

# National Economic Trends



## The Tortoise Revises the Hare

Since the last issue of *National Economic Trends*, payroll or establishment survey employment—one of the most closely watched economic statistics—has undergone its annual benchmark revisions. As the chart shows, the most recent revision (57,000) was trivial, but the previous revision (542,000) amounted to more than one-sixth of the employment growth between March 1994 and March 1995. Given the prominence of the payroll data, it is important to know why large discrepancies sometimes arise.

The Bureau of Labor Statistics (BLS) measures employment in three ways. First, it surveys households and asks whether the residents are employed. Second, it surveys employers (establishments) and asks how many people they have on their payrolls. Third, it assembles data from unemployment insurance (UI) tax forms that must be sent to state UI offices by every employer covered by the UI program. The process of benchmarking is intended to reconcile the two employer-based estimates by using the slow—but very accurate—UI employment “tortoise” (ES-202 data) to revise the quickly available—but relatively error-prone—establishment survey “hare.”

Paradoxically, it is mostly the tortoise’s fault that the hare is inaccurate. BLS decides which establishments to survey based on the UI records, but drawing a sample in this way means that the payroll survey will miss many new employers whose paperwork has not yet found its way into the UI records. Without adjustment, therefore, the payroll employment estimates will be too low.

BLS handles this problem by using a statistical model and other information to estimate a “bias adjustment factor” for each month. The bias adjustment is essentially an estimate of how many jobs are created each month in new establishments but missed by the sampling procedure. Bias adjustment factors are not necessary with the

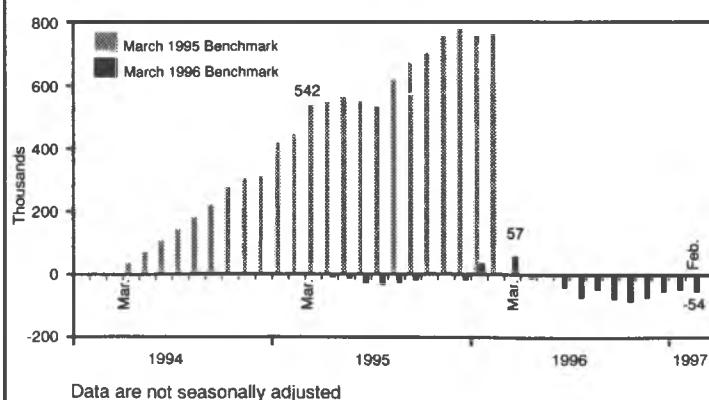
data coming from UI records because, when they are finally complete, they contain data from every employer in the UI system.

Each spring, the *previous* year’s March payroll employment estimates are revised to be consistent with that month’s UI data, as well as various other data on employers who are not covered by UI reporting requirements. The chart shows the effects of the 1995 and 1996 benchmarks. For most industries, one-twelfth of the March revision is added to not seasonally adjusted (NSA) estimates for the previous April, two-twelfths to May, and so on. Therefore, for large benchmark revisions like March 1995, the overall revisions between benchmarks (April 1994 to February 1995) appear wedge-shaped. Because the March 1996 revision was so small, the exceptions to this procedure (notably the “eating and drinking places” industry) dominate the revisions, so no wedge shape is visible in the chart between April 1995 and February 1996.

Starting with April 1996 estimates, BLS incorporated new information into the bias adjustments for employment estimates (these months will get their final revisions a year from now). The net effect of all of the revisions was to lower the February 1997 NSA estimate by 54,000.

—Joe Ritter

**Payroll Employment Benchmark Revisions**  
March 1995 and March 1996



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

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## Conventions used in this publication:

1. Charts and tables contain data that was current on June 30, 1997.
2. Shaded areas indicate recessions, as determined by the National Bureau of Economic Research.
3. *Percent change* refers to simple percent changes. *Percent change from year ago* refers to the percent change from the same month or quarter in the previous year. The *percent change at annual rate* shows what the growth rate would be over an entire year if the same simple percent change continued for four quarters or twelve months. The percent change at annual rate of  $X$  between the previous quarter  $t-1$  and the current quarter  $t$  is:

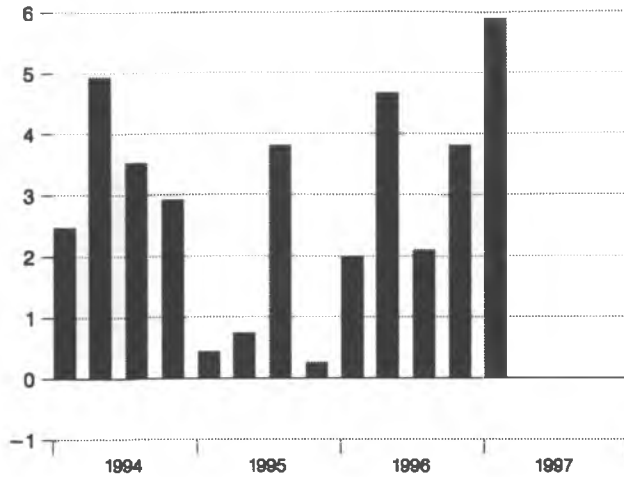
$$100 \times \left[ \left( \frac{X_t}{X_{t-1}} \right)^4 - 1 \right]$$

For monthly data replace 4 with 12.

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

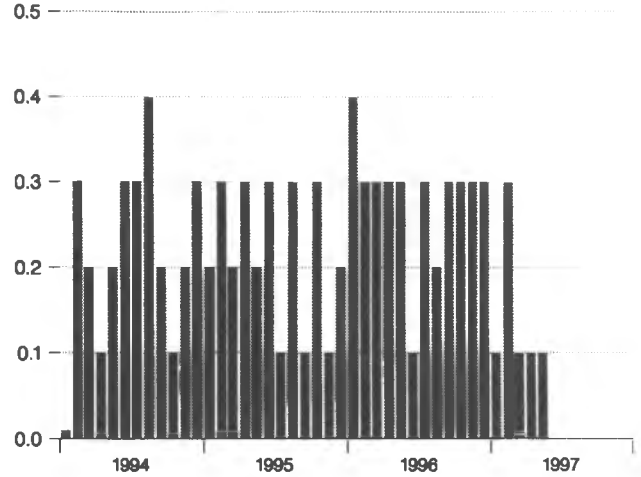
## Real GDP Growth

Percent change at annual rate



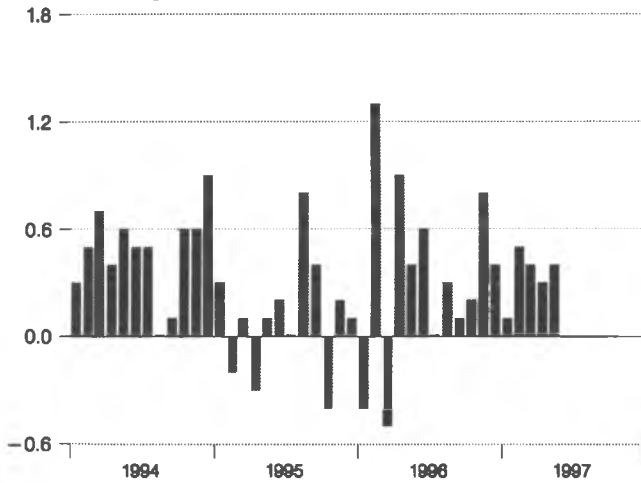
## Consumer Price Index

Percent change



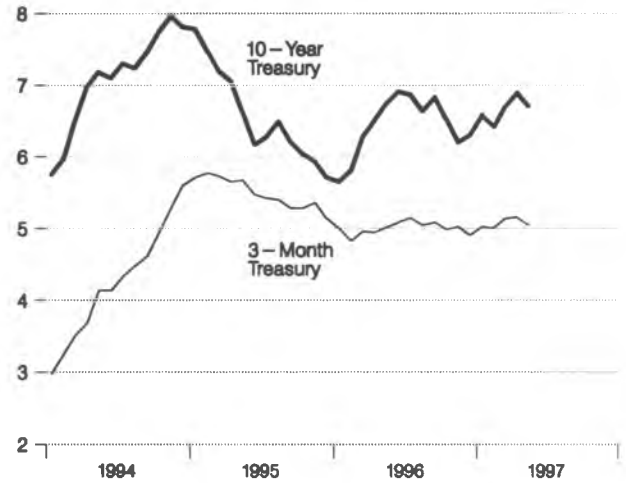
## Industrial Production

Percent change



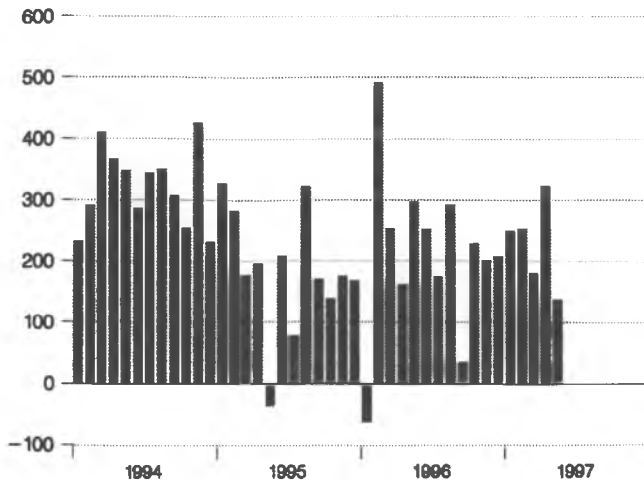
## Interest Rates

Percent



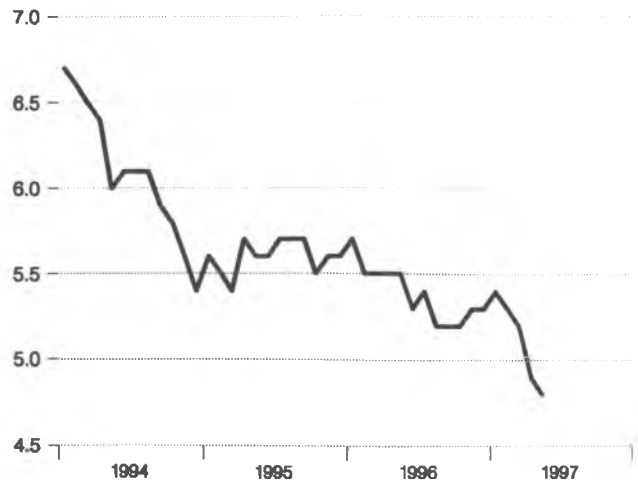
## Change in Nonfarm Payrolls

Thousands



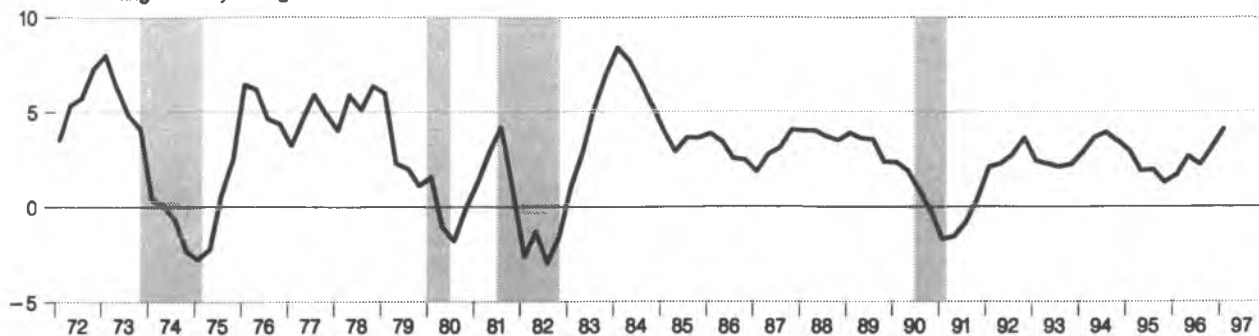
## Unemployment Rate

Percent of labor force



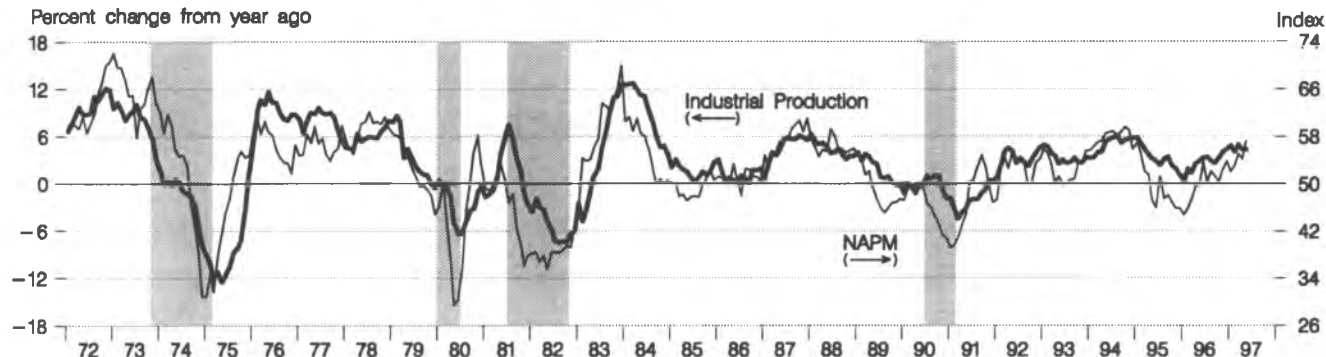
## Real Gross Domestic Product

Percent change from year ago



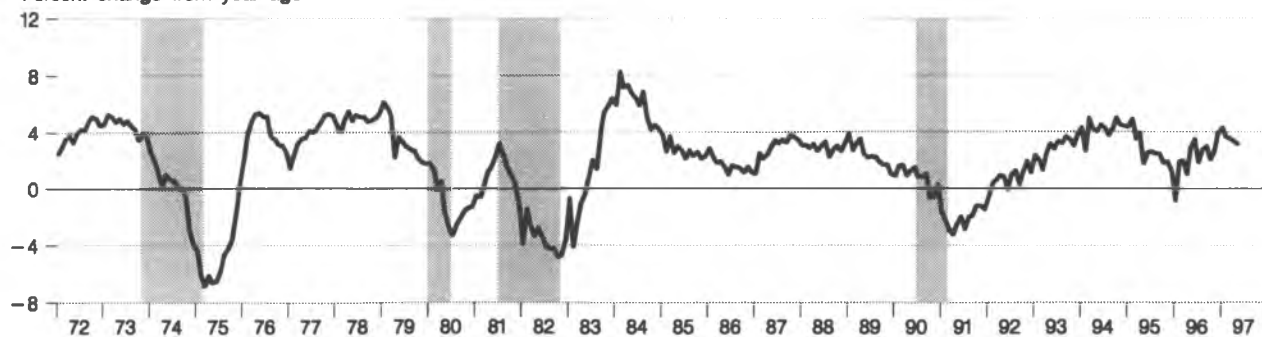
## Industrial Production and Purchasing Managers' (NAPM) Indexes

Percent change from year ago



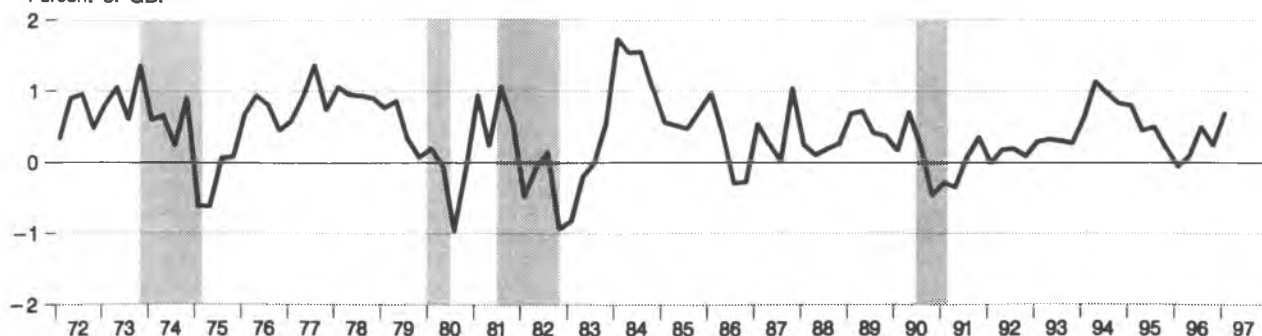
## Aggregate Private Nonfarm Hours

Percent change from year ago



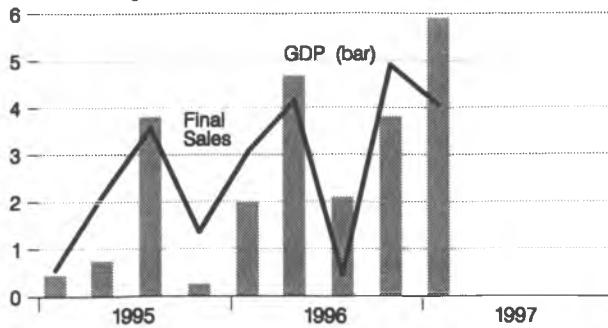
## Real Change in Business Inventories

Percent of GDP



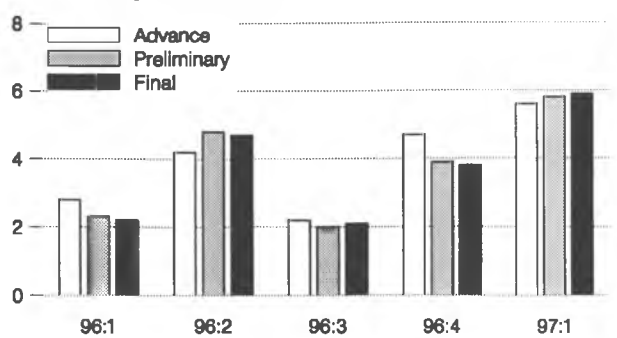
## Real Final Sales and GDP

Percent change at annual rate



## Real GDP Revisions

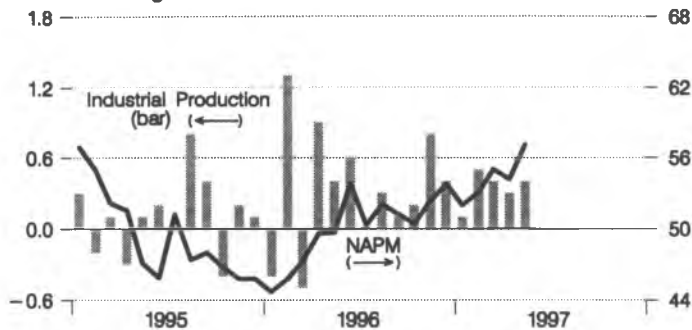
Percent change at annual rate



## Industrial Production and NAPM Index

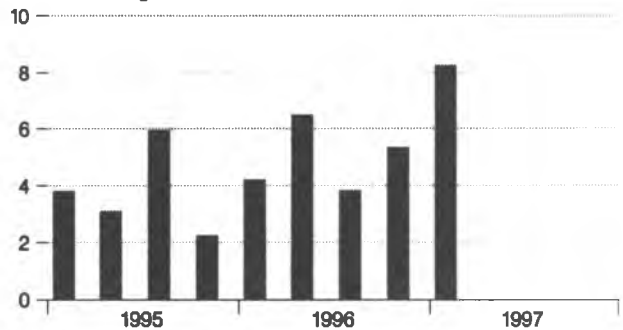
Percent change

Index



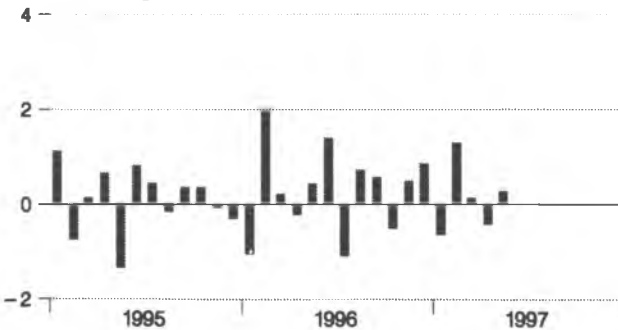
## Nominal Gross Domestic Product

Percent change at annual rate



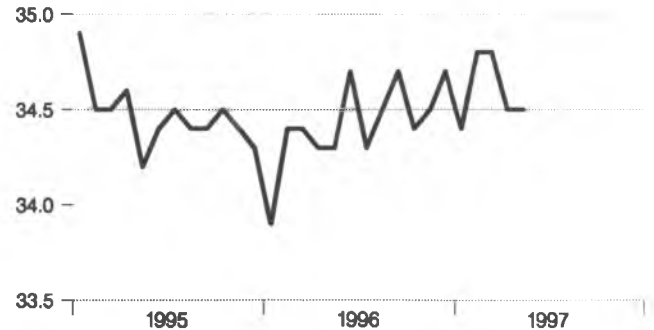
## Aggregate Private Nonfarm Hours

Percent change



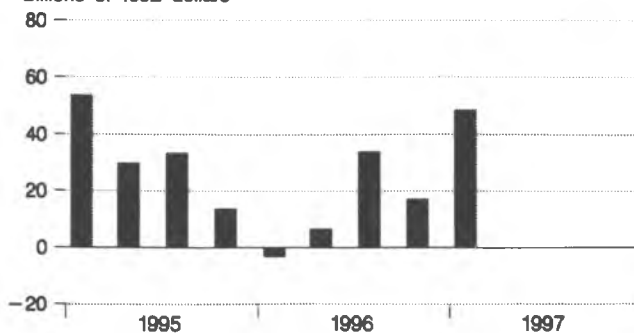
## Average Weekly Private Nonfarm Hours

Hours



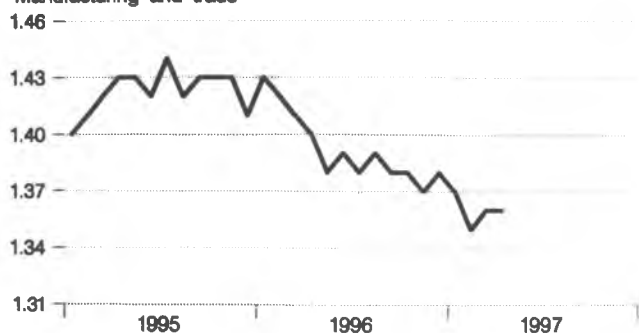
## Real Change in Business Inventories

Billions of 1992 dollars



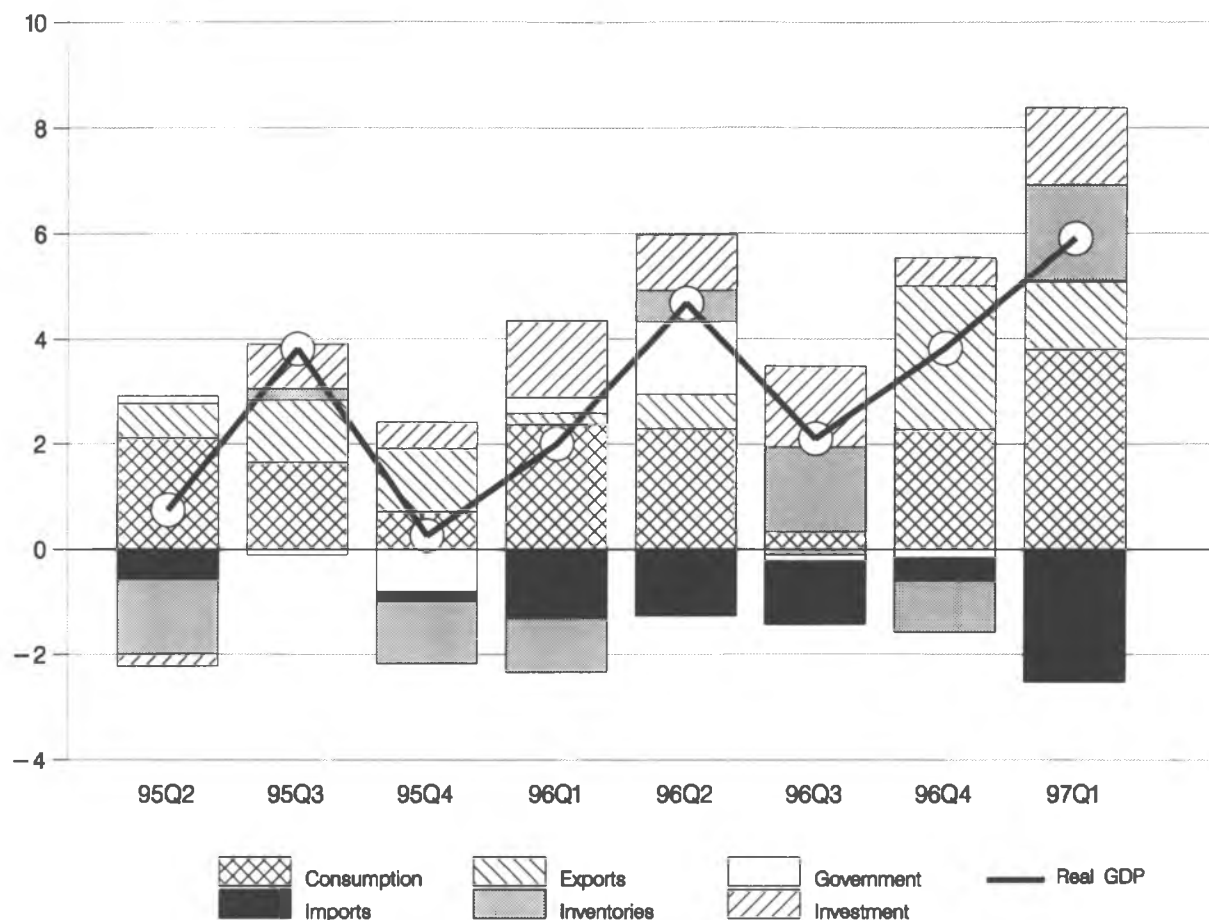
## Inventory-Sales Ratio

Manufacturing and trade



## Contribution of Components to Real GDP Growth

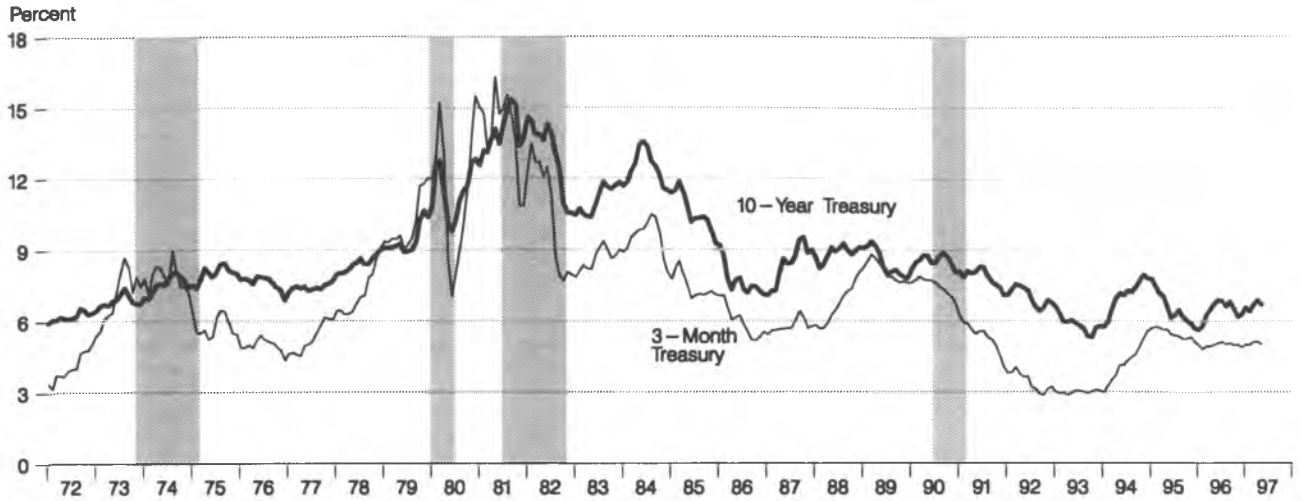
Percent change at annual rate



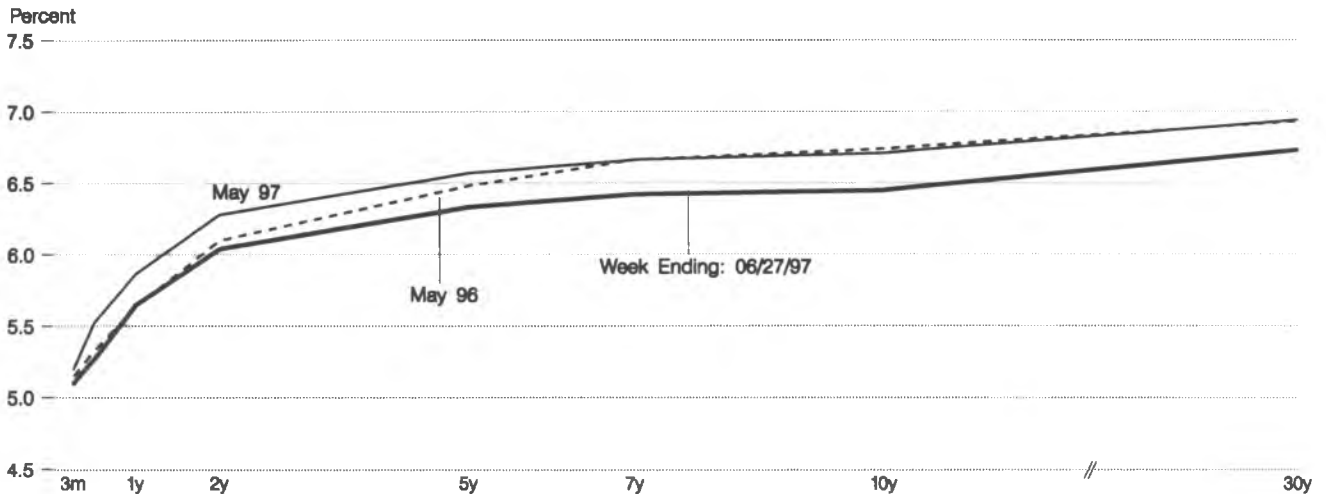
## Contributions to Real GDP Growth Rate

	1995			1996				1997
	2nd	3rd	4th	1st	2nd	3rd	4th	1st
<b>Real GDP</b>	0.75	3.81	0.26	2.00	4.68	2.10	3.82	5.91
<b>Final Sales</b>	2.11	3.56	1.35	3.04	4.15	0.47	4.89	4.06
<b>Change in Inventory</b>	-1.42	0.22	-1.16	-1.01	0.60	1.60	-0.98	1.81
<b>Consumption</b>	2.11	1.65	0.71	2.36	2.28	0.34	2.28	3.79
<b>Fixed Investment</b>	-0.23	0.85	0.51	1.47	1.05	1.54	0.53	1.46
Nonresidential	0.36	0.51	0.26	1.19	0.41	1.80	0.61	1.20
Residential	-0.56	0.34	0.24	0.28	0.61	-0.22	-0.07	0.26
<b>Government</b>	0.15	-0.11	-0.81	0.30	1.39	-0.12	-0.16	0.03
Federal	-0.10	-0.41	-0.96	0.40	0.62	-0.24	-0.37	-0.22
State and Local	0.25	0.31	0.17	-0.11	0.76	0.13	0.22	0.25
<b>Net Exports</b>	0.07	1.19	0.99	-1.12	-0.63	-1.31	2.27	-1.27
Exports	0.65	1.18	1.19	0.21	0.66	-0.10	2.73	1.29
Imports	-0.58	0.00	-0.21	-1.33	-1.28	-1.21	-0.45	-2.53
<b>Residual</b>	0.06	-0.02	0.03	0.02	-0.03	0.01	-0.15	0.03

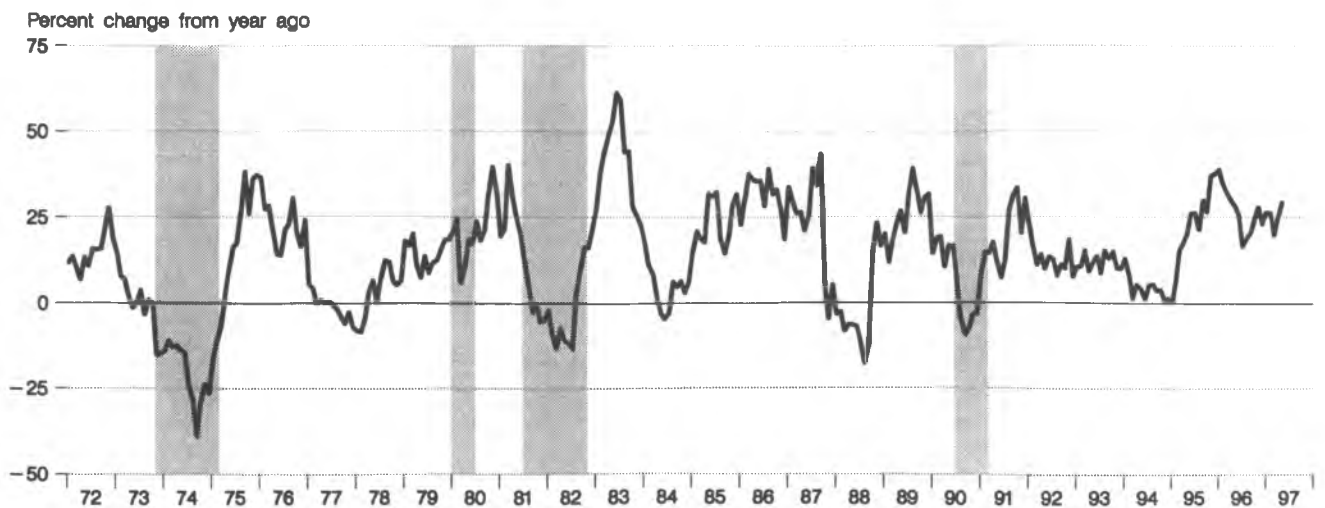
## Interest Rates



## Treasury Yield Curve

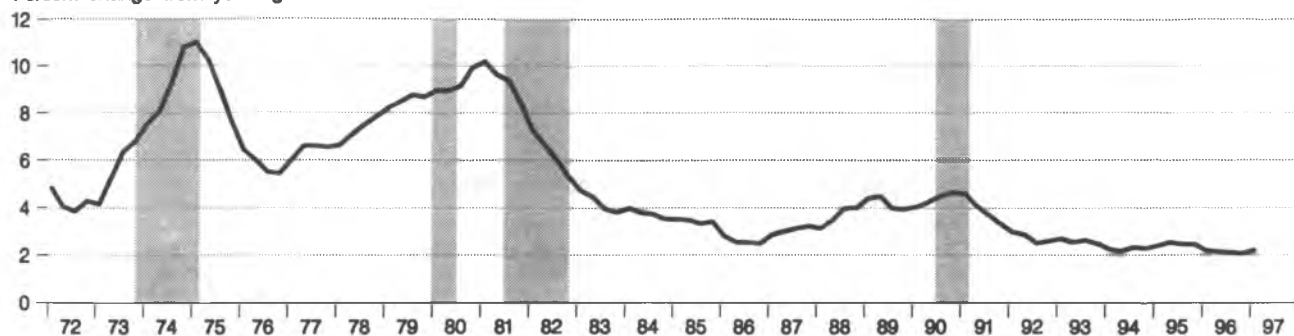


## Total Return on Standard and Poor's 500



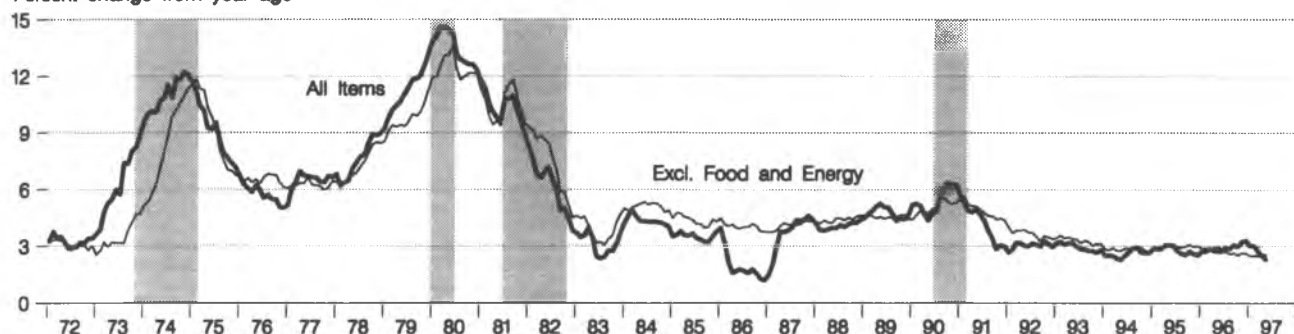
## GDP Chain Price Index

Percent change from year ago



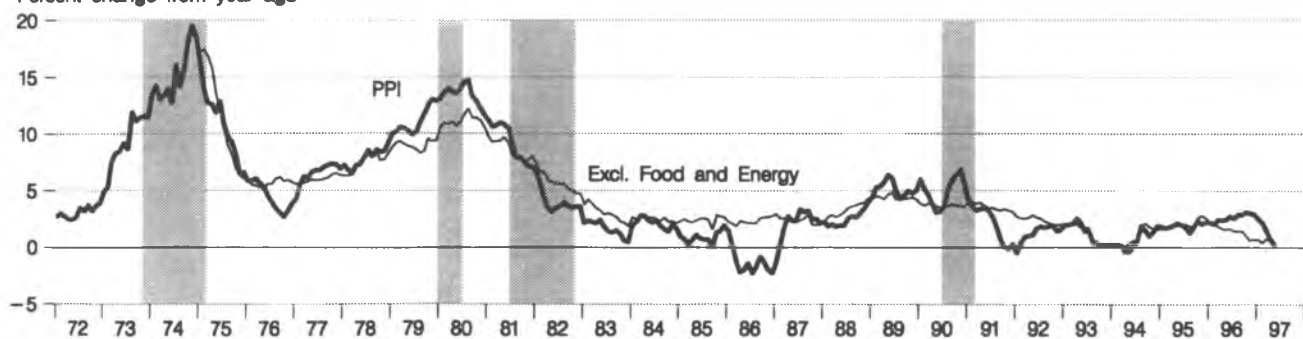
## Consumer Price Index

Percent change from year ago



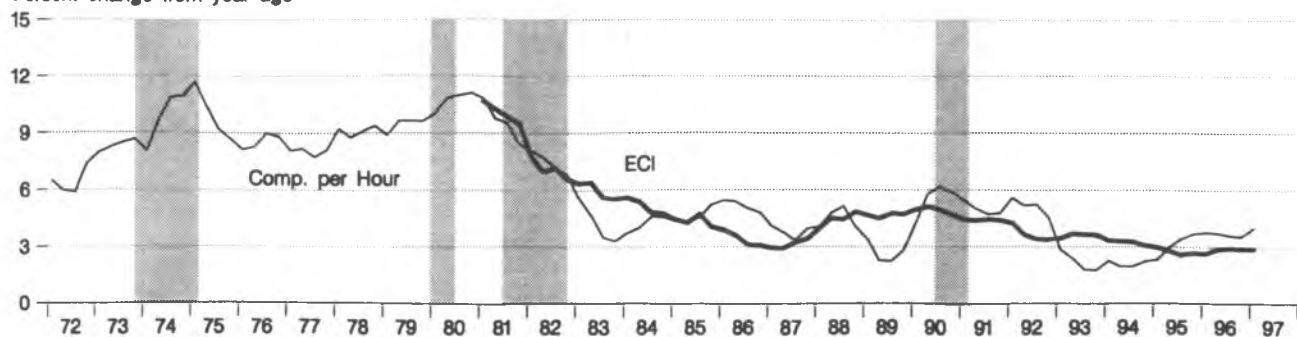
## Producer Price Index, Finished Goods

Percent change from year ago



## Employment Cost Index and Compensation per Hour

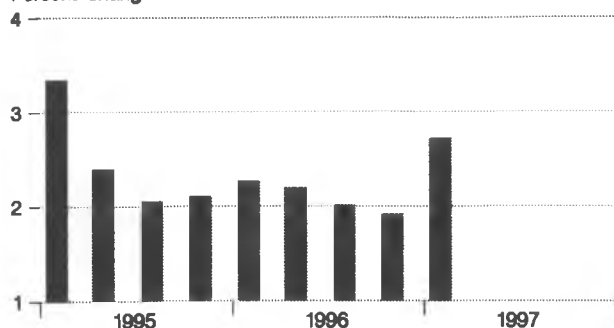
Percent change from year ago





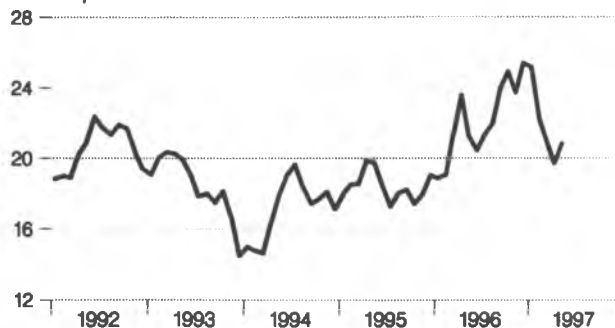
## GDP Chain Price Index

Percent change at annual rate



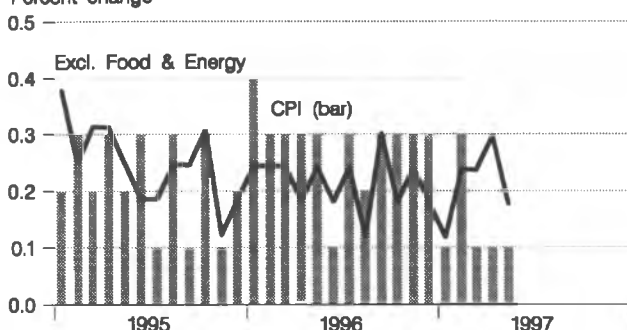
## Crude Oil Price

Dollars per barrel



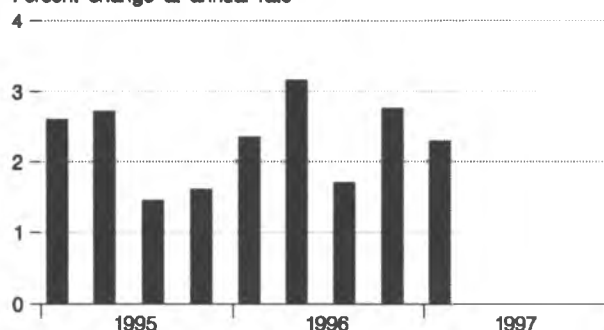
## Consumer Price Index

Percent change



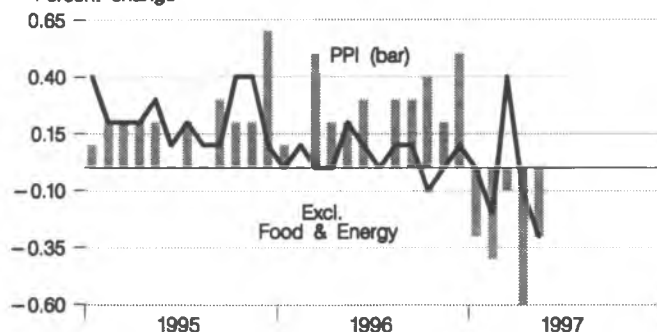
### Consumption Chain Price Index

Percent change at annual rate



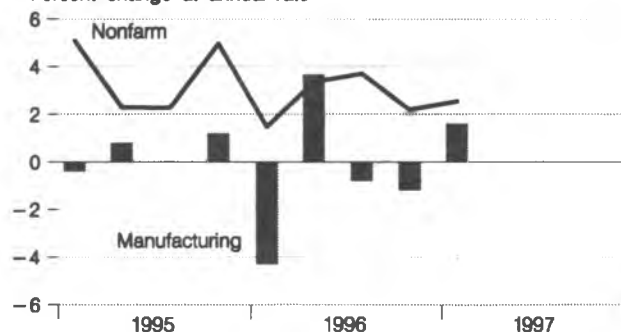
## Producer Price Index, Finished Goods

Percent change



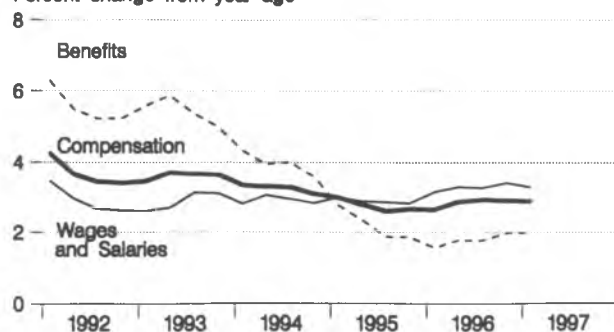
### Unit Labor Cost

Percent change at annual rate



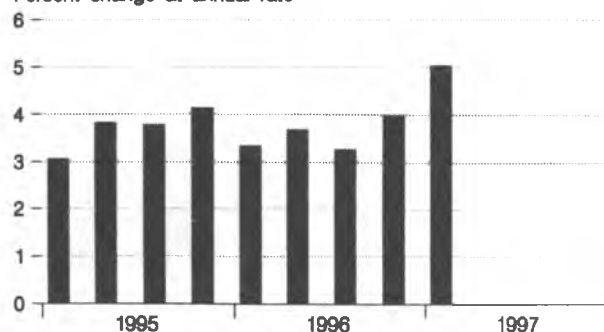
## Employment Cost Index

Percent change from year ago

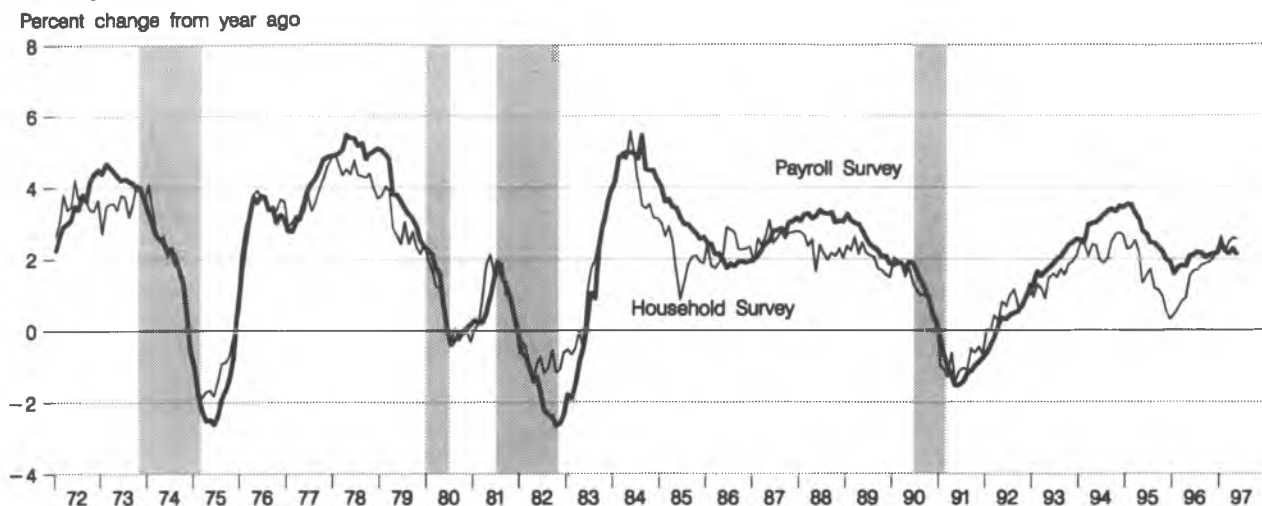


### Compensation per Hour

Percent change at annual rate



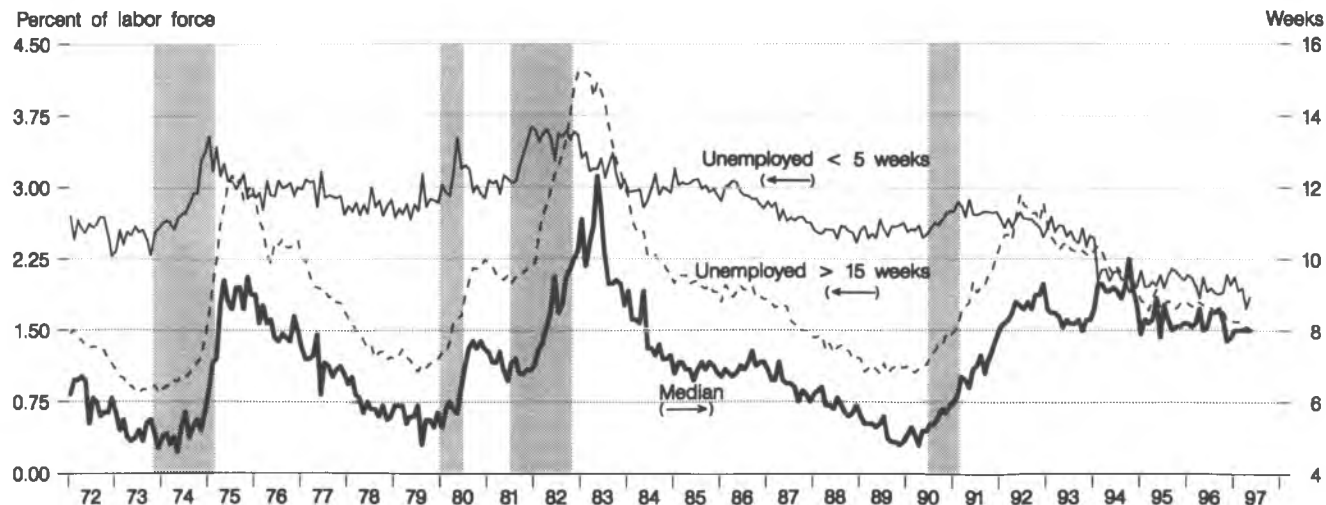
## Employment



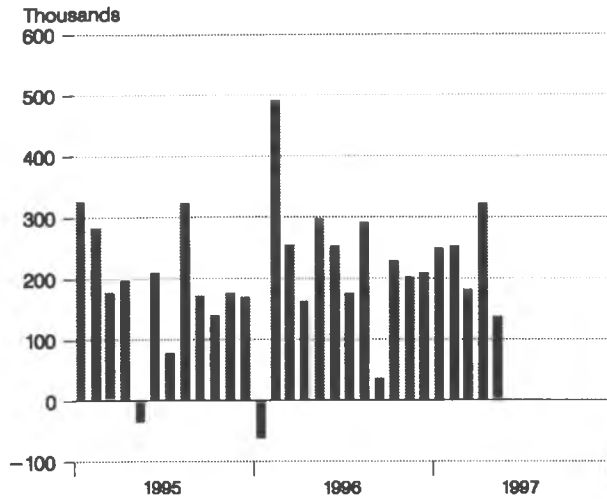
## Unemployment, Labor Force Participation and Employment Rates



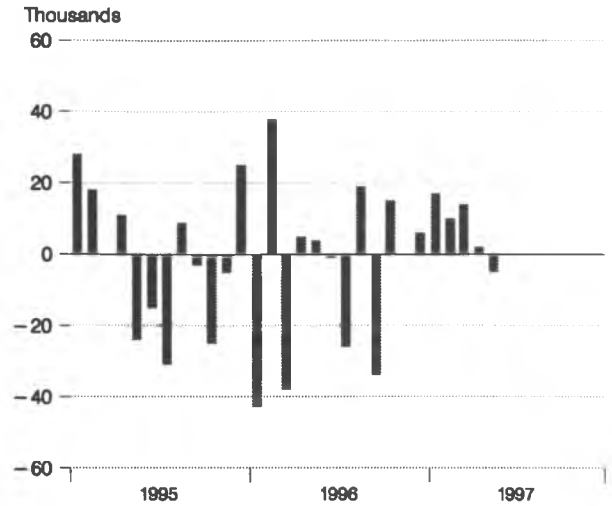
## Duration of Unemployment



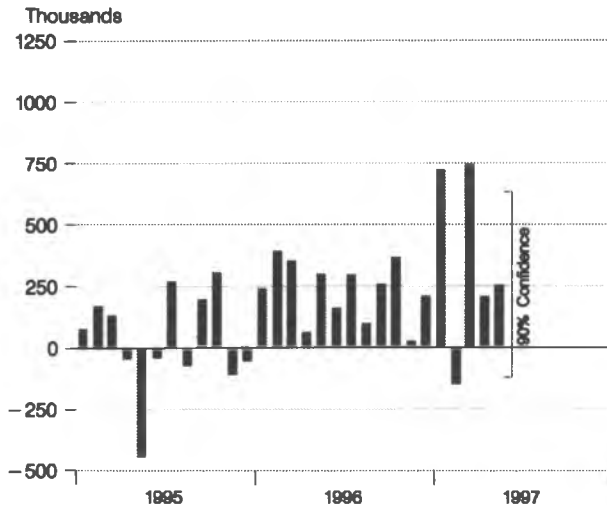
## Change in Nonfarm Payrolls



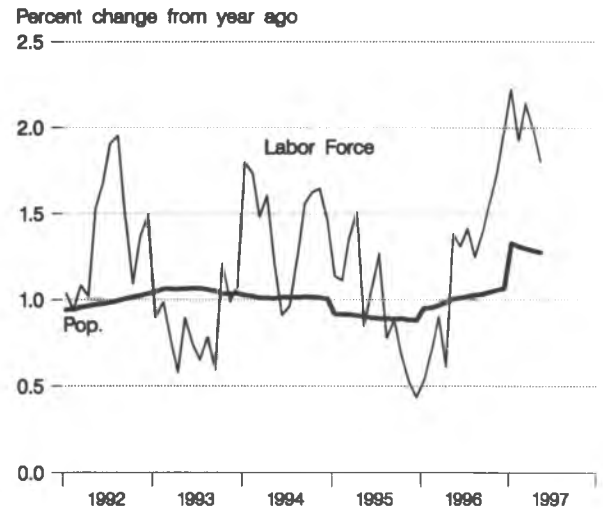
## Change in Manufacturing Payrolls



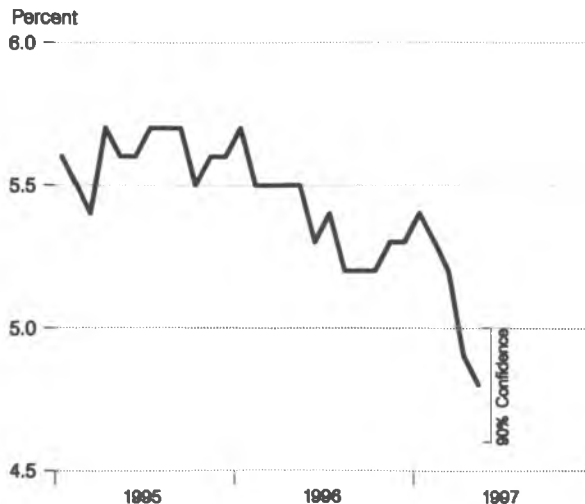
## Change in Household Employment



## Labor Force and Population



## Unemployment Rate

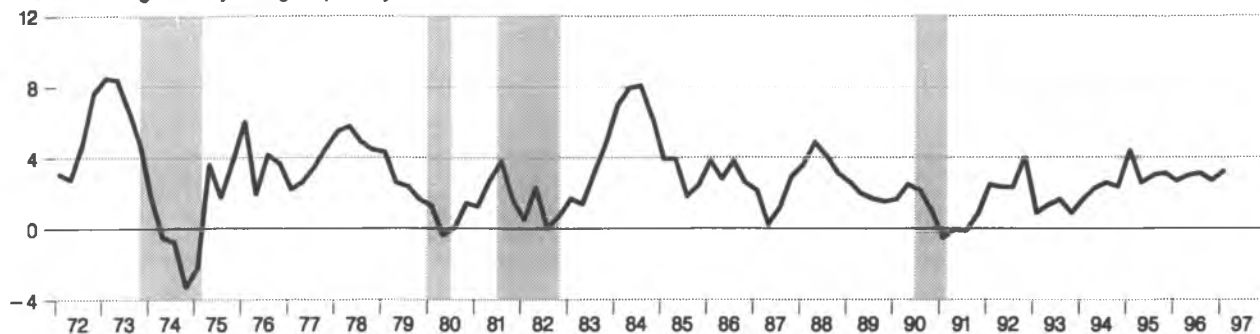


## Help-Wanted Advertising



## Real Disposable Income

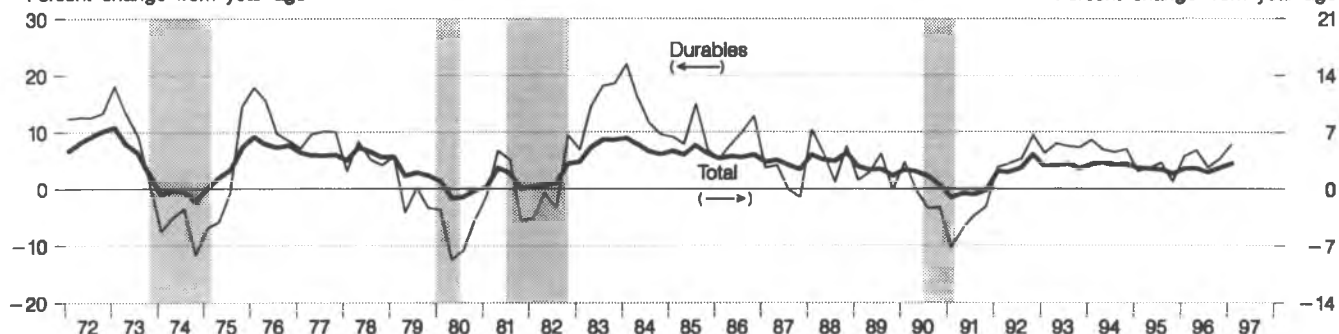
Percent change from year ago, quarterly data



## Real Consumption

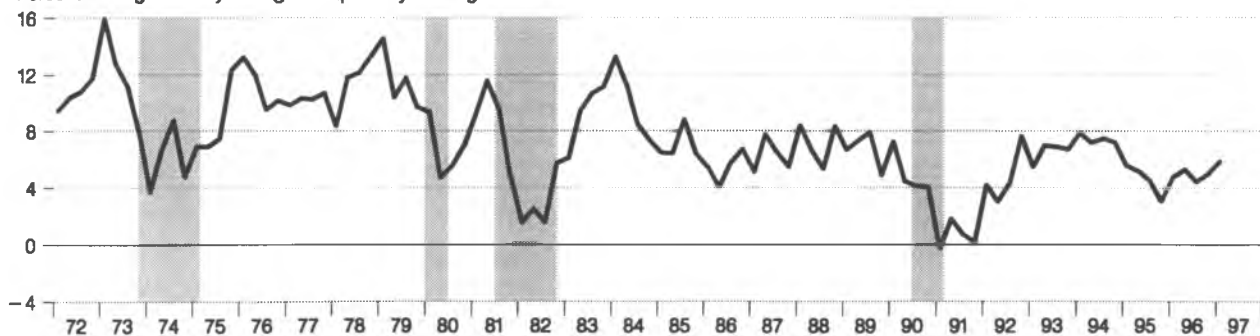
Percent change from year ago

Percent change from year ago



## Retail Sales

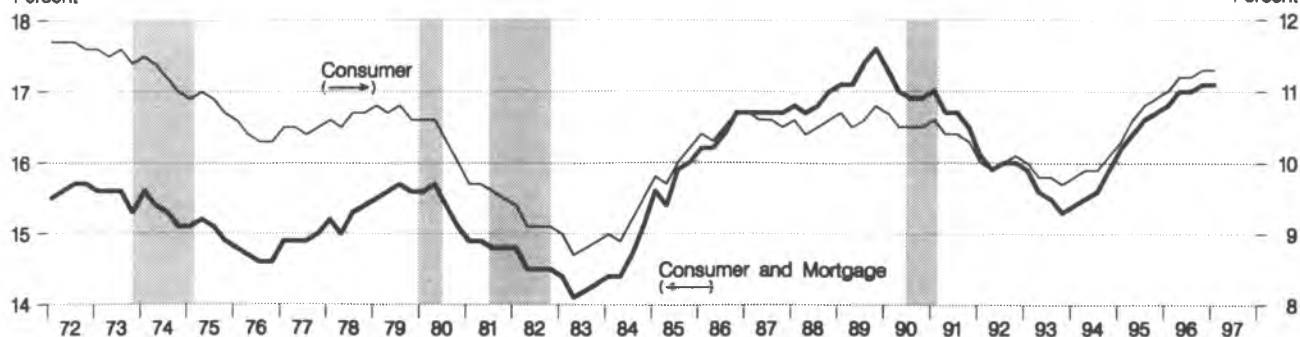
Percent change from year ago of quarterly average



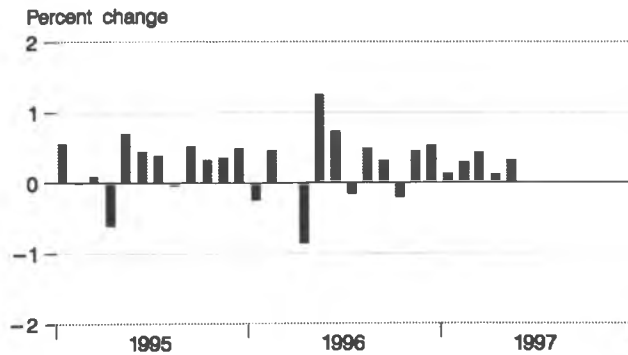
## Debt Service as Percent of Disposable Income

Percent

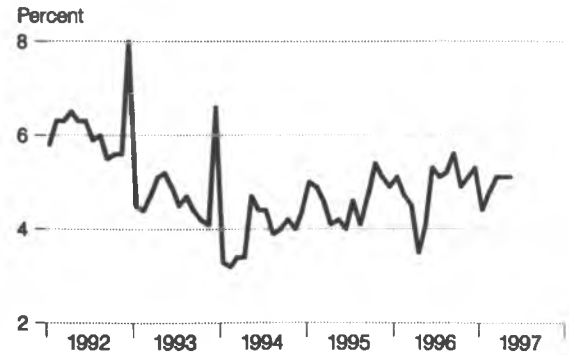
Percent



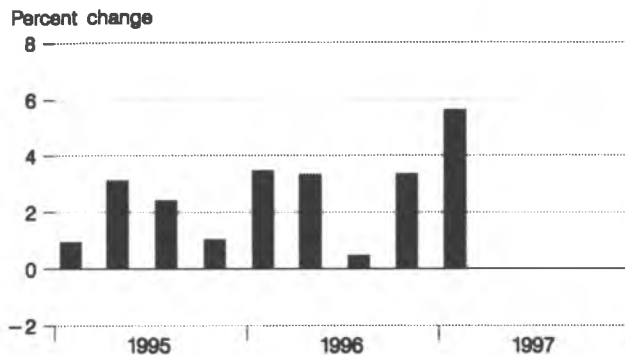
## Real Disposable Income



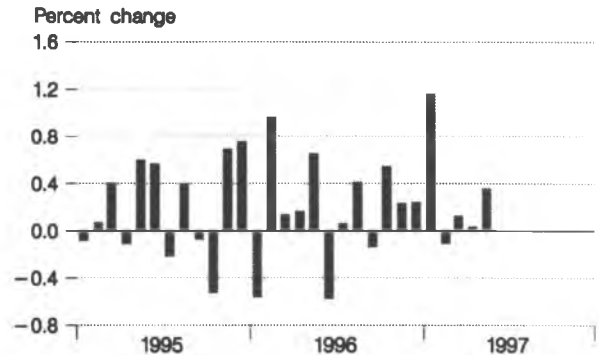
## Personal Saving Rate



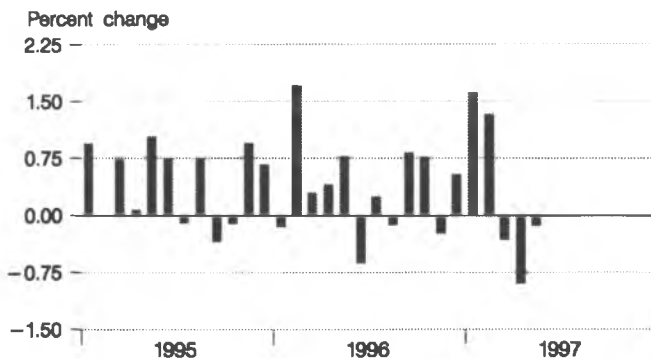
## Real Consumption



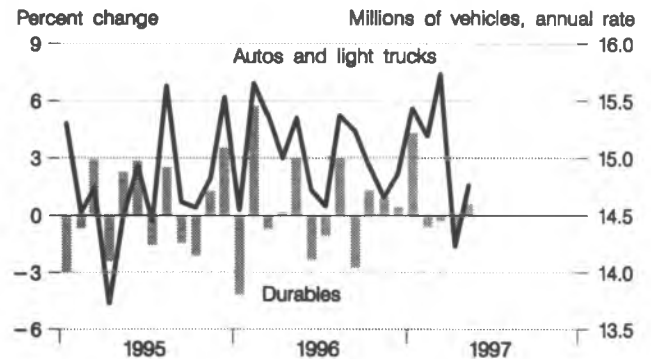
## Real Consumption



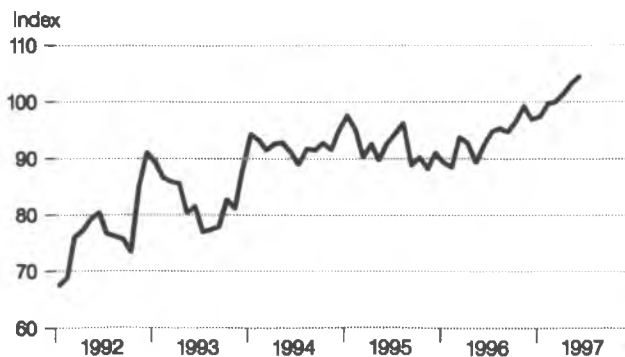
## Retail Sales



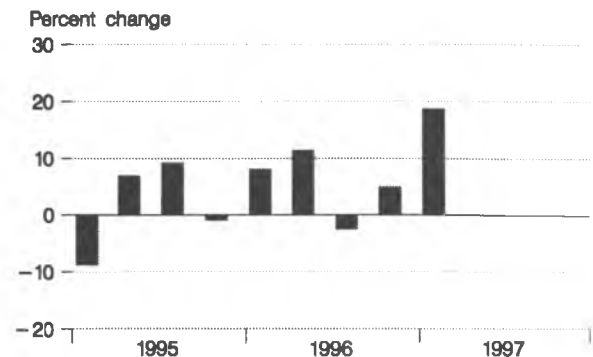
## Real Durables Consumption and Vehicle Sales



## Consumer Sentiment (U. of Michigan)

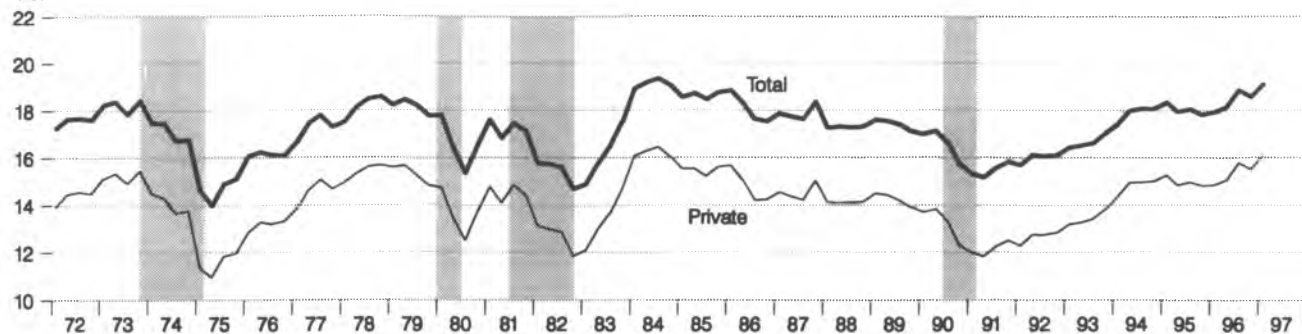


## Real Durables Consumption



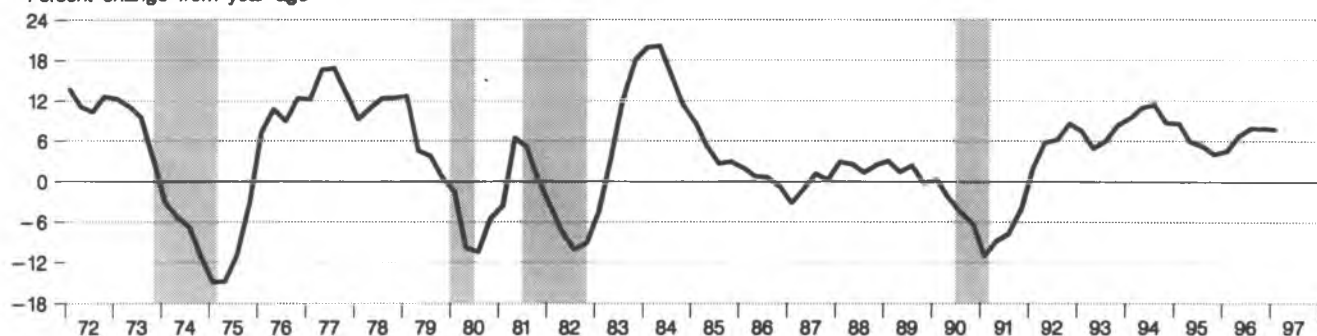
## Real Investment

Percent of GDP



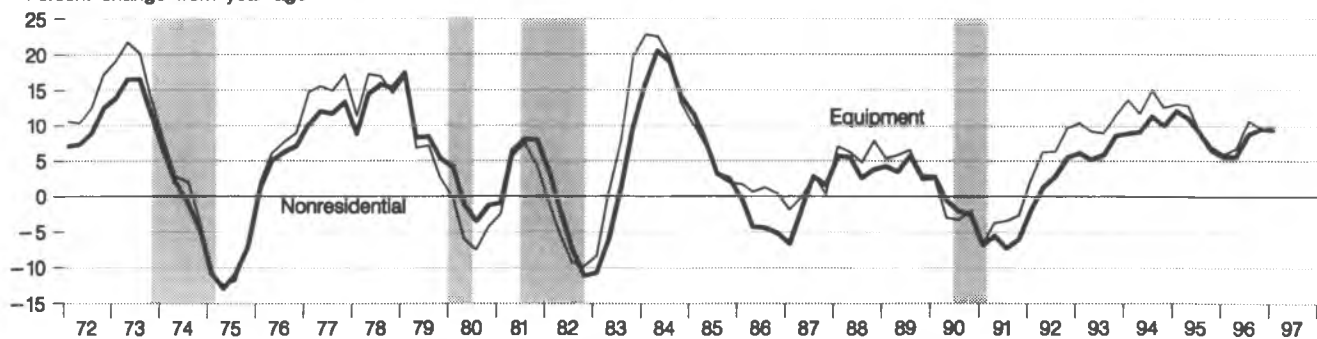
## Real Private Fixed Investment

Percent change from year ago



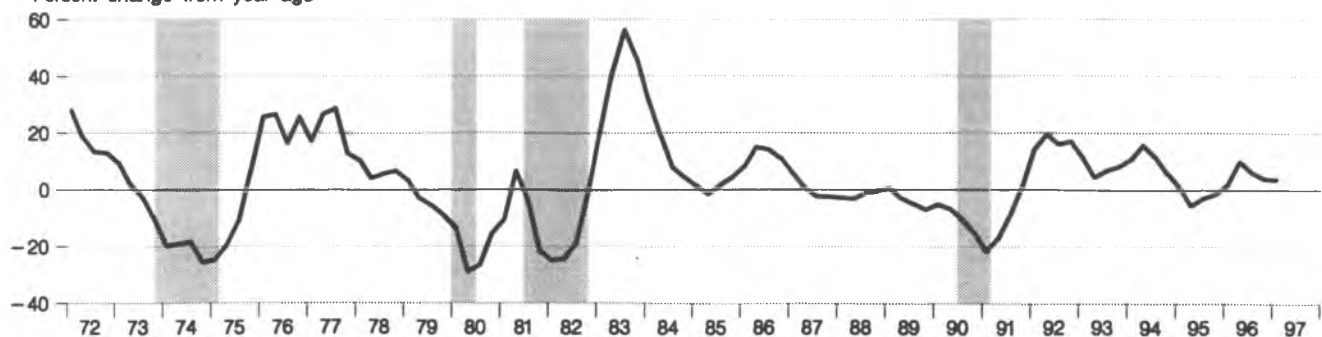
## Real Nonresidential and Producers Durable Equipment Investment

Percent change from year ago

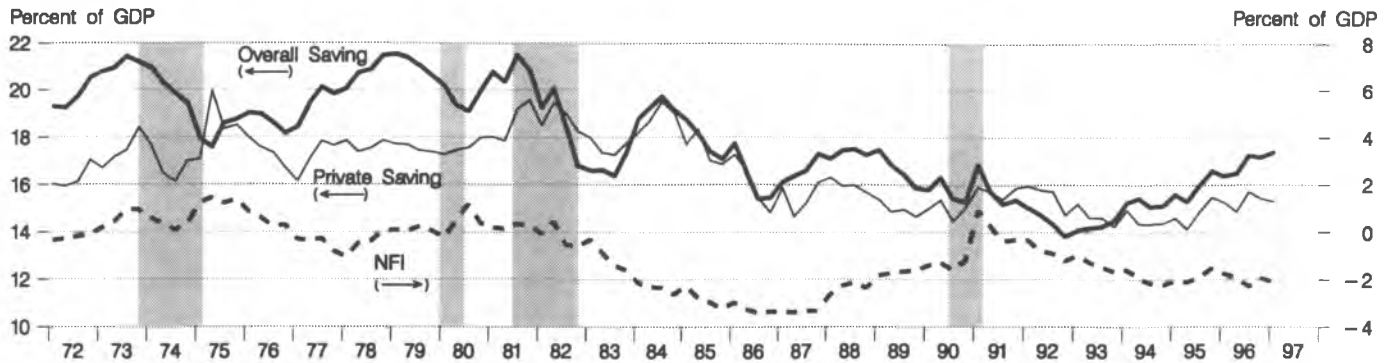


## Real Residential Investment

Percent change from year ago

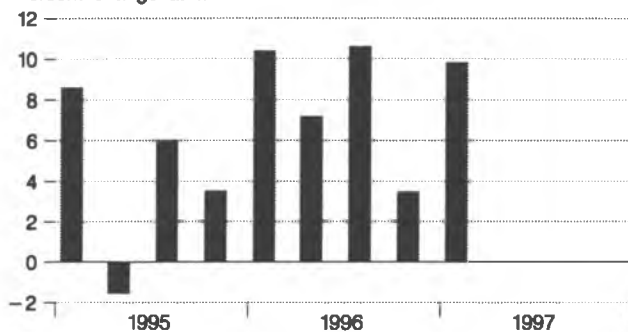


## Gross Saving Rates and Net Foreign Investment



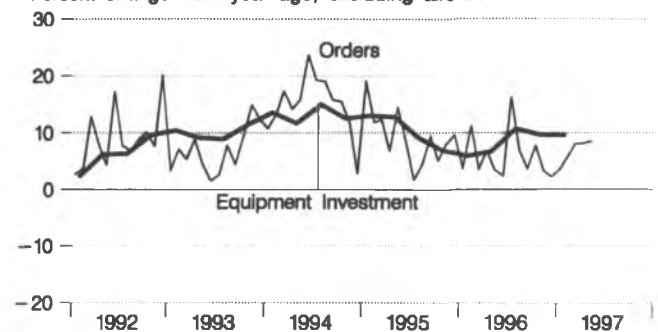
## Real Private Fixed Investment

Percent change at annual rate



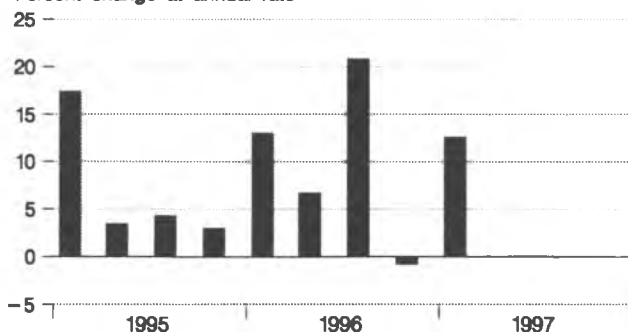
## Nondefense Capital Goods Orders

Percent change from year ago, excluding aircraft



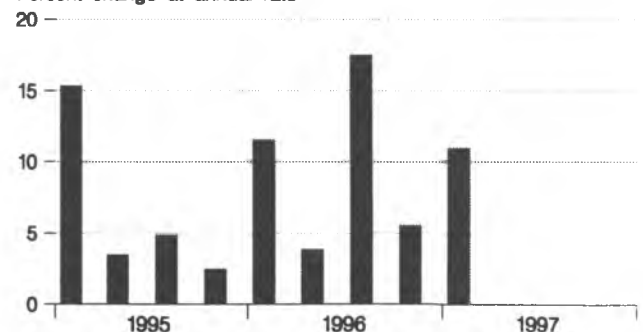
## Real Equipment Investment

Percent change at annual rate



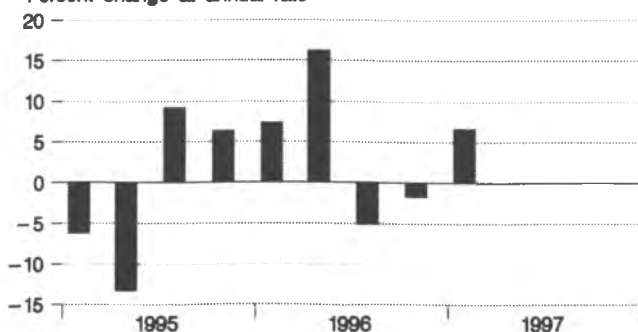
## Real Nonresidential Investment

Percent change at annual rate



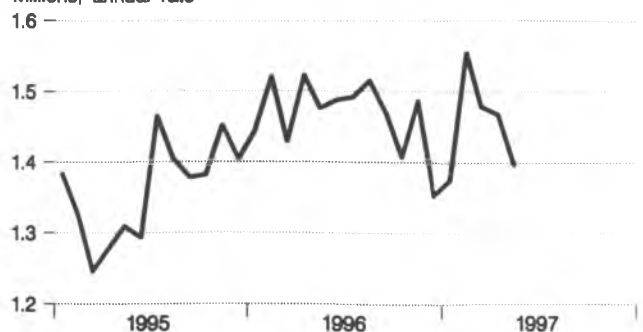
## Real Residential Investment

Percent change at annual rate



## Housing Starts

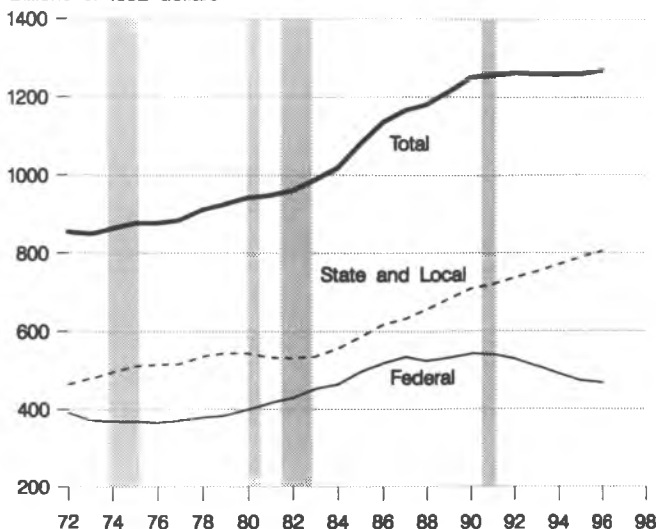
Millions, annual rate





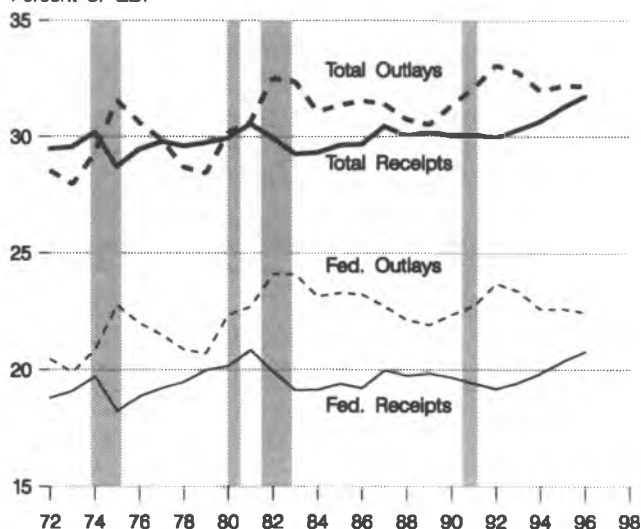
## Govt. Consumption and Investment

Billions of 1992 dollars

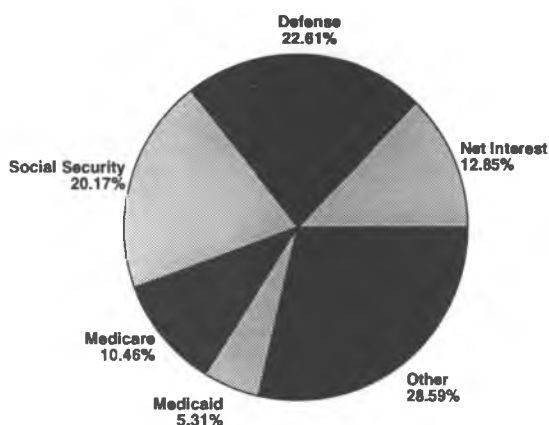


## Government Receipts and Outlays

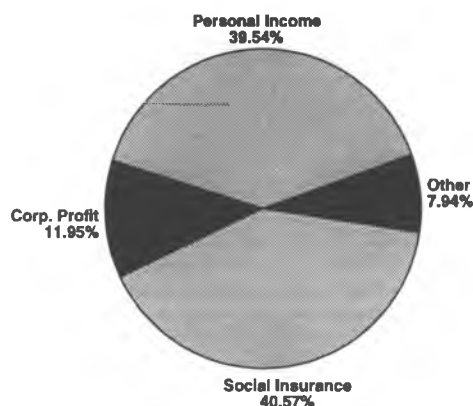
Percent of GDP



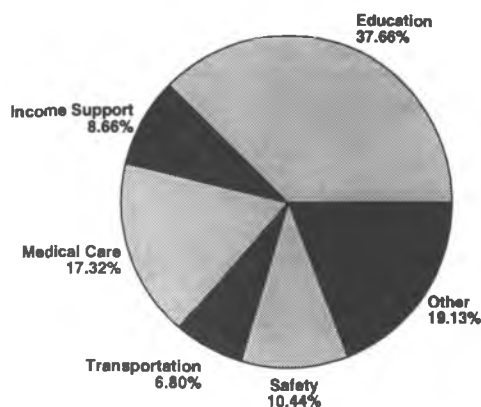
## Federal Outlays, 1994



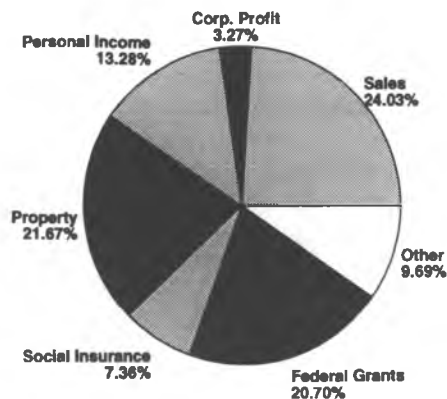
## Federal Receipts, 1994



## State and Local Outlays, 1994

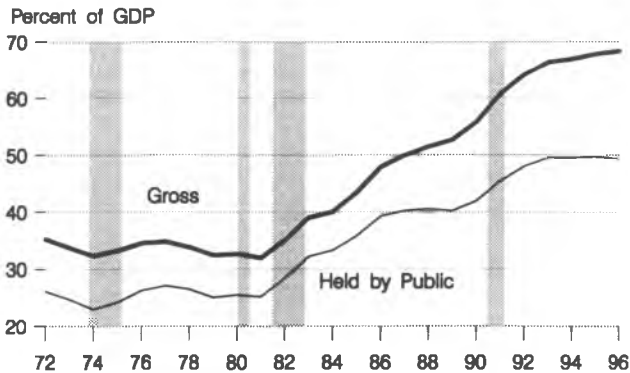


## State and Local Receipts, 1994

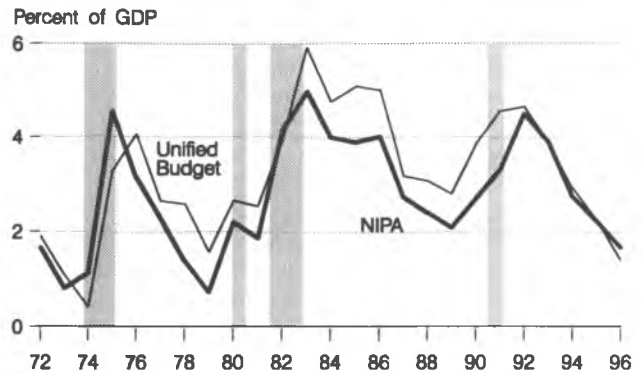




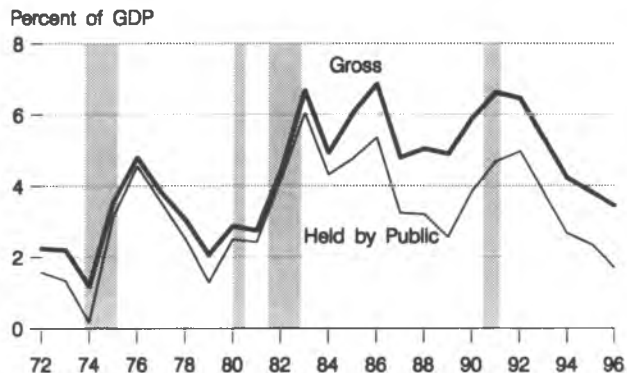
## Gross Federal Debt



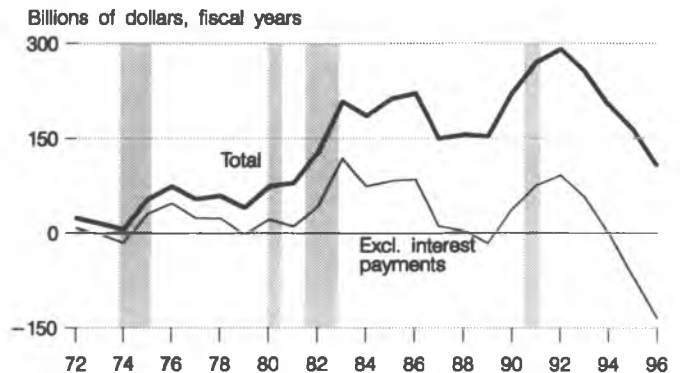
## Federal Deficit



## Change in Gross Federal Debt



## Federal Deficit, Unified Basis



## Government Budgets

Billions of dollars

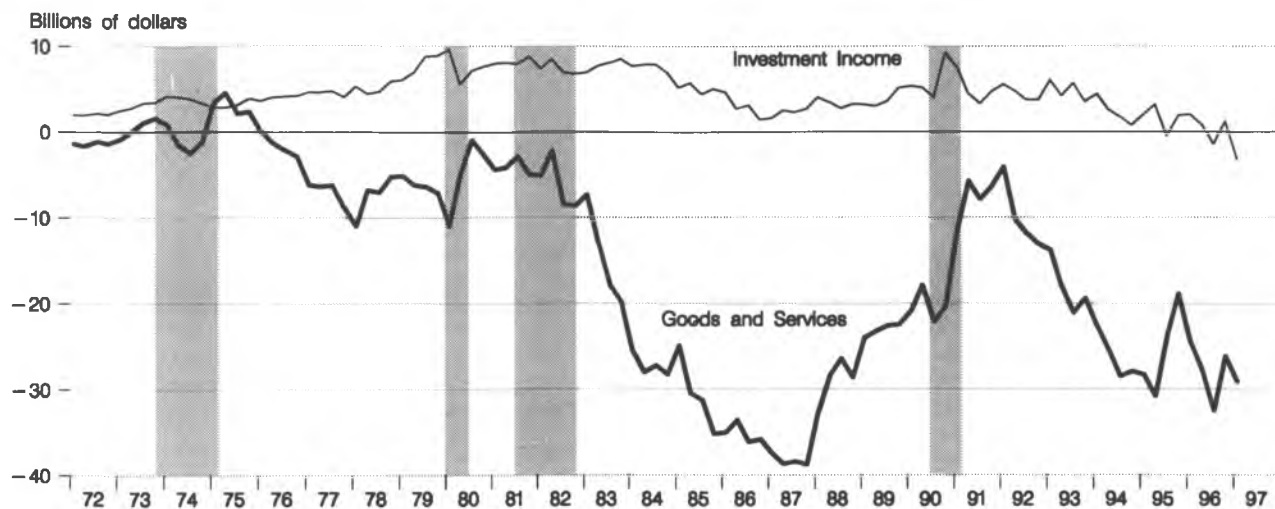
### National Income Accounts Calendar Years

	State and Local			Federal		
	Receipts	Expenditures	Surplus or Deficit(-)	Receipts	Expenditures	Surplus or Deficit(-)
1980	361.4	307.0	54.4	561.5	622.5	-61.0
1981	390.8	335.4	55.4	649.3	707.1	-57.8
1982	409.0	357.7	51.3	646.4	781.0	-134.6
1983	443.6	378.8	64.8	671.9	846.3	-174.4
1984	492.0	405.1	86.9	746.9	902.9	-156.0
1985	528.7	437.8	90.9	811.3	974.2	-162.9
1986	570.6	475.7	94.9	850.1	1027.6	-177.5
1987	594.9	511.1	83.8	937.4	1066.3	-128.9
1988	631.4	545.5	85.9	997.2	1118.5	-121.3
1989	681.0	585.9	95.1	1079.3	1192.7	-113.4
1990	728.9	648.8	80.1	1129.8	1284.5	-154.7
1991	784.2	708.4	75.8	1149.0	1345.0	-196.0
1992	844.3	758.0	86.3	1198.5	1479.4	-280.9
1993	897.1	802.2	94.9	1275.3	1530.9	-255.6
1994	946.4	846.6	99.8	1377.0	1567.3	-190.3
1995	996.1	901.1	95.0	1478.4	1640.1	-161.7
1996	1044.0	951.0	93.0	1575.0	1702.1	-127.1

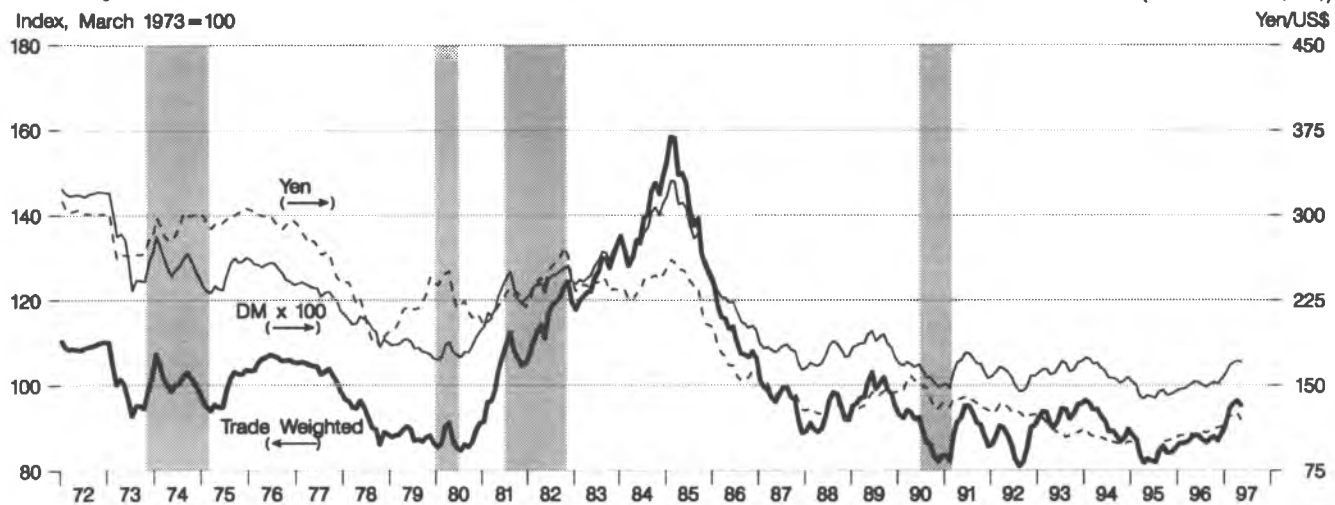
### Unified Budget Fiscal Years

Federal		
Receipts	Outlays	Surplus or Deficit(-)
517.1	590.9	-73.8
599.3	678.2	-79.0
617.8	745.8	-128.0
600.6	808.4	-207.8
666.5	851.8	-185.4
734.1	946.4	-212.3
769.1	990.3	-221.2
854.1	1003.9	-149.8
909.0	1064.1	-155.2
990.7	1143.2	-152.5
1031.3	1252.5	-221.2
1054.3	1323.6	-269.4
1090.5	1380.9	-290.4
1153.5	1408.7	-255.1
1257.7	1460.8	-203.1
1351.5	1515.4	-163.9
1452.8	1560.1	-107.3

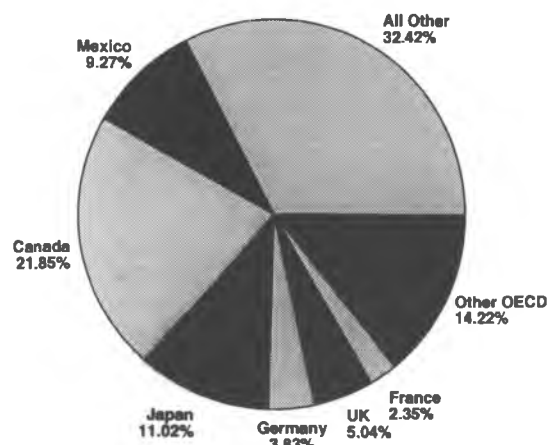
## Trade and Investment Income Balances



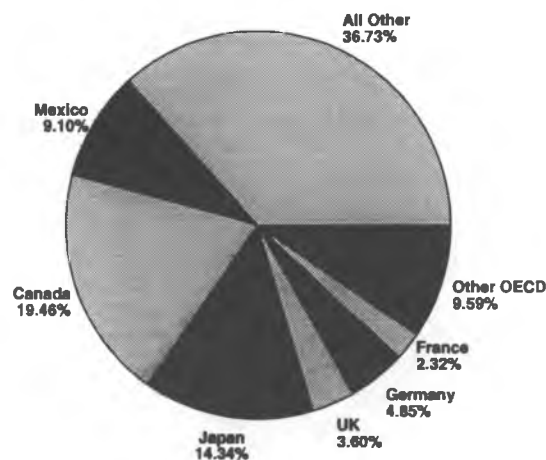
## Exchange Rates



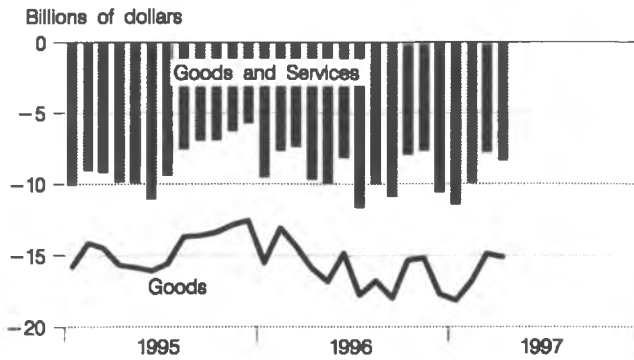
## Goods Export Shares, 1996



## Goods Import Shares, 1996



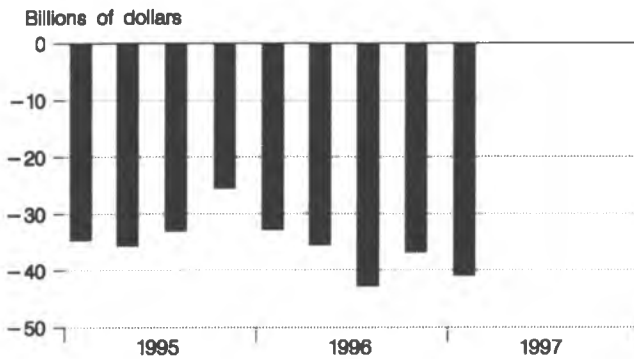
## Trade Balance



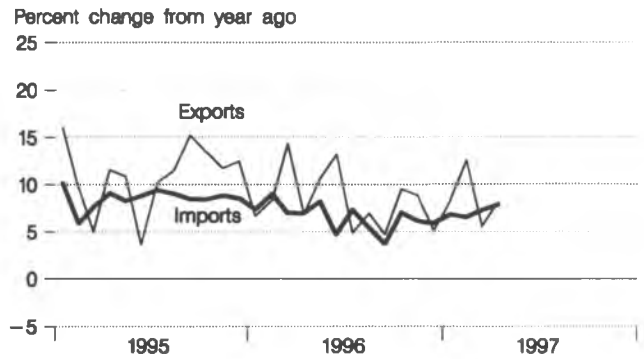
## Goods Trade



## Current Account Balance



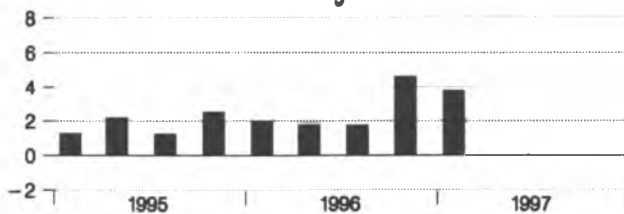
## Services Trade



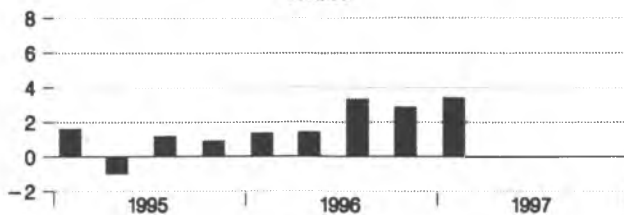
## Real GDP Growth of Major Trading Partners

Percent change at annual rate

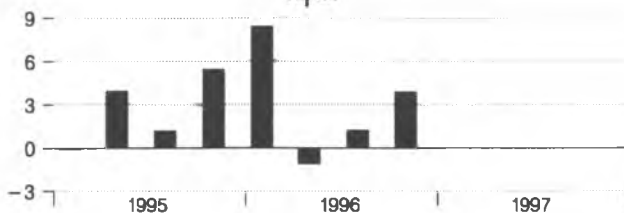
### United Kingdom



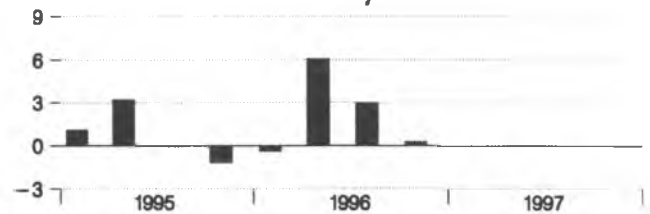
### Canada



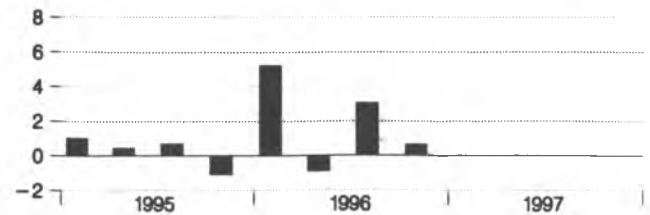
### Japan



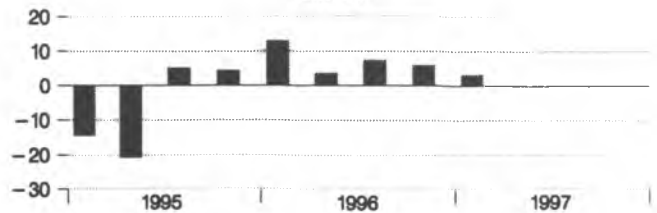
### Germany



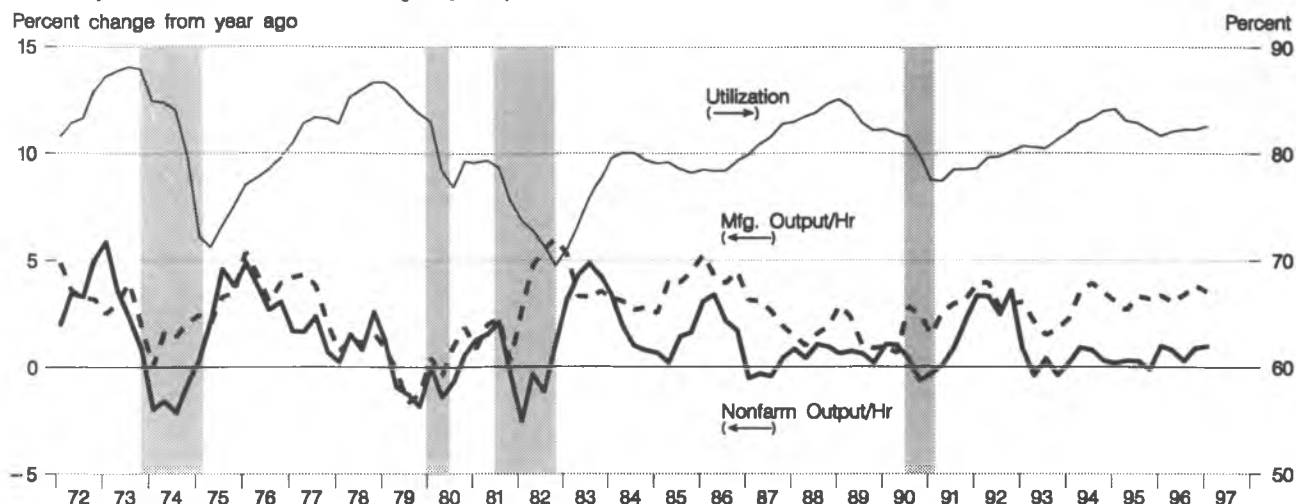
### France



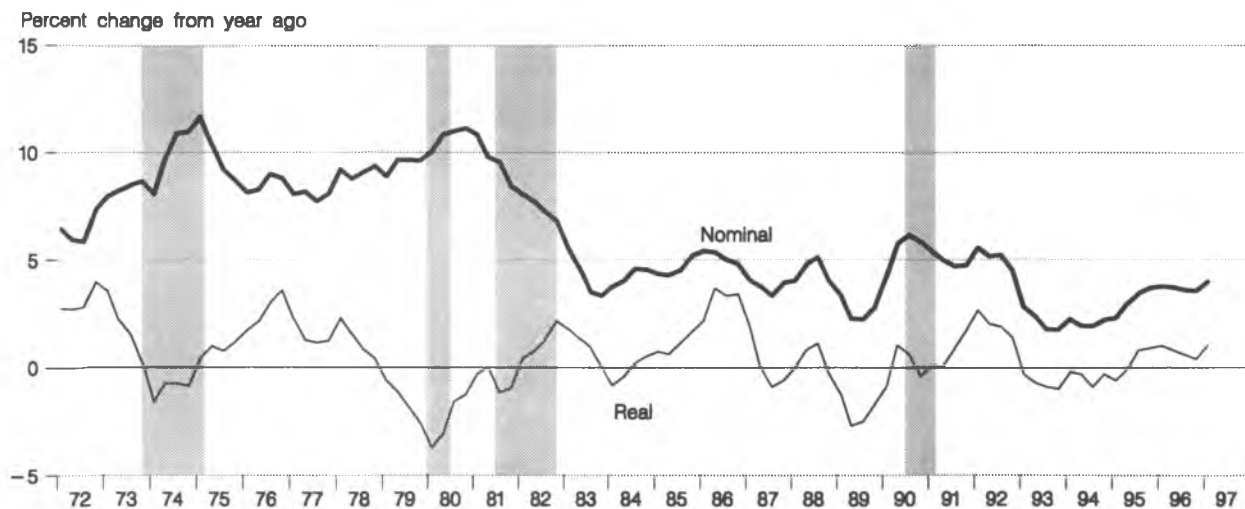
### Mexico



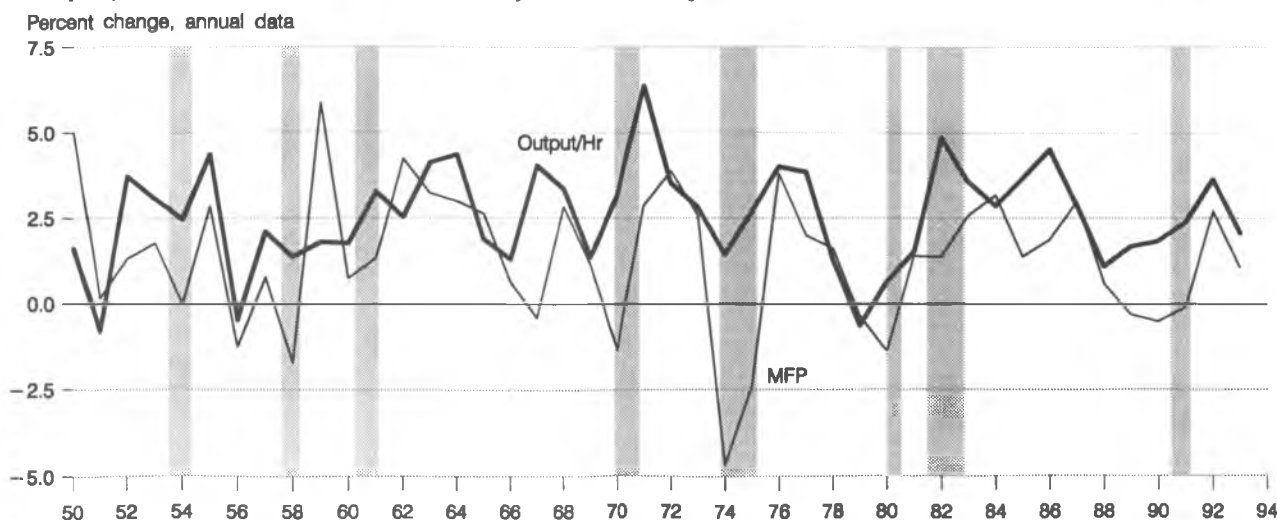
## Output per Hour and Manufacturing Capacity Utilization



## Nonfarm Compensation per Hour

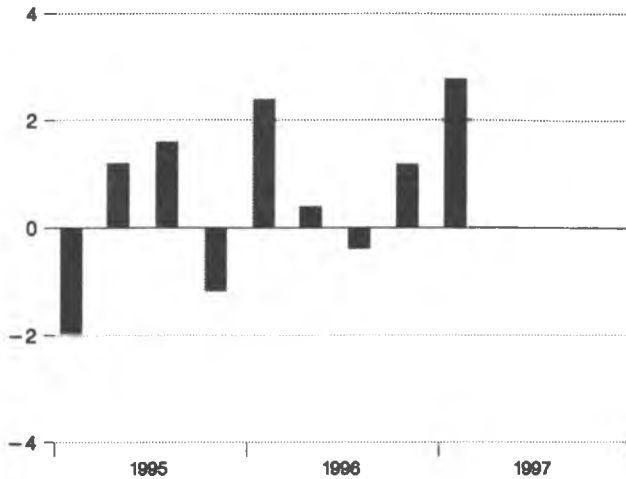


## Output per Hour and Multifactor Productivity, Manufacturing



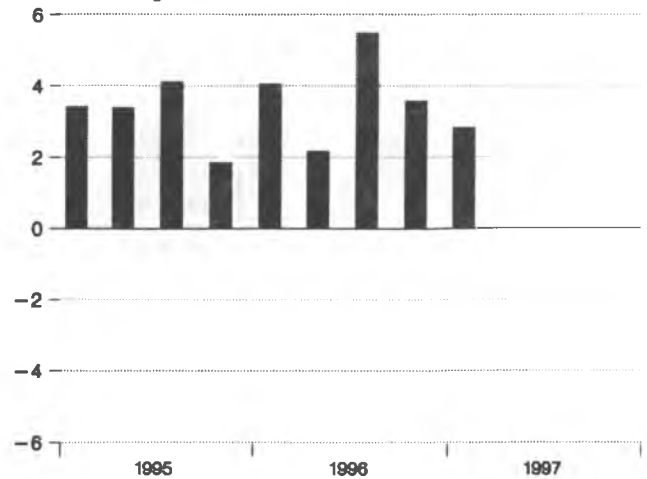
## Nonfarm Output per Hour

Percent change at annual rate



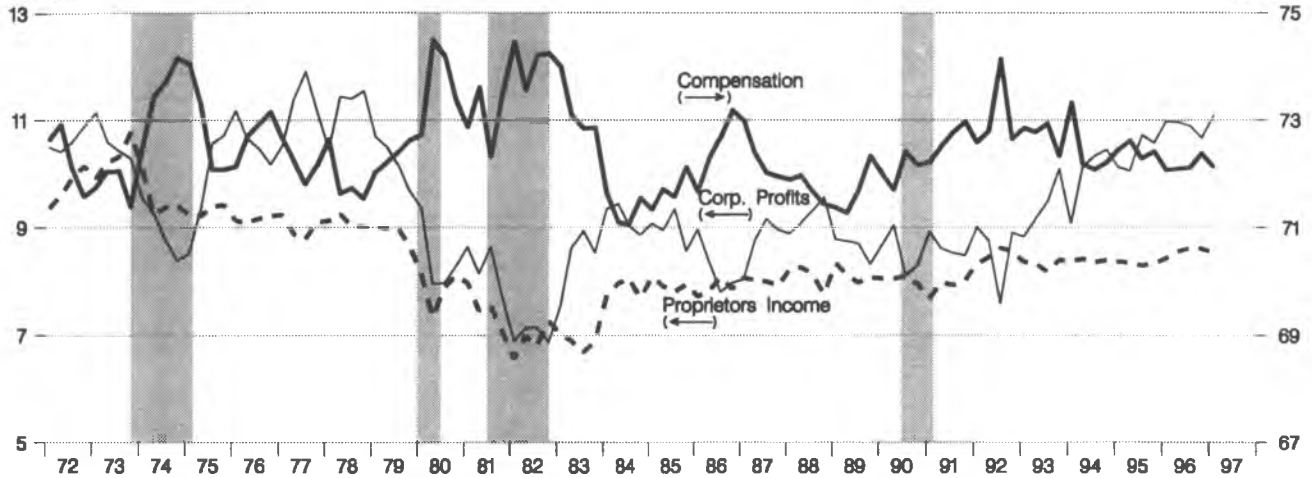
## Manufacturing Output per Hour

Percent change at annual rate



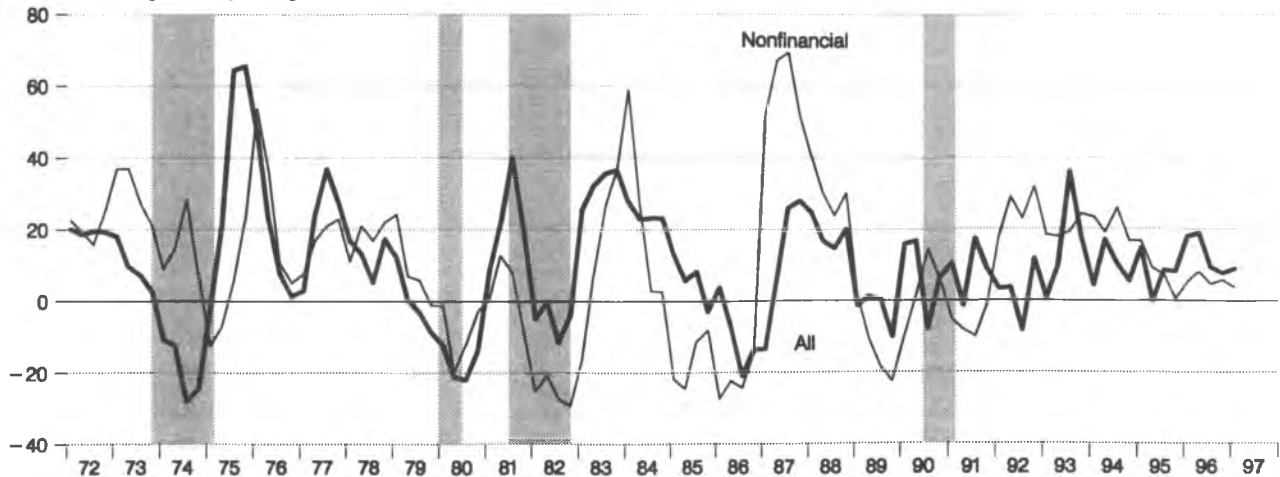
## Selected Component Shares of National Income

Percent



## Corporate Profits after Tax (with IVA and CCAdj)

Percent change from year ago



# NationalEconomicTrends

	Nominal GDP			Real GDP			Final Sales			Change in Business Inventories	
	Billions of \$	Percent change Annual rate	Year ago	Billions of 1992 \$	Percent change Annual rate	Year ago	Billions of 1992 \$	Percent change Annual rate	Year ago	Billions of 1992 \$ Last qtr	Year/Year ago
1992	6244.4		5.5	6244.442		2.7	6237.441		2.5		-2.977
1993	6553.0		4.9	6386.128		2.3	6365.496		2.1		7.001
1994	6935.7		5.8	6608.431		3.5	6550.685		2.9		19.010
1995	7253.8		4.6	6742.186		2.0	6708.867		2.4		58.930
1996	7576.1		4.4	6906.837		2.4	6892.123		2.7		32.694
1994 1	6776.1	5.3	5.2	6508.457	2.5	2.9	6467.727	1.2	2.5	40.780	18.467
2	6890.5	6.9	5.9	6587.449	4.9	3.6	6514.945	3.0	2.8	74.738	20.716
3	6993.1	6.1	6.4	6644.836	3.5	3.9	6582.060	4.2	3.3	64.597	19.398
4	7083.2	5.3	5.9	6692.855	2.9	3.5	6638.134	3.5	2.9	55.604	17.460
1995 1	7149.8	3.8	5.5	6700.224	0.4	2.9	6647.366	0.6	2.8	53.728	40.780
2	7204.9	3.1	4.6	6712.713	0.7	1.9	6682.420	2.1	2.6	29.864	74.738
3	7309.8	6.0	4.5	6775.782	3.8	2.0	6741.364	3.6	2.4	33.493	64.597
4	7350.6	2.3	3.8	6780.153	0.3	1.3	6764.193	1.4	1.9	13.692	55.604
1996 1	7426.8	4.2	3.9	6813.810	2.0	1.7	6815.153	3.0	2.5	-3.473	53.728
2	7545.1	6.5	4.7	6892.116	4.7	2.7	6884.700	4.1	3.0	6.669	29.864
3	7616.3	3.8	4.2	6928.084	2.1	2.2	6892.747	0.5	2.2	34.135	33.493
4	7716.1	5.3	5.0	6993.338	3.8	3.1	6975.892	4.9	3.1	17.107	13.692
1997 1	7871.0	8.3	6.0	7094.373	5.9	4.1	7045.751	4.1	3.4	48.554	-3.473

	Consumption			Durables Consumption			Private Fixed Investment			Nonresidential Investment		
	Billions of 1992 \$	Percent change Annual rate	Year ago	Billions of 1992 \$	Percent change Annual rate	Year ago	Billions of 1992 \$	Percent change Annual rate	Year ago	Billions of 1992 \$	Percent change Annual rate	Year ago
1992	4219.796		2.8	488.530		5.8	783.427		5.7	557.869		1.9
1993	4339.512		2.8	524.075		7.3	836.355		6.8	593.645		6.4
1994	4473.153		3.1	561.971		7.2	921.083		10.1	652.054		9.8
1995	4577.846		2.3	579.826		3.2	975.923		6.0	714.307		9.5
1996	4690.672		2.5	611.390		5.4	1042.117		6.8	766.837		7.4
1994 1	4420.532	2.8	3.1	549.591	5.8	8.6	892.417	9.0	9.4	628.545	7.3	8.8
2	4458.721	3.5	3.2	555.429	4.3	6.9	911.431	8.8	11.0	639.480	7.1	9.1
3	4489.357	2.8	3.0	563.089	5.6	6.5	930.813	8.8	11.4	660.472	13.8	11.4
4	4523.959	3.1	3.1	579.768	12.4	7.0	949.686	8.4	8.7	679.713	12.2	10.1
1995 1	4534.762	1.0	2.6	566.490	-8.9	3.1	969.499	8.6	8.6	704.449	15.4	12.1
2	4569.870	3.1	2.5	576.187	7.0	3.7	965.676	-1.6	6.0	710.480	3.5	11.1
3	4597.341	2.4	2.4	589.089	9.3	4.6	979.973	6.1	5.3	718.954	4.9	8.9
4	4609.410	1.1	1.9	587.540	-1.0	1.3	988.536	3.5	4.1	723.339	2.5	6.4
1996 1	4649.076	3.5	2.5	599.202	8.2	5.8	1013.292	10.4	4.5	743.478	11.6	5.5
2	4687.603	3.4	2.6	615.621	11.4	6.8	1031.100	7.2	6.8	750.512	3.8	5.6
3	4693.468	0.5	2.1	611.605	-2.6	3.8	1057.485	10.6	7.9	781.374	17.5	8.7
4	4732.543	3.4	2.7	619.134	5.0	5.4	1066.589	3.5	7.9	791.984	5.5	9.5
1997 1	4797.950	5.6	3.2	646.379	18.8	7.9	1091.901	9.8	7.8	812.955	11.0	9.3

	GDP Chain Price Index			Employment Cost Index			ECI: Wages			ECI: Benefits		
	Index	Percent change		Index	Percent change		Index	Percent change		Index	Percent change	
		Annual rate	Year ago		Annual rate	Year ago		Annual rate	Year ago		Annual rate	Year ago
1992	100.000		2.8	114.3		3.7	111.9		2.9	120.5		5.5
1993	102.617		2.6	118.4		3.6	115.2		2.9	127.0		5.4
1994	104.958		2.3	122.3		3.3	118.5		2.9	132.0		4.0
1995	107.565		2.5	125.6		2.8	121.9		2.9	135.0		2.2
1996	109.875		2.1	129.2		2.8	125.9		3.3	137.4		1.8
1994 1	104.149	2.9	2.3	120.8	3.0	3.3	117.1	2.1	2.8	130.3	4.4	4.3
2	104.632	1.9	2.2	121.8	3.4	3.3	118.1	3.5	3.1	131.5	3.7	4.0
3	105.248	2.4	2.3	122.8	3.3	3.3	119.0	3.1	2.9	132.8	4.0	4.0
4	105.802	2.1	2.3	123.6	2.6	3.1	119.8	2.7	2.8	133.5	2.1	3.6
1995 1	106.676	3.3	2.4	124.4	2.6	3.0	120.6	2.7	3.0	133.9	1.2	2.8
2	107.309	2.4	2.6	125.2	2.6	2.8	121.5	3.0	2.9	134.6	2.1	2.4
3	107.856	2.1	2.5	126.0	2.6	2.6	122.4	3.0	2.9	135.3	2.1	1.9
4	108.419	2.1	2.5	126.9	2.9	2.7	123.2	2.6	2.8	136.0	2.1	1.9
1996 1	109.027	2.3	2.2	127.7	2.5	2.7	124.4	4.0	3.2	136.0	0.0	1.6
2	109.619	2.2	2.2	128.8	3.5	2.9	125.5	3.6	3.3	137.0	3.0	1.8
3	110.166	2.0	2.1	129.7	2.8	2.9	126.4	2.9	3.3	137.7	2.1	1.8
4	110.689	1.9	2.1	130.6	2.8	2.9	127.4	3.2	3.4	138.7	2.9	2.0
1997 1	111.434	2.7	2.2	131.4	2.5	2.9	128.5	3.5	3.3	138.7	0.0	2.0
	Exports			Imports			Nonfarm Output per Hour			Nonfarm Compensation/Hr		
	Billions of 1992 \$	Percent change Annual rate	Year ago	Billions of 1992 \$	Percent change Annual rate	Year ago	Index	Percent change Annual rate	Year ago	Index	Percent change Annual rate	Year ago
1992	639.416		6.6	668.959		7.5	100.0		3.2	100.0		5.2
1993	658.215		2.9	730.249		9.2	100.2		0.2	102.3		2.3
1994	711.971		8.2	817.635		12.0	100.6		0.4	104.3		2.0
1995	775.401		8.9	882.999		8.0	100.9		0.3	107.7		3.3
1996	825.898		6.5	939.530		6.4	101.6		0.7	111.6		3.6
1994 1	677.647	-1.5	4.7	776.962	8.2	10.5	100.3	-1.6	0.2	103.7	2.7	2.3
2	703.108	15.9	6.5	810.404	18.4	11.9	100.5	0.8	0.9	104.0	1.2	2.0
3	719.560	9.7	11.5	831.262	10.7	13.6	100.9	1.6	0.8	104.5	1.9	2.0
4	747.573	16.5	9.9	851.919	10.3	11.8	101.0	0.4	0.3	105.3	3.1	2.2
1995 1	752.330	2.6	11.0	874.851	11.2	12.6	100.5	-2.0	0.2	106.1	3.1	2.3
2	763.226	5.9	8.6	884.605	4.5	9.2	100.8	1.2	0.3	107.1	3.8	3.0
3	782.952	10.7	8.8	884.524	-0.0	6.4	101.2	1.6	0.3	108.1	3.8	3.4
4	803.087	10.7	7.4	888.023	1.6	4.2	100.9	-1.2	-0.1	109.2	4.1	3.7
1996 1	806.713	1.8	7.2	910.707	10.6	4.1	101.5	2.4	1.0	110.1	3.3	3.8
2	817.864	5.6	7.2	932.556	9.9	5.4	101.6	0.4	0.8	111.1	3.7	3.7
3	816.106	-0.9	4.2	953.541	9.3	7.8	101.5	-0.4	0.3	112.0	3.3	3.6
4	862.911	25.0	7.4	961.314	3.3	8.3	101.8	1.2	0.9	113.1	4.0	3.6
1997 1	885.278	10.8	9.7	1005.967	19.9	10.5	102.5	2.8	1.0	114.5	5.0	4.0

# National Economic Trends

Household Survey Employment					Nonfarm Payroll Employment					Nonfarm Aggregate Hours			
		Percent change					Percent change			Percent change			
		Thousands	Change	Annual rate	Year ago	Thousands	Change	Annual rate	Year ago	Index	Monthly rate	Annual rate	Year ago
1992		118488	775		0.7	108591	336		0.3	121.0			0.7
1993		120259	1771		1.5	110707	2116		1.9	124.5			2.9
1994		123067	2808		2.3	114145	3438		3.1	129.8			4.2
1995		124899	1833		1.5	117195	3051		2.7	133.4			2.8
1996		126705	1806		1.4	119517	2322		2.0	136.4			2.2
1995	1	124924	519	1.7	2.4	116482	873	3.1	3.4	133.0	0.8	3.2	4.3
	2	124711	-213	-0.7	1.7	116937	455	1.6	2.9	132.9	-0.1	-0.4	2.7
	3	124820	109	0.4	1.3	117414	478	1.6	2.4	133.6	0.6	2.3	2.5
	4	125142	322	1.0	0.6	117949	534	1.8	2.0	134.2	0.4	1.7	1.7
1996	1	125693	551	1.8	0.6	118471	522	1.8	1.7	134.3	0.1	0.4	1.0
	2	126381	688	2.2	1.3	119248	778	2.7	2.0	136.1	1.3	5.5	2.5
	3	127042	661	2.1	1.8	119898	649	2.2	2.1	137.0	0.7	2.7	2.5
	4	127705	664	2.1	2.0	120452	555	1.9	2.1	138.1	0.8	3.1	2.9
1997	1	128728	1023	3.2	2.4	121138	686	2.3	2.3	139.5	1.0	4.1	3.8
1995	May	124577	-446	-4.2	1.3	116855	-36	-0.4	2.8	131.9	-1.3	-15.0	1.8
	Jun	124533	-44	-0.4	1.5	117064	209	2.2	2.7	133.0	0.8	10.5	2.5
	Jul	124804	271	2.6	1.7	117142	78	0.8	2.5	133.6	0.5	5.5	2.6
	Aug	124729	-75	-0.7	1.2	117465	323	3.4	2.4	133.4	-0.1	-1.8	2.5
	Sep	124927	198	1.9	1.1	117636	171	1.8	2.3	133.9	0.4	4.6	2.4
	Oct	125235	308	3.0	1.0	117775	139	1.4	2.2	134.4	0.4	4.6	1.8
	Nov	125124	-111	-1.1	0.5	117951	176	1.8	2.0	134.3	-0.1	-0.9	1.9
	Dec	125068	-56	-0.5	0.3	118120	169	1.7	1.9	133.9	-0.3	-3.5	1.4
1996	Jan	125311	243	2.4	0.4	118058	-62	-0.6	1.6	132.5	-1.0	-11.8	-0.8
	Feb	125706	395	3.8	0.6	118550	492	5.1	1.7	135.1	2.0	26.3	1.9
	Mar	126062	356	3.5	0.8	118804	254	2.6	1.8	135.4	0.2	2.7	2.0
	Apr	126125	63	0.6	0.9	118966	162	1.6	1.8	135.1	-0.2	-2.6	1.0
	May	126428	303	2.9	1.5	119263	297	3.0	2.1	135.7	0.4	5.5	2.9
	Jun	126590	162	1.5	1.7	119516	253	2.6	2.1	137.6	1.4	18.2	3.5
	Jul	126889	299	2.9	1.7	119691	175	1.8	2.2	136.1	-1.1	-12.3	1.9
	Aug	126988	99	0.9	1.8	119983	292	3.0	2.1	137.1	0.7	9.2	2.8
	Sep	127248	260	2.5	1.9	120019	36	0.4	2.0	137.9	0.6	7.2	3.0
	Oct	127617	369	3.5	1.9	120248	229	2.3	2.1	137.2	-0.5	-5.9	2.1
	Nov	127644	27	0.3	2.0	120450	202	2.0	2.1	137.9	0.5	6.3	2.7
	Dec	127855	211	2.0	2.2	120659	209	2.1	2.1	139.1	0.9	11.0	3.9
1997	Jan	128580	725	7.0	2.6	120909	250	2.5	2.4	138.2	-0.6	-7.5	4.3
	Feb	128430	-150	-1.4	2.2	121162	253	2.5	2.2	140.0	1.3	16.8	3.6
	Mar	129175	745	7.2	2.5	121344	182	1.8	2.1	140.2	0.1	1.7	3.5
	Apr	129384	209	2.0	2.6	121667	323	3.2	2.3	139.6	-0.4	-5.0	3.3
	May	129639	255	2.4	2.5	121805	138	1.4	2.1	140.0	0.3	3.5	3.2



		Unempl. Rate	Retail Sales				Industrial Production				Treasury Yields		
			Billions of dollars	Percent change			Index	Percent change					
				Monthly/ quarterly	Annual rate	Year ago		Monthly/ quarterly	Annual rate	Year ago	3-mo	10-yr	
1992		7.5	1944.605			4.8	100.000			3.2	3.43	7.01	
1993		6.9	2071.178			6.5	103.366			3.4	3.00	5.86	
1994		6.1	2224.913			7.4	108.558			5.0	4.25	7.08	
1995		5.6	2326.536			4.6	112.109			3.3	5.49	6.58	
1996		5.4	2439.829			4.9	115.198			2.8	5.01	6.44	
1995	1	5.5	573.137	0.2	0.8	5.6	111.764	1.0	3.9	5.1	5.74	7.48	
	2	5.6	578.680	1.0	3.9	5.2	111.561	-0.2	-0.7	3.3	5.60	6.62	
	3	5.7	585.146	1.1	4.5	4.5	112.441	0.8	3.2	3.0	5.37	6.32	
	4	5.6	589.573	0.8	3.1	3.1	112.671	0.2	0.8	1.8	5.26	5.89	
1996	1	5.6	600.484	1.9	7.6	4.8	113.128	0.4	1.6	1.2	4.93	5.91	
	2	5.4	609.345	1.5	6.0	5.3	114.844	1.5	6.2	2.9	5.02	6.72	
	3	5.3	611.040	0.3	1.1	4.4	115.774	0.8	3.3	3.0	5.10	6.78	
	4	5.3	618.960	1.3	5.3	5.0	117.048	1.1	4.5	3.9	4.98	6.34	
1997	1	5.3	635.597	2.7	11.2	5.8	118.325	1.1	4.4	4.6	5.06	6.56	
1995	May	5.6	193.074	1.0	13.2	5.7	111.523	0.1	1.1	3.2	5.67	6.63	
	Jun	5.6	194.512	0.7	9.3	5.5	111.739	0.2	2.3	2.9	5.47	6.17	
	Jul	5.7	194.315	-0.1	-1.2	5.3	111.716	-0.0	-0.2	2.4	5.42	6.28	
	Aug	5.7	195.752	0.7	9.2	4.5	112.603	0.8	10.0	3.1	5.40	6.49	
	Sep	5.7	195.079	-0.3	-4.0	3.8	113.003	0.4	4.3	3.4	5.28	6.20	
	Oct	5.5	194.865	-0.1	-1.3	2.3	112.522	-0.4	-5.0	2.3	5.28	6.04	
	Nov	5.6	196.702	0.9	11.9	3.1	112.704	0.2	2.0	1.9	5.36	5.93	
	Dec	5.6	198.006	0.7	8.3	3.8	112.788	0.1	0.9	1.1	5.14	5.71	
	1996	Jan	5.7	197.714	-0.1	-1.8	2.6	112.361	-0.4	-4.4	0.4	5.00	5.65
		Feb	5.5	201.085	1.7	22.5	6.1	113.782	1.3	16.3	1.9	4.83	5.81
		Mar	5.5	201.685	0.3	3.6	5.6	113.241	-0.5	-5.6	1.4	4.96	6.27
		Apr	5.5	202.496	0.4	4.9	6.0	114.284	0.9	11.6	2.6	4.95	6.51
May		5.5	204.060	0.8	9.7	5.7	114.782	0.4	5.4	2.9	5.02	6.74	
Jun		5.3	202.789	-0.6	-7.2	4.3	115.466	0.6	7.4	3.3	5.09	6.91	
Jul		5.4	203.291	0.2	3.0	4.6	115.495	0.0	0.3	3.4	5.15	6.87	
Aug		5.2	203.036	-0.1	-1.5	3.7	115.848	0.3	3.7	2.9	5.05	6.64	
Sep		5.2	204.713	0.8	10.4	4.9	115.978	0.1	1.4	2.6	5.09	6.83	
Oct		5.2	206.277	0.8	9.6	5.9	116.231	0.2	2.6	3.3	4.99	6.53	
Nov		5.3	205.789	-0.2	-2.8	4.6	117.216	0.8	10.7	4.0	5.03	6.20	
Dec		5.3	206.894	0.5	6.6	4.5	117.697	0.4	5.0	4.4	4.91	6.30	
1997	Jan	5.4	210.233	1.6	21.2	6.3	117.765	0.1	0.7	4.8	5.03	6.58	
	Feb	5.3	213.022	1.3	17.1	5.9	118.366	0.5	6.3	4.0	5.01	6.42	
	Mar	5.2	212.342	-0.3	-3.8	5.3	118.844	0.4	5.0	4.9	5.14	6.69	
	Apr	4.9	210.440	-0.9	-10.2	3.9	119.245	0.3	4.1	4.3	5.16	6.89	
	May	4.8	210.155	-0.1	-1.6	3.0	119.737	0.4	5.1	4.3	5.05	6.71	

		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	
1992		140.4			3.0		147.5			3.7		123.2			1.2	
1993		144.6			3.0		152.4			3.3		124.7			1.2	
1994		148.3			2.6		156.7			2.8		125.6			0.7	
1995		152.5			2.8		161.4			3.0		127.9			1.9	
1996		157.0			2.9		165.8			2.7		131.3			2.6	
1995	1	151.0	0.7	2.8	2.9	2.8	159.6	0.8	3.3	3.0	3.3	127.1	0.7	3.0	1.7	
	2	152.1	0.8	3.1	3.0	3.0	161.0	0.8	3.4	3.0	3.4	127.6	0.4	1.7	2.0	
	3	152.9	0.5	2.1	2.6	2.7	162.0	0.6	2.6	3.0	3.1	128.0	0.3	1.3	1.6	
	4	153.9	0.6	2.5	2.6	2.6	163.1	0.7	2.8	3.0	3.0	129.0	0.7	2.9	2.2	
1996	1	155.1	0.8	3.3	2.8	3.3	164.2	0.7	2.6	2.9	2.6	129.9	0.7	3.0	2.2	
	2	156.4	0.8	3.4	2.8	3.4	165.3	0.6	2.6	2.7	2.6	130.9	0.7	2.9	2.5	
	3	157.5	0.7	2.7	3.0	3.1	166.3	0.6	2.5	2.7	2.6	131.6	0.6	2.3	2.8	
	4	158.8	0.8	3.3	3.2	3.2	167.4	0.6	2.6	2.6	2.6	132.9	1.0	3.9	3.0	
1997	1	159.7	0.6	2.4	2.9	2.4	168.3	0.6	2.2	2.5	2.2	132.6	-0.2	-0.7	2.1	
1995	May	152.1	0.2	2.4	3.0	2.9	161.0	0.2	3.0	3.1	3.7	127.7	0.2	1.9	2.2	
	Jun	152.5	0.3	3.2	3.0	2.9	161.3	0.2	2.3	2.9	3.4	127.7	0.0	0.0	2.0	
	Jul	152.6	0.1	0.8	2.8	2.6	161.6	0.2	2.3	3.0	3.3	127.9	0.2	1.9	1.8	
	Aug	153.0	0.3	3.2	2.6	2.7	162.0	0.2	3.0	2.9	3.2	127.9	0.0	0.0	1.3	
	Sep	153.2	0.1	1.6	2.5	2.6	162.4	0.2	3.0	3.0	3.2	128.3	0.3	3.8	1.8	
	Oct	153.7	0.3	4.0	2.7	2.7	162.9	0.3	3.8	3.1	3.3	128.5	0.2	1.9	2.4	
	Nov	153.8	0.1	0.8	2.6	2.5	163.1	0.1	1.5	3.0	3.1	128.8	0.2	2.8	2.1	
	Dec	154.1	0.2	2.4	2.5	2.5	163.4	0.2	2.2	3.0	3.0	129.6	0.6	7.7	2.2	
	1996	Jan	154.7	0.4	4.8	2.7	4.8	163.8	0.2	3.0	2.9	3.0	129.7	0.1	0.9	2.2
		Feb	155.1	0.3	3.1	2.7	4.0	164.2	0.2	3.0	2.9	3.0	129.7	0.0	0.0	2.0
		Mar	155.6	0.3	3.9	2.8	4.0	164.6	0.2	3.0	2.8	3.0	130.4	0.5	6.7	2.4
		Apr	156.1	0.3	3.9	2.8	3.9	164.9	0.2	2.2	2.7	2.8	130.6	0.2	1.9	2.4
May		156.5	0.3	3.1	2.9	3.8	165.3	0.2	3.0	2.7	2.8	130.8	0.2	1.9	2.4	
Jun		156.7	0.1	1.5	2.8	3.4	165.6	0.2	2.2	2.7	2.7	131.2	0.3	3.7	2.7	
Jul		157.1	0.3	3.1	2.9	3.4	166.0	0.2	2.9	2.7	2.7	131.2	0.0	0.0	2.6	
Aug		157.4	0.2	2.3	2.9	3.2	166.2	0.1	1.5	2.6	2.6	131.6	0.3	3.7	2.9	
Sep		157.9	0.3	3.9	3.1	3.3	166.7	0.3	3.7	2.6	2.7	132.0	0.3	3.7	2.9	
Oct		158.3	0.3	3.1	3.0	3.3	167.0	0.2	2.2	2.5	2.6	132.5	0.4	4.6	3.1	
Nov		158.8	0.3	3.9	3.3	3.3	167.4	0.2	2.9	2.6	2.7	132.7	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	133.4	0.5	6.5	2.9	
1997	Jan	159.4	0.1	1.5	3.0	1.5	167.9	0.1	1.4	2.5	1.4	133.0	-0.3	-3.5	2.5	
	Feb	159.8	0.3	3.1	3.0	2.3	168.3	0.2	2.9	2.5	2.2	132.5	-0.4	-4.4	2.2	
	Mar	159.9	0.1	0.8	2.8	1.8	168.7	0.2	2.9	2.5	2.4	132.4	-0.1	-0.9	1.5	
	Apr	160.0	0.1	0.8	2.5	1.5	169.2	0.3	3.6	2.6	2.7	131.6	-0.6	-7.0	0.8	
	May	160.1	0.1	0.8	2.3	1.4	169.5	0.2	2.1	2.5	2.6	131.2	-0.3	-3.6	0.3	

## 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 non-farm 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 ( $\pm 0.2$  percentage points) and change in household survey employment ( $\pm 376,000$ ) measure uncertainty due to sample size. The household survey was changed in January 1994, so care should be exercised in making short-term comparisons around this date, particularly with the duration data shown on page 10. Other changes in the survey are detailed in Bureau of Labor Statistics, *Employment and Earnings*, Appendix A.

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

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

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

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

**Pages 20, 21:** **Output per hour (Y/H)**, **unit labor cost (C/Y)**, and **compensation per hour (C/H)** are indexes which approximately obey the following relationship:  $\%(Y/H) + \%(C/Y) = \%(C/H)$  with  $\%( )$  meaning percent changes. Unit labor cost is shown on page 9. **Real compensation per hour** uses the CPI to adjust for the effects of inflation. **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 (CCAAdj)** increase profits and proprietors' income by the difference between estimates of economic depreciation and depreciation allowed by the tax code. Components of national income not shown are rental income of persons and net interest.

## Sources

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

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

*Census Bureau, U.S. Dept. of Commerce*

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

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

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

*United States Department of Treasury*

Unified budget receipts, outlays, deficit

*Federal Reserve Board*

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

*The Survey Research Center, The University of Michigan*

Consumer sentiment index

*The Conference Board*

Help-wanted advertising index

*Organization for Economic Cooperation and Development (OECD)*

GDP for major trading partners (not available on FRED)

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

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