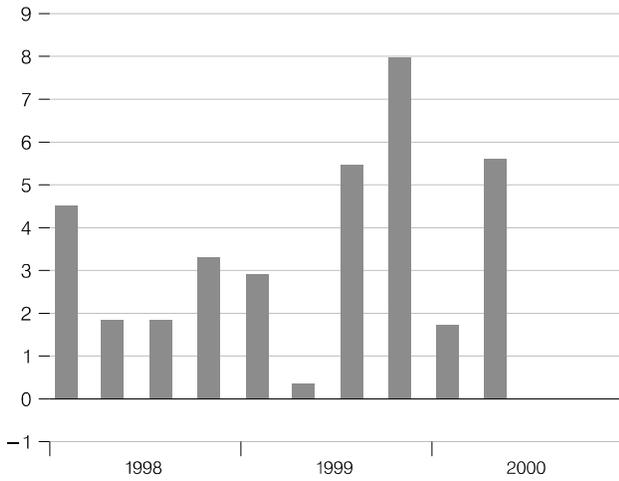


Output per Hour, Nonfarm Business and Nonfarm, Nonfinancial Corporations



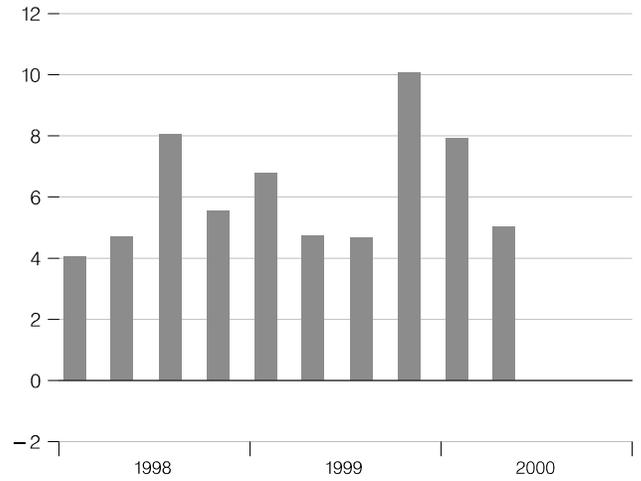
Nonfarm Output per Hour

Percent change at annual rate



Manufacturing Output per Hour

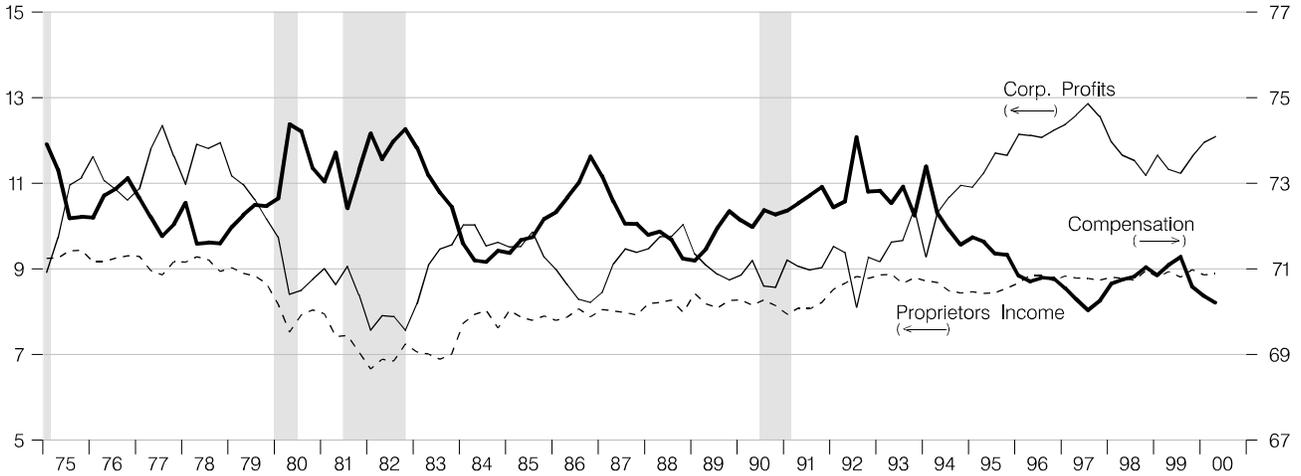
Percent change at annual rate



Selected Component Shares of National Income

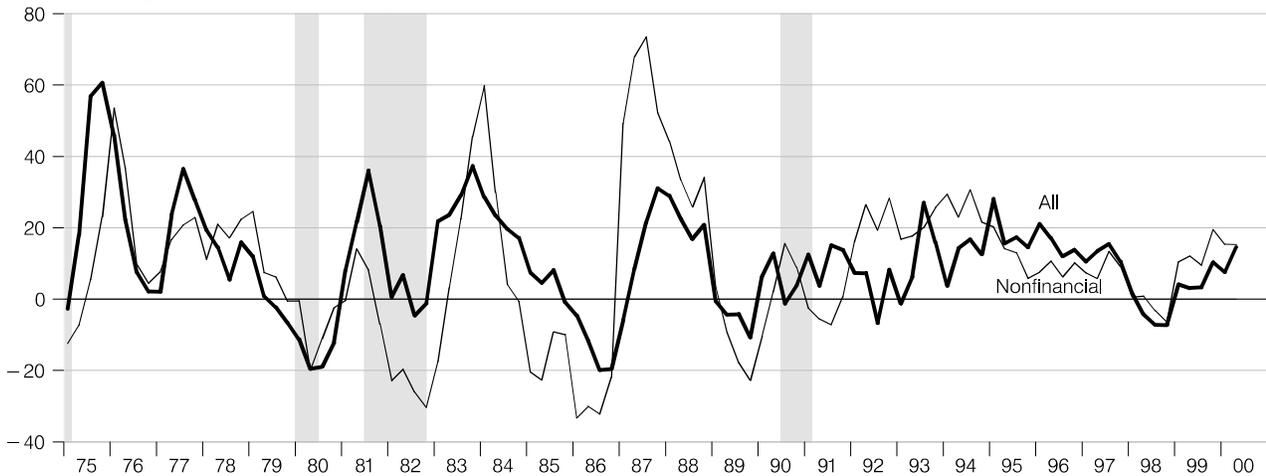
Percent

Percent



Corporate Profits after Tax (with IVA and CCAdj)

Percent change from year ago



	Nominal GDP			Real GDP			Final Sales			Change in Private Inventories	
	Billions of \$	Percent change		Billions of 1996 \$	Percent change		Billions of 1996 \$	Percent change		Billions of 1996 \$	
		Annual rate	Year ago		Annual rate	Year ago		Annual rate	Year ago	Last qtr	Year/Year ago
1996	7813.2		5.6	7813.170		3.6	7783.176		3.6		29.994
1997	8318.4		6.5	8159.450		4.4	8095.204		4.0		63.757
1998	8790.2		5.7	8515.652		4.4	8435.173		4.2		80.169
1999	9299.2		5.8	8875.761		4.2	8826.900		4.6		45.287
1997 1	8124.2	7.4	6.5	8016.391	4.4	4.4	7966.392	3.5	3.9	49.283	40.919
2	8279.8	7.9	6.4	8131.947	5.9	4.2	8043.212	3.9	3.5	88.306	55.429
3	8390.9	5.5	6.8	8216.564	4.2	4.8	8164.863	6.2	4.8	51.336	55.452
4	8478.6	4.2	6.2	8272.897	2.8	4.3	8206.269	2.0	3.9	66.102	63.757
1998 1	8634.7	7.6	6.3	8404.861	6.5	4.8	8289.394	4.1	4.1	117.319	80.766
2	8722.0	4.1	5.3	8465.570	2.9	4.1	8402.717	5.6	4.5	60.914	73.918
3	8829.1	5.0	5.2	8537.607	3.4	3.9	8463.426	2.9	3.7	73.069	79.351
4	8974.9	6.8	5.9	8654.492	5.6	4.6	8584.999	5.9	4.6	69.374	80.169
1999 1	9104.5	5.9	5.4	8729.967	3.5	3.9	8680.265	4.5	4.7	48.073	62.858
2	9191.5	3.9	5.4	8783.175	2.5	3.8	8764.868	4.0	4.3	13.101	50.904
3	9340.9	6.7	5.8	8905.764	5.7	4.3	8861.769	4.5	4.7	39.096	42.411
4	9559.7	9.7	6.5	9084.060	8.3	5.0	9000.543	6.4	4.8	80.878	45.287
2000 1	9752.7	8.3	7.1	9191.804	4.8	5.3	9148.034	6.7	5.4	36.634	42.427
2	9942.9	8.0	8.2	9311.502	5.3	6.0	9227.266	3.5	5.3	79.272	58.970

	Consumption			Durables Consumption			Private Fixed Investment			Nonresidential Fixed Investment		
	Billions of 1996 \$	Percent change		Billions of 1996 \$	Percent change		Billions of 1996 \$	Percent change		Billions of 1996 \$	Percent change	
		Annual rate	Year ago		Annual rate	Year ago		Annual rate	Year ago		Annual rate	Year ago
1996	5237.499		3.2	616.475		5.6	1212.696		9.3	899.433		10.0
1997	5423.902		3.6	657.347		6.6	1328.630		9.6	1009.344		12.2
1998	5678.654		4.7	727.268		10.6	1485.274		11.8	1140.256		13.0
1999	5978.815		5.3	817.779		12.4	1621.375		9.2	1255.285		10.1
1997 1	5350.681	4.5	3.4	641.473	10.5	6.6	1275.405	8.3	9.5	960.756	10.9	11.5
2	5375.664	1.9	2.8	636.510	-3.1	2.6	1311.094	11.7	8.9	992.659	14.0	12.1
3	5462.083	6.6	4.0	670.509	23.1	8.5	1356.728	14.7	10.2	1036.974	19.1	13.4
4	5507.125	3.3	4.1	680.890	6.3	8.8	1371.305	4.4	9.7	1046.985	3.9	11.8
1998 1	5572.385	4.8	4.1	696.376	9.4	8.6	1427.367	17.4	11.9	1095.977	20.1	14.1
2	5651.576	5.8	5.1	719.352	13.9	13.0	1477.585	14.8	12.7	1136.398	15.6	14.5
3	5710.969	4.3	4.6	726.670	4.1	8.4	1496.394	5.2	10.3	1146.336	3.5	10.5
4	5779.790	4.9	5.0	766.673	23.9	12.6	1539.748	12.1	12.3	1182.332	13.2	12.9
1999 1	5860.238	5.7	5.2	782.677	8.6	12.4	1574.043	9.2	10.3	1209.432	9.5	10.4
2	5940.214	5.6	5.1	810.480	15.0	12.7	1607.125	8.7	8.8	1237.494	9.6	8.9
3	6013.801	5.0	5.3	826.150	8.0	13.7	1637.758	7.8	9.4	1272.464	11.8	11.0
4	6101.005	5.9	5.6	851.802	13.0	11.1	1666.560	7.2	8.2	1301.758	9.5	10.1
2000 1	6213.455	7.6	6.0	898.223	23.6	14.8	1730.930	16.4	10.0	1365.267	21.0	12.9
2	6258.183	2.9	5.4	886.725	-5.0	9.4	1776.418	10.9	10.5	1412.631	14.6	14.2

	GDP Chain Price Index			Employment Cost Index			ECI: Wages			ECI: Benefits			
	Index	Percent change		Index	Percent change		Index	Percent change		Index	Percent change		
		Annual rate	Year ago		Annual rate	Year ago		Annual rate	Year ago		Annual rate	Year ago	
1996	100.000		1.9	129.3		2.8	126.0		3.3	137.4		1.8	
1997	101.950		2.0	133.3		3.1	130.4		3.5	140.2		2.0	
1998	103.230		1.3	138.0		3.5	135.7		4.0	143.6		2.5	
1999	104.770		1.5	142.4		3.2	140.2		3.4	147.6		2.8	
1997	1	101.360	2.9	2.0	131.6	3.1	2.9	128.5	3.5	3.3	138.9	1.2	2.0
	2	101.820	1.8	2.1	132.7	3.4	2.9	129.7	3.8	3.3	139.7	2.3	2.0
	3	102.120	1.2	1.9	133.7	3.0	3.0	131.0	4.1	3.6	140.4	2.0	2.0
	4	102.490	1.5	1.8	135.1	4.3	3.4	132.4	4.3	3.9	141.6	3.5	2.2
1998	1	102.750	1.0	1.4	136.2	3.3	3.5	133.7	4.0	4.0	142.2	1.7	2.4
	2	103.040	1.1	1.2	137.3	3.3	3.5	134.9	3.6	4.0	143.2	2.8	2.5
	3	103.420	1.5	1.3	138.8	4.4	3.8	136.5	4.8	4.2	144.1	2.5	2.6
	4	103.690	1.0	1.2	139.7	2.6	3.4	137.5	3.0	3.9	144.9	2.2	2.3
1999	1	104.250	2.2	1.5	140.3	1.7	3.0	138.1	1.8	3.3	145.4	1.4	2.3
	2	104.630	1.5	1.5	141.8	4.3	3.3	139.7	4.7	3.6	146.8	3.9	2.5
	3	104.900	1.0	1.4	143.1	3.7	3.1	140.9	3.5	3.2	148.2	3.9	2.8
	4	105.310	1.6	1.6	144.5	4.0	3.4	142.2	3.7	3.4	149.9	4.7	3.5
2000	1	106.170	3.3	1.8	146.6	5.9	4.5	143.9	4.9	4.2	153.4	9.7	5.5
	2	106.850	2.6	2.1	148.2	4.4	4.5	145.4	4.2	4.1	155.3	5.0	5.8

	Exports			Imports			Nonfarm Output per Hour			Nonfarm Compensation/Hr			
	Billions of 1996 \$	Percent change		Billions of 1996 \$	Percent change		Index	Percent change		Index	Percent change		
		Annual rate	Year ago		Annual rate	Year ago		Annual rate	Year ago		Annual rate	Year ago	
1996	874.163		8.2	963.128		8.6	105.4		2.5	109.8		3.0	
1997	981.458		12.3	1094.778		13.7	107.3		1.8	112.9		2.8	
1998	1003.557		2.3	1224.579		11.9	110.2		2.7	118.6		5.0	
1999	1032.963		2.9	1355.333		10.7	113.4		2.9	124.4		4.9	
1997	1	940.346	7.5	11.1	1034.322	15.3	12.3	106.1	0.8	1.4	111.7	2.2	3.0
	2	979.229	17.6	13.9	1079.801	18.8	13.6	107.1	3.8	1.4	112.0	1.1	2.4
	3	1004.186	10.6	15.8	1123.758	17.3	14.3	108.0	3.4	2.4	113.0	3.6	2.4
	4	1002.071	-0.8	8.5	1141.230	6.4	14.3	108.1	0.4	2.1	114.7	6.2	3.2
1998	1	1004.509	1.0	6.8	1179.803	14.2	14.1	109.3	4.5	3.0	116.4	6.1	4.2
	2	996.826	-3.0	1.8	1216.575	13.1	12.7	109.8	1.8	2.5	117.9	5.3	5.3
	3	988.775	-3.2	-1.5	1232.900	5.5	9.7	110.3	1.8	2.1	119.4	5.2	5.7
	4	1024.117	15.1	2.2	1269.017	12.2	11.2	111.2	3.3	2.9	120.8	4.8	5.3
1999	1	1003.277	-7.9	-0.1	1283.060	4.5	8.8	112.0	2.9	2.5	122.1	4.4	4.9
	2	1017.613	5.8	2.1	1332.170	16.2	9.5	112.1	0.4	2.1	123.6	5.0	4.8
	3	1042.588	10.2	5.4	1385.190	16.9	12.4	113.6	5.5	3.0	125.2	5.3	4.9
	4	1068.376	10.3	4.3	1420.903	10.7	12.0	115.8	8.0	4.1	126.5	4.2	4.7
2000	1	1084.819	6.3	8.1	1461.653	12.0	13.9	116.3	1.7	3.8	127.8	4.2	4.7
	2	1119.680	13.5	10.0	1528.272	19.5	14.7	117.9	5.6	5.2	129.4	5.1	4.7

	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	
1995	124908	1837		1.5	117188	3053		2.7	133.4			2.7	
1996	126715	1807		1.4	119597	2409		2.1	136.6			2.4	
1997	129565	2850		2.2	122677	3080		2.6	141.4			3.5	
1998	131463	1898		1.5	125845	3168		2.6	145.2			2.7	
1999	133492	2030		1.5	128772	2926		2.3	148.3			2.1	
1998	1	130861	413	1.3	1.8	124748	793	2.6	2.7	144.2	0.8	3.1	3.3
	2	131256	394	1.2	1.5	125486	737	2.4	2.6	144.7	0.4	1.5	2.6
	3	131526	270	0.8	1.2	126180	695	2.2	2.6	145.5	0.5	2.0	2.5
	4	132208	682	2.1	1.3	126967	787	2.5	2.4	146.4	0.7	2.7	2.3
1999	1	133077	869	2.7	1.7	127800	833	2.6	2.4	147.1	0.5	1.9	2.0
	2	133214	137	0.4	1.5	128430	630	2.0	2.3	147.8	0.5	1.9	2.1
	3	133526	312	0.9	1.5	129073	644	2.0	2.3	148.5	0.5	1.8	2.1
	4	134153	626	1.9	1.5	129783	710	2.2	2.2	149.6	0.7	2.9	2.1
2000	1	135247	1095	3.3	1.6	130626	843	2.6	2.2	150.7	0.8	3.2	2.4
	2	135200	-47	-0.1	1.5	131543	917	2.8	2.4	151.1	0.3	1.1	2.2
1998	Jul	131274	40	0.4	1.1	125847	99	0.9	2.5	145.2	0.2	2.5	2.5
	Aug	131381	107	1.0	1.1	126225	378	3.7	2.7	145.6	0.3	3.4	2.7
	Sep	131922	541	5.1	1.5	126469	244	2.3	2.5	145.6	0.0	0.0	2.2
	Oct	131950	28	0.3	1.4	126677	208	2.0	2.4	146.2	0.4	5.1	2.4
	Nov	132156	206	1.9	1.2	126939	262	2.5	2.4	146.3	0.1	0.8	2.2
	Dec	132517	361	3.3	1.4	127286	347	3.3	2.4	146.8	0.3	4.2	2.4
1999	Jan	133225	708	6.6	1.8	127463	177	1.7	2.3	146.8	0.0	0.0	1.7
	Feb	133029	-196	-1.8	1.6	127883	420	4.0	2.5	147.5	0.5	5.9	2.3
	Mar	132976	-53	-0.5	1.6	128054	171	1.6	2.5	147.1	-0.3	-3.2	2.1
	Apr	133054	78	0.7	1.4	128282	228	2.2	2.5	147.7	0.4	5.0	2.4
	May	133190	136	1.2	1.5	128377	95	0.9	2.3	147.6	-0.1	-0.8	1.7
	Jun	133398	208	1.9	1.6	128630	253	2.4	2.3	148.2	0.4	5.0	2.3
	Jul	133399	1	0.0	1.6	128898	268	2.5	2.4	148.5	0.2	2.5	2.3
	Aug	133530	131	1.2	1.6	129057	159	1.5	2.2	148.4	-0.1	-0.8	1.9
	Sep	133650	120	1.1	1.3	129265	208	2.0	2.2	148.6	0.1	1.6	2.1
	Oct	133940	290	2.6	1.5	129523	258	2.4	2.2	149.3	0.5	5.8	2.1
	Nov	134098	158	1.4	1.5	129788	265	2.5	2.2	149.6	0.2	2.4	2.3
	Dec	134420	322	2.9	1.4	130038	250	2.3	2.2	149.8	0.1	1.6	2.0
2000	Jan	135221	801	7.4	1.5	130387	349	3.3	2.3	150.6	0.5	6.6	2.6
	Feb	135362	141	1.3	1.8	130482	95	0.9	2.0	150.6	0.0	0.0	2.1
	Mar	135159	-203	-1.8	1.6	131009	527	5.0	2.3	151.0	0.3	3.2	2.7
	Apr	135706	547	5.0	2.0	131419	410	3.8	2.4	151.7	0.5	5.7	2.7
	May	134715	-991	-8.4	1.1	131590	171	1.6	2.5	150.5	-0.8	-9.1	2.0
	Jun	135179	464	4.2	1.3	131620	30	0.3	2.3	151.2	0.5	5.7	2.0
	Jul	134749	-430	-3.8	1.0	131512	-108	-1.0	2.0	151.3	0.1	0.8	1.9

	Unempl. Rate	Retail Sales				Industrial Production				Treasury Yields		
		Billions of dollars	Percent change			Index	Percent change			3-mo	10-yr	
			Monthly/ quarterly	Annual rate	Year ago		Monthly/ quarterly	Annual rate	Year ago			
1995	5.6	2361.343			5.1	114.418			4.9	5.49	6.58	
1996	5.4	2496.503			5.7	119.445			4.4	5.01	6.44	
1997	4.9	2612.931			4.7	126.953			6.3	5.06	6.35	
1998	4.5	2745.714			5.1	132.365			4.3	4.78	5.26	
1999	4.2	2994.017			9.0	136.980			3.5	4.64	5.64	
1998	1	4.7	668.657	0.9	3.8	3.4	130.897	0.6	2.4	5.7	5.05	5.59
	2	4.4	684.020	2.3	9.5	6.1	131.856	0.7	3.0	4.8	4.98	5.60
	3	4.5	686.919	0.4	1.7	4.2	132.811	0.7	2.9	3.8	4.82	5.20
	4	4.4	706.118	2.8	11.7	6.6	133.895	0.8	3.3	2.9	4.26	4.67
1999	1	4.3	723.050	2.4	9.9	8.1	134.569	0.5	2.0	2.8	4.41	4.98
	2	4.3	739.876	2.3	9.6	8.2	136.109	1.1	4.7	3.2	4.45	5.54
	3	4.2	757.015	2.3	9.6	10.2	137.721	1.2	4.8	3.7	4.65	5.88
	4	4.1	774.076	2.3	9.3	9.6	139.521	1.3	5.3	4.2	5.04	6.14
2000	1	4.1	799.014	3.2	13.5	10.5	141.724	1.6	6.5	5.3	5.52	6.48
	2	4.0	803.087	0.5	2.1	8.5	144.248	1.8	7.3	6.0	5.71	6.18
1998	Aug	4.5	228.078	-0.1	-0.8	3.6	133.593	1.8	23.2	4.4	4.90	5.34
	Sep	4.5	230.610	1.1	14.2	4.7	133.548	-0.0	-0.4	3.7	4.61	4.81
	Oct	4.5	233.751	1.4	17.6	6.3	134.108	0.4	5.1	3.5	3.96	4.53
	Nov	4.4	235.251	0.6	8.0	6.5	133.777	-0.2	-2.9	2.8	4.42	4.83
	Dec	4.4	237.116	0.8	9.9	6.9	133.801	0.0	0.2	2.5	4.39	4.64
1999	Jan	4.3	239.154	0.9	10.8	7.7	134.052	0.2	2.3	2.4	4.34	4.72
	Feb	4.4	241.580	1.0	12.9	8.5	134.509	0.3	4.2	2.9	4.44	5.00
	Mar	4.2	242.316	0.3	3.7	8.2	135.147	0.5	5.8	3.1	4.44	5.23
	Apr	4.3	244.556	0.9	11.7	8.1	135.472	0.2	2.9	2.9	4.29	5.18
	May	4.2	247.325	1.1	14.5	8.6	136.215	0.5	6.8	2.9	4.50	5.54
	Jun	4.3	247.995	0.3	3.3	7.8	136.639	0.3	3.8	3.9	4.57	5.90
	Jul	4.3	250.237	0.9	11.4	9.6	137.363	0.5	6.5	4.6	4.55	5.79
	Aug	4.2	253.030	1.1	14.2	10.9	137.736	0.3	3.3	3.1	4.72	5.94
	Sep	4.2	253.748	0.3	3.5	10.0	138.064	0.2	2.9	3.4	4.68	5.92
	Oct	4.1	254.959	0.5	5.9	9.1	139.056	0.7	9.0	3.7	4.86	6.11
	Nov	4.1	257.489	1.0	12.6	9.5	139.433	0.3	3.3	4.2	5.07	6.03
	Dec	4.1	261.628	1.6	21.1	10.3	140.075	0.5	5.7	4.7	5.20	6.28
2000	Jan	4.0	263.493	0.7	8.9	10.2	141.117	0.7	9.3	5.3	5.32	6.66
	Feb	4.1	267.164	1.4	18.1	10.6	141.635	0.4	4.5	5.3	5.55	6.52
	Mar	4.1	268.357	0.4	5.5	10.7	142.419	0.6	6.8	5.4	5.69	6.26
	Apr	3.9	267.119	-0.5	-5.4	9.2	143.528	0.8	9.8	5.9	5.66	5.99
	May	4.1	267.417	0.1	1.3	8.1	144.434	0.6	7.8	6.0	5.79	6.44
	Jun	4.0	268.551	0.4	5.2	8.3	144.782	0.2	2.9	6.0	5.69	6.10
	Jul	4.0	270.552	0.7	9.3	8.1	145.319	0.4	4.5	5.8	5.96	6.05
	Aug										6.09	5.83

	Consumer Price Index					Consumer Price Index less Food and Energy					Producer Price Index Finished Goods				
	Index	Percent change				Index	Percent change				Index	Percent change			
		Monthly/ quarterly	Annual rate	Year ago	Year to date		Monthly/ quarterly	Annual rate	Year ago	Year to date		Monthly/ quarterly	Annual rate	Year ago	
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	
1998	163.1			1.6		173.7			2.3		130.7			-0.9	
1999	166.7			2.2		177.3			2.1		133.0			1.8	
1998	1	162.1	0.2	1.0	1.5	1.0	172.2	0.7	2.7	2.3	2.7	130.6	-0.8	-3.0	-1.6
	2	162.8	0.4	1.7	1.6	1.3	173.2	0.6	2.5	2.2	2.6	130.5	-0.0	-0.1	-0.7
	3	163.5	0.4	1.7	1.6	1.5	174.2	0.5	2.2	2.4	2.5	130.6	0.1	0.2	-0.6
	4	164.2	0.4	1.7	1.5	1.5	175.1	0.5	2.1	2.4	2.4	131.0	0.3	1.1	-0.5
1999	1	164.9	0.4	1.7	1.7	1.7	175.9	0.5	1.9	2.2	1.9	131.4	0.4	1.4	0.7
	2	166.2	0.8	3.3	2.1	2.5	176.8	0.5	2.1	2.1	2.0	132.3	0.7	2.7	1.4
	3	167.2	0.6	2.5	2.3	2.5	177.7	0.5	1.9	2.0	2.0	133.6	1.0	4.0	2.3
	4	168.4	0.7	2.9	2.6	2.6	178.7	0.6	2.3	2.1	2.1	134.7	0.8	3.4	2.9
2000	1	170.1	1.0	4.0	3.2	4.0	179.7	0.6	2.3	2.1	2.3	136.3	1.2	4.8	3.7
	2	171.6	0.9	3.6	3.2	3.8	180.9	0.7	2.8	2.3	2.5	137.6	0.9	3.7	4.0
1998	Jul	163.3	0.2	2.2	1.7	1.6	173.8	0.2	2.1	2.2	2.5	130.8	0.2	2.8	-0.2
	Aug	163.5	0.1	1.5	1.7	1.6	174.2	0.2	2.8	2.5	2.6	130.4	-0.3	-3.6	-0.8
	Sep	163.6	0.1	0.7	1.4	1.5	174.5	0.2	2.1	2.4	2.5	130.6	0.2	1.9	-0.9
	Oct	163.9	0.2	2.2	1.4	1.6	174.7	0.1	1.4	2.3	2.4	131.0	0.3	3.7	-0.7
	Nov	164.2	0.2	2.2	1.5	1.6	175.0	0.2	2.1	2.3	2.4	130.8	-0.2	-1.8	-0.6
	Dec	164.4	0.1	1.5	1.6	1.6	175.5	0.3	3.5	2.5	2.5	131.1	0.2	2.8	-0.1
1999	Jan	164.7	0.2	2.2	1.7	2.2	175.8	0.2	2.1	2.3	2.1	131.6	0.4	4.7	0.8
	Feb	164.8	0.1	0.7	1.7	1.5	175.8	0.0	0.0	2.1	1.0	131.1	-0.4	-4.5	0.5
	Mar	165.1	0.2	2.2	1.8	1.7	176.1	0.2	2.1	2.1	1.4	131.6	0.4	4.7	0.8
	Apr	166.2	0.7	8.3	2.3	3.3	176.7	0.3	4.2	2.2	2.1	132.2	0.5	5.6	1.2
	May	166.2	0.0	0.0	2.1	2.6	176.8	0.1	0.7	2.0	1.8	132.3	0.1	0.9	1.4
	Jun	166.2	0.0	0.0	2.0	2.2	177.0	0.1	1.4	2.0	1.7	132.4	0.1	0.9	1.5
	Jul	166.7	0.3	3.7	2.1	2.4	177.4	0.2	2.7	2.1	1.9	132.7	0.2	2.8	1.5
	Aug	167.2	0.3	3.7	2.3	2.6	177.5	0.1	0.7	1.9	1.7	133.5	0.6	7.5	2.4
	Sep	167.8	0.4	4.4	2.6	2.8	178.1	0.3	4.1	2.1	2.0	134.6	0.8	10.3	3.1
	Oct	168.1	0.2	2.2	2.6	2.7	178.4	0.2	2.0	2.1	2.0	134.6	0.0	0.0	2.7
	Nov	168.4	0.2	2.2	2.6	2.7	178.7	0.2	2.0	2.1	2.0	134.7	0.1	0.9	3.0
	Dec	168.8	0.2	2.9	2.7	2.7	178.9	0.1	1.4	1.9	1.9	134.9	0.1	1.8	2.9
2000	Jan	169.1	0.2	2.2	2.7	2.2	179.2	0.2	2.0	1.9	2.0	135.0	0.1	0.9	2.6
	Feb	170.0	0.5	6.6	3.2	4.3	179.5	0.2	2.0	2.1	2.0	136.5	1.1	14.2	4.1
	Mar	171.2	0.7	8.8	3.7	5.8	180.3	0.4	5.5	2.4	3.2	137.5	0.7	9.2	4.5
	Apr	171.2	0.0	0.0	3.0	4.3	180.6	0.2	2.0	2.2	2.9	137.3	-0.1	-1.7	3.9
	May	171.3	0.1	0.7	3.1	3.6	180.9	0.2	2.0	2.3	2.7	137.3	0.0	0.0	3.8
	Jun	172.3	0.6	7.2	3.7	4.2	181.2	0.2	2.0	2.4	2.6	138.1	0.6	7.2	4.3
	Jul	172.7	0.2	2.8	3.6	4.0	181.6	0.2	2.7	2.4	2.6	138.1	0.0	0.0	4.1

Notes

Pages 4, 5: **Final sales** is gross domestic product (GDP) minus change in private inventories. **Advance, preliminary, and final GDP growth rates** are released during the first, second, and third months of the following quarter. Changes result from incorporation of more complete information. Real GDP is measured in 1996 dollars. 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: Beginning with the October 1999 **comprehensive revision** to the National Income and Product Accounts (NIPA), a new formula is used to calculate the **contribution** of a component to the overall GDP growth rate. The new formula produces estimates roughly equivalent to the old formula. For more information, see the October 1999 issue of the *Survey of Current Business*, p. 16. The sign is changed for **imports**.

Page 7: Ten-year **Treasury yields** are adjusted to constant maturity. Three-month yields are secondary market averages, but all rates used in the yield curves are adjusted to constant maturity. **Standard and Poor's 500 Index with Reinvested Dividends** shows the total return: capital gains plus dividends.

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 2000 affect levels and growth rates of household survey employment, labor force and population. The unemployment rate and other series were 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 **available labor supply** is the sum of the unemployed and those persons not in the labor force but who want to work now. The household survey was significantly 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.

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

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. The comprehensive revision introduced the **equipment & software** component of business investment.

Pages 16, 17: **Government consumption and investment** is current expenditures on goods and services, including capital consumption (depreciation) and gross investment, as reported in the NIPAs. The **unified federal budget deficit** differs from **NIPA basis** in four main ways: (1) NIPA excludes transactions involving existing assets; (2) NIPA outlays exclude government investment and include consumption of government capital, while unified budget outlays do the reverse; (3) NIPA accounts exclude Puerto Rico and U.S. territories; and (4) various timing issues are handled differently. **Outlays and receipts** are from the NIPAs, except as noted. Since 1977, the federal **fiscal year** starts on October 1. Excluded agency debt was 0.6 percent of federal debt at the end of fiscal 1997. **Federal debt held by the public** includes holdings of the Federal Reserve System and excludes holdings of the social security and other federal trust funds. Federal grants in aid to state and local governments appear in both state and local receipts and federal outlays.

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

Pages 20, 21: **Output per hour (Y/H)**, **unit labor cost (C/Y)**, and **compensation per hour (C/H)** are indexes which approximately obey the following relationship: $\%(Y/H) + \%(C/Y) = \%(C/H)$ with $\%$ meaning percent changes. Unit labor cost is shown on page 9. **Real compensation per hour** uses the CPI to adjust for the effects of inflation. Nonfarm business accounted for about 76 percent of the value of GDP in 1996, while nonfinancial corporations accounted for about 54 percent. **Inventory valuation adjustments (IVA)** remove the effect of changes in the value of existing inventories from corporate profits and proprietors' income. (This change in value does not correspond to current production and therefore is not part of GDP). **Capital consumption adjustments (CCAdj)** increase profits and proprietors' income by the difference between estimates of economic depreciation and depreciation allowed by the tax code. Components of national income not shown are rental income of persons and net interest.

Sources

Bureau of Economic Analysis (BEA), U.S. Dept. of Commerce

National income and product accounts, international trade and investment data (except by country), auto and light truck sales

Census Bureau, U.S. Dept. of Commerce

Inventory-sales ratios, retail sales, capital goods orders, housing starts, exports and imports by country

Bureau of Labor Statistics (BLS), U.S. Dept. of Labor

All employment-related data, employment cost index, consumer and producer price indexes, unit labor cost, output per hour, compensation per hour, multifactor productivity

United States Department of Treasury

Unified budget receipts, outlays, deficit, debt

Federal Reserve Board

Index of industrial production, treasury yields, exchange rates, capacity utilization, household debt

The Survey Research Center, The University of Michigan

Consumer sentiment index

The Conference Board

Help-wanted advertising index

Organization for Economic Cooperation and Development (OECD)

GDP for major trading partners (not available on FRED)