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**UNITED STATES DEPARTMENT OF COMMERCE / BUREAU OF ECONOMIC ANALYSIS**



## SURVEY OF CURRENT BUSINESS



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The Secretary of Commerce has determined that the publication of this periodical is necessary in the transaction of the public business required by law of this Department.

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**NOTE.—This issue of the SURVEY went to the printer on Dec. 12, 1988. It incorporates data from the following monthly BEA news releases:**

Gross National Product (Nov. 29),  
Personal Income and Outlays (Nov. 30), and  
Composite Indexes of Leading, Coincident, and Lagging Indicators (Dec. 1).

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# *the* BUSINESS SITUATION

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ACCORDING to the preliminary estimates, the increases in real GNP and real gross domestic purchases in the third quarter of 1988 were slightly stronger than indicated in the advance estimates issued a month ago. The increase in real GNP was revised up 0.4 percentage point to 2.6 percent at an annual rate; the increase in real gross domestic purchases was also revised up 0.4 percentage point to 2.8 percent at an annual rate (see table 1 on page 17). Increases in the GNP price index (fixed weights) and the gross domestic purchases price index (fixed weights) were revised little at 5.1 percent at an annual rate and 4.2 percent at an annual rate, respectively.

Revisions in the major components of real GNP were small. The largest upward revisions were in personal consumption expenditures (\$3.2 billion) and change in business inventories (\$2.9 billion), and the largest downward revision was in government purchases (\$3.3 billion). Both exports and imports were revised up (\$3.7 billion and \$4.0 billion, respectively), resulting in a small downward revision in net exports.

The broad picture of the economy—including the impact of the drought—that was sketched in the last month's "Business Situation" was essentially unaltered. BEA estimates that \$12.8 billion of real farm output was lost as a result of this year's drought. These losses were allocated on a quarterly basis as follows: Second quarter, \$2.3 billion (\$9 billion annual rate); third quarter, \$3.7 billion (\$15 billion annual rate); and fourth quarter, the remaining \$6.8 billion (\$27 billion annual rate). Losses due to the drought reduced the second-quarter increase in

real GNP by 0.9 percentage point and the third-quarter increase by 0.6 percentage point. In the fourth quarter, the change in real GNP will be reduced by about 1.3 percentage points; in the first quarter of 1989, when farm output returns to a level not affected by the drought, the change in real GNP will be raised by about 2.8 percentage points. (The procedure used by BEA to estimate the drought losses was described in the August 1988 "Business Situation;" the estimates are subject to further revisions as more information becomes available.)

**Corporate profits.**—Corporate profits from current production declined \$3 billion in the third quarter, according to the first estimates made of profits for the quarter. Domestic profits of non-financial corporations more than accounted for the decline, as unit costs increased more than unit prices. (Profits and related estimates are shown in tables 1.14, 1.16, and 6.18B of the "Selected NIPA Tables;" industry detail on third-quarter profits will be shown next month, when the revised estimates are available.)

## *Government sector*

The fiscal position of the government sector improved in the third quarter of 1988, as the combined deficit of the Federal Government and of State and local governments decreased \$8 billion. A decline in the Federal Government deficit accounted for the improvement.

**The Federal sector.**—The Federal Government deficit declined \$8½ billion to \$125 billion; a decline in receipts was more than offset by a decline in expenditures.

Receipts declined \$8 billion, in contrast to a \$32 billion increase in the second quarter. Personal tax and non-tax receipts declined \$17 billion after a \$20½ billion increase in the second quarter. These large changes in personal taxes were due to provisions of the Tax Reform Act of 1986: Final settlements were boosted in the second quarter of 1988 by tax payments on income shifted from 1986 to 1987 to take advantage of lower tax rates. Corporate profits tax accruals increased \$1 billion, compared with \$4½ billion in the second quarter; the deceleration

### *Looking Ahead . . .*

• **NIPA Methodology.** The fifth in BEA's series of methodology papers will be available soon. The paper, *Government Transactions*, describes the source data and estimating methods for the Federal and the State and local government estimates. Order information will appear in an upcoming issue of the SURVEY.

• **Business Cycle Indicators.** The composite indexes of leading, coincident, and lagging indicators will be revised as of the release of January 1989 data on March 3. The revision will incorporate changes in components, updated statistical factors, and historical revisions in component data. An article presenting the revision will appear early in 1989 in *Business Conditions Digest* and in the SURVEY.

• **Input-Output Accounts.** The 1983 annual input-output tables will be presented in a forthcoming issue of the SURVEY. The annual accounts are prepared using basically the same procedures as used in the 1977 benchmark tables, but with less comprehensive and less reliable source data.

NOTE.—Quarterly estimates in the national income and product accounts are expressed at seasonally adjusted annual rates, and quarterly changes in them are differences between these rates. Quarter-to-quarter percent changes are compounded to annual rates. Real, or constant dollar, estimates are expressed in 1982 dollars.

reflected a slowdown in profits. Indirect business tax and nontax accruals increased \$1 billion after no change in the second quarter; the acceleration was due to a rebound in customs duties and a \$½ billion payment—included in nontaxes—by a major oil company for earlier violations of pricing regulations. Contributions for social insurance increased \$6½ billion, about the same as in the second quarter, and reflected continued growth in incomes.

Expenditures declined \$16½ billion, in contrast to a \$10 billion increase in the second quarter. The third-quarter decline was more than accounted for by purchases of goods and services and by subsidies less the current surplus of government enterprises. National defense purchases declined \$6 billion; declines occurred in all major categories of purchases, paced by a \$2½ billion decline in durable goods. Nondefense purchases declined \$5½ billion, including \$3 billion in purchases of agricultural commodities by the Commodity Credit Corporation (CCC) and \$1 billion in purchases by the National Aeronautics and Space Administration. A \$10 billion decline in subsidies less current surplus reflected a \$16 billion decline in subsidies to farmers partly offset by a \$5 billion increase in the CCC deficit.

Transfer payments to persons increased \$1½ billion; a \$3 billion increase in social security benefits (including medicare) was partly offset by a \$1½ billion decline in Federal civilian retirement benefits. Retirement benefits in the second quarter included large lump-sum withdrawals by recent retirees of their contributions to the fund. Grants-in-aid to State and local governments increased 1 billion after a \$½ billion decline in the second quarter; the rebound was more than accounted for by grants for education and for mass transit. All other expenditures, on balance, increased \$2 billion, slightly more than in the second quarter.

*Cyclically adjusted surplus or deficit.*—When measured using cyclical adjustments based on middle-expansion trend GNP, the Federal deficit on the national income and product accounts basis declined from \$175 billion in the second quarter to \$166 billion in the third (see table on page 18). The cyclically adjusted deficit as a percentage of middle-expansion

trend GNP declined from 3.7 percent in the second quarter to 3.5 percent in the third.

*The State and local sector.*—The State and local government surplus declined slightly to \$56 billion, as expenditures increased more than receipts.

Receipts increased about \$9 billion, compared with \$13 billion in the second quarter. Personal tax and nontax payments increased \$2 billion, compared with \$4½ billion in the second quarter when taxes were boosted by indirect effects of the Tax Reform Act of 1986. Corporate profits tax accruals were unchanged after a \$2 billion increase in the second quarter; the slowdown reflected the deceleration in profits. Indirect business tax and nontax accruals increased \$5 billion, compared with \$6½ billion in the second quarter;

the deceleration was in sales taxes. Indirect business nontaxes included a \$½ billion payment by a major oil company for earlier violations of pricing regulations. All other receipts, on balance, increased \$2 billion after no change in the second quarter; the acceleration was due to grants-in-aid.

Expenditures increased \$9 billion, compared with \$12½ billion in the second quarter. Purchases of goods and services increased \$8½ billion compared with \$12 billion in the second quarter. Employee compensation increased at the same pace as in the second quarter, structures declined \$1 billion after a \$1½ billion increase, and all other purchases decelerated. All other expenditures, on balance, increased \$½ billion, the same as in the second quarter.

Table 1.—Government Sector Receipts and Expenditures

[Billions of dollars, seasonally adjusted at annual rates]

	Change from preceding quarter					Level 1988: III
	1987		1988			
	III	IV	I	II	III	
<b>Government sector</b>						
Receipts.....	13.5	22.6	15.5	45.6	-1	1,570.9
Expenditures.....	16.3	48.0	4.0	23.3	-8.2	1,639.8
Surplus or deficit (-).....	-2.8	-25.4	11.5	22.3	8.2	-68.9
<b>Federal Government</b>						
Receipts.....	10.1	14.3	6.6	31.9	-7.8	975.1
Personal tax and nontax receipts.....	.2	9.0	-17.7	20.4	-16.8	408.2
Corporate profits tax accruals.....	5.5	-2.6	-5	4.6	1.2	112.9
Indirect business tax and nontax accruals.....	-4	1.1	.9	.1	1.1	57.1
Contributions for social insurance.....	4.7	7.0	24.0	6.9	6.7	396.9
Expenditures.....	4.4	36.5	1.2	10.2	-16.4	1,099.9
Purchases of goods and services.....	8.8	5.1	-13.7	4.6	-11.3	370.9
National defense.....	5.0	-6	-8	.5	-5.8	293.1
Nondefense.....	3.8	5.8	-12.9	4.1	-5.5	77.9
Of which: Commodity Credit Corporation inventory change.....	-2.7	3.4	-16.1	.7	-2.9	-19.7
Transfer payments.....	.8	8.3	11.9	3.1	2.3	439.8
To persons.....	1.3	2.6	16.8	3.6	1.7	428.3
To foreigners.....	-5	5.7	-4.9	-5	.5	11.6
Grants-in-aid to State and local governments.....	-3.6	-5	9.7	-7	1.1	111.5
Net interest paid.....	4.0	5.7	.4	2.2	1.7	153.7
Subsidies less current surplus of government enterprises.....	-5.2	17.1	-6.7	1.0	-10.1	23.9
Subsidies.....	-6.5	16.8	-8.0	2.8	-15.7	16.8
Of which: Agricultural subsidies.....	-6.5	16.7	-8.0	2.8	-15.8	1.8
Less: Current surplus of government enterprises.....	-1.3	-3	-1.2	1.8	-5.5	-7.1
Less: Wage accruals less disbursements.....	.2	-4				
Surplus or deficit (-).....	5.7	-22.1	5.3	21.8	8.5	-124.8
<b>State and local governments</b>						
Receipts.....	-2	7.8	18.6	12.9	8.9	707.3
Personal tax and nontax receipts.....	-6.0	5.7	2.7	4.7	2.2	178.1
Corporate profits tax accruals.....	1.8	-9	1.2	1.8	.2	31.7
Indirect business tax and nontax accruals.....	7.0	2.7	4.3	6.3	4.8	334.6
Contributions for social insurance.....	.7	.8	.7	.7	.7	51.4
Federal grants-in-aid.....	-3.6	-5	9.7	-7	1.1	111.5
Expenditures.....	8.3	11.0	12.5	12.5	9.2	651.4
Purchases of goods and services.....	7.8	9.9	11.6	11.8	8.5	587.8
Of which: Structures.....	-1.3	-1.1	2.1	1.3	-1.2	65.3
Transfer payments to persons.....	-1.1	2.4	2.1	2.1	2.0	127.9
Net interest paid.....	-7	-8	-7	-8	-9	-41.2
Less: Dividends received by government.....	.5	.3	.3	.3	.3	8.4
Subsidies less current surplus of government enterprises.....	-4	.2	-3	-3	-1	-14.8
Subsidies.....	.1					1.0
Less: Current surplus of government enterprises.....	.4	-2	.4	.4	.1	15.9
Less: Wage accruals less disbursements.....						
Surplus or deficit (-).....	-8.5	-3.2	6.1	.4	-3	55.9
Social insurance funds.....	1.8	1.6	1.5	1.6	1.5	69.3
Other.....	-10.2	-4.7	4.5	-1.2	-1.9	-13.3

NOTE.—Dollar levels are found in tables 3.2 and 3.3 of the "Selected NIPA Tables."

# National Income and Product Accounts Tables

## Selected NIPA Tables

New estimates in this issue: Third quarter 1988, revised (\*).

The selected set of 54 national income and product accounts (NIPA) tables shown in this section presents quarterly estimates, which are updated monthly. (In most of these tables, annual estimates are also shown.) The full set of 132 tables usually shown in July presents annual NIPA revisions. For more information on the presentation of the estimates, see "National Income and Product Accounts Estimates: When They are Released, Where They Are Available, and How They Are Presented" in the July 1988 SURVEY.

The full set of estimates for 1985-87 is in the July 1988 issue of the SURVEY; estimates for 1984 are in the July 1987 issue; estimates for 1983 are in the July 1986 issue. Estimates for 1929-82 are in *National Income and Product Accounts, 1929-82: Statistical Tables* (GPO Stock No. 003-010-00174-7, price \$23.00). These publications are available from the Superintendent of Documents; see address on inside front cover.

The full set of NIPA tables is available on diskette for \$240 per year (12 updates, for the quarterly estimates prepared each month). For more information, write to the Bureau of Economic Analysis (BE-54), U.S. Department of Commerce, Washington, DC 20230.

**Table 1.1.—Gross National Product**

[Billions of dollars]

	1986	1987	Seasonally adjusted at annual rates					
			1987			1988		
			II	III	IV	I	II	III'
<b>Gross national product</b> .....	4,240.3	4,526.7	4,484.2	4,568.0	4,662.8	4,724.5	4,823.8	4,909.2
<b>Personal consumption expenditures</b> .....	2,807.5	3,012.1	2,992.2	3,058.2	3,076.3	3,128.1	3,194.6	3,261.5
Durable goods.....	406.5	421.9	420.5	441.4	422.0	437.8	449.8	451.8
Nondurable goods.....	943.6	997.9	995.3	1,006.6	1,012.4	1,016.2	1,036.6	1,061.9
Services.....	1,457.3	1,592.3	1,576.4	1,610.2	1,641.9	1,674.1	1,708.2	1,747.7
<b>Gross private domestic investment</b> .....	665.9	712.9	698.5	702.8	764.9	763.4	758.1	771.4
Fixed investment.....	650.4	673.7	665.8	688.3	692.9	698.1	714.4	723.0
Nonresidential.....	439.9	446.8	438.2	462.1	464.1	471.5	487.8	494.7
Structures.....	138.5	139.5	134.4	143.0	147.7	140.1	142.3	143.9
Producers' durable equipment.....	295.4	307.3	303.8	319.1	316.3	331.3	345.5	350.7
Residential.....	216.6	226.9	227.6	226.2	228.8	226.6	226.5	228.3
Change in business inventories.....	15.5	39.2	32.7	14.5	72.0	65.3	43.7	48.4
Nonfarm.....	17.4	40.7	31.4	17.8	72.8	49.4	33.1	39.5
Farm.....	-1.9	-1.5	1.3	-3.3	-8	15.9	10.6	8.9
<b>Net exports of goods and services</b> .....	-104.4	-123.0	-122.2	-125.2	-125.7	-112.1	-90.4	-82.4
Exports.....	378.4	428.0	416.8	440.4	459.7	487.8	507.1	531.5
Imports.....	482.8	551.1	539.0	565.6	585.4	599.9	597.5	613.9
<b>Government purchases of goods and services</b> .....	871.2	924.7	915.7	932.2	947.3	945.2	961.6	958.7
Federal.....	366.2	382.0	377.5	386.3	391.4	377.7	382.2	370.9
National defense.....	277.5	295.3	294.8	299.5	299.2	298.4	298.8	293.1
Nondefense.....	88.7	86.7	82.6	86.4	92.2	79.3	83.4	77.9
State and local.....	505.0	542.8	538.2	546.0	555.9	567.5	579.4	587.8

NOTE.—Percent changes from preceding period for selected items in this table are shown in table 8.1.

**Table 1.2.—Gross National Product in Constant Dollars**

[Billions of 1982 dollars]

	1986	1987	Seasonally adjusted at annual rates					
			1987			1988		
			II	III	IV	I	II	III'
<b>Gross national product</b> .....	3,721.7	3,847.0	3,823.0	3,865.3	3,923.0	3,956.1	3,985.2	4,010.9
<b>Personal consumption expenditures</b> .....	2,455.2	2,521.0	2,516.6	2,545.2	2,531.7	2,559.8	2,579.0	2,604.5
Durable goods.....	385.0	390.9	391.8	406.5	387.6	401.1	410.6	409.5
Nondurable goods.....	879.5	890.5	889.8	891.9	890.5	892.7	893.6	905.5
Services.....	1,190.7	1,239.5	1,235.5	1,246.8	1,253.6	1,265.9	1,274.8	1,289.5
<b>Gross private domestic investment</b> .....	643.5	674.8	660.1	667.9	724.7	728.9	715.1	723.8
Fixed investment.....	628.1	640.4	632.3	654.9	657.6	662.9	679.7	687.1
Nonresidential.....	433.1	445.1	434.8	462.8	464.8	473.4	490.2	496.0
Structures.....	129.3	125.5	120.9	128.0	132.1	124.0	125.0	126.0
Producers' durable equipment.....	303.8	319.6	313.8	334.7	332.7	349.4	365.1	370.0
Residential.....	195.0	195.2	197.6	192.1	192.7	189.5	189.6	191.1
Change in business inventories.....	15.4	34.4	27.8	13.0	67.1	66.0	35.3	36.7
Nonfarm.....	17.9	36.9	25.0	18.3	68.2	51.9	30.1	36.7
Farm.....	-2.5	-2.5	2.7	-5.3	-1.1	14.1	5.3	0
<b>Net exports of goods and services</b> .....	-137.5	-128.9	-126.0	-130.7	-126.0	-109.0	-92.6	-95.2
Exports.....	378.4	427.8	416.4	440.9	459.2	486.2	496.9	510.7
Imports.....	515.9	556.7	542.3	571.6	585.2	595.1	589.5	605.9
<b>Government purchases of goods and services</b> .....	760.5	780.2	772.2	782.9	792.6	776.4	783.8	777.8
Federal.....	333.4	339.0	332.1	342.1	347.7	327.8	331.6	323.7
National defense.....	251.4	264.9	264.8	269.5	268.2	264.6	263.6	255.5
Nondefense.....	82.0	74.1	67.3	72.6	79.5	63.2	67.9	68.2
State and local.....	427.1	441.2	440.1	440.8	444.9	448.7	452.2	454.1

NOTE.—Percent changes from preceding period for selected items in this table are shown in table 8.1.

**Table 1.3.—Gross National Product by Major Type of Product**

[Billions of dollars]

	1986	1987	Seasonally adjusted at annual rates					
			1987			1988		
			II	III	IV	I	II	III'
<b>Gross national product</b> .....	4,240.3	4,526.7	4,484.2	4,568.0	4,662.8	4,724.5	4,823.8	4,909.2
Final sales.....	4,224.7	4,487.5	4,451.5	4,553.5	4,590.7	4,659.2	4,780.1	4,860.8
Change in business inventories.....	15.5	39.2	32.7	14.5	72.0	65.3	43.7	48.4
<b>Goods</b> .....	1,697.9	1,792.5	1,774.5	1,812.9	1,849.3	1,879.5	1,928.0	1,964.8
Final sales.....	1,682.3	1,753.3	1,741.8	1,798.4	1,777.3	1,814.2	1,884.3	1,916.4
Change in business inventories.....	15.5	39.2	32.7	14.5	72.0	65.3	43.7	48.4
Durable goods.....	725.3	776.3	767.1	792.2	808.7	819.3	849.5	879.3
Final sales.....	721.1	749.7	742.8	789.3	758.2	792.7	831.6	836.7
Change in business inventories.....	4.3	26.6	24.3	2.9	50.5	26.6	17.8	42.6
Nondurable goods.....	972.6	1,016.2	1,007.5	1,020.7	1,040.7	1,060.1	1,078.5	1,085.5
Final sales.....	961.3	1,003.6	999.1	1,009.1	1,019.1	1,021.5	1,052.7	1,079.7
Change in business inventories.....	11.3	12.6	8.4	11.6	21.6	38.6	25.9	5.8
Services.....	2,118.4	2,295.7	2,276.2	2,314.4	2,363.9	2,405.2	2,451.5	2,497.6
Structures.....	424.0	438.4	433.4	440.6	449.5	439.9	444.3	446.8

NOTE.—Percent changes from preceding period for selected items in this table are shown in table 8.1.

**Table 1.4.—Gross National Product by Major Type of Product in Constant Dollars**

[Billions of 1982 dollars]

	1986	1987	Seasonally adjusted at annual rates					
			1987			1988		
			II	III	IV	I	II	III'
<b>Gross national product</b> .....	3,721.7	3,847.0	3,823.0	3,865.3	3,923.0	3,956.1	3,985.2	4,010.9
Final sales.....	3,706.3	3,812.6	3,795.2	3,852.2	3,855.9	3,890.1	3,949.9	3,974.1
Change in business inventories.....	15.4	34.4	27.8	13.0	67.1	66.0	35.3	36.7
<b>Goods</b> .....	1,599.0	1,663.3	1,645.6	1,677.5	1,713.9	1,748.1	1,762.4	1,772.5
Final sales.....	1,583.5	1,628.9	1,617.8	1,664.5	1,646.8	1,682.2	1,727.1	1,735.8
Change in business inventories.....	15.4	34.4	27.8	13.0	67.1	66.0	35.3	36.7
Durable goods.....	714.6	774.6	763.8	793.7	812.7	832.5	861.7	883.4
Final sales.....	710.7	750.7	742.3	790.8	767.2	809.0	845.8	845.1
Change in business inventories.....	3.8	23.9	21.5	2.9	45.5	23.5	15.9	38.3
Nondurable goods.....	884.4	888.8	881.8	883.8	901.2	915.6	900.7	889.2
Final sales.....	872.8	878.2	875.5	873.7	879.6	873.2	881.3	890.5
Change in business inventories.....	11.6	10.5	6.3	10.1	21.6	42.4	19.4	-1.6
Services.....	1,738.1	1,801.1	1,797.2	1,806.6	1,822.3	1,833.4	1,846.1	1,860.3
Structures.....	384.7	382.6	380.2	381.1	386.7	374.6	376.7	378.1

NOTE.—Percent changes from preceding period for selected items in this table are shown in table 8.1.

**Table 1.5.—Relation of Gross National Product, Gross Domestic Purchases, and Final Sales to Domestic Purchasers**

[Billions of dollars]

	1986	1987	Seasonally adjusted at annual rates					
			1987			1988		
			II	III	IV	I	II	III'
<b>Gross national product</b> .....	4,240.3	4,526.7	4,484.2	4,568.0	4,662.8	4,724.5	4,823.8	4,909.2
Less: Exports of goods and services.....	378.4	428.0	416.8	440.4	459.7	487.8	507.1	531.5
Plus: Imports of goods and services.....	482.8	551.1	539.0	565.6	585.4	599.9	597.5	613.9
<b>Equals: Gross domestic purchases</b> <sup>1</sup> .....	4,344.7	4,649.7	4,606.3	4,693.2	4,788.4	4,836.6	4,914.2	4,991.6
Less: Change in business inventories.....	15.5	39.2	32.7	14.5	72.0	65.3	43.7	48.4
<b>Equals: Final sales to domestic purchasers</b> <sup>2</sup> .....	4,329.1	4,610.5	4,573.6	4,678.7	4,716.4	4,771.3	4,870.5	4,943.2

1. Purchases in the United States of goods and services wherever produced.  
2. Final sales in the United States of goods and services wherever produced.

NOTE.—Percent changes from preceding period for selected items in this table are shown in table 8.1.

**Table 1.7.—Gross National Product by Sector**

[Billions of dollars]

	1986	1987	Seasonally adjusted at annual rates					
			1987			1988		
			II	III	IV	I	II	III'
<b>Gross national product</b> .....	4,240.3	4,526.7	4,484.2	4,568.0	4,662.8	4,724.5	4,823.8	4,909.2
<b>Gross domestic product</b> .....	4,205.4	4,497.2	4,455.9	4,541.2	4,631.8	4,702.1	4,802.5	4,883.7
<b>Business</b> .....	3,608.9	3,855.5	3,819.9	3,893.8	3,972.9	4,028.1	4,117.5	4,186.6
Nonfarm.....	3,547.1	3,787.8	3,743.2	3,832.2	3,905.8	3,965.4	4,048.0	4,120.3
Nonfarm less housing.....	3,203.9	3,416.5	3,376.0	3,457.7	3,522.7	3,576.0	3,654.0	3,719.1
Housing.....	343.2	371.3	367.2	374.5	383.1	389.4	394.0	401.2
Farm.....	75.4	75.9	79.2	76.8	73.4	77.7	74.6	75.1
Statistical discrepancy.....	-13.6	-8.1	-2.5	-15.1	-6.4	-15.0	-5.1	-8.8
<b>Households and institutions</b> .....	153.1	168.9	166.3	171.7	176.4	180.9	185.6	191.2
Private households.....	9.1	9.2	9.2	9.2	9.3	9.3	9.4	9.6
Nonprofit institutions.....	144.0	159.8	157.1	162.5	167.1	171.6	176.1	181.6
<b>Government</b> .....	443.4	472.7	469.8	475.7	482.5	493.1	499.4	505.8
Federal.....	143.5	151.0	150.8	151.3	152.7	156.7	157.4	158.1
State and local.....	299.9	321.7	319.0	324.4	329.9	336.4	342.1	347.8
<b>Rest of the world</b> .....	34.9	29.5	28.2	26.8	31.0	22.4	21.3	25.5
<b>Addendum:</b>								
Gross domestic business product less housing.....	3,257.7	3,476.7						

NOTE.—Percent changes from preceding period for selected items in this table are shown in table 8.1.

**Table 1.6.—Relation of Gross National Product, Gross Domestic Purchases, and Final Sales to Domestic Purchasers in Constant Dollars**

[Billions of 1982 dollars]

	1986	1987	Seasonally adjusted at annual rates					
			1987			1988		
			II	III	IV	I	II	III'
<b>Gross national product</b> .....	3,721.7	3,847.0	3,823.0	3,865.3	3,923.0	3,956.1	3,985.2	4,010.9
Less: Exports of goods and services.....	378.4	427.8	416.4	440.9	459.2	486.2	496.9	510.7
Plus: Imports of goods and services.....	515.9	556.7	542.3	571.6	585.2	595.1	589.5	605.9
<b>Equals: Gross domestic purchases</b> <sup>1</sup> .....	3,859.3	3,975.9	3,949.0	3,996.0	4,049.0	4,065.1	4,077.9	4,106.1
Less: Change in business inventories.....	15.4	34.4	27.8	13.0	67.1	66.0	35.3	36.7
<b>Equals: Final sales to domestic purchasers</b> <sup>2</sup> .....	3,843.8	3,941.5	3,921.2	3,983.0	3,981.9	3,999.1	4,042.6	4,069.4

1. Purchases in the United States of goods and services wherever produced.  
2. Final sales in the United States of goods and services wherever produced.

NOTE.—Percent changes from preceding period for selected items in this table are shown in table 8.1.

**Table 1.8.—Gross National Product by Sector in Constant Dollars**

[Billions of 1982 dollars]

	1986	1987	Seasonally adjusted at annual rates					
			1987			1988		
			II	III	IV	I	II	III'
<b>Gross national product</b> .....	3,721.7	3,847.0	3,823.0	3,865.3	3,923.0	3,956.1	3,985.2	4,010.9
<b>Gross domestic product</b> .....	3,690.9	3,821.4	3,798.4	3,842.0	3,896.3	3,936.6	3,967.0	3,989.5
<b>Business</b> .....	3,202.0	3,322.5	3,300.9	3,341.2	3,393.6	3,430.5	3,458.9	3,477.5
Nonfarm.....	3,130.4	3,247.1	3,221.1	3,272.2	3,317.2	3,360.9	3,393.1	3,420.3
Nonfarm less housing.....	2,857.9	2,965.7	2,940.6	2,989.5	3,032.8	3,074.8	3,105.7	3,131.6
Housing.....	272.4	281.4	280.5	282.7	284.4	286.1	287.4	288.8
Farm.....	83.7	82.5	82.0	82.0	81.8	82.3	70.1	64.5
Statistical discrepancy.....	-12.1	-7.0	-2.2	-13.0	-5.4	-12.8	-4.3	-7.3
<b>Households and institutions</b> .....	125.5	129.0	123.1	130.0	130.7	133.3	134.4	136.8
Private households.....	8.8	8.8	8.8	8.8	8.8	8.9	8.9	9.0
Nonprofit institutions.....	116.8	120.2	119.3	121.2	121.9	124.4	125.5	127.8
<b>Government</b> .....	363.3	369.9	369.4	370.8	372.0	372.8	373.7	375.2
Federal.....	122.5	123.5	123.4	123.7	123.9	123.9	123.8	124.2
State and local.....	240.8	246.4	246.1	247.1	248.1	249.0	249.9	251.0
<b>Rest of the world</b> .....	30.9	25.6	24.6	23.3	26.7	19.5	18.3	21.4
<b>Addendum:</b>								
Gross domestic business product less housing.....	2,920.4	3,032.1						

NOTE.—Percent changes from preceding period for selected items in this table are shown in table 8.1.

**Table 1.9.—Relation of Gross National Product, Net National Product, National Income, and Personal Income**

	[Billions of dollars]							
	1986	1987	Seasonally adjusted at annual rates					
			1987			1988		
		II	III	IV	I	II	III <sup>r</sup>	
Gross national product.....	4,240.3	4,526.7	4,484.2	4,568.0	4,662.8	4,724.5	4,823.8	4,909.2
Less: Capital consumption allowances with capital consumption adjustment.....	455.9	480.0	477.0	484.6	489.5	498.3	503.2	508.1
Capital consumption allowances without capital consumption adjustment.....	488.4	507.6	504.6	510.8	516.4	520.8	524.1	526.0
Less: Capital consumption adjustment.....	32.5	27.6	27.6	26.2	26.9	22.5	20.9	17.9
Equals: Net national product.....	3,784.4	4,046.7	4,007.2	4,083.4	4,173.3	4,226.2	4,320.5	4,401.1
Less: Indirect business tax and nontax liability.....	348.4	366.3	363.8	370.3	374.2	379.4	385.8	391.7
Business transfer payments.....	25.1	28.1	27.9	28.5	29.0	29.6	30.3	31.1
Statistical discrepancy.....	-13.6	-8.1	-2.5	-15.1	-6.4	-15.0	-5.1	-8.8
Plus: Subsidies less current surplus of government enterprises.....	12.6	18.3	13.8	8.3	25.6	18.6	19.2	9.0
Equals: National income.....	3,437.1	3,678.7	3,631.8	3,708.0	3,802.0	3,850.8	3,928.8	3,996.2
Less: Corporate profits with inventory valuation and capital consumption adjustments.....	298.9	310.4	305.2	322.0	316.1	316.2	326.5	323.7
Net interest.....	331.9	353.6	348.1	358.3	369.5	373.9	380.6	397.7
Contributions for social insurance.....	378.1	399.1	395.4	400.9	408.6	433.3	440.9	448.3
Wage accruals less disbursements.....	0	0	0	2	-2	0	0	0
Plus: Government transfer payments to persons.....	496.0	520.6	519.9	523.2	527.8	546.7	552.5	556.2
Personal interest income.....	499.1	527.0	517.9	533.0	550.0	554.2	563.7	581.3
Personal dividend income.....	82.8	88.6	87.3	89.9	91.9	93.5	95.0	97.3
Business transfer payments.....	25.1	28.1	27.9	28.5	29.0	29.6	30.3	31.1
Equals: Personal income.....	3,531.1	3,780.0	3,736.1	3,801.0	3,906.8	3,951.4	4,022.4	4,092.3

**Table 1.10.—Relation of Gross National Product, Net National Product, and National Income in Constant Dollars**

	[Billions of 1982 dollars]							
	1986	1987	1987	1987	1988	1988	1988	1988
Gross national product.....	3,721.7	3,847.0	3,823.0	3,865.3	3,923.0	3,956.1	3,985.2	4,010.9
Less: Capital consumption allowances with capital consumption adjustment.....	443.2	460.8	458.2	463.0	468.2	472.9	477.3	481.9
Equals: Net national product.....	3,278.5	3,386.2	3,364.8	3,402.2	3,454.8	3,483.2	3,507.9	3,529.0
Less: Indirect business tax and nontax liability plus business transfer payments less subsidies plus current surplus of government enterprises.....	312.1	319.2	319.6	321.8	321.0	324.4	326.2	328.7
Statistical discrepancy.....	-12.1	-7.0	-2.2	-13.0	-5.4	-12.8	-4.3	-7.3
Equals: National income.....	2,978.5	3,074.0	3,047.3	3,093.4	3,139.3	3,171.5	3,186.0	3,207.6

**Table 1.11.—Command-Basis Gross National Product in Constant Dollars**

	[Billions of 1982 dollars]							
	1986	1987	1987	1987	1988	1988	1988	1988
Gross national product.....	3,721.7	3,847.0	3,823.0	3,865.3	3,923.0	3,956.1	3,985.2	4,010.9
Less: Net exports of goods and services.....	-137.5	-128.9	-126.0	-130.7	-126.0	-109.0	-92.6	-95.2
Exports.....	378.4	427.8	416.4	440.9	459.2	486.2	496.9	510.7
Imports.....	515.9	556.7	542.3	571.6	585.2	595.1	589.5	605.9
Equals: Gross domestic purchases.....	3,859.3	3,975.9	3,949.0	3,996.0	4,049.0	4,065.1	4,077.9	4,106.1
Plus: Command-basis net exports of goods and services.....	-111.5	-124.3	-122.9	-126.5	-125.6	-111.2	-89.2	-81.4
Command-basis exports.....	404.4	432.4	419.4	445.1	459.6	483.9	500.3	524.6
Imports.....	515.9	556.7	542.3	571.6	585.2	595.1	589.5	605.9
Equals: Command-basis gross national product.....	3,747.7	3,851.6	3,826.0	3,869.4	3,923.4	3,953.9	3,988.7	4,024.8
Addendum:								
Terms of trade <sup>2</sup> .....	106.8	101.0	100.7	101.0	100.1	99.5	100.7	102.8

1. Exports of goods and services deflated by the implicit price deflator for imports of goods and services.

2. Ratio of the implicit price deflator for exports of goods and services to the implicit price deflator for imports of goods and services with the decimal point shifted two places to the right.

NOTE.—Percent changes from preceding period for selected items in this table are shown in table 8.1.

**Table 1.14.—National Income by Type of Income**

	[Billions of dollars]							
	1986	1987	Seasonally adjusted at annual rates					
			1987			1988		
		II	III	IV	I	II	III <sup>r</sup>	
National income.....	3,437.1	3,678.7	3,631.8	3,708.0	3,802.0	3,850.8	3,928.8	3,996.2
Compensation of employees.....	2,507.1	2,683.4	2,652.0	2,702.8	2,769.9	2,816.4	2,874.0	2,932.5
Wages and salaries.....	2,094.0	2,248.4	2,220.6	2,265.3	2,324.8	2,358.7	2,410.0	2,461.4
Government and government enterprises.....	393.7	420.1	416.9	423.2	429.2	437.1	442.9	449.1
Other.....	1,700.3	1,828.3	1,803.7	1,842.1	1,895.6	1,921.6	1,967.1	2,012.4
Supplements to wages and salaries.....	413.1	435.0	431.3	437.5	445.1	457.7	464.0	471.1
Employer contributions for social insurance.....	217.0	227.1	225.0	228.2	232.7	243.1	247.5	251.6
Other labor income.....	196.1	207.9	206.4	209.3	212.4	214.6	216.5	219.5
Proprietors' income with inventory valuation and capital consumption adjustments.....	286.7	312.9	308.9	306.8	326.0	323.9	328.8	322.1
Farm.....	36.4	43.0	43.0	35.2	47.0	44.7	43.4	30.4
Proprietors' income with inventory valuation adjustment.....	44.5	50.6	50.7	42.9	54.5	52.2	50.8	37.5
Capital consumption adjustment.....	-8.1	-7.6	-7.7	-7.7	-7.5	-7.5	-7.3	-7.1
Nonfarm.....	250.3	270.0	265.9	271.5	279.0	279.2	285.3	291.7
Proprietors' income with inventory valuation adjustment.....	212.7	233.0	228.6	235.1	243.4	243.7	250.9	257.7
Capital consumption adjustment.....	-1.1	-1.0	-1.0	-1.1	-1.7	-1.2	-1.7	-1.5
Rental income of persons with capital consumption adjustment.....	12.4	18.4	17.8	18.1	20.5	20.5	19.1	20.1
Rental income of persons.....	57.4	66.2	65.5	67.1	69.1	69.6	68.0	68.8
Capital consumption adjustment.....	-45.0	-47.8	-47.7	-49.0	-48.6	-49.1	-49.0	-48.7
Corporate profits with inventory valuation and capital consumption adjustments.....	298.9	310.4	305.2	322.0	316.1	316.2	326.5	323.7
Corporate profits with inventory valuation adjustment.....	244.7	258.7	253.6	269.9	263.7	266.8	278.5	278.6
Profits before tax.....	236.4	276.7	273.7	289.4	281.9	286.2	305.9	307.7
Profits tax liability.....	106.6	133.8	132.6	140.0	136.2	136.9	143.2	144.6
Profits after tax.....	129.8	142.9	141.1	149.5	145.7	149.4	162.7	163.1
Dividends.....	88.2	95.5	94.0	97.0	99.3	101.3	103.1	105.7
Undistributed profits.....	41.6	47.4	47.0	52.4	46.4	48.1	59.6	57.5
Inventory valuation adjustment.....	8.3	-18.0	-20.0	-19.5	-18.2	-19.4	-27.4	-29.0
Capital consumption adjustment.....	54.2	51.7	51.5	52.1	52.4	49.4	48.0	45.1
Net interest.....	331.9	353.6	348.1	358.3	369.5	373.9	380.6	397.7
Addenda:								
Corporate profits after tax with inventory valuation and capital consumption adjustments.....	192.3	176.6	172.6	182.1	179.9	179.3	183.2	179.2
Net cash flow with inventory valuation and capital consumption adjustments.....	386.5	378.6	373.9	384.7	384.2	387.8	393.4	390.7
Undistributed profits with inventory valuation and capital consumption adjustments.....	104.1	81.1	78.5	85.0	80.5	78.1	80.1	73.5
Capital consumption allowances with capital consumption adjustment.....	282.4	297.5	295.4	299.7	303.7	309.8	313.3	317.2
Less: Inventory valuation adjustment.....	8.3	-18.0	-20.0	-19.5	-18.2	-19.4	-27.4	-29.0
Equals: Net cash flow.....	378.2	396.6	393.9	404.2	402.4	407.3	420.8	419.8

**Table 1.16.—Gross Domestic Product of Corporate Business in Current Dollars and Gross Domestic Product of Nonfinancial Corporate Business in Current and Constant Dollars**

	1986	1987	Seasonally adjusted at annual rates					
			1987			1988		
			II	III	IV	I	II	III <sup>r</sup>
Billions of dollars								
<b>Gross domestic product of corporate business</b> .....	2,556.2	2,717.9	2,687.2	2,752.6	2,793.0	2,845.1	2,901.1	2,951.8
Capital consumption allowances with capital consumption adjustment.....	282.4	297.5	295.4	299.7	303.7	309.8	313.3	317.2
Net domestic product.....	2,273.8	2,420.4	2,391.9	2,452.9	2,489.3	2,535.4	2,587.8	2,634.6
Indirect business tax and nontax liability plus business transfer payments less subsidies.....	243.6	257.5	256.0	261.6	262.3	267.7	271.8	277.6
Domestic income.....	2,030.2	2,162.9	2,135.9	2,191.3	2,226.5	2,267.6	2,316.1	2,357.0
Compensation of employees.....	1,693.7	1,803.7	1,782.4	1,816.0	1,853.4	1,887.7	1,927.9	1,968.2
Wages and salaries.....	1,422.2	1,520.6	1,502.2	1,531.4	1,569.3	1,594.7	1,630.8	1,666.5
Supplements to wages and salaries.....	271.5	283.0	280.2	284.6	289.1	293.1	297.1	301.8
Corporate profits with inventory valuation and capital consumption adjustments.....	266.9	274.0	270.8	286.7	274.6	286.0	291.1	288.6
Profits before tax.....	204.4	240.3	239.3	254.1	240.4	256.0	270.5	272.5
Profits tax liability.....	106.6	133.8	132.6	140.0	136.2	136.9	143.2	144.6
Profits after tax.....	97.9	106.5	106.7	114.2	104.2	119.2	127.3	128.0
Dividends.....	72.8	83.4	80.1	83.4	91.3	75.3	87.1	89.1
Undistributed profits.....	25.1	23.1	26.6	30.8	12.9	43.9	40.2	38.9
Inventory valuation adjustment.....	8.3	-18.0	-20.0	-19.5	-18.2	-19.4	-27.4	-29.0
Capital consumption adjustment.....	54.2	51.7	51.5	52.1	52.4	49.4	48.0	45.1
Net interest.....	69.5	85.2	82.7	88.6	93.5	93.9	97.1	100.2
<b>Gross domestic product of financial corporate business</b> .....	184.6	204.4	204.5	205.7	207.4	212.0	217.1	221.9
<b>Gross domestic product of nonfinancial corporate business</b> .....	2,371.6	2,513.5	2,482.7	2,546.9	2,585.6	2,633.2	2,684.0	2,729.8
Capital consumption allowances with capital consumption adjustment.....	264.1	276.2	274.5	278.0	281.3	286.8	290.0	293.3
Net domestic product.....	2,107.5	2,237.3	2,208.3	2,268.8	2,304.3	2,346.4	2,394.0	2,436.5
Indirect business tax and nontax liability plus business transfer payments less subsidies.....	227.7	239.8	238.4	243.6	244.5	249.2	253.0	258.4
Domestic income.....	1,879.8	1,997.5	1,969.8	2,025.3	2,059.7	2,097.2	2,141.1	2,178.1
Compensation of employees.....	1,564.9	1,661.4	1,640.5	1,673.3	1,714.7	1,739.6	1,777.8	1,815.9
Wages and salaries.....	1,313.4	1,399.7	1,381.6	1,409.9	1,447.0	1,468.4	1,502.8	1,536.4
Supplements to wages and salaries.....	251.5	261.8	258.9	263.3	267.8	271.2	275.0	279.5
Corporate profits with inventory valuation and capital consumption adjustments.....	230.6	237.5	233.3	250.4	238.4	250.6	252.6	247.9
Profits before tax.....	172.6	210.2	207.9	224.6	211.6	223.4	240.5	240.2
Profits tax liability.....	76.8	99.0	97.2	105.3	101.7	104.4	109.4	109.1
Profits after tax.....	95.8	111.2	110.6	119.3	109.9	124.1	131.1	131.1
Dividends.....	74.8	83.8	80.7	83.9	90.8	74.6	86.2	88.1
Undistributed profits.....	21.1	27.4	29.9	35.4	19.1	49.5	44.9	42.9
Inventory valuation adjustment.....	8.3	-18.0	-20.0	-19.5	-18.2	-19.4	-27.4	-29.0
Capital consumption adjustment.....	49.6	45.3	45.5	45.3	45.0	41.5	39.5	36.8
Net interest.....	84.3	98.6	96.0	101.6	106.6	107.1	110.7	114.3
Billions of 1982 dollars								
<b>Gross domestic product of nonfinancial corporate business</b> .....	2,177.2	2,270.4	2,248.0	2,296.1	2,322.5	2,363.5	2,380.9	2,393.5
Capital consumption allowances with capital consumption adjustment.....	260.2	269.4	268.1	270.6	273.2	275.7	278.1	280.5
Net domestic product.....	1,917.0	2,001.0	1,979.9	2,025.5	2,049.3	2,087.8	2,102.9	2,113.0
Indirect business tax and nontax liability plus business transfer payments less subsidies.....	199.1	203.2	203.3	205.4	204.3	206.3	207.8	209.6
Domestic income.....	1,717.9	1,797.8	1,776.5	1,820.1	1,845.1	1,881.4	1,895.1	1,903.4

**Table 1.17.—Auto Output**

[Billions of dollars]

	1986	1987	Seasonally adjusted at annual rates					
			1987			1988		
			II	III	IV	I	II	III <sup>r</sup>
<b>Auto output</b> .....	120.6	116.3	113.1	115.3	120.6	113.1	130.3	132.1
<b>Final sales</b> .....	119.0	109.4	108.0	126.2	106.6	117.8	129.3	127.3
Personal consumption expenditures.....	136.3	130.0	127.7	144.4	128.0	133.9	139.8	137.8
New autos.....	101.4	94.1	91.4	109.0	90.9	100.2	100.1	101.5
Net purchases of used autos.....	34.9	35.9	36.2	35.4	37.0	33.7	39.7	36.3
Producers' durable equipment.....	20.3	19.2	18.7	21.7	19.3	22.1	23.7	24.4
New autos.....	45.1	44.4	44.9	47.2	44.9	47.9	50.0	51.6
Net purchases of used autos.....	-24.7	-25.2	-26.2	-25.6	-25.6	-25.7	-26.4	-27.2
Net exports of goods and services.....	-39.0	-41.3	-40.1	-41.3	-42.3	-40.1	-35.8	-36.4
Exports.....	6.3	6.6	6.8	6.4	8.1	8.2	8.3	9.8
Imports.....	45.3	47.9	46.9	47.7	50.3	48.3	44.1	46.2
Government purchases of goods and services.....	1.4	1.5	1.6	1.4	1.6	1.9	1.6	1.6
<b>Change in business inventories of new and used autos</b> .....	1.6	6.9	5.2	-10.8	14.0	-4.7	1.1	4.8
New.....	1.4	6.7	4.3	-12.4	14.0	-9.1	3.4	2.9
Used.....	.2	.2	.9	1.6	0	4.4	-2.3	2.0
<b>Addenda:</b>								
Domestic output of new autos <sup>1</sup> .....	98.2	94.8	92.6	90.1	98.7	88.7	104.2	103.1
Sales of imported new autos <sup>2</sup> .....	55.3	55.0	53.5	60.2	57.2	60.2	60.6	60.1

1. Consists of final sales and change in business inventories of new autos assembled in the United States.

2. Consists of personal consumption expenditures, producers' durable equipment, and government purchases.

**Table 1.18.—Auto Output in Constant Dollars**

[Billions of 1982 dollars]

	1986	1987	Seasonally adjusted at annual rates					
			1987			1988		
			II	III	IV	I	II	III <sup>r</sup>
<b>Auto output</b> .....	106.2	100.6	98.4	99.2	102.9	96.0	111.2	111.6
<b>Final sales</b> .....	106.6	95.1	94.5	109.0	91.4	101.0	110.4	107.9
Personal consumption expenditures.....	119.0	108.8	107.3	120.2	105.3	110.4	115.5	112.5
New autos.....	89.2	80.0	78.2	92.4	76.5	84.3	83.9	84.4
Net purchases of used autos.....	29.8	28.8	29.1	27.8	28.8	26.0	31.6	28.1
Producers' durable equipment.....	18.2	16.3	16.0	18.6	16.4	19.0	20.1	20.8
New autos.....	39.7	37.7	38.4	40.0	37.8	40.3	41.9	42.9
Net purchases of used autos.....	-21.5	-21.5	-22.4	-21.4	-21.4	-21.2	-21.8	-22.1
Net exports of goods and services.....	-31.9	-31.4	-30.2	-31.1	-31.8	-30.1	-26.5	-26.8
Exports.....	5.3	5.4	5.6	5.3	6.6	6.7	6.8	7.9
Imports.....	37.3	36.8	35.9	36.3	38.4	36.8	33.3	34.7
Government purchases of goods and services.....	1.3	1.4	1.4	1.3	1.4	1.7	1.4	1.4
<b>Change in business inventories of new and used autos</b> .....	-3	5.5	3.9	-9.8	11.5	-4.9	.8	3.7
New.....	-5	5.3	3.1	-11.2	11.5	-8.5	2.8	2.1
Used.....	.2	.2	.8	1.3	0	3.6	-2.0	1.6
<b>Addenda:</b>								
Domestic output of new autos <sup>1</sup> .....	85.3	80.5	78.9	75.8	83.1	74.2	87.3	85.5
Sales of imported new autos <sup>2</sup> .....	48.7	46.8	45.8	51.0	48.1	50.7	50.8	50.0

1. Consists of final sales and change in business inventories of new autos assembled in the United States.

2. Consists of personal consumption expenditures, producers' durable equipment, and government purchases.

**Table 1.19.—Truck Output**

[Billions of dollars]

	1986	1987	Seasonally adjusted at annual rates					
			1987			1988		
			II	III	IV	I	II	III'
<b>Truck output</b> <sup>1</sup> .....	55.2	59.6	57.8	58.0	64.6	65.8	65.3	64.5
<b>Final sales</b> .....	54.8	58.3	58.0	61.6	60.9	66.2	65.4	67.5
Personal consumption expenditures.....	26.0	27.7	28.6	29.1	27.3	28.7	28.8	30.1
Producers' durable equipment.....	30.8	33.0	33.1	34.3	34.2	36.4	36.1	37.5
Net exports of goods and services.....	-7.3	-7.0	-7.9	-6.6	-5.6	-4.9	-5.3	-5.6
Exports.....	3.0	3.3	3.0	3.3	4.2	4.1	3.7	3.8
Imports.....	10.3	10.3	11.0	9.9	9.8	9.0	9.0	9.4
Government purchases of goods and services.....	5.3	4.7	4.2	4.8	5.0	6.0	5.8	5.5
<b>Change in business inventories</b> .....	.5	1.3	-2	-3.6	3.7	-4	0	-3.0

1. Includes new trucks only.

**Table 1.20.—Truck Output in Constant Dollars**

[Billions of 1982 dollars]

	1986	1987	Seasonally adjusted at annual rates					
			1987			1988		
			II	III	IV	I	II	III'
<b>Truck output</b> <sup>1</sup> .....	47.8	50.8	49.4	49.4	54.9	55.8	55.5	54.3
<b>Final sales</b> .....	47.4	49.7	49.6	52.5	51.9	56.2	55.5	56.6
Personal consumption expenditures.....	22.5	23.5	24.4	24.8	23.0	24.2	24.3	25.3
Producers' durable equipment.....	26.6	28.2	28.4	29.2	29.3	31.0	30.8	31.4
Net exports of goods and services.....	-6.3	-6.0	-6.8	-5.6	-4.7	-4.1	-4.5	-4.7
Exports.....	2.6	2.8	2.6	2.8	3.6	3.5	3.1	3.2
Imports.....	8.9	8.8	9.4	8.5	8.3	7.6	7.6	7.8
Government purchases of goods and services.....	4.6	4.0	3.6	4.1	4.3	5.1	4.9	4.6
<b>Change in business inventories</b> .....	.4	1.1	-2	-3.0	3.0	-3	0	-2.3

1. Includes new trucks only.

**Table 2.1.—Personal Income and Its Disposition**

[Billions of dollars]

	1986	1987	Seasonally adjusted at annual rates					
			1987			1988		
			II	III	IV	I	II	III'
<b>Personal income</b> .....	3,531.1	3,780.0	3,736.1	3,801.0	3,906.8	3,951.4	4,022.4	4,092.3
<b>Wage and salary disbursements</b> .....	2,094.0	2,248.4	2,220.6	2,265.1	2,325.1	2,358.7	2,410.0	2,461.4
Commodity-producing industries.....	625.5	649.8	642.8	652.8	665.5	676.0	689.1	701.3
Manufacturing.....	478.1	490.3	484.6	492.6	501.3	509.6	517.4	525.9
Distributive industries.....	498.9	531.7	526.1	536.8	547.3	558.2	572.1	585.4
Service industries.....	575.9	646.8	634.8	652.4	682.8	687.4	705.9	725.7
Government and government enterprises.....	393.7	420.1	416.9	423.0	429.5	437.1	442.9	449.1
<b>Other labor income</b> .....	196.1	207.9	206.4	209.3	212.4	214.6	216.5	219.5
Proprietors' income with inventory valuation and capital consumption adjustments.....	286.7	312.9	308.9	306.8	326.0	323.9	328.8	322.1
Farm.....	36.4	43.0	43.0	35.2	47.0	44.7	43.4	30.4
Nonfarm.....	250.3	270.0	265.9	271.5	279.0	279.2	285.3	291.7
Rental income of persons with capital consumption adjustment.....	12.4	18.4	17.8	18.1	20.5	19.1	20.1	20.1
Personal dividend income.....	82.8	88.6	87.3	89.9	91.9	93.5	95.0	97.3
Personal interest income.....	499.1	527.0	517.9	533.0	550.0	554.2	563.7	581.3
Transfer payments.....	521.1	548.8	547.8	551.7	556.8	576.3	582.8	587.3
Old-age, survivors, disability, and health insurance benefits.....	269.3	282.9	282.8	284.5	286.5	298.1	300.4	303.1
Government unemployment insurance benefits.....	16.3	14.7	15.1	14.5	13.4	13.9	13.4	13.4
Veterans benefits.....	16.7	16.6	16.7	16.6	16.6	17.0	17.1	17.1
Government employees retirement benefits.....	70.6	75.7	75.5	76.7	77.1	80.4	82.3	81.6
Other transfer payments.....	148.2	158.9	157.6	159.4	163.3	166.9	169.6	172.1
Aid to families with dependent children.....	16.3	16.7	16.7	16.8	16.8	16.9	17.1	17.4
Other.....	131.9	142.1	140.9	142.7	146.5	150.0	152.5	154.7
<b>Less: Personal contributions for social insurance</b> .....	161.1	172.0	170.5	172.7	175.9	190.2	193.5	196.7
<b>Less: Personal tax and nontax payments</b> .....	511.4	570.3	582.0	576.2	591.0	575.8	601.0	586.4
<b>Equals: Disposable personal income</b> .....	3,019.6	3,209.7	3,154.1	3,224.9	3,315.8	3,375.6	3,421.5	3,506.0
<b>Less: Personal outlays</b> .....	2,898.0	3,105.5	3,084.7	3,152.3	3,171.8	3,225.7	3,293.6	3,362.4
Personal consumption expenditures.....	2,807.5	3,012.1	2,992.2	3,058.2	3,076.3	3,128.1	3,194.6	3,261.5
Interest paid by consumers to business.....	89.1	92.1	91.1	92.8	94.4	96.4	98.2	99.9
Personal transfer payments to foreigners (net).....	1.4	1.3	1.4	1.3	1.2	1.2	.8	1.0
<b>Equals: Personal saving</b> .....	121.7	104.2	69.5	72.6	144.0	149.9	127.8	143.6
<b>Addenda:</b>								
Disposable personal income: Total, billions of 1982 dollars.....	2,640.9	2,686.3	2,652.8	2,683.9	2,728.9	2,762.3	2,762.2	2,799.8
Per capita:								
Current dollars.....	12,496	13,157	12,947	13,204	13,543	13,760	13,919	14,225
1982 dollars.....	10,929	11,012	10,889	10,989	11,145	11,260	11,237	11,360
Population (mid-period, millions).....	241.7	243.9	243.6	244.2	244.8	245.3	245.8	246.5
<b>Personal saving as percentage of disposable personal income</b> .....	4.0	3.2	2.2	2.3	4.3	4.4	3.7	4.1

NOTE.—Percent changes from preceding period for selected items in this table are shown in table 8.1.

**Table 2.2.—Personal Consumption Expenditures by Major Type of Product**

[Billions of dollars]

	1986	1987	Seasonally adjusted at annual rates					
			1987			1988		
			II	III	IV	I	II	III'
<b>Personal consumption expenditures</b> .....	2,807.5	3,012.1	2,992.2	3,058.2	3,076.3	3,128.1	3,194.6	3,261.5
<b>Durable goods</b> .....	406.5	421.9	420.5	441.4	422.0	437.8	449.8	451.8
Motor vehicles and parts.....	196.4	195.8	194.5	212.9	194.0	202.2	208.7	209.1
Furniture and household equipment.....	140.0	148.3	147.8	150.2	149.4	154.7	159.5	159.6
Other.....	70.1	77.8	78.3	78.3	78.6	81.0	81.5	83.1
<b>Nondurable goods</b> .....	943.6	997.9	995.3	1,006.6	1,012.4	1,016.2	1,036.6	1,061.9
Food.....	501.0	526.4	525.3	528.4	530.9	535.9	546.3	559.6
Clothing and shoes.....	187.0	178.2	176.8	180.4	181.2	180.5	183.2	188.5
Gasoline and oil.....	73.3	77.0	77.4	79.3	79.3	76.3	78.8	80.6
Other nondurable goods.....	202.2	216.3	215.8	218.5	220.9	223.5	228.2	233.2
Fuel oil and coal.....	16.7	16.2	16.3	16.0	16.6	17.0	17.2	17.5
Other.....	185.6	200.1	199.5	202.5	204.2	206.6	211.0	215.8
<b>Services</b> .....	1,457.3	1,592.3	1,576.4	1,610.2	1,641.9	1,674.1	1,708.2	1,747.7
Housing.....	434.3	467.7	462.6	471.1	481.8	490.1	496.4	506.1
Household operation.....	179.9	186.3	187.3	189.6	188.2	190.9	193.5	199.7
Electricity and gas.....	87.4	88.8	90.6	90.8	88.8	90.2	90.9	94.7
Other.....	92.5	97.5	96.8	98.8	99.5	100.7	102.7	105.1
Transportation.....	95.8	106.2	104.6	105.8	112.0	111.3	116.4	118.1
Medical care.....	320.1	360.3	355.7	367.3	374.4	384.9	396.6	410.0
Other.....	427.2	471.8	466.2	476.4	485.4	497.0	505.2	513.8

**Table 2.3.—Personal Consumption Expenditures by Major Type of Product in Constant Dollars**

[Billions of 1982 dollars]

	1986	1987	Seasonally adjusted at annual rates					
			1987			1988		
			II	III	IV	I	II	III'
<b>Personal consumption expenditures</b> .....	2,455.2	2,521.0	2,516.6	2,545.2	2,531.7	2,559.8	2,579.0	2,604.5
<b>Durable goods</b> .....	385.0	390.9	391.3	406.5	387.6	401.1	410.6	409.5
Motor vehicles and parts.....	176.4	170.4	169.9	184.2	166.7	173.5	179.0	177.9
Furniture and household equipment.....	143.2	151.0	151.0	152.7	151.9	157.3	161.8	161.0
Other.....	65.4	69.6	70.4	69.7	69.0	70.3	69.8	70.6
<b>Nondurable goods</b> .....	879.5	890.5	889.8	891.9	890.5	892.7	893.6	905.5
Food.....	448.0	450.4	450.1	449.4	449.2	451.4	453.2	454.3
Clothing and shoes.....	157.6	160.5	158.2	162.9	160.3	159.6	156.3	164.2
Gasoline and oil.....	97.3	98.3	99.6	97.8	98.4	98.8	99.8	99.7
Other nondurable goods.....	176.6	181.3	181.9	181.7	182.6	183.0	184.2	187.3
Fuel oil and coal.....	22.0	21.1	21.3	20.4	21.4	22.0	21.8	22.5
Other.....	154.6	160.2	160.6	161.4	161.2	161.0	162.4	164.8
<b>Services</b> .....	1,190.7	1,239.5	1,235.5	1,246.8	1,253.6	1,265.9	1,274.8	1,289.5
Housing.....	348.3	358.3	357.1	359.3	361.7	363.6	365.6	367.8
Household operation.....	152.1	157.0	158.1	159.2	158.1	160.4	161.1	165.9
Electricity and gas.....	76.6	79.0	80.5	80.5	79.2	80.5	80.6	83.9
Other.....	75.5	78.0	77.6	78.6	79.0	80.0	80.4	82.0
Transportation.....	85.4	89.3	88.9	90.1	90.8	91.7	92.9	94.2
Medical care.....	251.5	268.2	266.6	270.9	274.0	276.9	279.5	283.2
Other.....	353.4	366.6	364.8	367.3	369.0	373.2	375.8	378.3

Table 3.2.—Federal Government Receipts and Expenditures

(Billions of dollars)

	1986	1987	Seasonally adjusted at annual rates					
			1987			1988		
			II	III	IV	I	II	III'
<b>Receipts</b> .....	828.3	916.5	920.0	930.1	944.4	951.0	983.0	975.1
Personal tax and nontax receipts.....	361.5	405.6	413.1	413.3	422.3	404.6	425.0	408.2
Income taxes.....	353.6	396.8	403.9	403.9	414.1	395.9	415.1	398.5
Estate and gift taxes.....	7.1	7.4	7.8	7.7	6.7	7.1	8.2	8.3
Nontaxes.....	.8	1.4	1.3	1.7	1.6	1.5	1.7	1.4
Corporate profits tax accruals.....	83.9	105.8	105.0	110.5	107.7	107.2	111.7	112.9
Federal Reserve banks.....	17.8	17.7	17.7	17.9	17.9	18.4	18.3	19.1
Other.....	66.1	88.1	87.2	92.6	89.8	88.8	93.4	93.8
Indirect business tax and nontax accruals.....	50.8	54.0	54.3	53.9	55.0	55.9	55.9	57.1
Excise taxes.....	30.9	31.8	31.9	31.7	32.2	32.4	33.0	33.2
Customs duties.....	13.7	15.4	15.6	15.2	15.8	16.5	15.9	16.3
Nontaxes.....	6.3	6.8	6.8	6.9	7.0	7.0	7.0	7.5
Contributions for social insurance.....	332.2	351.0	347.7	352.4	359.4	383.4	390.3	396.9
<b>Expenditures</b> .....	1,033.9	1,074.2	1,064.0	1,068.4	1,104.9	1,106.1	1,116.3	1,099.9
Purchases of goods and services.....	366.2	382.0	377.5	386.3	391.4	377.7	382.2	370.9
National defense.....	277.5	295.3	294.8	299.8	299.2	298.4	298.8	293.1
Nondefense.....	88.7	86.7	82.6	86.4	92.2	79.3	83.4	77.9
Transfer payments.....	399.8	414.2	413.4	414.2	422.5	434.4	437.6	439.8
To persons.....	385.9	402.0	402.2	403.5	406.1	422.9	426.5	428.3
To foreigners.....	13.9	12.2	11.2	10.7	16.4	11.5	11.0	11.6
Grants-in-aid to State and local governments.....	106.8	102.7	105.5	101.9	101.4	111.1	110.4	111.5
Net interest paid.....	135.4	143.0	139.8	143.8	149.5	149.9	152.1	153.7
Interest paid.....	158.3	162.5	159.5	163.0	163.4	172.5	171.8	174.3
To persons and business.....	135.6	138.4	135.6	139.1	143.8	146.0	145.0	145.5
To foreigners.....	22.6	24.1	23.9	23.9	24.6	26.6	26.8	28.8
Less: Interest received by government.....	22.8	19.4	19.6	19.3	18.9	22.6	19.3	20.6
Subsidies less current surplus of government enterprises.....	25.7	32.4	27.8	22.6	39.7	33.0	34.0	23.9
Subsidies.....	26.5	30.8	27.3	20.8	37.6	29.6	32.5	16.8
Less: Current surplus of government enterprises.....	.8	-1.6	-5	-1.8	-2.1	-3.3	-1.5	-7.1
Less: Wage accruals less disbursements.....	0	0	0	.2	-2	0	0	0
<b>Surplus or deficit (-), national income and product accounts</b> .....	-205.6	-157.8	-144.0	-138.3	-160.4	-155.1	-133.3	-124.8
Social insurance funds.....	17.4	27.5	23.2	27.8	34.9	44.8	49.8	55.9
Other.....	-223.1	-185.3	-167.2	-166.1	-195.3	-199.8	-183.1	-180.7

Table 3.7B.—Government Purchases of Goods and Services by Type

(Billions of dollars)

	1986	1987	Seasonally adjusted at annual rates					
			1987			1988		
			II	III	IV	I	II	III'
<b>Government purchases of goods and services</b> .....	871.2	924.7	915.7	932.2	947.3	945.2	961.6	958.7
<b>Federal</b> .....	366.2	382.0	377.5	386.3	391.4	377.7	382.2	370.9
National defense.....	277.5	295.3	294.8	299.8	299.2	298.4	298.8	293.1
Durable goods.....	83.5	89.8	89.5	93.1	88.4	83.8	84.2	81.7
Nondurable goods.....	11.1	10.5	10.2	10.9	11.3	10.8	11.4	10.3
Services.....	176.4	187.8	188.5	188.1	191.9	197.3	195.8	193.9
Compensation of employees.....	104.0	108.9	108.7	109.0	110.0	112.7	112.6	112.9
Military.....	70.2	73.2	73.0	73.1	73.9	75.5	75.7	75.9
Civilian.....	33.8	35.7	35.7	35.9	36.2	37.2	37.0	37.0
Other services.....	72.4	78.9	79.8	79.1	81.9	84.6	83.1	81.0
Structures.....	6.6	7.2	6.6	7.8	7.6	6.6	7.5	7.2
Nondefense.....	88.7	86.7	82.6	86.4	92.2	79.3	83.4	77.9
Durable goods.....	4.1	4.1	4.0	4.2	4.5	4.6	4.8	4.1
Nondurable goods.....	11.1	3.2	-4	1.9	4.9	-9.1	-8.2	-11.9
Commodity Credit Corporation inventory change.....	5.3	-3.3	-7.5	-4.8	-1.4	-17.5	-16.8	-19.7
Other nondurables.....	5.7	6.5	7.1	6.7	6.3	8.4	8.6	7.8
Services.....	65.9	70.9	70.3	71.5	74.5	76.4	78.8	77.3
Compensation of employees.....	39.5	42.1	42.1	42.3	42.7	44.0	44.7	45.1
Other services.....	26.4	28.8	28.2	29.1	31.8	32.3	34.1	32.2
Structures.....	7.6	8.5	8.7	8.9	8.3	7.5	7.9	8.4
<b>State and local</b> .....	505.0	542.8	538.2	546.0	555.9	567.5	579.4	587.8
Durable goods.....	24.3	26.9	26.6	27.3	27.8	28.4	29.2	30.0
Nondurable goods.....	40.0	44.1	43.8	44.9	45.0	45.3	47.0	48.1
Services.....	380.4	409.6	406.0	413.1	420.0	428.7	436.7	444.5
Compensation of employees.....	299.9	321.7	319.0	324.4	329.9	336.4	342.1	347.8
Other services.....	80.5	87.9	87.0	88.7	90.2	92.2	94.6	96.7
Structures.....	60.3	62.2	61.8	60.7	63.1	65.2	66.4	65.3

Table 3.3.—State and Local Government Receipts and Expenditures

(Billions of dollars)

	1986	1987	Seasonally adjusted at annual rates					
			1987			1988		
			II	III	IV	I	II	III'
<b>Receipts</b> .....	623.0	655.7	659.3	659.1	666.9	685.5	698.4	707.3
Personal tax and nontax receipts.....	150.0	164.7	168.9	162.9	168.6	171.3	176.0	178.1
Income taxes.....	76.8	86.1	90.9	83.5	88.1	89.3	92.6	93.3
Nontaxes.....	60.4	64.8	64.3	65.4	66.5	67.6	68.7	69.9
Other.....	12.7	13.8	13.7	13.9	14.1	14.3	14.7	15.0
Corporate profits tax accruals.....	22.7	27.9	27.6	29.4	28.5	29.7	31.5	31.7
Indirect business tax and nontax accruals.....	297.6	312.3	309.5	316.5	319.2	323.5	329.8	334.6
Sales taxes.....	139.9	148.7	147.4	151.5	152.5	154.3	157.9	159.9
Property taxes.....	114.6	121.9	121.0	122.8	124.7	126.6	128.5	130.3
Other.....	43.1	41.6	41.2	42.1	42.0	42.6	43.4	44.5
Contributions for social insurance.....	46.0	48.1	47.7	48.4	49.2	49.9	50.6	51.4
Federal grants-in-aid.....	106.8	102.7	105.5	101.9	101.4	111.1	110.4	111.5
<b>Expenditures</b> .....	561.9	602.8	597.9	606.2	617.2	629.7	642.1	651.4
Purchases of goods and services.....	505.0	542.8	538.2	546.0	555.9	567.5	579.4	587.8
Compensation of employees.....	299.9	321.7	319.0	324.4	329.9	336.4	342.1	347.8
Other.....	205.2	221.1	219.2	221.6	226.0	231.1	237.3	240.0
Transfer payments to persons.....	110.1	118.7	117.7	119.7	121.7	123.8	126.0	127.9
Net interest paid.....	-34.8	-37.7	-37.3	-38.0	-38.8	-39.5	-40.3	-41.2
Interest paid.....	47.6	53.3	52.6	54.0	55.4	56.8	58.3	59.7
Less: Interest received by government.....	82.4	91.0	89.9	92.1	94.2	96.3	98.6	101.0
Less: Dividends received by government.....	5.5	6.9	6.7	7.2	7.5	7.8	8.1	8.4
Subsidies less current surplus of government enterprises.....	-13.1	-14.0	-13.9	-14.3	-14.1	-14.4	-14.7	-14.8
Subsidies.....	.8	1.0	.9	1.0	1.0	1.0	1.1	1.0
Less: Current surplus of government enterprises.....	13.9	15.0	14.9	15.3	15.1	15.5	15.8	15.9
Less: Wage accruals less disbursements.....	0	0	0	0	0	0	0	0
<b>Surplus or deficit (-), national income and product accounts</b> .....	61.2	52.9	61.4	52.9	49.7	55.8	56.2	55.9
Social insurance funds.....	56.2	62.1	61.2	63.0	64.6	66.1	67.7	69.3
Other.....	5.0	-9.2	.1	-10.1	-14.8	-10.3	-11.5	-13.3

Table 3.8B.—Government Purchases of Goods and Services by Type in Constant Dollars

(Billions of 1982 dollars)

	1986	1987	Seasonally adjusted at annual rates					
			1987			1988		
			II	III	IV	I	II	III'
<b>Government purchases of goods and services</b> .....	760.5	780.2	772.2	782.9	792.6	776.4	783.8	777.8
<b>Federal</b> .....	333.4	339.0	332.1	342.1	347.7	327.8	331.6	323.7
National defense.....	251.4	264.9	264.8	269.5	268.2	264.6	263.6	255.5
Durable goods.....	78.1	87.9	87.2	92.1	88.4	84.9	85.1	81.1
Nondurable goods.....	15.4	14.7	14.6	14.6	15.6	14.6	14.8	12.9
Services.....	152.3	156.4	157.6	156.4	158.0	159.9	157.8	155.8
Compensation of employees.....	88.8	89.3	89.1	89.3	89.5	89.3	88.8	89.0
Military.....	59.9	60.2	60.1	60.2	60.3	60.1	59.9	60.0
Civilian.....	28.9	29.0	29.0	29.1	29.2	29.2	28.9	28.9
Other services.....	63.4	67.2	68.5	67.1	68.6	70.5	69.0	66.8
Structures.....	5.6	5.9	5.5	6.3	6.1	5.2	5.9	5.7
Nondefense.....	82.0	74.1	67.3	72.6	79.5	63.2	67.9	68.2
Durable goods.....	4.5	4.8	4.6	4.9	5.4	5.6	5.8	5.0
Nondurable goods.....	13.4	2.5	-3.8	.3	4.9	-11.1	-8.6	-6.4
Commodity Credit Corporation inventory change.....	7.8	-3.9	-11.0	-6.3	-1.1	-19.3	-16.8	-13.6
Other nondurables.....	5.6	6.4	7.2	6.6	6.1	8.2	8.3	7.2
Services.....	57.1	59.2	58.8	59.5	61.8	62.2	63.9	62.4
Compensation of employees.....	33.7	34.2	34.2	34.4	34.4	34.5	35.0	35.2
Other services.....	23.4	25.0	24.5	25.2	27.4	27.7	28.9	27.1
Structures.....	6.9	7.5	7.8	7.8	7.3	6.5	6.8	7.2
<b>State and local</b> .....	427.1	441.2	440.1	440.8	444.9	448.7	452.2	454.1
Durable goods.....	22.5	24.4	24.2	24.7	25.1	25.5	26.0	26.4
Nondurable goods.....	44.3	46.4	46.3	46.6	46.9	47.5	48.3	49.1
Services.....	306.9	316.0	315.4	316.8	318.5	320.3	322.2	324.3
Compensation of employees.....	240.8	246.4	246.1	247.1	248.1	249.0	249	

**Table 3.9.—National Defense Purchases of Goods and Services**

[Billions of dollars]

	1986	1987	Seasonally adjusted at annual rates					
			1987			1988		
			II	III	IV	I	II	III'
<b>National defense purchases</b> .....	277.5	295.3	294.8	299.8	299.2	298.4	298.8	293.1
<b>Durable goods</b> .....	83.5	89.8	89.5	93.1	88.4	83.8	84.2	81.7
Military equipment.....	71.1	77.3	76.8	79.9	75.9	72.3	73.3	71.2
Aircraft.....	32.9	33.4	31.3	35.4	33.7	29.8	29.8	27.6
Missiles.....	11.5	13.0	13.9	12.5	13.3	11.7	12.8	11.8
Ships.....	8.5	8.5	9.1	8.4	8.2	8.4	7.9	8.1
Vehicles.....	4.7	4.8	4.9	4.4	4.6	4.5	4.2	3.9
Electronic equipment.....	5.1	5.8	5.9	5.9	5.6	5.9	6.0	5.7
Other.....	8.4	11.8	11.6	13.4	10.5	12.0	12.6	14.1
Other durable goods.....	12.4	12.5	12.7	13.2	12.4	11.5	11.0	10.5
<b>Nondurable goods</b> .....	11.1	10.5	10.2	10.9	11.3	10.8	11.4	10.3
Petroleum products.....	4.3	4.2	3.8	4.3	5.3	4.3	4.4	4.3
Ammunition.....	4.3	3.8	3.8	4.1	3.6	3.8	4.5	3.6
Other nondurable goods.....	2.5	2.5	2.6	2.5	2.4	2.6	2.4	2.3
<b>Services</b> .....	176.4	187.8	188.5	188.1	191.9	197.3	195.8	193.9
Compensation of employees.....	104.0	108.9	108.7	109.0	110.0	112.7	112.6	112.9
Military.....	70.2	73.2	73.0	73.1	73.9	75.5	75.7	75.9
Civilian.....	33.8	35.7	35.7	35.9	36.2	37.2	37.0	37.0
Other services.....	72.4	78.9	79.8	79.1	81.9	84.6	83.1	81.0
Contractual research and development.....	28.6	28.5	29.1	27.6	28.4	30.6	30.2	30.5
Installation support <sup>1</sup> .....	18.6	22.3	22.4	22.8	23.4	24.7	23.9	22.8
Weapons support <sup>2</sup> .....	7.8	9.0	8.9	9.2	9.3	9.3	9.2	8.9
Personnel support <sup>3</sup> .....	10.4	11.3	11.5	12.1	11.9	11.7	11.6	11.3
Transportation of materiel.....	3.4	4.0	3.8	4.2	4.5	4.3	4.2	4.1
Travel of persons.....	3.5	3.8	3.8	3.8	3.9	3.7	3.9	3.9
Other.....	.2	0	.2	-.6	.7	.3	.1	-.5
Structures.....	6.6	7.2	6.6	7.8	7.6	6.6	7.5	7.2
Military facilities.....	4.1	4.9	4.5	5.2	5.3	4.2	5.0	4.9
Other.....	2.4	2.4	2.2	2.5	2.3	2.4	2.4	2.3

1. Includes utilities, communications, rental payments, maintenance and repair, and payments to contractors to operate installations.  
 2. Includes depot maintenance and contractual services for weapons systems, other than research and development.  
 3. Includes compensation of foreign personnel, consulting, training, and education.

**Table 3.10.—National Defense Purchases of Goods and Services in Constant Dollars**

[Billions of 1982 dollars]

	1986	1987	Seasonally adjusted at annual rates					
			1987			1988		
			II	III	IV	I	II	III'
<b>National defense purchases</b> .....	251.4	264.9	264.8	269.5	268.2	264.6	263.6	255.5
<b>Durable goods</b> .....	78.1	87.9	87.2	92.1	88.4	84.9	85.1	81.1
Military equipment.....	64.0	72.5	71.8	75.9	72.6	69.5	70.3	67.3
Aircraft.....	28.0	30.7	28.7	33.4	31.9	29.0	28.6	26.7
Missiles.....	10.9	12.8	13.7	12.5	13.7	12.2	13.3	11.6
Ships.....	7.4	7.3	7.8	7.2	7.1	7.2	6.8	6.7
Vehicles.....	5.0	5.1	5.3	4.8	4.9	4.7	4.5	4.3
Electronic equipment.....	4.8	5.5	5.6	5.6	5.3	5.5	5.7	5.4
Other.....	8.0	11.0	10.8	12.4	9.7	10.9	11.4	12.7
Other durable goods.....	14.2	15.4	15.4	16.2	15.9	15.4	14.9	13.8
<b>Nondurable goods</b> .....	15.4	14.7	14.6	14.6	15.6	14.6	14.8	12.9
Petroleum products.....	8.5	8.4	8.2	8.1	9.5	8.3	7.8	6.9
Ammunition.....	4.6	4.0	4.0	4.3	3.9	4.1	4.9	3.9
Other nondurable goods.....	2.3	2.3	2.4	2.3	2.2	2.3	2.2	2.0
<b>Services</b> .....	152.3	156.4	157.6	156.4	158.0	159.9	157.8	155.8
Compensation of employees.....	88.8	89.3	89.1	89.3	89.5	89.3	88.8	89.0
Military.....	59.9	60.2	60.1	60.2	60.3	60.1	59.9	60.0
Civilian.....	28.9	29.0	29.0	29.1	29.2	29.2	28.9	28.9
Other services.....	63.4	67.2	68.5	67.1	68.6	70.5	69.0	66.8
Contractual research and development.....	25.3	24.7	25.4	23.8	24.2	25.9	25.4	25.4
Installation support <sup>1</sup> .....	15.5	17.9	18.1	18.1	18.4	19.5	18.8	17.8
Weapons support <sup>2</sup> .....	6.9	7.9	7.9	8.1	8.0	8.0	7.9	7.6
Personnel support <sup>3</sup> .....	8.5	8.8	9.1	9.5	9.0	8.9	8.7	8.4
Transportation of materiel.....	3.7	4.2	4.1	4.4	4.6	4.4	4.3	4.2
Travel of persons.....	3.4	3.7	3.8	3.7	3.8	3.6	3.8	3.8
Other.....	.2	0	.2	-.5	.5	.2	.1	-.4
Structures.....	5.6	5.9	5.5	6.3	6.1	5.2	5.9	5.7
Military facilities.....	3.4	3.9	3.6	4.2	4.2	3.3	4.0	3.9
Other.....	2.2	2.0	1.8	2.1	1.9	1.9	1.9	1.8

1. Includes utilities, communications, rental payments, maintenance and repair, and payments to contractors to operate installations.  
 2. Includes depot maintenance and contractual services for weapons systems.  
 3. Includes compensation of foreign personnel, consulting, training, and education.

**Table 4.1.—Foreign Transactions in the National Income and Product Accounts**

[Billions of dollars]

	1986	1987	Seasonally adjusted at annual rates					
			1987			1988		
			II	III	IV	I	II	III'
<b>Receipts from foreigners</b> .....	378.4	428.0	416.8	440.4	459.7	487.8	507.1	531.5
<b>Exports of goods and services</b> .....	378.4	428.0	416.8	440.4	459.7	487.8	507.1	531.5
Merchandise.....	225.0	254.8	245.1	264.8	276.7	300.8	316.9	332.0
Durable goods.....	140.4	158.3	150.6	163.5	175.0	188.2	198.4	205.1
Nondurable goods.....	84.6	96.4	94.5	101.3	101.7	112.5	118.5	126.9
Services.....	153.4	173.3	171.7	175.6	183.0	187.0	190.2	199.5
Factor income <sup>1</sup> .....	87.5	96.1	93.8	97.3	105.1	104.7	104.2	113.6
Other.....	65.9	77.2	77.9	78.3	77.9	82.3	86.1	85.9
<b>Capital grants received by the United States (net)</b> .....	0	0	0	0	0	0	0	0
<b>Payments to foreigners</b> .....	378.4	428.0	416.8	440.4	459.7	487.8	507.1	531.5
<b>Imports of goods and services</b> .....	482.8	551.1	539.0	565.6	585.4	599.9	597.5	613.9
Merchandise.....	367.7	413.0	402.3	421.7	438.0	441.7	439.4	448.6
Durable goods.....	238.7	264.5	258.0	265.2	281.8	287.5	286.6	293.1
Nondurable goods.....	129.0	148.5	144.3	156.5	156.2	154.2	152.7	155.5
Services.....	115.1	138.1	136.7	143.9	147.4	158.2	158.2	165.4
Factor income <sup>1</sup> .....	52.6	66.6	65.6	70.5	74.1	82.3	82.9	88.1
Other.....	62.5	71.5	71.1	73.4	73.3	75.8	75.3	77.3
<b>Transfer payments (net)</b> .....	15.4	13.5	12.6	12.0	17.6	12.7	11.8	12.6
From persons (net).....	1.4	1.3	1.4	1.3	1.2	1.2	.8	1.0
From government (net).....	13.9	12.2	11.2	10.7	16.4	11.5	11.0	11.6
<b>Interest paid by government to foreigners</b> .....	22.6	24.1	23.9	23.9	24.6	26.6	26.8	28.8
<b>Net foreign investment</b> .....	-142.4	-160.6	-158.6	-161.1	-167.8	-151.3	-129.1	-123.8

1. Line 7 less line 16 equals rest-of-the-world product as shown in table 1.7.

**Table 4.2.—Exports and Imports of Goods and Services in Constant Dollars**

[Billions of 1982 dollars]

	1986	1987	Seasonally adjusted at annual rates					
			1987			1988		
			II	III	IV	I	II	III'
<b>Exports of goods and services</b> .....	378.4	427.8	416.4	440.9	459.2	486.2	496.9	510.7
Merchandise.....	243.7	280.1	269.4	291.6	304.6	329.0	339.1	347.1
Durable goods.....	152.6	177.3	167.9	184.0	198.8	215.4	223.1	229.7
Nondurable goods.....	91.0	102.8	101.5	107.7	105.8	113.6	116.0	117.4
Services.....	134.7	147.7	146.9	149.2	154.6	157.1	157.8	163.6
Factor income <sup>1</sup> .....	75.8	80.3	78.8	81.0	87.0	86.3	84.5	91.1
Other.....	58.9	67.4	68.2	68.2	67.6	70.9	73.3	72.5
<b>Imports of goods and services</b> .....	515.9	556.7	542.3	571.6	585.2	595.1	589.5	605.9
Merchandise.....	412.3	439.0	425.3	449.5	461.0	463.1	459.1	470.7
Durable goods.....	241.4	260.2	252.5	262.2	276.9	279.1	276.3	283.0
Nondurable goods.....	170.9	178.8	172.8	187.3	184.1	184.1	182.8	187.6
Services.....	103.7	117.7	117.0	122.2	124.2	132.0	130.4	135.2
Factor income <sup>1</sup> .....	45.0	54.7	54.2	57.7	60.3	66.8	66.3	69.7
Other.....	58.7	63.0	62.8	64.4	63.9	65.2	64.2	65.6

1. Line 6 less line 13 equals rest-of-the-world product as shown in table 1.8.

**Table 4.3.—Merchandise Exports and Imports by Type of Product and by End-Use Category**

[Billions of dollars]

	1986	1987	Seasonally adjusted at annual rates					
			1987			1988		
			II	III	IV	I	II	III <sup>r</sup>
<b>Merchandise exports</b> .....	<b>225.0</b>	<b>254.8</b>	<b>245.1</b>	<b>264.8</b>	<b>276.7</b>	<b>300.8</b>	<b>316.9</b>	<b>332.0</b>
Foods, feeds, and beverages.....	23.1	24.6	23.5	23.1	25.4	30.1	32.8	36.3
Industrial supplies and materials.....	58.4	66.5	65.4	68.2	71.0	77.8	82.1	86.2
Durable goods.....	18.1	20.9	20.1	21.5	22.8	24.6	28.0	28.5
Nondurable goods.....	40.3	45.6	45.3	46.7	48.1	53.3	54.1	57.8
Capital goods, except autos.....	79.3	88.1	83.2	93.3	96.5	105.4	109.2	114.1
Autos.....	24.9	26.3	24.9	25.4	30.5	31.7	32.2	31.9
Consumer goods.....	14.6	18.0	17.5	18.6	19.3	21.2	22.8	24.9
Durable goods.....	5.8	7.4	7.1	7.7	8.1	9.3	10.1	11.4
Nondurable goods.....	8.8	10.5	10.4	10.9	11.1	11.9	12.8	13.6
Other.....	24.6	31.3	30.5	31.2	34.1	34.6	37.8	38.6
Durable goods <sup>1</sup> .....	12.3	15.7	15.3	15.6	17.0	17.3	18.9	19.3
Nondurable goods <sup>1</sup> .....	12.3	15.7	15.3	15.6	17.0	17.3	18.9	19.3
<b>Merchandise imports</b> .....	<b>367.7</b>	<b>413.0</b>	<b>402.3</b>	<b>421.7</b>	<b>438.0</b>	<b>441.7</b>	<b>439.4</b>	<b>448.6</b>
Foods, feeds, and beverages.....	24.3	24.7	24.9	24.8	25.1	26.0	23.8	25.0
Industrial supplies and materials, excluding petroleum.....	62.2	66.6	62.8	66.2	72.3	76.7	75.3	77.5
Durable goods.....	34.3	35.6	33.3	35.1	38.6	41.8	40.1	41.3
Nondurable goods.....	27.8	31.0	29.4	31.0	33.7	35.0	35.2	36.2
Petroleum and products.....	34.4	42.9	40.3	51.0	45.2	39.8	41.1	39.6
Capital goods, except autos.....	72.1	84.8	82.4	87.0	93.2	96.4	100.7	101.7
Autos.....	78.1	85.2	84.0	84.1	88.7	87.4	84.5	86.5
Consumer goods.....	79.2	88.7	88.8	88.1	92.0	94.2	92.8	95.9
Durable goods.....	45.4	49.0	48.7	48.8	50.6	51.5	50.7	52.5
Nondurable goods.....	33.8	39.7	40.1	39.4	41.4	42.8	42.1	43.5
Other.....	17.4	20.2	19.2	20.5	21.4	21.1	21.1	22.4
Durable goods <sup>1</sup> .....	8.7	10.1	9.6	10.2	10.7	10.5	10.6	11.2
Nondurable goods <sup>1</sup> .....	8.7	10.1	9.6	10.2	10.7	10.5	10.6	11.2
<b>Addenda:</b>								
Exports of agricultural products <sup>2</sup> .....	27.4	29.5	28.5	33.1	30.5	36.1	38.5	41.5
Exports of nonagricultural products.....	197.7	225.3	216.6	231.7	246.2	264.7	278.4	290.5
Imports of nonpetroleum products.....	333.3	370.1	362.0	370.6	392.8	401.9	398.3	409.0

1. Because no data are available to distribute exports and imports of "other" merchandise between durable and nondurable goods, they are distributed equally.

2. Includes parts of line 2 and line 5.

NOTE.—Beginning with 1985, the definitions of the end-use categories have been changed. For a description of the new definitions, see the technical notes in "U.S. International Transactions, First Quarter 1988," SURVEY OF CURRENT BUSINESS 68 (June 1988): 34-39 and 57.

**Table 4.4.—Merchandise Exports and Imports by Type of Product and by End-Use Category in Constant Dollars**

[Billions of 1982 dollars]

	1986	1987	Seasonally adjusted at annual rates					
			1987			1988		
			II	III	IV	I	II	III <sup>r</sup>
<b>Merchandise exports</b> .....	<b>243.7</b>	<b>280.1</b>	<b>269.4</b>	<b>291.6</b>	<b>304.6</b>	<b>329.0</b>	<b>339.1</b>	<b>347.1</b>
Foods, feeds, and beverages.....	26.3	29.9	28.9	34.3	30.5	34.1	34.9	33.5
Industrial supplies and materials.....	63.8	69.7	69.3	70.4	72.0	76.9	79.4	81.5
Durable goods.....	19.7	21.9	21.3	22.2	23.2	24.3	27.1	26.9
Nondurable goods.....	44.0	47.8	48.0	48.2	48.9	52.6	52.3	54.6
Capital goods, except autos.....	92.4	109.5	102.4	116.4	124.5	138.0	140.6	147.1
Autos.....	22.3	23.2	22.0	22.4	26.8	27.9	28.3	27.7
Consumer goods.....	14.1	16.7	16.4	17.3	17.6	19.1	20.5	22.2
Durable goods.....	5.8	7.3	7.1	7.5	7.8	8.8	9.4	10.4
Nondurable goods.....	8.3	9.5	9.4	9.8	9.8	10.3	11.1	11.8
Other.....	24.8	31.0	30.5	30.8	33.2	33.0	35.4	35.1
Durable goods <sup>1</sup> .....	12.4	15.5	15.2	15.4	16.6	16.5	17.7	17.5
Nondurable goods <sup>1</sup> .....	12.4	15.5	15.2	15.4	16.6	16.5	17.7	17.5
<b>Merchandise imports</b> .....	<b>412.3</b>	<b>439.0</b>	<b>425.3</b>	<b>449.5</b>	<b>461.0</b>	<b>463.1</b>	<b>459.1</b>	<b>470.7</b>
Foods, feeds, and beverages.....	23.2	23.9	24.6	23.8	23.7	23.8	21.7	22.7
Industrial supplies and materials, excluding petroleum.....	73.6	74.2	71.6	71.8	77.0	77.1	72.8	73.4
Durable goods.....	40.6	39.8	38.1	38.2	41.1	42.0	38.8	39.1
Nondurable goods.....	33.0	34.5	33.4	33.6	35.9	35.1	34.0	34.3
Petroleum and products.....	75.3	77.9	72.2	88.0	81.4	82.2	85.4	87.5
Capital goods, except autos.....	82.8	99.4	94.6	104.0	112.2	116.4	121.5	124.8
Autos.....	66.0	68.1	67.1	67.2	69.9	67.7	64.8	65.9
Consumer goods.....	74.5	77.1	77.6	76.2	77.8	77.6	75.0	77.6
Durable goods.....	43.5	43.8	43.8	43.5	44.1	43.8	42.2	43.8
Nondurable goods.....	31.0	33.4	33.8	32.7	33.7	33.8	32.8	33.8
Other.....	16.9	18.3	17.6	18.5	18.9	18.1	17.8	18.7
Durable goods <sup>1</sup> .....	8.4	9.2	8.8	9.2	9.5	9.1	8.9	9.4
Nondurable goods <sup>1</sup> .....	8.4	9.2	8.8	9.2	9.5	9.1	8.9	9.4
<b>Addenda:</b>								
Exports of agricultural products <sup>2</sup> .....	30.6	34.9	33.9	39.7	35.2	39.3	39.8	37.9
Exports of nonagricultural products.....	213.0	245.2	235.6	252.0	269.4	289.7	299.3	309.2
Imports of nonpetroleum products.....	337.0	361.1	353.1	361.5	379.6	380.9	373.7	383.2

1. Because no data are available to distribute exports and imports of "other" merchandise between durable and nondurable goods, they are distributed equally.

2. Includes parts of line 2 and line 5.

NOTE.—Beginning with 1985, the definitions of the end-use categories have been changed. For a description of the new definitions, see the technical notes in "U.S. International Transactions, First Quarter 1988," SURVEY OF CURRENT BUSINESS 68 (June 1988): 34-39 and 57.

**Table 5.1.—Gross Saving and Investment**

[Billions of dollars]

	1986	1987	Seasonally adjusted at annual rates					
			1987			1988		
			II	III	IV	I	II	III <sup>r</sup>
<b>Gross saving</b> .....	<b>537.2</b>	<b>560.4</b>	<b>542.4</b>	<b>556.8</b>	<b>603.4</b>	<b>627.0</b>	<b>634.1</b>	<b>656.4</b>
<b>Gross private saving</b> .....	<b>681.6</b>	<b>665.3</b>	<b>625.0</b>	<b>642.2</b>	<b>714.1</b>	<b>726.3</b>	<b>711.2</b>	<b>725.2</b>
Personal saving.....	121.7	104.2	69.5	72.6	144.0	149.9	127.8	143.6
Undistributed corporate profits with inventory valuation and capital consumption adjustments.....	104.1	81.1	78.5	85.0	80.5	78.1	80.1	73.5
Undistributed profits.....	41.6	47.4	47.0	52.4	46.4	48.1	59.6	57.5
Inventory valuation adjustment.....	8.3	-18.0	-20.0	-19.5	-18.2	-19.4	-27.4	-29.0
Capital consumption adjustment.....	54.2	51.7	51.5	52.1	52.4	49.4	48.0	45.1
Corporate capital consumption allowances with capital consumption adjustment.....	282.4	297.5	295.4	299.7	303.7	309.8	313.3	317.2
Noncorporate capital consumption allowances with capital consumption adjustment.....	173.5	182.5	181.6	184.9	185.8	188.5	189.9	190.9
Wage accruals less disbursements.....	0	0	0	0	0	0	0	0
<b>Government surplus or deficit (-), national income and product accounts</b> .....	<b>-144.4</b>	<b>-104.9</b>	<b>-82.6</b>	<b>-85.5</b>	<b>-110.7</b>	<b>-99.2</b>	<b>-77.1</b>	<b>-68.8</b>
Federal.....	-205.6	-137.8	-144.0	-138.3	-160.4	-155.1	-133.3	-124.8
State and local.....	61.2	52.9	61.4	52.9	49.7	55.8	56.2	55.9
<b>Capital grants received by the United States (net)</b> .....	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Gross investment</b> .....	<b>523.6</b>	<b>552.3</b>	<b>539.9</b>	<b>541.7</b>	<b>597.0</b>	<b>612.0</b>	<b>629.0</b>	<b>647.6</b>
<b>Gross private domestic investment</b> .....	<b>665.9</b>	<b>712.9</b>	<b>698.5</b>	<b>702.8</b>	<b>764.9</b>	<b>763.4</b>	<b>758.1</b>	<b>771.4</b>
Net foreign investment.....	-142.4	-160.6	-158.6	-161.1	-167.8	-151.3	-129.1	-123.8
<b>Statistical discrepancy</b> .....	<b>-13.6</b>	<b>-8.1</b>	<b>-2.5</b>	<b>-15.1</b>	<b>-6.4</b>	<b>-15.0</b>	<b>-5.1</b>	<b>-8.8</b>

Table 5.8.—Change in Business Inventories by Industry

[Billions of dollars]

	1986	1987	Seasonally adjusted at annual rates					
			1987			1988		
			II	III	IV	I	II	III <sup>1</sup>
<b>Change in business inventories</b> .....	15.5	39.2	32.7	14.5	72.0	65.3	43.7	48.4
<b>Farm</b> .....	-1.9	-1.5	1.3	-3.3	-8	15.9	10.6	8.9
<b>Nonfarm</b> .....	17.4	40.7	31.4	17.8	72.8	49.4	33.1	39.5
Change in book value.....	4.8	64.5	58.4	49.2	96.9	78.1	74.7	80.9
Inventory valuation adjustment <sup>1</sup> .....	12.7	-23.8	-27.0	-25.4	-24.1	-28.7	-41.6	-41.3
<b>Manufacturing</b> .....	-3.9	6.1	-2.6	11.1	14.8	15.4	6.3	7.7
Durable goods.....	-3.0	4.6	-1.0	7.6	11.7	9.6	6.7	9.4
Nondurable goods.....	-3	-1.5	-1.6	3.5	3.2	5.8	-4	-1.7
<b>Wholesale trade</b> .....	7.0	7.4	3.7	-3.4	22.0	24.6	-4	7.2
Durable goods.....	3.9	5.3	3.7	-5.3	15.4	21.2	-7.9	14.2
Nondurable goods.....	3.1	2.1	-1	1.9	6.6	3.4	7.5	-6.9
<b>Merchant wholesalers</b> .....	6.7	7.2	6.5	-3.7	20.1	22.6	3	4.6
Durable goods.....	3.7	4.8	5.0	-5.7	13.6	19.3	-7.8	12.1
Nondurable goods.....	3.0	2.3	1.5	2.0	6.5	3.3	8.1	-7.5
<b>Nonmerchant wholesalers</b> .....	4	2	-2.8	4	1.8	2.0	-7	2.6
Durable goods.....	2	5	-1.3	5	1.8	1.9	-1	2.1
Nondurable goods.....	1	-3	-1.6	-1	1	2	-6	5
<b>Retail trade</b> .....	3.3	21.3	25.9	2.9	28.2	1.2	15.6	13.1
Durable goods.....	7	14.6	18.5	-2.7	21.9	-7.0	14.5	13.6
Automotive.....	-1.6	10.6	10.6	-3.5	15.1	-11.6	12.7	8.6
Other.....	2.2	4.0	7.9	8	6.8	4.6	1.8	5.0
Nondurable goods.....	2.6	6.7	7.3	5.6	6.2	8.2	1.1	-6
<b>Other</b> .....	10.4	5.9	4.5	7.1	7.8	8.2	11.6	11.5
Durable goods.....	2.7	2.0	3.1	3.2	1.4	2.9	4.5	5.5
Nondurable goods.....	7.7	3.9	1.4	3.9	6.4	5.3	7.0	6.1

1. The inventory valuation adjustment (IVA) shown in this table differs from the IVA that adjusts business incomes. The IVA in this table reflects the mix of methods (first-in, first-out; last-in, first-out, etc.) underlying book value inventories derived primarily from Census Bureau statistics. This mix differs from that underlying business income derived primarily from Internal Revenue Service statistics.

Table 5.10.—Inventories and Final Sales of Business by Industry

[Billions of dollars]

	Seasonally adjusted quarterly totals					
	1987			1988		
	II	III	IV	I	II	III <sup>1</sup>
<b>Inventories<sup>1</sup></b> .....	902.3	914.1	941.5	965.2	992.3	1,014.5
<b>Farm</b> .....	69.9	68.2	68.8	72.6	78.7	82.1
<b>Nonfarm</b> .....	832.4	845.9	872.8	892.6	913.6	932.4
Durable goods.....	487.9	494.0	513.3	523.5	533.3	547.6
Nondurable goods.....	344.5	351.9	359.5	369.1	380.2	384.8
<b>Manufacturing</b> .....	330.8	337.8	346.2	353.4	360.4	365.8
Durable goods.....	220.6	225.2	231.9	236.1	240.6	244.5
Nondurable goods.....	110.2	112.6	114.3	117.3	119.7	121.3
<b>Wholesale trade</b> .....	192.7	194.0	201.0	209.3	213.6	218.4
Durable goods.....	125.4	125.4	130.6	137.0	136.4	141.0
Nondurable goods.....	67.2	68.7	70.5	72.3	77.2	77.3
<b>Merchant wholesalers</b> .....	167.9	163.7	175.2	182.7	186.7	190.3
Durable goods.....	110.9	110.5	115.0	120.8	120.1	124.0
Nondurable goods.....	56.9	53.2	60.2	61.9	66.7	66.7
<b>Nonmerchant wholesalers</b> .....	24.8	25.3	25.8	26.7	26.9	27.6
Durable goods.....	14.5	14.9	15.6	16.2	16.4	17.0
Nondurable goods.....	10.3	10.4	10.2	10.5	10.5	10.6
<b>Retail trade</b> .....	203.5	205.5	213.7	215.2	221.5	226.5
Durable goods.....	103.5	103.4	109.4	108.0	112.3	116.3
Automotive.....	53.6	52.8	56.7	53.8	57.2	59.7
Other.....	49.9	50.6	52.7	54.2	55.1	56.7
Nondurable goods.....	100.1	102.1	104.3	107.2	109.1	110.1
<b>Other</b> .....	105.4	103.5	111.7	114.7	118.1	121.8
<b>Final sales<sup>2</sup></b> .....	315.6	323.3	325.1	330.2	339.5	344.9
Final sales of goods and structures <sup>2</sup> .....	181.3	186.6	185.6	187.8	194.0	196.9
<b>Ratio of inventories to final sales</b>						
Inventories to final sales.....	2.86	2.83	2.90	2.92	2.92	2.94
Nonfarm inventories to final sales.....	2.64	2.62	2.68	2.70	2.69	2.70
Nonfarm inventories to final sales of goods and structures.....	4.59	4.53	4.70	4.75	4.71	4.73

1. Inventories are as of the end of the quarter. The quarter-to-quarter change in inventories calculated from current-dollar inventories in this table is not the current-dollar change in business inventories (CBI) component of GNP. The former is the difference between two inventory stocks, each valued at their respective end-of-quarter prices. The latter is the change in the physical volume of inventories valued at average prices of the quarter. In addition, changes calculated from this table are at quarterly rates, whereas CBI is stated at annual rates.

2. Quarterly totals at monthly rates. Business final sales equals final sales less gross product of households and institutions, government, and rest of the world, and includes a small amount of final sales by farms.

Table 5.9.—Change in Business Inventories by Industry in Constant Dollars

[Billions of 1982 dollars]

	1986	1987	Seasonally adjusted at annual rates					
			1987			1988		
			II	III	IV	I	II	III <sup>1</sup>
<b>Change in business inventories</b> .....	15.4	34.4	27.8	13.0	67.1	66.0	35.3	36.7
<b>Farm</b> .....	-2.5	-2.5	2.7	-5.3	-1.1	14.1	5.3	0
<b>Nonfarm</b> .....	17.9	36.9	25.0	18.3	68.2	51.9	30.1	36.7
<b>Manufacturing</b> .....	-3.5	5.2	-4.0	10.8	14.4	15.8	5.8	6.5
Durable goods.....	-3.1	4.1	-1.3	7.0	10.6	8.7	6.2	8.8
Nondurable goods.....	-4	1.1	-2.7	3.9	3.8	7.1	-4	-2.3
<b>Wholesale trade</b> .....	7.1	5.8	1.1	-3.5	19.4	24.9	-1.2	7.1
Durable goods.....	3.7	4.9	3.3	-4.8	14.1	18.2	-6.8	12.8
Nondurable goods.....	3.3	9	-2.3	1.3	5.3	6.7	5.7	-5.7
<b>Merchant wholesalers</b> .....	6.7	5.8	4.7	-3.6	18.1	22.7	0	4.5
Durable goods.....	3.5	4.4	4.6	-5.3	12.5	16.4	-6.8	10.8
Nondurable goods.....	3.2	1.4	1	1.6	5.6	6.3	6.7	-6.3
<b>Nonmerchant wholesalers</b> .....	3	0	-3.6	2	1.3	2.2	-1.1	2.6
Durable goods.....	2	5	-1.2	5	1.7	1.8	-1	1.9
Nondurable goods.....	1	-5	-2.4	-3	-4	4	-1.1	7
<b>Retail trade</b> .....	3.1	19.2	23.4	2.9	25.1	1.5	13.7	11.5
Durable goods.....	7	13.1	16.6	-2.2	19.5	-5.9	12.7	12.1
Automotive.....	-1.5	9.3	9.3	-3.0	13.2	-10.1	11.0	7.5
Other.....	2.1	3.7	7.3	8	6.3	4.2	1.7	4.6
Nondurable goods.....	2.5	6.1	6.8	5.1	5.6	7.4	1.0	-5
<b>Other</b> .....	11.3	6.7	4.6	8.0	9.3	9.7	11.8	11.6
Durable goods.....	2.5	1.9	2.9	2.9	1.3	2.5	3.9	4.7
Nondurable goods.....	8.8	4.9	1.8	5.0	8.0	7.2	7.9	6.9

Table 5.11.—Inventories and Final Sales of Business by Industry in Constant Dollars

[Billions of 1982 dollars]

	Seasonally adjusted quarterly totals					
	1987			1988		
	II	III	IV	I	II	III <sup>1</sup>
<b>Inventories<sup>1</sup></b> .....	863.2	866.4	883.2	899.7	908.5	917.7
<b>Farm</b> .....	71.8	70.5	70.2	73.7	75.0	75.0
<b>Nonfarm</b> .....	791.4	796.0	813.0	826.0	833.5	842.7
Durable goods.....	449.2	449.9	461.3	467.1	471.1	480.7
Nondurable goods.....	342.2	346.1	351.7	358.8	362.4	362.0
<b>Manufacturing</b> .....	316.0	318.7	322.3	326.3	327.7	329.3
Durable goods.....	205.8	207.5	210.2	212.4	213.9	216.1
Nondurable goods.....	110.2	111.2	112.2	113.9	113.8	113.2
<b>Wholesale trade</b> .....	183.2	182.4	187.2	193.4	193.1	194.9
Durable goods.....	115.1	113.9	117.4	122.0	120.3	123.5
Nondurable goods.....	68.1	68.5	69.8	71.4	72.9	71.4
<b>Merchant wholesalers</b> .....	157.6	156.7	161.2	166.9	166.9	168.0
Durable goods.....	101.7	100.3	103.5	107.6	105.9	108.6
Nondurable goods.....	56.0	56.4	57.8	59.3	61.0	59.5
<b>Nonmerchant wholesalers</b> .....	25.6	25.6	26.0	26.5	26.2	26.9
Durable goods.....	13.4	13.6	14.0	14.4	14.4	14.9
Nondurable goods.....	12.2	12.1	12.0	12.1	11.8	12.0
<b>Retail trade</b> .....	184.3	185.1	191.3	191.7	195.1	198.0
Durable goods.....	92.9	92.4	97.2	95.8	98.9	102.0
Automotive.....	46.7	45.9	49.2	46.7	49.5	51.3
Other.....	46.2	46.4	48.0	49.0	49.5	50.6
Nondurable goods.....	91.4	92.7	94.1	95.9	96.2	96.1
<b>Other</b> .....	107.8	109.8	112.1	114.6	117.5	120.4
<b>Final sales<sup>2</sup></b> .....	272.8	277.3	277.2	280.4	285.3	286.7
Final sales of goods and structures <sup>2</sup> .....	166.5	170.5	169.5	171.4	175.3	176.2
<b>Ratio of inventories to final sales</b>						
Inventories to final sales.....	3.16	3.12	3.19	3.21	3.18	3.20
Nonfarm inventories to final sales.....	2.90	2.87	2.93	2.95	2.92	2.94
Nonfarm inventories to final sales of goods and structures.....	4.75	4.67	4.80	4.82	4.75	4.78

1. Inventories are as of the end of the quarter. Quarter-to-quarter changes calculated from this table are at quarterly rates, whereas the constant-dollar change in business inventories component of GNP is stated at annual rates.

2. Quarterly totals at monthly rates. Business final sales equals final sales less gross product of households and institutions, government, and rest of the world, and includes a small amount of final sales by farms.

Table 5.12.—Fixed Investment by Type

[Billions of dollars]

	1986	1987	Seasonally adjusted at annual rates					
			1987			1988		
			II	III	IV	I	II	III*
<b>Fixed investment</b> .....	650.4	673.7	665.8	688.3	692.9	698.1	714.4	723.0
<b>Nonresidential</b> .....	433.9	446.8	438.2	462.1	464.1	471.5	487.8	494.7
<b>Structures</b> .....	138.5	139.5	134.4	143.0	147.7	140.1	142.3	143.9
Nonresidential buildings, excluding farm.....	91.8	92.6	90.3	95.0	96.6	93.3	95.7	93.7
Public utilities.....	27.4	28.4	27.1	28.9	30.8	27.7	28.8	32.0
Mining exploration, shafts, and wells.....	14.9	13.9	12.3	14.6	15.8	15.1	14.3	14.6
Other.....	4.4	4.5	4.7	4.6	4.6	4.0	3.5	3.6
<b>Producers' durable   equipment</b> .....	295.4	307.3	303.8	319.1	316.3	331.3	345.5	350.7
Information processing and related equipment....	96.5	101.2	99.2	105.7	102.8	107.0	111.5	113.1
Industrial equipment.....	68.9	70.6	68.9	71.4	74.2	77.2	81.3	83.7
Transportation and related equipment.....	66.9	67.8	69.4	72.1	68.5	74.2	78.7	79.9
Other.....	63.0	67.6	66.2	69.9	70.9	73.0	74.0	74.1
<b>Residential</b> .....	216.6	226.9	227.6	226.2	228.8	226.6	226.5	228.3
Single-family structures.....	102.0	114.5	114.1	115.0	117.3	116.5	116.2	115.4
Multifamily structures.....	32.5	25.5	25.5	23.9	24.1	22.1	20.7	21.2
Other.....	82.1	87.0	88.0	87.3	87.4	87.9	89.6	91.7

Table 5.13.—Fixed Investment by Type in Constant Dollars

[Billions of 1982 dollars]

	1986	1987	Seasonally adjusted at annual rates					
			1987			1988		
			II	III	IV	I	II	III*
<b>Fixed investment</b> .....	628.1	640.4	632.3	654.9	657.6	662.9	679.7	687.1
<b>Nonresidential</b> .....	433.1	445.1	434.8	462.8	464.8	473.4	490.2	496.0
<b>Structures</b> .....	129.3	125.5	120.9	128.0	132.1	124.0	125.0	126.0
Nonresidential buildings, excluding farm.....	79.6	77.1	75.4	78.3	79.4	76.1	78.0	76.0
Public utilities.....	25.2	25.7	24.6	26.0	27.6	24.6	25.4	28.0
Mining exploration, shafts, and wells.....	20.7	18.8	16.8	19.7	21.1	19.8	18.7	19.0
Other.....	3.9	3.9	4.1	4.0	4.0	3.4	2.9	3.0
<b>Producers' durable   equipment</b> .....	303.8	319.6	313.8	334.7	332.7	349.4	365.1	370.0
Information processing and related equipment....	124.9	139.4	134.6	148.0	147.0	155.9	165.0	167.6
Industrial equipment.....	62.1	61.4	60.1	62.1	63.4	65.2	68.0	69.9
Transportation and related equipment.....	59.8	59.1	60.8	62.9	59.8	64.9	68.3	68.6
Other.....	57.0	59.7	58.3	61.8	62.5	63.4	63.8	63.9
<b>Residential</b> .....	195.0	195.2	197.6	192.1	192.7	189.5	189.6	191.1
Single-family structures.....	91.4	97.5	98.2	96.5	97.3	96.2	96.3	95.6
Multifamily structures.....	29.1	21.7	22.0	20.1	20.0	18.2	17.2	17.6
Other.....	74.5	76.0	77.4	75.5	75.4	75.2	76.1	77.9

Table 6.3B.—National Income Without Capital Consumption  
Adjustment by Industry

[Billions of dollars]

	1986	1987	Seasonally adjusted at annual rates					
			1987			1988		
			II	III	IV	I	II	III*
<b>National income without capital consumption adjustment</b> .....	3,398.2	3,644.4	3,597.5	3,675.0	3,768.3	3,821.4	3,901.1	3,971.4
<b>Domestic industries</b> .....	3,363.3	3,614.9	3,569.3	3,648.2	3,737.3	3,799.1	3,879.8	3,945.9
<b>Private industries</b> .....	2,867.6	3,085.7	3,043.4	3,115.5	3,196.8	3,246.7	3,320.2	3,378.9
Agriculture, forestry, and fisheries.....	81.5	88.2	88.0	80.5	92.6	90.9	90.2	.....
Mining.....	30.4	31.0	30.1	32.7	35.2	35.3	36.1	.....
Construction.....	185.1	196.7	196.8	197.0	200.1	203.4	210.0	.....
<b>Manufacturing</b> .....	686.4	727.4	716.6	740.9	747.6	766.4	780.0	.....
Durable goods.....	405.7	419.4	414.4	424.7	420.6	432.7	445.9	.....
Nondurable goods.....	280.7	308.0	302.3	316.3	327.0	333.7	334.1	.....
<b>Transportation and public     utilities</b> .....	266.6	276.8	274.9	278.8	285.8	286.4	296.8	.....
Transportation.....	112.8	120.7	119.3	120.6	124.4	124.8	129.4	.....
Communication.....	73.6	76.3	75.3	78.2	78.4	77.3	80.1	.....
Electric, gas, and sanitary services.....	80.2	79.9	80.2	79.9	83.1	84.2	87.3	.....
<b>Wholesale trade</b> .....	203.4	213.6	207.7	216.2	219.8	225.0	224.8	.....
<b>Retail trade</b> .....	298.8	316.2	312.1	319.8	324.6	331.4	336.5	.....
<b>Finance, insurance, and     real estate</b> .....	475.5	524.0	517.0	529.8	545.9	553.6	567.2	.....
<b>Services</b> .....	639.8	711.6	700.2	719.8	745.1	754.4	773.7	.....
<b>Government and government   enterprises</b> .....	495.7	529.2	525.9	532.7	540.5	552.3	559.6	567.1
<b>Rest of the world</b> .....	34.9	29.5	28.2	26.8	31.0	22.4	21.3	25.5

Table 6.18B.—Corporate Profits by Industry

[Billions of dollars]

	1986	1987	Seasonally adjusted at annual rates					
			1987			1988		
			II	III	IV	I	II	III*
<b>Corporate profits with inventory valuation and capital consumption adjustments</b> .....	298.9	310.4	305.2	322.0	316.1	316.2	326.5	323.7
<b>Domestic industries</b> .....	266.9	274.0	270.8	286.7	274.6	286.0	291.1	288.6
<b>Financial</b> .....	36.4	36.5	37.4	36.3	36.2	35.4	38.5	40.7
<b>Nonfinancial</b> .....	230.6	237.5	233.3	250.4	238.4	250.6	252.6	247.9
<b>Rest of the world</b> .....	31.9	36.4	34.4	35.3	41.4	30.2	35.4	35.1
<b>Corporate profits with inventory valuation adjustment</b> .....	244.7	258.7	253.6	269.9	263.7	266.8	278.5	278.6
<b>Domestic industries</b> .....	212.8	222.3	219.2	234.6	222.2	236.6	243.1	243.5
<b>Financial</b> .....	31.8	30.1	31.4	29.5	28.8	27.6	30.0	32.4
<b>Federal Reserve banks</b> .....	16.0	16.0	16.0	16.2	16.2	17.5	17.4	18.2
<b>Other</b> .....	15.8	14.1	15.4	13.4	12.6	10.1	12.6	14.2
<b>Nonfinancial</b> .....	180.9	192.1	187.8	205.1	193.4	209.0	213.1	211.1
<b>Manufacturing</b> .....	79.4	96.8	93.8	107.0	101.7	110.6	114.5	.....
Durable goods.....	32.4	36.5	36.6	40.9	29.4	33.9	41.5	.....
Primary metal industries.....	-5	1.4	.2	1.9	2.6	3.2	5.1	.....
Fabricated metal products.....	5.4	5.7	4.1	7.2	6.7	8.0	7.5	.....
Machinery, except electrical.....	3.3	3.2	2.7	4.6	1.7	3.3	5.5	.....
Electric and electronic equipment.....	3.2	3.2	5.3	5.5	-	1.2	4.1	.....
Motor vehicles and equipment.....	7.6	7.3	9.6	5.6	4.5	4.2	4.6	.....
Other.....	13.3	15.7	14.7	16.2	14.6	14.0	14.7	.....
Nondurable goods.....	47.0	60.3	57.2	66.1	72.4	76.8	73.0	.....
Food and kindred products.....	11.2	12.8	12.2	14.0	14.9	15.9	17.5	.....
Chemicals and allied products.....	9.5	13.5	12.3	14.4	15.3	19.1	18.6	.....
Petroleum and coal products.....	7.0	12.2	12.0	14.7	18.8	17.4	14.8	.....
Other.....	19.3	21.9	20.7	22.9	23.4	24.5	22.1	.....
<b>Transportation and public utilities</b> .....	39.2	34.9	35.8	34.0	36.1	34.5	38.2	.....
Wholesale and retail trade.....	46.1	42.8	37.8	44.1	43.0	43.9	37.0	.....
Other.....	16.3	17.6	20.4	20.0	12.6	20.0	23.4	.....
<b>Rest of the world</b> .....	31.9	36.4	34.4	35.3	41.4	30.2	35.4	35.1

**Table 7.1.—Fixed-Weighted Price Indexes for Gross National Product, 1982 Weights**

[Index numbers, 1982=100]

	1986	1987	Seasonally adjusted					
			1987			1988		
			II	III	IV	I	II	III'
<b>Gross national product</b> .....	115.0	119.1	118.6	119.7	120.8	121.8	123.3	124.9
<b>Personal consumption expenditures</b> .....	115.3	120.4	119.9	121.1	122.5	123.2	124.9	126.4
Durable goods.....	106.5	109.7	109.2	110.2	111.0	111.4	111.9	112.8
Nondurable goods.....	107.8	112.6	112.4	113.4	114.3	114.6	116.7	118.2
Services.....	123.0	129.0	128.1	129.6	131.5	132.6	134.4	135.9
<b>Gross private domestic investment</b> .....								
Fixed investment.....	105.8	108.8	108.4	109.3	109.9	110.8	111.3	111.6
Nonresidential.....	104.3	106.8	106.5	107.0	107.5	108.3	109.0	109.4
Structures.....	101.8	105.1	104.5	105.8	106.4	107.5	107.8	108.4
Producers' durable equipment.....	106.0	107.9	107.8	107.7	108.1	108.9	109.8	110.0
Residential.....	110.9	115.9	114.9	117.4	118.3	119.2	119.3	119.3
Change in business inventories.....								
<b>Net exports of goods and services</b> .....								
Exports.....	103.9	106.0	105.5	106.4	107.0	108.7	110.5	113.0
Imports.....	93.6	100.8	100.3	101.9	103.0	103.9	105.3	105.4
<b>Government purchases of goods and services</b> .....	115.6	119.6	119.1	120.1	121.2	122.9	124.3	125.6
Federal.....	110.8	113.5	113.3	113.7	114.4	116.3	117.2	118.4
National defense.....	111.3	114.0	113.9	114.2	114.8	116.6	117.4	117.9
Nondefense.....	109.4	112.1	111.7	112.5	113.6	115.7	116.9	119.8
State and local.....	119.1	124.1	123.3	124.9	126.1	127.8	129.5	130.9
<b>Addenda:</b>								
Final sales.....	114.9	119.0	118.4	119.5	120.6	121.7	123.2	124.7
Personal consumption expenditures, food.....	112.2	117.2	117.0	117.8	118.6	119.2	121.0	123.7
Personal consumption expenditures, energy.....	91.0	91.7	91.4	93.4	92.9	91.1	92.3	93.2
Other personal consumption expenditures.....	119.1	124.9	124.2	125.5	127.2	128.3	130.0	131.3

NOTE.—Percent changes from preceding period for selected items in this table are shown in table 8.1.

**Table 7.2.—Fixed-Weighted Price Indexes for Gross National Product by Major Type of Product, 1982 Weights**

[Index numbers, 1982=100]

	1986	1987	Seasonally adjusted					
			1987			1988		
			II	III	IV	I	II	III'
<b>Gross national product</b> .....	115.0	119.1	118.6	119.7	120.8	121.8	123.3	124.9
Final sales.....	114.9	119.0	118.4	119.5	120.6	121.7	123.2	124.7
Change in business inventories.....								
<b>Goods</b> .....	108.4	111.0	110.8	111.4	112.1	112.6	114.3	116.1
Final sales.....	108.2	110.8	110.6	111.2	111.9	112.5	114.1	116.0
Change in business inventories.....								
Durable goods.....	106.1	107.1	106.9	107.2	107.0	107.2	107.6	108.3
Final sales.....	106.0	107.0	106.8	107.2	107.1	107.3	107.7	108.5
Change in business inventories.....								
Nondurable goods.....	110.0	113.7	113.4	114.3	115.5	116.3	118.7	121.4
Final sales.....	109.8	113.5	113.2	114.1	115.3	116.1	118.5	121.1
Change in business inventories.....								
<b>Services</b> .....	122.1	127.6	126.9	128.2	129.8	131.2	132.8	134.3
<b>Structures</b> .....	107.0	110.7	110.0	111.7	112.4	113.5	113.9	114.3

**Table 7.3.—Fixed-Weighted Price Indexes for Relation of Gross National Product, Gross Domestic Purchases, and Final Sales to Domestic Purchasers, 1982 Weights**

[Index numbers, 1982=100]

	1986	1987	Seasonally adjusted					
			1987			1988		
			II	III	IV	I	II	III'
<b>Gross national product</b> .....	115.0	119.1	118.6	119.7	120.8	121.8	123.3	124.9
Less: Exports of goods and services.....	103.9	106.0	105.5	106.4	107.0	108.7	110.5	113.0
Plus: Imports of goods and services.....	93.6	100.8	100.3	101.9	103.0	103.9	105.3	105.4
<b>Equals: Gross domestic purchases</b> <sup>1</sup> .....	114.0	118.7	118.1	119.3	120.5	121.4	122.9	124.2
Less: Change in business inventories.....								
<b>Equals: Final sales to domestic purchasers</b> <sup>2</sup> .....	113.9	118.5	118.0	119.2	120.3	121.3	122.8	124.0

1. Purchases in the United States of goods and services wherever produced.  
2. Final sales in the United States of goods and services wherever produced.

NOTE.—Percent changes from preceding period for selected items in this table are shown in table 8.1.

Table 7.4.—Implicit Price Deflators for Gross National Product

[Index numbers, 1982=100]

	1986	1987	Seasonally adjusted					
			1987			1988		
			II	III	IV	I	II	III'
Gross national product.....	113.9	117.7	117.3	118.2	118.9	119.4	121.0	122.4
Personal consumption expenditures.....	114.3	119.5	118.9	120.2	121.5	122.2	123.9	125.2
Durable goods.....	105.6	107.9	107.5	108.6	108.9	109.1	109.6	110.3
Nondurable goods.....	107.3	112.1	111.9	112.9	113.7	113.8	116.0	117.3
Services.....	122.4	128.5	127.6	129.1	131.0	132.2	134.0	135.5
Gross private domestic investment.....								
Fixed investment.....	108.5	105.2	105.3	105.1	105.4	105.8	105.1	105.2
Nonresidential.....	100.2	100.4	100.8	99.9	99.8	99.6	99.5	99.7
Structures.....	107.1	111.1	111.2	111.7	111.8	113.0	113.8	114.2
Producers' durable equipment.....	97.2	96.2	96.8	95.3	95.1	94.8	94.6	94.8
Residential.....	111.1	116.2	116.2	117.7	118.7	119.5	119.5	119.5
Change in business inventories.....								
Net exports of goods and services.....								
Exports.....	100.0	100.0	100.1	99.9	100.1	100.3	102.1	104.1
Imports.....	93.6	99.0	99.4	98.9	100.0	100.8	101.4	101.3
Government purchases of goods and services.....	114.6	118.5	118.6	119.1	119.5	121.7	122.7	123.3
Federal.....	109.8	112.7	113.7	112.9	112.6	115.2	115.3	114.6
National defense.....	104.4	111.5	111.3	111.3	111.6	112.8	113.4	114.7
Nondefense.....	108.2	117.0	122.9	119.0	116.0	125.5	122.7	114.1
State and local.....	118.2	123.0	123.3	123.9	124.9	126.5	128.1	129.4

NOTE.—Percent changes from preceding period for selected items in this table are shown in table 8.1.

Table 7.5.—Implicit Price Deflators for Gross National Product by Major Type of Product

[Index numbers, 1982=100]

Gross national product.....	113.9	117.7	117.3	118.2	118.9	119.4	121.0	122.4
Final sales.....	114.0	117.7	117.3	118.2	119.1	119.8	121.0	122.3
Change in business inventories.....								
Goods.....	106.2	107.8	107.8	108.1	107.9	107.5	109.4	110.8
Final sales.....	106.2	107.6	107.7	108.0	107.9	107.8	109.1	110.4
Change in business inventories.....								
Durable goods.....	101.5	100.2	100.4	99.8	99.5	98.4	98.6	99.5
Final sales.....	101.5	99.9	100.1	99.8	98.8	98.0	98.3	99.0
Change in business inventories.....								
Nondurable goods.....	110.0	114.3	114.3	115.5	115.5	115.8	119.7	122.1
Final sales.....	110.1	114.3	114.1	115.5	115.9	117.0	119.4	121.2
Change in business inventories.....								
Services.....	121.9	127.5	126.7	128.1	129.7	131.2	132.8	134.3
Structures.....	110.2	114.6	114.0	115.6	116.2	117.4	117.9	118.2

NOTE.—Percent changes from preceding period for selected items in this table are shown in table 8.1.

Table 7.6.—Implicit Price Deflators for Gross National Product by Sector

[Index numbers, 1982=100]

Gross national product.....	113.9	117.7	117.3	118.2	118.9	119.4	121.0	122.4
Gross domestic product.....	113.9	117.7	117.3	118.2	118.9	119.4	121.1	122.4
Business.....	112.7	116.0	115.7	116.5	117.1	117.4	119.0	120.4
Nonfarm.....	113.3	116.7	116.2	117.1	117.7	118.0	119.3	120.5
Nonfarm less housing.....	112.1	115.2	114.8	115.7	116.2	116.3	117.7	118.8
Housing.....	126.0	131.9	130.9	132.5	134.7	136.1	137.1	138.9
Farm.....	90.1	92.0	96.6	93.6	89.8	94.4	106.4	116.5
Statistical discrepancy.....	112.7	116.0	115.7	116.5	117.1	117.4	119.0	120.4
Households and institutions.....	122.0	131.0	129.8	132.1	134.9	135.7	138.1	139.8
Private households.....	103.6	104.8	104.7	104.9	105.0	105.0	105.8	106.1
Nonprofit institutions.....	123.3	132.9	131.6	134.0	137.1	137.9	140.4	142.1
Government.....	122.0	127.8	127.2	128.3	129.7	132.3	133.6	134.8
Federal.....	117.1	122.3	122.3	122.3	123.2	126.5	127.2	127.3
State and local.....	124.5	130.5	129.6	131.3	133.0	135.1	136.9	138.6
Rest of the world.....	115.5	119.5	119.1	120.1	120.8	121.4	123.2	124.7
Addendum:								
Gross domestic business product less housing.....	111.6	114.7						

NOTE.—Percent changes from preceding period for selected items in this table are shown in table 8.1.

Table 7.7.—Implicit Price Deflators for the Relation of Gross National Product, Net National Product, and National Income

[Index numbers, 1982=100]

	1986	1987	Seasonally adjusted					
			1987			1988		
			II	III	IV	I	II	III'
Gross national product.....	113.9	117.7	117.3	118.2	118.9	119.4	121.0	122.4
Less: Capital consumption allowances with capital consumption adjustment.....	102.9	104.2	104.1	104.7	104.6	105.4	105.4	105.4
Equals: Net national product.....	115.4	119.5	119.1	120.0	120.8	121.3	123.2	124.7
Less: Indirect business tax and nontax liability plus business transfer payments less subsidies plus current surplus of government enterprises.....	115.7	117.8	118.2	121.8	117.6	120.3	121.6	125.9
Statistical discrepancy.....	112.7	116.0	115.7	116.5	117.1	117.4	119.0	120.4
Equals: National income.....	115.4	119.7	119.2	119.9	121.1	121.4	123.3	124.6

Table 7.8.—Implicit Price Deflators for Command-Basis Gross National Product

[Index numbers, 1982=100]

Gross national product.....	113.9	117.7	117.3	118.2	118.9	119.4	121.0	122.4
Less: Net exports of goods and services.....								
Exports.....	100.0	100.0	100.1	99.9	100.1	100.3	102.1	104.1
Imports.....	93.6	99.0	99.4	98.9	100.0	100.8	101.4	101.3
Equals: Gross domestic purchases.....	112.6	116.9	116.6	117.4	118.3	119.0	120.5	121.6
Plus: Command-basis net exports of goods and services.....								
Command-basis exports.....	93.6	99.0	99.4	98.9	100.0	100.8	101.4	101.3
Imports.....	93.6	99.0	99.4	98.9	100.0	100.8	101.4	101.3
Equals: Command-basis gross national product.....	113.1	117.5	117.2	118.1	118.8	119.5	120.9	122.0

NOTE.—Percent changes from preceding period for selected items in this table are shown in table 8.1.

Table 7.9.—Fixed-Weighted Price Indexes for Personal Consumption Expenditures by Major Type of Product, 1982 Weights

[Index numbers, 1982=100]

Personal consumption expenditures.....	115.3	120.4	119.9	121.1	122.5	123.2	124.9	126.4
Durable goods.....	106.5	109.7	109.2	110.2	111.0	111.4	111.9	112.8
Motor vehicles and parts.....	110.9	115.3	114.7	115.9	117.0	117.0	116.8	117.9
Furniture and household equipment.....	100.9	102.1	101.6	102.5	102.4	102.9	103.5	104.3
Other.....	108.0	112.7	112.0	113.2	115.0	116.2	117.8	118.8
Nondurable goods.....	107.8	112.6	112.4	113.4	114.3	114.6	116.7	118.2
Food.....	112.2	117.2	117.0	117.8	118.6	119.2	121.0	123.7
Clothing and shoes.....	106.0	111.0	111.8	110.7	113.0	113.1	112.2	114.8
Gasoline and oil.....	75.4	78.4	77.7	81.1	80.6	77.2	79.0	80.9
Other nondurable goods.....	116.2	121.4	120.8	122.4	123.5	124.9	126.7	127.9
Fuel oil and coal.....	76.2	76.6	76.4	78.5	77.7	77.1	78.9	77.5
Other.....	121.7	127.6	126.8	128.4	129.8	131.5	133.2	134.8
Services.....	123.0	129.0	128.1	129.6	131.5	132.6	134.4	135.9
Housing.....	124.4	130.0	129.1	130.6	132.7	134.2	135.2	137.0
Household operation.....	118.2	118.3	118.3	118.8	118.6	118.5	119.6	119.8
Electricity and gas.....	113.9	111.8	112.1	112.2	111.7	111.6	112.2	112.2
Other.....	122.7	125.0	124.7	125.5	125.7	125.7	127.2	127.6
Transportation.....	113.2	120.3	119.3	118.7	125.1	122.5	126.7	126.9
Medical care.....	128.4	135.6	134.7	136.8	138.0	140.4	143.4	146.3
Other.....	122.1	130.2	129.2	131.3	133.1	134.6	135.9	137.2

Table 7.14.—Fixed-Weighted Price Indexes for Exports and Imports of Goods and Services, 1982 Weights

[Index numbers, 1982=100]

Exports of goods and services.....	103.9	106.0	105.5	106.4	107.0	108.7	110.5	113.0
Merchandise.....	96.6	97.8	97.5	98.4	99.2	101.3	103.3	106.6
Durable goods.....	100.0	101.7	101.5	102.0	102.2	103.5	104.5	105.6
Nondurable goods.....	92.3	92.7	91.9	93.4	94.9	98.3	101.5	107.8
Services.....	114.2	117.7	117.4	118.0	118.6	119.4	121.0	122.3
Factor income.....	115.9	120.3	119.8	120.8	121.6	122.2	124.0	125.5
Other.....	111.1	113.1	113.0	113.1	113.1	114.4	115.7	116.6
Imports of goods and services.....	93.6	100.8	100.3	101.9	103.0	103.9	105.3	105.4
Merchandise.....	87.5	94.7	94.3	96.0	97.1	97.9	99.4	99.3
Durable goods.....	102.5	109.7	109.3	110.1	112.4	115.4	117.4	118.0
Nondurable goods.....	72.3	79.5	79.0	81.7	81.5	80.1	81.0	80.2
Services.....	111.6	118.4	117.9	119.1	120.2	121.4	122.7	123.5
Factor income.....	115.4	119.6	119.1	120.1	120.8	121.4	123.2	124.8
Other.....	108.6	117.5	116.9	118.3	119.7	121.4	122.3	122.5

**Table 7.15.—Fixed-Weighted Price Indexes for Merchandise Exports and Imports by Type of Product and by End-Use Category, 1982 Weights**

	[Index numbers, 1982=100]							
	1986	1987	Seasonally adjusted					
			1987			1988		
			II	III	IV	I	II	III'
<b>Merchandise exports</b> .....	96.6	97.8	97.5	98.4	99.2	101.3	103.3	106.6
Foods, feeds, and beverages.....	87.9	82.1	81.4	82.0	83.3	88.2	94.0	108.3
Industrial supplies and materials.....	91.6	95.4	94.4	96.8	98.5	101.2	108.4	105.8
Durable goods.....	91.6	95.5	94.4	96.8	98.5	101.2	108.4	105.8
Nondurable goods.....	91.6	95.4	94.4	96.8	98.5	101.2	108.4	105.8
Capital goods, except autos.....	99.3	100.5	100.6	100.6	100.1	101.2	102.0	102.5
Autos.....	111.6	118.1	113.0	113.3	114.1	113.8	118.9	115.3
Consumer goods.....	108.6	107.4	106.7	107.6	109.2	111.0	111.6	112.4
Durable goods.....	99.4	102.2	101.1	102.1	104.0	105.4	107.0	109.1
Nondurable goods.....	106.9	111.5	111.1	111.9	113.2	115.5	115.3	115.0
Other.....	99.4	100.9	100.3	101.2	102.7	104.7	106.7	110.0
Durable goods.....	99.4	100.9	100.3	101.2	102.7	104.7	106.7	110.0
Nondurable goods.....	99.4	100.9	100.3	101.2	102.7	104.7	106.7	110.0
<b>Merchandise imports</b> .....	87.5	94.7	94.3	96.0	97.1	97.9	99.4	99.3
Foods, feeds, and beverages.....	104.9	103.6	101.0	104.3	106.2	109.1	109.6	110.2
Industrial supplies and materials, excluding petroleum.....	84.4	90.1	88.3	92.7	94.3	99.9	108.7	105.8
Durable goods.....	84.5	90.3	88.5	92.9	94.5	100.1	103.8	105.8
Nondurable goods.....	84.3	90.0	88.1	92.5	94.1	99.8	106.3	105.7
Petroleum and products.....	45.7	55.1	55.9	58.0	55.5	48.4	48.1	45.2
Capital goods, except autos.....	100.4	109.2	109.6	108.6	111.8	113.8	115.0	115.2
Autos.....	118.4	125.1	125.0	125.2	126.9	129.0	130.4	131.2
Consumer goods.....	106.3	114.8	114.2	115.5	118.1	121.2	123.5	123.4
Durable goods.....	104.3	111.8	111.2	112.1	114.6	117.6	120.2	119.7
Nondurable goods.....	109.1	119.1	118.5	120.2	123.0	126.4	128.2	128.7
Other.....	103.1	110.1	109.4	110.9	113.2	116.4	118.7	119.4
Durable goods.....	103.1	110.1	109.4	111.0	113.1	116.4	118.7	119.4
Nondurable goods.....	103.1	110.1	109.4	110.9	113.2	116.4	118.7	119.4

**Table 7.17.—Fixed-Weighted Price Indexes for National Defense Purchases of Goods and Services, 1982 Weights**

	[Index numbers, 1982=100]							
	1986	1987	Seasonally adjusted					
			1987			1988		
			II	III	IV	I	II	III'
<b>National defense purchases</b> .....	111.3	114.0	113.9	114.2	114.8	116.6	117.4	117.9
<b>Durable goods</b> .....	110.2	109.0	109.5	108.8	107.6	108.6	109.2	109.9
Military equipment.....	112.4	110.9	111.5	110.6	109.2	110.3	110.9	111.5
Aircraft.....	116.1	110.4	111.4	109.4	108.5	110.3	111.2	111.4
Missiles.....	119.2	119.1	120.9	119.9	112.6	112.7	112.9	114.3
Ships.....	118.4	119.7	119.6	119.6	119.8	120.4	120.3	121.7
Vehicles.....	83.9	89.8	90.4	89.1	88.4	88.1	89.7	91.3
Electronic equipment.....	107.0	106.7	106.3	106.7	106.6	106.9	106.9	107.1
Other.....	106.0	107.9	107.5	108.3	108.6	110.7	110.9	111.3
Other durable goods.....	100.3	100.5	100.7	100.7	100.5	100.9	101.8	102.7
<b>Nondurable goods</b> .....	69.0	68.7	69.0	70.1	71.3	70.1	72.3	75.3
Petroleum products.....	54.0	52.4	52.7	54.2	56.9	54.4	57.4	61.3
Ammunition.....	94.4	97.2	97.8	97.1	93.3	95.0	94.9	95.3
Other nondurable goods.....	106.8	109.6	109.2	110.1	110.6	112.0	113.3	114.6
<b>Services</b> .....	116.2	120.6	120.2	120.7	121.9	124.3	125.0	125.2
Compensation of employees.....	117.1	122.0	121.9	122.0	123.0	126.2	126.9	127.0
Military.....	117.1	121.6	121.4	121.5	122.5	125.6	126.4	126.5
Civilian.....	117.1	122.9	123.0	123.1	123.9	127.4	128.0	128.0
Other services.....	114.3	117.8	116.9	118.2	119.8	120.7	121.4	121.9
Contractual research and development.....	113.4	115.6	114.7	116.0	117.3	118.2	119.1	120.3
Installation support <sup>1</sup> .....	119.9	123.7	122.8	125.0	125.2	125.9	127.1	127.9
Weapons support <sup>2</sup> .....	113.8	114.6	113.7	114.4	116.4	116.6	116.7	117.8
Personnel support <sup>3</sup> .....	129.7	145.7	144.4	144.9	152.8	155.5	156.4	151.5
Transportation of materiel.....	90.4	93.0	91.4	92.5	94.6	95.6	95.0	95.3
Travel of persons.....	102.4	103.9	103.4	103.7	103.8	103.8	104.6	104.8
Other.....								
<b>Structures</b> .....	117.2	121.7	120.9	122.5	123.9	125.5	125.8	125.9
Military facilities.....	120.2	123.3	122.7	123.5	124.7	126.4	127.1	127.5
Other.....	112.7	119.5	118.2	121.0	122.8	124.2	123.8	123.5

1. Includes utilities, communications, rental payments, maintenance and repair, and payments to contractors to operate installations.

2. Includes depot maintenance and contractual services for weapons systems.

3. Includes compensation of foreign personnel, consulting, training, and education.

**Table 7.16.—Fixed-Weighted Price Indexes for Government Purchases of Goods and Services by Type, 1982 Weights**

	[Index numbers, 1982=100]							
	1986	1987	Seasonally adjusted					
			1987			1988		
			II	III	IV	I	II	III'
<b>Government purchases of goods and services</b> .....	115.6	119.6	119.1	120.1	121.2	122.9	124.3	125.6
<b>Federal</b> .....	110.8	113.5	113.3	113.7	114.4	116.3	117.2	118.4
National defense.....	111.3	114.0	113.9	114.2	114.8	116.6	117.4	117.9
Durable goods.....	110.2	109.0	109.5	108.8	107.6	108.6	109.2	109.9
Nondurable goods.....	69.0	68.7	69.0	70.1	71.3	70.1	72.3	75.3
Services.....	116.2	120.6	120.2	120.7	121.9	124.3	125.0	125.2
Compensation of employees.....	117.1	122.0	121.9	122.0	123.0	126.2	126.9	127.0
Military.....	117.1	121.6	121.4	121.5	122.5	125.6	126.4	126.5
Civilian.....	117.1	122.9	123.0	123.1	123.9	127.4	128.0	128.0
Other services.....	114.3	117.8	116.9	118.2	119.8	120.7	121.4	121.9
Structures.....	117.2	121.7	120.9	122.5	123.9	125.5	125.8	125.9
<b>Nondefense</b> .....	109.4	112.1	111.7	112.5	113.6	115.7	116.9	119.8
Durable goods.....	99.6	99.6	99.8	99.5	100.2	101.3	101.5	
Nondurable goods.....								
Commodity Credit Corporation inventory change.....								
Other nondurables.....	94.7	96.9	97.0	97.6	96.2	97.8	98.9	98.3
Services.....	115.7	120.2	120.0	120.5	121.2	123.5	124.2	124.6
Compensation of employees.....	117.3	123.0	123.1	123.2	123.9	127.4	127.9	128.0
Other services.....	113.2	115.8	115.2	116.3	116.9	117.4	118.4	119.4
Structures.....	109.4	111.3	110.9	112.2	113.5	114.8	115.7	
<b>State and local</b> .....	119.1	124.1	123.3	124.9	126.1	127.8	129.5	130.9
Durable goods.....	108.4	110.6	110.4	110.8	111.1	111.9	112.8	114.0
Nondurable goods.....	90.4	95.0	94.6	96.5	96.2	95.5	97.6	98.1
Services.....	124.1	129.9	129.0	130.6	132.2	134.2	135.9	137.5
Compensation of employees.....	124.5	130.6	129.7	131.3	133.0	135.2	136.9	138.6
Other services.....	121.9	126.6	125.8	127.6	128.3	129.6	131.2	132.2
Structures.....	112.9	114.5	113.9	115.1	115.9	117.4	118.9	119.7

**Table 7.18.—Current-Dollar Cost and Profit Per Unit of Constant-Dollar Gross Domestic Product of Nonfinancial Corporate Business**

	[Dollars]							
	1986	1987	Seasonally adjusted					
			1987			1988		
			II	III	IV	I	II	III'
<b>Current-dollar cost and profit per unit of constant-dollar gross domestic product <sup>1</sup></b> .....	1.089	1.107	1.104	1.109	1.113	1.114	1.127	1.140
<b>Capital consumption allowances with capital consumption adjustment</b> .....	.121	.122	.122	.121	.121	.121	.122	.123
<b>Net domestic product</b> .....	.968	.985	.982	.988	.992	.993	1.005	1.018
Indirect business tax and nontax liability plus business transfer payments less subsidies.....	.105	.106	.106	.106	.105	.105	.106	.108
Domestic income.....	.863	.880	.876	.882	.887	.887	.899	.910
Compensation of employees.....	.719	.732	.730	.729	.738	.736	.747	.759
Corporate profits with inventory valuation and capital consumption adjustments.....	.106	.105	.104	.109	.103	.106	.106	.104
Profits tax liability.....	.035	.044	.043	.046	.044	.044	.046	.046
Profits after tax with inventory valuation and capital consumption adjustments.....	.071	.061	.061	.063	.059	.062	.060	.058
Net interest.....	.039	.043	.043	.044	.046	.045	.047	.048

1. Equals the deflator for gross domestic product of nonfinancial corporate business with the decimal point shifted two places to the left.

Table 8.1.—Percent Change From Preceding Period in Selected Series

[Percent]

	Seasonally adjusted at annual rates							Seasonally adjusted at annual rates								
	1986	1987	1987			1988			1986	1987	1987			1988		
			II	III	IV	I	II	III*			II	III	IV	I	II	III*
<b>Gross national product:</b>																
Current dollars.....	5.6	6.8	8.7	7.7	8.6	5.4	8.7	7.3	6.1	6.1	5.4	7.4	6.6	-9	7.1	-1.2
1982 dollars.....	2.8	3.4	5.0	4.5	6.1	3.4	3.0	2.6	4.0	2.6	-4	5.7	5.0	-7.9	3.9	-3.0
Implicit price deflator.....	2.7	3.3	3.5	3.1	2.4	1.7	5.5	4.7	2.0	3.4	5.9	1.7	1.4	7.6	3.3	2.0
Chain price index.....	2.5	3.4	3.7	3.6	3.4	3.0	4.8	4.5	2.0	3.1	2.5	3.2	2.9	4.8	4.0	2.1
Fixed-weighted price index.....	2.8	3.6	4.2	3.7	3.8	3.5	5.0	5.1	2.1	3.5	3.8	3.6	3.5	5.9	4.5	4.3
<b>Personal consumption expenditures:</b>																
Current dollars.....	6.8	7.3	10.0	9.1	2.4	6.9	8.8	8.6	3.1	4.3	5.3	9.7	5.4	-13.3	4.9	-11.3
1982 dollars.....	4.3	2.7	4.3	4.6	-2.1	4.5	3.0	4.0	2.3	1.7	-2.3	12.6	6.7	-21.0	4.7	-9.2
Implicit price deflator.....	2.4	4.5	5.6	4.4	4.4	2.3	5.7	4.3	.7	2.6	7.7	-2.8	-1.1	9.6	.3	-2.4
Chain price index.....	2.7	4.5	5.7	4.3	4.4	2.5	5.6	4.6	.5	1.6	-1	.4	1.6	4.3	2.0	-1.0
Fixed-weighted price index.....	2.7	4.5	5.7	4.2	4.6	2.4	5.7	4.8	.4	2.4	3.0	1.4	2.6	6.7	3.2	4.2
<b>Durable goods:</b>																
Current dollars.....	9.2	3.8	17.9	21.4	-16.5	15.8	11.4	1.8	7.1	6.4	10.9	7.0	-8	-1.1	.5	-7.4
1982 dollars.....	8.4	1.5	14.5	16.5	-17.3	14.7	9.8	-1.1	6.0	5.4	12.7	7.3	-1.9	-5.3	-1.5	-11.7
Implicit price deflator.....	.8	2.2	3.0	4.2	1.1	.7	1.8	2.6	1.1	1.0	-1.8	0	1.1	4.4	2.1	4.7
Chain price index.....	1.1	2.7	2.2	3.6	2.6	1.6	1.7	3.1	1.0	1.3	-1.1	.5	2.1	3.4	2.7	3.1
Fixed-weighted price index.....	1.3	3.0	2.6	3.9	2.8	1.6	1.6	3.4	.8	2.4	2.5	.9	2.1	6.4	2.8	1.8
<b>Non-durable goods:</b>																
Current dollars.....	3.6	5.8	7.5	4.6	2.3	1.5	8.3	10.1	-7.6	-2.3	-12.5	19.7	29.7	-45.3	22.3	-23.9
1982 dollars.....	3.8	1.3	0	.9	-6	1.0	.4	5.4	-7.7	-9.6	-41.6	35.4	43.8	-60.1	33.2	1.8
Implicit price deflator.....	-2	4.5	7.9	3.6	2.9	.4	8.0	4.6	-7.7	-9.6	-41.6	35.4	43.8	-60.1	33.2	1.8
Chain price index.....	-2	4.5	8.1	3.4	3.4	.7	8.0	4.8	-7.7	-9.6	-41.6	35.4	43.8	-60.1	33.2	1.8
Fixed-weighted price index.....	-1	4.5	8.0	3.5	3.4	.8	7.6	5.3	-7.7	-9.6	-41.6	35.4	43.8	-60.1	33.2	1.8
<b>Services:</b>																
Current dollars.....	8.3	9.3	9.6	8.9	8.1	8.1	8.4	9.6	7.1	6.4	10.9	7.0	-8	-1.1	.5	-7.4
1982 dollars.....	3.3	4.1	4.5	3.7	2.2	4.0	2.8	4.7	6.0	5.4	12.7	7.3	-1.9	-5.3	-1.5	-11.7
Implicit price deflator.....	4.8	5.0	4.8	4.8	6.0	3.7	5.6	4.6	1.1	1.0	-1.8	0	1.1	4.4	2.1	4.7
Chain price index.....	4.9	5.0	5.0	5.0	5.5	3.8	5.3	4.8	1.0	1.3	-1.1	.5	2.1	3.4	2.7	3.1
Fixed-weighted price index.....	5.0	4.8	4.9	4.8	5.7	3.7	5.2	4.8	.8	2.4	2.5	.9	2.1	6.4	2.8	1.8
<b>Gross private domestic investment:</b>																
Current dollars.....	3.5	7.1	7.8	2.5	40.3	-8	-2.7	7.2	3.7	3.0	4.1	4.8	5.4	1.6	1.3	2.8
1982 dollars.....	1.0	4.9	8.8	4.8	38.6	2.3	-7.4	5.0	2.5	3.9	4.5	3.9	3.6	2.9	4.7	3.6
Implicit price deflator.....									2.6	4.1	4.9	4.0	4.0	3.2	4.9	4.2
Chain price index.....																
Fixed-weighted price index.....																
<b>Fixed investment:</b>																
Current dollars.....	2.9	3.6	11.6	14.2	2.7	3.0	9.7	4.9	2.7	2.9	5.3	6.1	4	3.6	6.3	2.5
1982 dollars.....	0	2.0	10.6	15.1	1.7	3.3	10.5	4.4	2.5	3.4	3.8	3.6	3.5	3.0	4.7	4.4
Implicit price deflator.....	2.9	1.6	.8	-.8	1.1	-.4	-.8	.7	2.7	3.6	4.2	3.7	3.8	3.5	5.0	5.1
Chain price index.....	2.3	2.8	2.3	3.3	1.4	2.5	1.5	7								
Fixed-weighted price index.....	2.4	2.9	2.8	3.4	2.0	3.3	2.0	1.0								
<b>Nonresidential:</b>																
Current dollars.....	-2.0	3.0	15.4	23.7	1.7	6.5	14.6	5.8	3.5	2.5	4.3	6.5	-1	1.7	4.4	2.7
1982 dollars.....	-4.5	2.8	16.8	28.4	1.7	7.6	15.0	4.8	2.5	3.9	4.5	3.9	3.6	2.9	4.7	3.5
Implicit price deflator.....	2.6	.2	-1.2	-3.5	-.4	-.8	-.4	.8	2.5	4.1	4.9	4.0	4.0	3.3	4.9	4.2
Chain price index.....	2.2	1.8	.2	.3	.5	2.3	2.3	1.0								
Fixed-weighted price index.....	2.4	2.3	1.8	1.7	1.7	3.4	2.5	1.3								
<b>Structures:</b>																
Current dollars.....	-9.6	.7	5.2	28.2	13.8	-19.0	6.4	4.6	3.0	3.5	5.4	4.7	5.8	4.2	3.1	2.3
1982 dollars.....	-13.5	-2.9	-.3	25.6	13.4	-22.4	3.3	3.2	2.6	3.3	3.5	3.1	2.4	1.7	5.8	4.4
Implicit price deflator.....	4.5	3.7	6.0	1.8	.4	4.4	2.9	1.4								
Chain price index.....	1.4	3.4	4.7	4.9	1.7	4.0	1.1	2.3								
Fixed-weighted price index.....	1.1	3.2	4.6	5.0	2.2	4.1	1.1	2.3								
<b>Producers' durable equipment:</b>																
Current dollars.....	2.0	4.0	20.3	21.7	-3.5	20.4	18.3	6.2	3.2	3.8	5.8	5.0	6.4	4.4	3.4	2.2
1982 dollars.....	-1	5.2	24.3	29.4	-2.4	21.6	19.2	5.5	2.5	2.9	3.2	2.8	2.1	1.0	5.6	4.8
Implicit price deflator.....	2.0	-1.0	-3.2	-6.1	-.8	-1.3	-.8	.8								
Chain price index.....	2.6	1.1	-1.8	-1.6	0	1.5	2.8	.4								
Fixed-weighted price index.....	3.2	1.8	1	-.3	1.4	2.9	3.4	.7								
<b>Residential:</b>																
Current dollars.....	14.7	4.8	4.7	-2.4	4.7	-3.8	-.2	3.2	3.4	3.7	5.6	6.5	5.6	5.4	3.9	3.2
1982 dollars.....	11.8	.1	-1.6	-10.7	1.3	-6.5	.2	3.2	2.6	3.0	2.4	3.1	2.1	1.0	4.5	4.1
Implicit price deflator.....	2.6	4.6	6.5	9.0	3.4	2.7	0	0								
Chain price index.....	2.5	4.7	6.6	9.4	3.2	2.8	-1	0								
Fixed-weighted price index.....	2.4	4.5	6.2	9.1	2.9	3.0	.3	0								
<b>Exports of goods and services:</b>																
Current dollars.....	2.0	13.1	23.6	24.6	18.7	26.8	16.8	20.7								
1982 dollars.....	3.1	13.1	23.6	25.7	17.7	25.7	9.1	11.6								
Implicit price deflator.....	-1.0	0	0	-.8	.8	.8	7.4	8.1								
Chain price index.....	-1	1.7	2.5	2.4	2.1	5.5	6.3	8.8								
Fixed-weighted price index.....	.2	2.0	3.2	3.1	2.6	6.2	6.9	9.4								
<b>Imports of goods and services:</b>																
Current dollars.....	7.6	14.1	20.5	21.3	14.8	10.3	-1.6	11.4								
1982 dollars.....	9.4	7.9	11.5	23.4	9.9	6.9	-3.7	11.6								
Implicit price deflator.....	-1.7	5.8	8.0	-2.0	4.5	3.2	2.4	-.4								
Chain price index.....	.2	7.0	9.3	5.1	4.0	4.4	5.7	.7								
Fixed-weighted price index.....	-2.2	7.6	11.0	6.4	4.3	3.5	5.7	.4								
<b>Government purchases of goods and services:</b>																
Current dollars.....	6.1	6.1	5.4	7.4	6.6	-.9	7.1	-1.2								
1982 dollars.....	4.0	2.6	-.4	5.7	5.0	-7.9	3.9	-3.0								
Implicit price deflator.....	2.0	3.4	5.9	1.7	1.4	7.6	3.3	2.0								
Chain price index.....	2.0	3.1	2.5	3.2	2.9	4.8	4.0	2.1								
Fixed-weighted price index.....	2.1	3.5	3.8	3.6	3.5	5.9	4.5	4.3								
<b>Federal:</b>																
Current dollars.....	3.1	4.3	5.3	9.7	5.4	-13.3	4.9	-11.3								
1982 dollars.....	2.3	1.7	-.2	12.6	6.7	-21.0	4.7	-9.2								
Implicit price deflator.....	.7	2.6	7.7	-2.8	-1.1	9.6	.3	-2.4								
Chain price index.....	.5	1.6	-.1	.4	1.6	4.3	2.0	-1.0								
Fixed-weighted price index.....	.4	2.4	3.0	1.4	2.6	6.7	3.2	4.2								
<b>National defense:</b>																
Current dollars.....	7.1	6.4	10.9	7.0	-.8	-1.1	.5	-7.4								
1982 dollars.....	6.0	5.4	12.7	7.3	-1.9	-5.3	-1.5	-11.7								
Implicit price deflator.....	1.1	1.0	-1.8	0	1.1	4.4	2.1	4.7								
Chain price index.....	1.0	1.3	-1.1	.5	2.1	3.4	2.7	3.1								
Fixed-weighted price index.....	.8	2.4	2.5	.9	2.1	6.4	2.8	1.8								

## Reconciliation and Other Special Tables

Table 1.—Revisions in Selected Component Series of the NIPA's, Third Quarter of 1988

	Seasonally adjusted at annual rates			Percent change from preceding quarter at annual rates	
	Advance	Preliminary	Difference	Advance	Preliminary
Billions of current dollars					
GNP .....	4,899.5	4,909.2	9.7	6.4	7.3
National income.....		3,996.2			7.0
Compensation of employees.....	2,931.1	2,932.5	1.4	8.2	8.4
Corporate profits with inventory valuation and capital consumption adjustments.....		323.7			-3.4
Other.....	735.8	739.9	4.1	4.1	6.4
Personal income.....	4,086.0	4,092.3	6.3	6.5	7.1
Billions of constant (1982) dollars					
GNP .....	4,007.3	4,010.9	3.6	2.2	2.6
Less: Exports.....	507.0	510.7	3.7	8.4	11.6
Plus: Imports.....	601.9	605.9	4.0	8.7	11.6
Equals: Gross domestic purchases.....	4,102.1	4,106.1	4.0	2.4	2.8
Personal consumption expenditures.....	2,601.3	2,604.5	3.2	3.5	4.0
Nonresidential fixed investment.....	495.7	496.0	.3	4.6	4.8
Residential investment.....	190.2	191.1	.9	1.3	3.2
Change in business inventories.....	33.8	36.7	2.9		
Government purchases.....	781.1	777.8	-3.3	-1.4	-3.0
Index numbers, 1982=100 <sup>1</sup>					
GNP price index (fixed weights).....	124.8	124.9	.1	4.9	5.1
GNP price index (chained weights).....				4.3	4.5
GNP implicit price deflator.....	122.3	122.4	.1	4.4	4.7
Gross domestic purchases price index (fixed weights).....	124.2	124.2	0	4.3	4.2

1. Not at annual rates.

Note.—For the third quarter of 1988, the following revised or additional major source data were incorporated: For *personal consumption expenditures*, revised retail sales for August and September; for *nonresidential fixed investment*, construction put in place for August (revised) and September, revised manufacturers' shipments of equipment for August (revised) and September, and partial information on actual plant and equipment expenditures for the quarter; for *residential investment*, construction put in place for August (revised) and September; for *change in business inventories*, manufacturing and trade inventories for August (revised) and September; for *net exports of goods and services*, merchandise exports and merchandise imports for August (revised) and September; for *government purchases of goods and services*, Federal outlays for September, and State and local construction put in place for August (revised) and September; for *wages and salaries*, revised employment, average hourly earnings, and average weekly hours for August and September; for *corporate profits*, domestic book profits for the quarter; and for *GNP prices*, merchandise export and import price indexes for September (these indexes are prepared only for the last month of each quarter), unit-value indexes for petroleum imports for September and for merchandise exports and nonpetroleum merchandise imports for August, and residential housing prices for the quarter.

Table 2.—Reconciliation of Changes in Compensation Per Hour in the Business Economy Other Than Farm and Housing and Average Hourly Earnings in the Private Nonfarm Economy, Seasonally Adjusted

	1987	1988		
	IV	I	II	III
1. Compensation per hour of all persons in the business economy other than farm and housing (percent change at annual rate) <sup>1</sup> .....	6.7	2.9	4.3	5.4
2. Less: Contribution of supplements.....	-7	.8	-9	-1
3. Plus: Contribution of housing and nonprofit institutions.....	.1	-1	.1	.2
4. Less: Contribution of employees of government enterprises, unpaid family workers, and the self-employed.....	-4	0	0	0
5. Equals: Wages and salaries per hour of employees in the private nonfarm economy (percent change at annual rate).....	7.9	1.9	5.4	5.7
6. Less: Contribution of nonproduction workers in manufacturing.....	-1.1	-1	-3	-6
7. Less: Contribution of non-BLS data, detailed weighting, and seasonal adjustment.....	4.6	-2	.4	2.9
8. Equals: Average hourly earnings, production and nonsupervisory workers in the private nonfarm economy (percent change at annual rate).....	4.3	2.2	5.2	3.4

1. BLS estimates of changes in hourly compensation in the nonfarm business sector for the four quarters are 6.4, 3.5, 4.2, and 5.4 percent.

Table 3.—Cyclically Adjusted Federal Receipts, Expenditures, Surplus or Deficit (—), and Debt

[Billions of dollars; quarters at seasonally adjusted annual rates]

	1986	1987	1986				1987				1988		
			I	II	III	IV	I	II	III	IV	I	II	III
<b>Based on middle-expansion trend GNP:</b>													
<b>Receipts:</b>													
Level.....	825.3	900.1	795.0	813.0	833.6	859.4	867.9	908.3	911.4	912.8	916.4	944.9	936.0
Percentage of trend GNP.....	19.5	20.2	19.3	19.4	19.6	19.9	19.9	20.5	20.3	20.1	20.0	20.2	19.7
Change from preceding period.....	34.4	74.8	-9.5	18.0	20.6	25.8	8.5	40.4	3.1	1.4	3.6	28.5	-8.9
Due to automatic inflation effects.....	18.1	25.7	-8	7.2	10.8	2.5	6.6	7.8	6.3	4.2	2.2	15.0	12.6
Due to discretionary policy and other factors.....	16.2	49.1	-8.7	10.8	9.8	23.3	1.9	32.6	-3.2	-2.8	1.4	13.5	-21.5
<b>Expenditures:</b>													
Level.....	1,031.7	1,077.0	1,003.2	1,047.3	1,037.1	1,039.0	1,060.1	1,066.8	1,072.4	1,108.7	1,109.4	1,120.0	1,102.2
Percentage of trend GNP.....	24.4	24.1	24.3	25.0	24.3	24.1	24.2	24.1	23.9	24.4	24.2	23.9	23.1
Change from preceding period.....	47.6	45.3	-13.0	44.1	-10.2	1.9	21.1	6.7	5.6	36.3	.7	10.6	-17.8
Due to automatic inflation effects.....	18.0	19.5	9.1	2.7	2.5	3.7	9.0	4.2	3.9	2.9	17.0	4.6	5.2
Due to discretionary policy and other factors.....	29.6	25.8	-22.1	41.4	-12.7	-1.8	12.1	2.5	1.7	33.4	-16.3	6.0	-23.0
<b>Surplus or deficit (—):</b>													
Level.....	-206.4	-176.9	-208.2	-234.3	-203.6	-179.6	-192.3	-158.5	-161.0	-195.9	-193.0	-175.1	-166.2
Percentage of trend GNP.....	-4.9	-4.0	-5.0	-5.6	-4.8	-4.2	-4.4	-3.6	-3.6	-4.3	-4.2	-3.7	-3.5
Change from preceding period.....	-13.2	29.5	3.5	-26.1	30.7	24.0	-12.7	33.8	-2.5	-34.9	2.9	17.9	8.9
Due to automatic inflation effects.....	.2	6.3	-10.0	4.6	8.4	-1.2	-2.4	3.6	2.4	1.3	-14.8	10.4	7.4
Due to discretionary policy and other factors.....	-13.5	23.2	13.5	-30.7	22.3	25.2	-10.3	30.2	-4.9	-36.2	17.7	7.5	1.5
<b>Debt:</b>													
At par value, end of period:													
Level.....	1,692.7	1,851.0	1,532.5	1,592.4	1,652.9	1,692.7	1,737.5	1,781.7	1,814.4	1,851.0	1,912.9	1,950.7	2,009.0
Percentage of trend GNP.....	40.1	41.5	37.1	38.0	38.8	39.3	39.7	40.2	40.4	40.7	41.7	41.7	42.2
At market value, end of period:													
Level.....	1,824.7	1,904.7											
Percentage of trend GNP.....	43.2	42.7											
<b>Based on 6-percent unemployment rate trend GNP:</b>													
<b>Receipts:</b>													
Level.....	842.3	917.9	811.7	829.7	850.7	876.9	884.7	926.2	929.5	931.2	934.5	963.6	954.5
Percentage of trend GNP.....	19.6	20.2	19.3	19.5	19.6	20.0	19.9	20.5	20.3	20.1	20.0	20.2	19.7
<b>Expenditures:</b>													
Level.....	1,029.8	1,075.5	1,001.1	1,045.3	1,035.5	1,037.4	1,058.6	1,065.3	1,070.9	1,107.2	1,108.0	1,118.7	1,101.1
Percentage of trend GNP.....	24.0	23.7	23.8	24.5	23.9	23.7	23.8	23.6	23.4	23.9	23.7	23.5	22.7
<b>Surplus or deficit (—):</b>													
Level.....	-187.6	-157.6	-189.4	-215.6	-184.8	-160.6	-173.9	-139.1	-141.5	-176.0	-173.6	-155.1	-146.6
Percentage of trend GNP.....	-4.4	-3.5	-4.5	-5.1	-4.3	-3.7	-3.9	-3.1	-3.1	-3.8	-3.7	-3.3	-3.0
<b>Addenda:</b>													
Middle-expansion trend GNP:													
Current dollars.....	4,223.2	4,462.3	4,129.8	4,190.5	4,262.8	4,309.8	4,372.1	4,435.0	4,494.7	4,547.3	4,592.6	4,680.9	4,762.2
1982 dollars.....	3,706.0	3,791.8	3,674.2	3,695.3	3,716.5	3,737.9	3,759.3	3,780.9	3,802.6	3,824.5	3,846.4	3,868.5	3,890.7
6-percent unemployment rate trend GNP:													
Current dollars.....	4,297.1	4,540.3	4,202.0	4,268.7	4,337.4	4,385.1	4,448.5	4,512.5	4,573.3	4,626.8	4,672.8	4,762.7	4,845.4
1982 dollars.....	3,770.8	3,858.1	3,738.4	3,759.9	3,781.5	3,803.2	3,825.0	3,847.0	3,869.1	3,891.3	3,913.6	3,936.1	3,958.7

# Composite Indexes of Leading, Coincident, and Lagging Indicators

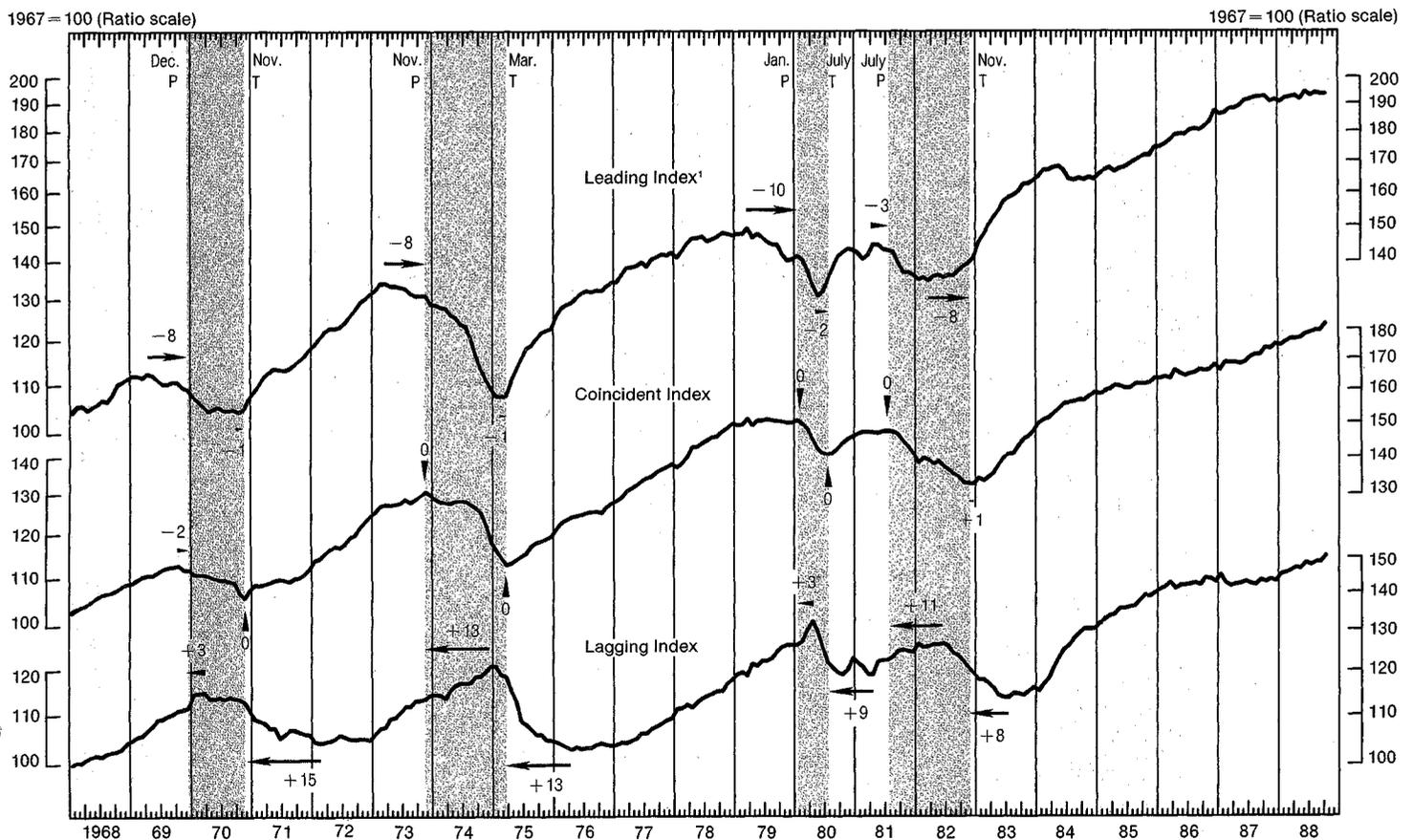
Recent Data and Percent Changes

Index	1987		1988										1987	1988		
	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct. <sup>a</sup>	IV	I	II	III
Index (1967=100)																
Leading index.....	190.1	190.9	189.9	191.5	191.8	192.3	190.9	193.9	192.4	193.4	192.9	193.0	191.0	191.1	192.4	192.9
Coincident index.....	172.6	174.4	173.7	175.0	176.1	176.0	176.4	177.7	178.3	178.9	179.0	181.3	173.3	174.9	176.7	178.7
Lagging index.....	143.3	142.7	144.7	145.1	145.7	146.6	146.3	148.1	147.4	148.2	148.3	150.1	142.8	145.2	147.0	148.0
Percent change from preceding month (quarter)																
Leading index.....	-1.0	.4	-.5	.8	.2	.3	-.7	1.6	-.8	.5	-.3	.1	-.3	.1	.7	.3
Coincident index.....	-.2	1.0	-.4	.7	.6	-.1	.2	.7	.3	.3	.1	1.3	1.7	.9	1.0	1.1
Lagging index.....	.6	-.4	1.4	.3	.4	.6	-.2	1.2	-.5	.5	.1	1.2	.5	1.7	1.2	.7

<sup>a</sup> Revised.  
<sup>b</sup> Preliminary.

NOTE.—Quarterly data are averages of monthly figures. Quarterly percent changes are computed from quarterly data.

Long-Term Perspective : January 1968 to October 1988



Note.—Peak (P) indicates the end of business cycle expansion and the beginning of recession (shaded area). Trough (T) indicates the end of business cycle recession and the beginning of expansion. Business cycle peaks and troughs are designated by the National Bureau of Economic

Research, Inc. The numbers entered on the chart indicate the length of leads (-) and lags (+) in months from the business cycle turning dates.  
1. Beginning with data for January 1984, the net business formation component has been suspended from this index.

# Motor Vehicles, Model Year 1988

**S**ALES of new motor vehicles in the United States increased 1 percent to 15.6 million units in model year 1988, following a 4½-percent decline to 15.4 million units in 1987 (chart 1).<sup>1</sup> The 1988 increase was accounted for by sales of trucks; sales of cars changed little. The quarterly pattern of motor vehicle sales in 1988 was not as volatile as in the preceding several

years, partly because manufacturers' sales incentives did not vary as much.

## New cars

Car sales were little changed at 10.5 million units in model year 1988 (table 1). Sales had declined 5½ percent in 1987.

Sales of domestic cars were unchanged at 7.3 million units in 1988, following a 9-percent decline. Among domestic size categories, sales of full-size and luxury cars increased to 1.7 million from 1.6 million, and sales of compact and subcompact cars increased to 3.7 million from 3.6 million. Sales of intermediate-size cars declined to 2.0 million from 2.1 million.

Sales of imported cars were unchanged at 3.2 million units in 1988, following a slight increase. Sales of Japanese cars—at 2.2 million in each year—accounted for roughly two-thirds of all import car sales. Sales of South

Korean cars increased to 0.4 million from 0.3 million, and sales of West German cars declined to 0.3 million from 0.4 million. Sales of other imported cars changed little.

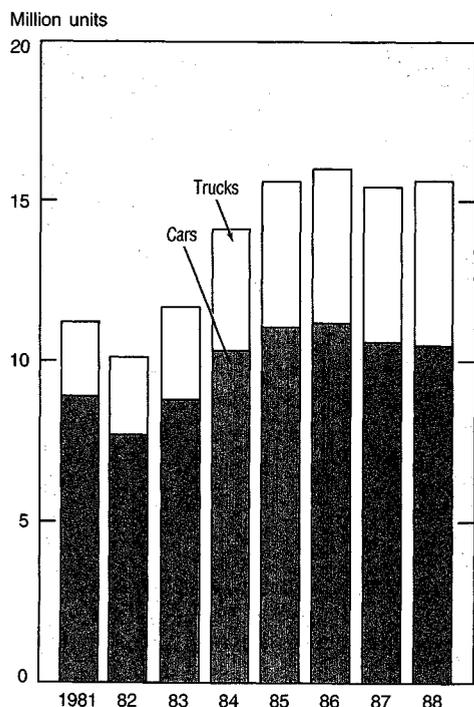
The market shares (percent of total domestic and import sales) of domestic size classes and of imports changed little from 1987. The share of domestic intermediate-size cars decreased for the fourth consecutive year, to 19 percent from 20 percent, and the share of imported cars decreased slightly to 30 percent from 30½ percent. The share of domestic compact and subcompact cars increased to 35 percent from 34 percent, and the share of domestic full-size and luxury cars increased slightly to 16 percent from 15½ percent.

Domestic car production declined to 7.0 million in 1988 from 7.3 million in 1987. Domestic car inventories were 1.5 million at the end of model year 1988, the same as at the end of model year 1987.

1. For this article, the model year is defined as beginning October 1 and ending on the following September 30. Thus, model year 1988 covers the fourth quarter of 1987 and the first, second, and third quarters of 1988.

This article focuses on data for unit sales, inventories, and production drawn mainly from *Ward's Automotive Reports* and the Motor Vehicle Manufacturers' Association. These data underlie BEA's estimates of auto and truck output, which are part of the national income and product accounts estimates.

**CHART 1**  
**New Motor Vehicle Sales by Model Year**



Note.—Based on October through September sales for each model year.  
Data: Motor Vehicle Manufacturers Association of the United States, Inc. and *Ward's Automotive Reports*.

U.S. Department of Commerce, Bureau of Economic Analysis 88-11-1

**Table 1.—Selected Motor Vehicle Indicators**

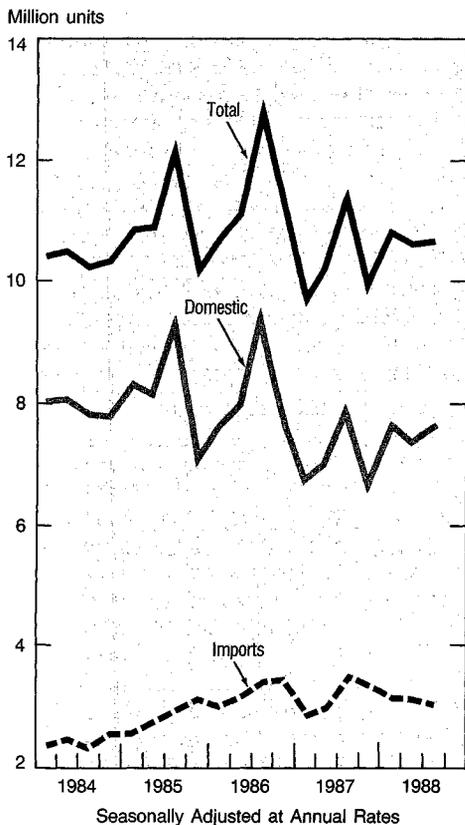
	Model year			Calendar quarter: Seasonally adjusted at annual rates				
	1986	1987	1988	1987		1988		
				III	IV	I	II	III
	Millions of units							
New motor vehicle sales.....	16.1	15.4	15.6	16.7	14.7	15.9	15.7	15.9
New car sales.....	11.2	10.6	10.5	11.5	9.9	10.8	10.6	10.7
Domestic.....	8.1	7.3	7.3	8.0	6.6	7.6	7.5	7.6
Import.....	3.1	3.2	3.2	3.5	3.3	3.2	3.1	3.1
Domestic car production.....	7.9	7.3	7.0	6.4	7.2	6.3	7.3	7.1
Domestic car inventories <sup>1</sup> .....				1.5	1.7	1.5	1.6	1.5
Domestic car inventory-sales ratio <sup>2</sup> .....				2.24	3.11	2.33	2.55	2.36
New truck sales.....	4.9	4.9	5.1	5.2	4.9	5.1	5.1	5.3
Domestic.....	4.0	4.0	4.5	4.4	4.1	4.5	4.5	4.7
Import.....	.9	.9	.6	.8	.7	.7	.6	.6
	Dollars							
Average expenditure per new car <sup>3</sup> .....	12,606	13,457	14,153	13,713	13,930	13,889	14,280	14,514
Domestic.....	12,321	12,998	13,807	13,345	13,640	13,674	13,925	13,990
Import.....	13,339	14,500	14,965	14,548	14,509	14,408	15,125	15,818

1. End of quarter, not at annual rates.  
2. Ratio of end-of-quarter inventories to average monthly sales for the quarter.  
3. Average expenditure per new car is based on manufacturers' suggested retail price of each model (adjusted for options, transportation charges, discounts or premiums, and sales taxes) weighted by its share of sales; not at annual rates.  
Sources: Sales, production, and inventories based on data from Motor Vehicle Manufacturers' Association of the United States, Inc. and *Ward's Automotive Reports* and are seasonally adjusted by BEA; average expenditure per new car estimated by BEA.

New car prices were up considerably less than in model year 1987. The Consumer Price Index (CPI) for new cars increased 2 percent, compared with 4½ percent in 1987. In 1988, new car prices increased only half as much as all consumer prices; in contrast, in 1987, new car prices increased 1½ percentage points more than all consumer prices. The average expenditure per new car also increased less in 1988 (5 percent) than in 1987 (7 percent).<sup>2</sup> For

2. BEA derives the average expenditure per car by using the average suggested retail price of each model (adjusted for options, transportation charges, discounts or premiums, and sales taxes) weighted by its market share of sales. Movements in the BEA measure differ from movements in the new cars component of the CPI primarily because the CPI, unlike the BEA measure, is adjusted to remove the influence of quality change on prices and because the BEA measure, unlike the CPI, reflects changes in the sales mix and includes cars sold to businesses.

**CHART 2**  
**Retail Sales of New Cars**



Data: Motor Vehicle Manufacturers Association of the United States, Inc. and Ward's Automotive Reports; seasonally adjusted by BEA.

domestic cars, the average expenditure increased to \$13,807 in 1988; for imported cars, the average expenditure increased to \$14,965.

The quarterly pattern of car sales in model year 1988 generally reflected sales of domestic cars. From a high of 8.0 million units (seasonally adjusted annual rate) in the third quarter of 1987, domestic car sales dropped to 6.6 million in the fourth quarter, increased to 7.6 million in the first quarter of 1988, declined slightly to 7.5 million in the second, and returned to 7.6 million in the third (chart 2). The drop in the fourth quarter of 1987 reflected the ending of attractive sales-incentive programs offered by auto manufacturers in the third quarter. Although manufacturers offered incentive programs in the following three quarters, these programs did not include the deep discounts offered in previous years. Sales of imported cars declined in the first three quarters of the model year and changed little in the final quarter.

**New trucks**

Truck sales increased 5 percent to a record 5.11 million units in model year 1988. Sales had changed little in 1987.

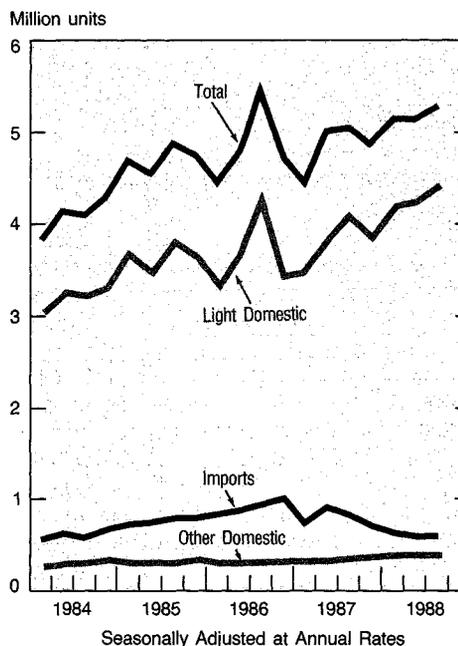
Sales of light trucks (up to 10,000 pounds gross vehicle weight) increased to 4.77 million from 4.57 million in 1987. Light trucks reached a record 30½ percent share of motor vehicle purchases, up from 29½ percent. (Light trucks include light conventional pickups, compact pickups, sport utility vehicles, and passenger vans; about three-fifths of light trucks purchases are for personal use.) The increase in sales was more than accounted for by light domestic trucks, which jumped to 4.13 million from 3.69 million in 1987; sales of imported trucks, mostly small pickups from Japan, fell to 0.64 million from 0.88 million. The relative strength of light domestic truck sales reflected two factors: (1) A major Japanese manufacturer shifted truck production from Japan to the United States, which raised domestic sales and reduced import sales; and (2) prices of imported trucks increased more than prices of

domestic light trucks, partly reflecting depreciation of the dollar against the Japanese yen in the first half of the model year.

Sales of "other" domestic trucks (over 10,000 pounds gross vehicle weight) increased to 0.34 million in 1988 from 0.29 million in 1987. These trucks, nearly all purchased by business, range from medium-duty general delivery trucks to heavy-duty diesel tractor-trailers.

The quarterly pattern of truck sales in model year 1988 generally reflected sales of light domestic trucks. From 4.09 million in the third quarter of 1987, light domestic truck sales declined to 3.82 million in the fourth (chart 3). They rebounded to 4.14 million in the first quarter of 1988, increased slightly to 4.17 million in the second, and increased to 4.36 million in the third. Sales of imported trucks declined in each quarter of model year 1988, and sales of "other" domestic trucks changed little.

**CHART 3**  
**Retail Sales of New Trucks**



Note.—Retail sales of domestic trucks are classified by gross vehicle weight as light (up to 10,000 pounds) and "other" (over 10,000 pounds). Imported trucks include imports by U.S. manufacturers. Data: Motor Vehicle Manufacturers Association of the United States, Inc. and Ward's Automotive Reports; seasonally adjusted by BEA.

# Deflators for Purchases of Computers in GNP: Revised and Extended Estimates, 1983-88

IN 1985, BEA introduced quality-adjusted deflators for purchases of computers in GNP for 1969-84.<sup>1</sup> Purchases in GNP consist of purchases by all domestic purchasers—business, persons, and government—and of exports; computers, or computing equipment, consist of processors and peripheral equipment, such as printers, disk drives, and displays. The deflators and their underlying price indexes have been revised for 1983-84 and extended to the current period in subsequent annual revisions of the national income and product accounts (NIPA's). This article describes the procedures now used to construct the price indexes and deflators for 1983-88. The deflators and corresponding fixed-weighted price indexes, neither of which are shown separately in the regularly published NIPA tables, also are presented.

## Revised price indexes for computing equipment

The deflators were constructed by BEA in 1985 using annual price indexes for computing equipment that were initially developed by the IBM Corporation.<sup>2</sup> IBM developed four types of price indexes: Matched-model indexes, regression indexes, composite indexes, and characteristics price indexes. The matched-model index is formed from prices for identical models that are sold in adjacent years; it does not include newly introduced or discontinued models. This method is similar to that used by the Bureau of Labor Statistics for constructing the Producer Price Indexes. The regression index is formed from the coefficients for year and technology class in an hedonic function, which relates prices paid for computers to quality characteristics, such as speed and memory size. The composite index is formed from current-year and base-year prices for each model sold in the current year. If the model was also sold in the base year, the reported price is used; if not, the base-year price is imputed using implicit base-year prices of characteristics from the hedonic function.<sup>3</sup>

Table 1.—Price Indexes for Computing Equipment, 1982-87

[Index numbers, 1982=100]

Year	Processors	Direct access storage devices <sup>1</sup>	Printers	Displays	Personal computers
1982.....	100.0	100.0	100.0	100.0	100.0
1983.....	93.9	74.4	33.0	85.6	80.1
1984.....	76.9	64.4	29.6	68.0	60.5
1985.....	51.2	58.8	23.2	56.5	56.6
1986.....	47.3	52.7	21.4	45.6	41.7
1987.....	41.1	49.0	16.8	34.2	37.6

1. Shipments by class of disk drive are used for weights for 1982-84; for 1985-87, weights are not used.

NOTE.—The index for tape drives, which was discontinued after 1983, is not shown.

The annual price indexes for 1983-87 as revised and extended are shown in table 1. They are constructed as follows. Composite indexes are used for processors (which for the revised indexes represent mainframe systems), direct access storage devices (DASD), printers, and displays. A regression index is used for tape drives for 1983, but it was discontinued for later years. For personal computers (PC's), a matched-model index was introduced in 1987. It is now constructed using price changes of IBM PC's, judgmentally adjusted by BEA to reflect price changes for other

models, for 1983 and price changes of models sold by IBM and three additional manufacturers for 1984-87.<sup>4</sup>

## Construction of revised deflators

Two deflators were introduced in 1985. The first was constructed by combining composite indexes for processors, DASD, printers, and displays and a regression index for tape drives, using the annual value of shipments by domestic manufacturers as weights. This deflator previously was referred to as the "deflator for computers." To more accurately reflect its coverage, in the future it will be referred to as the "deflator for computers and peripheral equipment." The second deflator covered business purchases of office, computing, and accounting machinery (OCAM). This deflator was constructed by combining the deflator for computers and peripheral equipment and Producer Price Indexes for selected types of office and accounting machinery, using the annual value of business purchases as weights.

The revisions to the annual price indexes and introduction of the PC price index led to changes in the weighting and composition of the deflator for computers and peripheral equipment. (The procedure for constructing the OCAM deflator was not affected.) The weight for PC's was reassigned from the processor index to the new PC price index, and the weight for tape drives was allocated proportionately among the other indexes after 1983.<sup>5</sup> (Price changes for tape drives—as well as for a number of other types of computing equipment not separately priced—are assumed to

1. The construction of the deflators was described in "Improved Deflation of Purchases of Computers," SURVEY OF CURRENT BUSINESS 66 (March 1986): 7-9.

2. These price indexes were described by IBM in "Quality-Adjusted Price Indexes for Computer Processors and Selected Peripheral Equipment," SURVEY 66 (January 1986): 41-50.

3. For a discussion of matched-model and hedonic indexes, see "The Economic Interpretation of Hedonic Methods" and "Quality-Adjusted Price Indexes for Computer Processors and Peripheral Equipment," SURVEY 66 (January 1986): 36-40 and 48-49.

4. Based on data from the International Data Corporation's Processor Installation Census, the models covered by the index accounted for nearly 50 percent of the shipments of PC's in 1987.

5. The weights used for PC's are Census Bureau shipments by domestic manufacturers of machines with prices less than \$5,000, plus one-third of the shipments of machines with prices between \$5,000 and \$15,000.

be represented by price changes of computing equipment covered by the deflator.) Thus, the revised deflator for computers and peripheral equipment is constructed by combining indexes for processors, PC's, DASD, printers, and displays. In addition to its use as a component of this deflator, the PC price index is used as the deflator for computers and peripheral equipment purchased by persons.

Table 2 shows the annual and quarterly deflators and fixed-weighted price indexes for computers and peripheral equipment and for the OCAM category of producers' durable equipment.<sup>6</sup> (Annual current- and constant-dollar expenditures and fixed-weighted price indexes for OCAM are published in the July issues of the SURVEY in NIPA tables 5.6, 5.7, and 7.13.) The annual fixed-weighted index for computers and peripheral equipment is calculated using weights for processors, PC's, DASD, printers, and displays based on 1982 shipments by domestic manufacturers. Quarterly deflators and fixed-weighted price indexes for computers and peripheral equipment are interpolations and extrapolations made using information on price changes and on the introduction of new equipment from trade publications.

6. Deflators and fixed-weighted price indexes will be available each quarter upon request from the National Income and Wealth Division (BE-54), Bureau of Economic Analysis, U.S. Department of Commerce, Washington DC 20230. Annual matched-model price indexes also are available upon request.

Table 2.—Implicit Price Deflators and Fixed-Weighted Price Indexes for Computers and Peripheral Equipment and for Business Purchases of Office, Computing, and Accounting Machinery, 1982-88

[Index numbers, 1982=100]

	Implicit price deflators		Fixed-weighted price indexes	
	Computers and peripheral equipment	Office, computing, and accounting machinery	Computers and peripheral equipment	Office, computing, and accounting machinery
<b>Annual</b>				
1982.....	100.0	100.0	100.0	100.0
1983.....	77.0	83.0	83.9	88.8
1984.....	64.4	69.1	70.0	78.0
1985.....	51.2	56.0	55.7	65.6
1986.....	45.2	50.0	47.9	59.7
1987.....	39.1	43.3	41.9	55.0
<b>Quarterly</b>				
1982: I.....	105.9	101.8	105.0	103.0
II.....	103.0	100.4	101.2	102.0
III.....	98.5	99.1	98.3	99.1
IV.....	91.9	98.4	95.5	95.9
1983: I.....	84.0	89.7	93.5	93.6
II.....	78.3	83.8	87.0	90.7
III.....	73.6	79.2	83.0	87.1
IV.....	72.1	77.0	72.1	83.8
1984: I.....	68.5	73.6	72.1	81.3
II.....	65.6	70.9	70.9	78.9
III.....	62.9	68.0	69.4	76.7
IV.....	60.6	65.5	67.6	75.0
1985: I.....	56.2	61.2	61.9	70.6
II.....	52.3	57.4	57.1	66.7
III.....	49.5	54.5	53.6	63.8
IV.....	46.8	51.7	50.2	61.2
1986: I.....	45.5	50.2	48.5	59.8
II.....	45.4	50.0	48.1	59.8
III.....	45.2	49.5	47.7	59.7
IV.....	44.7	50.1	47.3	59.3
1987: I.....	42.9	47.0	45.7	58.2
II.....	40.0	44.3	42.8	55.7
III.....	37.7	42.1	40.5	53.8
IV.....	35.8	40.6	38.6	52.3
1988: I.....	34.7	39.6	37.4	51.4
II.....	34.2	39.0	36.8	51.1
III.....	33.7	38.7	36.2	50.6

NOTE.—For 1983-84, these estimates have not yet been revised to reflect completely the price indexes shown in table

### Use of the deflators

BEA has made two improvements in the use of the deflators for purchases of computers in GNP (table 3). Beginning with the 1983 estimates, personal consumption expenditures for computers and peripheral equipment is deflated separately; the deflator for computers and peripheral equipment is used for 1983, and the new deflator for PC's is used after that. Beginning with the 1985 estimates, exports and imports of computers, peripherals, and parts are deflated separately using the deflator for computers and peripheral equipment.

### Future directions

When quality-adjusted deflators for computers and OCAM were introduced in 1985, BEA identified three major problems with the information used to construct the price indexes: (1) Coverage of the sample was limited to certain types of equipment and selected manufacturers; (2) list, rather than transaction, prices were included in the sample; and (3) the information on shipments was incomplete.<sup>7</sup> The revised indexes described in this article reflect only one major improvement; coverage was increased with the development of an index for PC's. Work to resolve the remaining problems will continue.

7. For a more detailed discussion of these problems, see "Improved Deflation of Purchase of Computers."

Table 3.—Deflation of Annual Estimates of Computers and Peripheral Equipment in GNP, 1983-87

Component of GNP	Published category that includes computers <sup>1</sup>	Estimates published in December 1985			Presently published estimates			Major source data for current-dollar estimates
		Period covered	Category deflated	Deflator (see key)	Period covered	Category deflated	Deflator (see key)	
Personal consumption expenditures	Wheel goods, durable toys, sports equipment, boats, and pleasure aircraft (table 2.4).	1983-85	Wheel goods, durable toys, sports equipment, boats, and pleasure aircraft.	A	1983-87	Computers and peripheral equipment.	B	Bureau of Labor Statistics consumer expenditure data by type of expenditure.
Producers' durable equipment.....	Office, computing, and accounting machinery (table 5.6).	1983-85	Computers and peripheral equipment.	C	1983-87	Computers and peripheral equipment.	C	Census Bureau shipments and merchandise trade data.
Change in business inventories.....	Industries (table 5.8).....	1983-85	Detailed industries.....	D	1983-87	Detailed industries.....	D	Census Bureau data on inventories by establishment industry.
Exports and imports.....	Capital goods, excluding autos (table 4.3).	1983-85	Business and office machines, computers, etc..	E	1983-84	Business and office machines, computers, etc..	E	Census Bureau merchandise trade data by end-use category.
					1985-87	Computers, peripherals, and parts.	C	
Government purchases:								Federal Government budget data by type of expenditure.
Federal—defense.....	Other durable goods (table 3.9).	1983-85	General-purpose computers and peripheral equipment.	C	1983-87	General-purpose computers and peripheral equipment.	C	
Federal—nondefense.....	Durable goods (table 3.7B).	1983-85	General-purpose computers and peripheral equipment.	C	1983-87	General-purpose computers and peripheral equipment.	C	
State and local.....	Durable goods (table 3.7B).	1983-85	General-purpose computers and peripheral equipment.	C	1983-87	General-purpose computers and peripheral equipment.	C	Census Bureau State and local government expenditure data by governmental function, distributed by type of expenditure.

1. Current-dollar NIPA table numbers are in parentheses.

Key. A Separate data on purchases of computers and peripheral equipment by persons were not available. The deflator used for this category reflected Bureau of Labor Statistics Consumer Price Indexes for commodities in this category, excluding computers.

B BEA deflator for personal computers.

C BEA deflator for computers and peripheral equipment.

D Bureau of Labor Statistics Producer Price Indexes for selected types of office and accounting machinery (excluding computers) and unit labor costs.

E BEA deflator for business purchases of office, computing, and accounting machinery.

# Alternative Measure of the State and Local Government Fiscal Position: Revised and Updated Estimates

THE alternative measure of the State and local government fiscal position as prepared by the Bureau of Economic Analysis has been revised for 1984 and extended to 1987. The revised alternative measure incorporates the results of recent annual revisions of the national income and product accounts (NIPA's) and newly available financial transactions data for 1984-85 and 1985-86 from *Governmental Finances (GF)*, published by the Bureau of the Census, and preliminary, unpublished *GF* data for 1986-87.<sup>1</sup>

The alternative measure is designed to show what a State or local government finance officer would view as a combined general and special funds surplus or deficit. The derivation of the combined funds measure begins with the NIPA other funds—that is, funds other than social insurance—surplus or deficit for State and local governments. The major differences between NIPA receipts and expenditures and those used to derive a combined funds measure are as follows:

- (1) Combined fund expenditures exclude purchases of equipment and structures funded by long-term borrowing.
- (2) Combined fund expenditures include net outlays for land.
- (3) Combined fund receipts and expenditures include selected financial transactions.
- (4) Combined fund receipts include accumulated surpluses or deficits from prior periods.

1. The alternative measure of the State and local government fiscal position was initially presented in the March 1984 SURVEY OF CURRENT BUSINESS and revised in the April 1986 SURVEY. The 1984 article discusses the derivation of the alternative measure.

Table 1 shows adjustments to the NIPA other funds measure of the surplus or deficit for the first three differences. The first set of adjustments (lines 2-4) relates to tangible capital transactions: Equipment, structures, and land. The largest of these adjustments is for long-term borrowing for current-period purchases of equipment and structures. The second set of adjustments (lines 6-10) relates to financial transactions, most of which are debt transactions. It has not been possible to quantify the fourth difference. An adjustment for this difference would require a lengthy historical series, which is not available. Further, substantial uncertainty exists with respect to the share of accumulated reserves that has been placed in contingency funds and thus is not necessarily available to finance general fund operations.

The revision in the combined funds measure for 1984 is substantial. The revised measure shows that State and local governments recorded a large deficit; the previously published estimate showed a surplus. This revision was the result of large upward revisions in the estimates of long-term debt retired and of additions to sinking funds, combined with a large downward revision in the estimate of long-term borrowing for equipment and structures.

Between 1976 and 1982, the measures presented in table 1 moved in the same direction in each year except 1978, when the changes were small. Between 1983 and 1987, the two measures moved in opposite directions in each year except 1987. As shown by the NIPA other funds measure, the fiscal condition improved for 2 years and then declined, moving to a sizable

Table 1.—Derivation of an Alternative Measure of the State and Local Government Fiscal Position, 1976-87

[Billions of dollars]

Line	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987 <sup>a</sup>
1	Surplus or deficit (-), NIPA basis: Other than social insurance funds.....											
	-0.4	8.9	8.7	3.8	-0.3	4.1	-1.7	5.5	19.8	13.8	5.0	-9.2
2	Plus: Purchases of equipment and structures financed by long-term borrowing.....											
	23.7	25.1	25.1	24.5	23.5	23.6	26.8	30.8	27.8	35.0	50.2	52.3
3	Less: Net outlays for land.....											
	1.7	1.6	1.5	1.6	1.7	1.9	2.0	2.1	2.4	3.0	3.6	3.8
4	Statutory housing authority transactions.....											
	1.2	1.2	1.4	1.7	1.8	2.4	3.6	4.0	4.9	5.4	4.9	4.9
5	Equals: Surplus or deficit (-), combined funds before financial transactions.....											
	20.4	31.2	30.9	25.0	19.7	23.4	19.5	30.2	40.3	40.4	46.7	34.4
6	Less: Long-term debt retired.....											
	13.0	15.9	24.5	19.8	18.5	20.4	25.4	32.2	41.2	66.7	80.2	68.0
7	Additions to sinking funds.....											
	6.4	10.4	2.9	11.9	15.0	6.5	11.7	19.1	25.7	28.9	16.0	12.0
8	Plus: Borrowing to retire existing debt.....											
	3.0	4.1	3.2	1.7	1.2	.6	4.3	11.4	6.5	47.5	53.7	39.6
9	Net change in short-term debt.....											
	-4.1	-2.9	.6	1.0	1.7	1.1	5.7	-5	.5	-.8	-1.9	-2.0
10	Capital gains.....											
	.8	.5	.7	.8	1.0	1.3	1.8	1.7	1.6	2.9	4.5	5.5
11	Equals: Surplus or deficit (-), combined funds.....											
	.7	6.6	8.0	-3.2	-9.9	-5	-5.8	-8.5	-18.0	-5.6	6.8	-2.5

<sup>a</sup> Preliminary.

NOTE.—A statement of the sources and methods used to derive lines 2-10 is available on request. Write to Government Division (BE-57), Bureau of Economic Analysis, U.S. Department of Commerce, Washington, DC 20230.

deficit in 1987. As shown by the combined funds measure, the fiscal condition deteriorated for 2 years, and then improved through 1986 before falling to a small deficit in 1987.

A number of factors contributed to the divergent movement in the two measures in the 1983-87 period. One of these was a shift in how State and local governments finance purchases of equipment and structures. In 1980, 38 percent of this type of spending was financed by borrowing. The share increased to 51 percent in 1983 and approached 60 percent in 1987. When an increase in purchases of equipment and structures is financed by borrowing, rather than by increasing current revenues, the NIPA other funds measure will move toward deficit and the combined funds measure will move to-

ward surplus. This difference occurs because the debt-financed spending is included in NIPA expenditures and is excluded from combined funds expenditures. The shift in how State and local governments financed increasing purchases of equipment and structures accounted for a part of the divergence in the two measures in 1985 and most of it in 1986.

Another factor in the divergent movement was the greater use of borrowing to retire existing debt. Traditionally, State and local governments did not borrow to retire their existing debt. From 1976 through 1984, borrowing to retire existing debt accounted for only 17 percent of long-term debt retired. However, beginning in 1985, a significant shift occurred; for 1985-87, this type of borrowing accounted for over 65 percent of long-

term debt retired. Greater use of borrowing to retire existing debt has no impact on the NIPA measure, but it causes the combined funds measure to move toward surplus.

The large increase in borrowing to retire existing debt was primarily the result of a decline in borrowing costs from historically high levels in combination with the "call feature" of these borrowings, which allow for early redemption of the issues at the discretion of the issuer. In 1979, the average yield (as measured by the *Bond Buyer* for 20 high-grade bonds) was 6½ percent. This yield went above 10 percent in February 1981 and remained above 9 percent through 1984. In early 1985 the yield dropped below 9 percent and continued to move down irregularly to an average of 7¾ percent in 1987.

# Plant and Equipment Expenditures by Business for Pollution Abatement, 1987 and Planned 1988

**B**USINESS plans to spend \$9.0 billion in 1988 for new plant and equipment to abate air and water pollution and to dispose of solid waste, 1.1 percent less than in 1987 (table 1).<sup>1</sup> Spending in 1987 is estimated at \$9.1 billion, a 7.9-percent increase from 1986. These results are based on a survey conducted in early 1988.

The sizable increase in 1987 was a surprising turnaround from a planned decrease and appears to reflect an increased priority accorded to pollu-

tion abatement as business allocated funds among alternative capital spending projects. Only seven industries had planned increases for 1987, but sixteen registered increases—the largest by petroleum. Electric utilities had planned a large decrease, but scaled this decrease back sharply.

Business plans to allocate 1.9 percent of total plant and equipment spending to pollution abatement (PA) in 1988. In 1987, the share was 2.1 percent; in the two previous years, it had been 2.0 percent. The share had peaked in 1975 at 4.2 percent and then declined each year, but the declines

The survey results are universe estimates for U.S. nonfarm business for PA plant and equipment. The estimates are based on sample data from companies each of which is assigned to a single industry corresponding to the industry classification of the company's principal product. For further information about the survey methodology and for industry detail for spending prior to 1986, see "Plant and Equipment Expenditures by Business for Pollution Abatement: Revised Estimates for 1973-83 and Estimates for 1984," SURVEY OF CURRENT BUSINESS 66 (February 1986) and "Plant and Equipment Expenditures by Business for Pollution Abatement, 1986 and 1987" SURVEY 67 (October 1987).

NOTE.—Frederick G. Kappler coordinated the processing of the survey and oversaw the editing of company reports, evaluation of the sample statistics, and derivation of universe estimates. Nikolaos A. Stergioulas converted the estimates from current dollars to constant (1982) dollars. Colin B. Brown, Christopher W. Cavaney, and Maurice A. Schlak provided computer programming and services. Shirley D. Tisdale provided statistical assistance. Sonia R. Bundy provided secretarial services.

1. Pollution abatement (PA) is the purposeful reduction or elimination of emissions of pollutants. Pollutants are substances and other emissions that are potentially harmful and degrade the quality of air or water shared by all. Solid waste disposal refers to means acceptable to Federal, State, and local authorities.

Table 1.—New Plant and Equipment Expenditures by U.S. Nonfarm Business: Total and for Pollution Abatement

[Billions of dollars]

	1986					1987					Planned 1988				
	Total	Pollution abatement				Total	Pollution abatement				Total	Pollution abatement			
		Total	Air	Water	Solid waste		Total	Air	Water	Solid waste		Total	Air	Water	Solid waste
<b>Total nonfarm business</b> .....	427.23	8.45	4.09	3.20	1.16	440.66	9.12	4.18	3.58	1.36	477.08	9.02	3.98	3.34	1.70
<b>Manufacturing</b> .....	142.69	5.33	2.40	2.27	.66	145.90	6.22	2.63	2.69	.89	159.59	6.51	2.59	2.69	1.23
Durable goods.....	69.14	2.05	1.07	.77	.21	71.01	2.28	.95	1.04	.29	75.49	2.36	.92	.97	.47
Primary metals <sup>2</sup> .....	7.13	.76	.43	.29	.04	8.71	.88	.45	.37	.06	9.87	.91	.48	.30	.13
Blast furnaces, steel works.....	3.52	.47	.25	.21	.01	4.69	.53	.23	.28	.02	5.40	.52	.29	.19	.05
Nonferrous metals.....	1.93	.19	.13	.05	.02	2.16	.15	.02	.16	.05	2.50	.21	.11	.07	.03
Fabricated metals.....	4.90	.09	.04	.04	.01	4.92	.15	.02	.11	(*)	4.41	.13	.03	.10	.01
Electrical machinery.....	14.17	.25	.07	.13	.05	15.28	.32	.07	.20	.05	17.04	.29	.06	.11	.03
Machinery, except electrical.....	13.61	.10	.02	.07	.01	13.85	.15	.05	.09	.02	14.43	.13	.05	.11	.03
Transportation equipment <sup>2</sup> .....	18.88	.60	.38	.14	.07	16.62	.46	.21	.17	.08	16.22	.50	.15	.21	.14
Motor vehicles.....	13.95	.54	.37	.11	.06	11.91	.36	.18	.13	.05	11.34	.37	.12	.15	.10
Aircraft.....	3.80	.05	.01	.02	.01	3.54	.09	.02	.04	.03	3.59	.11	.02	.05	.04
Stone, clay, and glass.....	3.14	.10	.06	.03	.01	3.37	.18	.06	.05	.07	3.44	.20	.06	.04	.09
Other durables <sup>3</sup> .....	8.20	.15	.07	.06	.02	9.17	.15	.09	.05	.01	10.09	.24	.11	.10	.04
Nondurable goods.....	73.56	3.28	1.33	1.49	.46	74.88	3.93	1.68	1.65	.60	84.10	4.14	1.67	1.72	.75
Food, including beverage.....	10.60	.27	.09	.13	.05	11.03	.28	.08	.15	.04	12.18	.32	.10	.18	.03
Textiles.....	1.67	.03	.02	(*)	.01	1.95	.04	.03	(*)	.01	2.04	.03	.02	.01	.01
Paper.....	8.77	.55	.25	.15	.15	9.01	.45	.26	.08	.11	11.34	.72	.43	.10	.18
Chemicals.....	16.81	.98	.39	.48	.11	16.42	.86	.30	.41	.14	17.77	1.26	.45	.52	.30
Petroleum.....	17.92	1.28	.52	.65	.11	17.12	2.11	.90	.95	.26	18.91	1.65	.60	.84	.21
Rubber.....	3.89	.08	.03	.03	.02	3.52	.09	.04	.03	.02	3.67	.06	.03	.03	.01
Other nondurables <sup>4</sup> .....	13.90	.09	.04	.04	.01	15.82	.11	.07	.03	.01	18.19	.10	.04	.05	.01
<b>Nonmanufacturing</b> .....	284.54	3.12	1.69	.93	.49	294.77	2.90	1.55	.89	.47	317.48	2.51	1.40	.64	.47
Mining.....	11.22	.25	.08	.13	.04	11.39	.17	.07	.07	.03	12.07	.18	.07	.08	.03
Transportation.....	13.80	.09	.03	.05	.01	13.85	.12	.02	.09	.01	21.00	.10	.01	.06	.02
Railroad.....	6.66	.04	.01	.02	(*)	5.92	.04	.01	.02	(*)	6.44	.02	(*)	.02	(*)
Air.....	6.26	.01	(*)	(*)	(*)	6.53	.02	(*)	.01	.01	7.51	.03	(*)	(*)	.02
Other.....	5.89	.04	.01	.03	(*)	6.40	.07	.01	.06	(*)	7.05	.05	.01	.04	(*)
Public utilities.....	43.38	2.50	1.49	.68	.33	44.88	2.28	1.32	.65	.31	46.57	1.75	1.13	.41	.22
Electric.....	33.91	2.44	1.47	.65	.32	31.63	2.22	1.31	.63	.30	32.15	1.71	1.12	.38	.21
Gas and other.....	12.47	.05	.02	.03	(*)	13.25	.05	.02	.02	.01	14.43	.04	.01	.03	(*)
Trade and services <sup>5</sup> .....	156.25	.26	.08	.07	.11	167.11	.30	.12	.07	.11	183.41	.38	.15	.07	.15
Communication and other <sup>6</sup> .....	51.88	.02	.02	(*)	(*)	52.53	.03	.01	.01	(*)	54.43	.10	.03	.03	.04

\* Less than \$5 million.

1. Consists of annual estimates for "all industries" as published in "Plant and Equipment Expenditures, First and Second Quarters and Second Half of 1988," SURVEY OF CURRENT BUSINESS (April 1988), plus annual estimates for the part of nonmanufacturing that is surveyed annually as published in "Plant and Equipment Expenditures, the Four Quarters of 1988," SURVEY (June 1988). The estimates incorporate new seasonal-adjustment factors introduced in "Plant and Equipment Expenditures, the Four Quarters of 1988," SURVEY (September 1988).

2. Includes industries not shown separately.

3. Consists of lumber, furniture, instruments, and miscellaneous.

4. Consists of apparel, tobacco, leather, and printing-publishing.

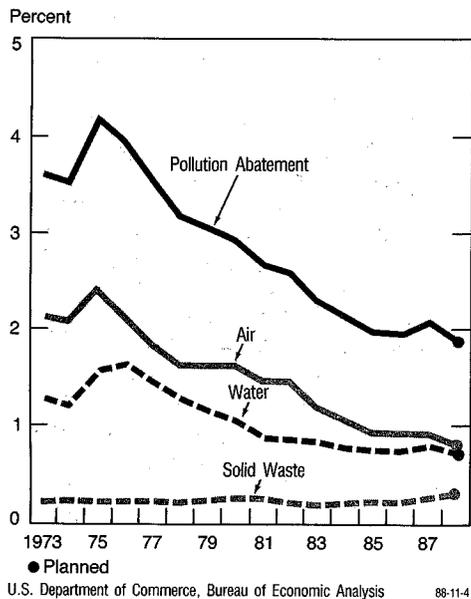
5. Consists of wholesale and retail trade; finance and insurance; personal and business services (excluding construction); and real estate.

6. Consists of communication; construction; social services and membership organizations; and forestry, fisheries, and agricultural services.

NOTE.—Estimates of planned spending for new plant and equipment, total and for pollution abatement, are based on business plans as surveyed in January-March 1988.

CHART 4

**Pollution Abatement as a Share of Total New Plant and Equipment Expenditures**



U.S. Department of Commerce, Bureau of Economic Analysis 88-114

moderated recently (chart 4). The moderation after 1984 and the increase in 1987 are consistent with the emergence of increased environmental concern and new environmental legislation: The 1984 Resource Conservation and Recovery Act, the 1986 Superfund Act, the 1986 Safe Drinking Water Act, and the 1987 Clean Water Act.

Plans for 1988 indicate a 1.6-percent decrease in real spending—spending adjusted for price change—for PA plant and equipment (table 2). In 1987, real PA plant equipment spending increased 6.9 percent, the largest percentage increase since 1975. Prices—as measured by the implicit price de-

As noted in the May issue of the SURVEY, the Pollution Abatement Costs and Expenditures Survey covering manufacturing industries was skipped by the Census Bureau for the year 1987. Since May, the Plant and Equipment Expenditures Survey—on which the results reported in the present article depend—was transferred to the Census Bureau, and the Census Bureau plans to limit the pollution abatement portion of that survey to only a few industries for the year 1988. Because the two surveys are important sources for the estimates of U.S. pollution abatement and control expenditures, BEA is assessing whether the usual sets of estimates can be prepared for 1987 and 1988.

flator for PA plant and equipment—increased 0.5 percent in 1988, compared with 0.9 percent in 1987.

**Media detail**

For air PA plant and equipment, business plans indicate \$4.0 billion in spending in 1988, 44.1 percent of the PA total. In 1987, business spent \$4.2 billion. The air PA share has tended to fall in the 1980's (chart 5).

For water PA plant and equipment, plans indicate \$3.3 billion in spending in 1988, 37.0 percent of the PA total. In 1987, business spent \$3.6 billion. The water PA share has tended to be relatively stable in the 1980's.

For solid waste disposal plant and equipment, plans indicate \$1.7 billion in spending in 1988, 18.8 percent of the PA total. In 1987, business spent \$1.4 billion. Increases in spending for solid waste disposal plant and equipment were large in 1984, 1985, 1987, and planned 1988, increasing the solid waste share significantly.

**Table 2.—New Plant and Equipment Expenditures for Pollution Abatement in Current and Constant Dollars with Implicit Price Deflators**

	1982	1983	1984	1985	1986	1987	1988	1982	1983	1984	1985	1986	1987	1988
	Billions of dollars							Percent change from preceding year						
Total.....	9.00	7.82	8.44	8.61	8.45	9.12	9.02	-2.9	-13.1	7.9	2.0	-1.9	7.9	-1.1
Air.....	5.09	4.15	4.28	4.14	4.09	4.18	3.98	-.8	-18.5	3.1	-3.3	-1.2	2.2	-4.8
Water.....	3.08	2.90	3.12	3.28	3.20	3.58	3.34	-1.9	-5.8	7.6	5.1	-2.4	11.9	-6.7
Solid waste.....	.84	.76	1.04	1.19	1.16	1.36	1.70	-16.0	-9.5	36.8	14.4	-2.5	17.2	25.0
	Billions of constant (1982) dollars							Percent change from preceding year						
Total.....	9.01	7.64	7.98	8.05	7.78	8.32	8.19	-7.9	-15.2	4.5	.9	-3.4	6.9	-1.6
Air.....	5.09	4.10	4.11	3.94	3.88	3.96	3.77	-6.6	-19.4	.2	-4.1	-1.5	2.1	-4.8
Water.....	3.08	2.81	2.90	3.00	2.85	3.13	2.91	-5.5	-8.8	3.2	3.4	-5.0	9.8	-7.0
Solid waste.....	.84	.73	.97	1.11	1.05	1.23	1.51	-21.5	-13.1	32.9	14.4	-5.4	17.1	22.8
	Implicit price deflators, 1982=100 <sup>1</sup>							Percent change from preceding year						
Total.....	100.0	102.4	105.8	107.0	108.6	109.6	110.1	5.5	2.4	3.3	1.1	1.5	.9	.5
Air.....	100.0	101.2	104.2	105.2	105.3	105.7	105.6	6.0	1.2	3.0	1.0	.1	.4	-.1
Water.....	100.0	103.3	107.7	109.5	112.1	114.3	114.8	4.1	3.3	4.3	1.7	2.4	2.0	.4
Solid waste.....	100.0	104.4	106.7	106.8	110.3	110.8	112.5	7.0	4.4	2.2	.1	3.3	.5	1.5

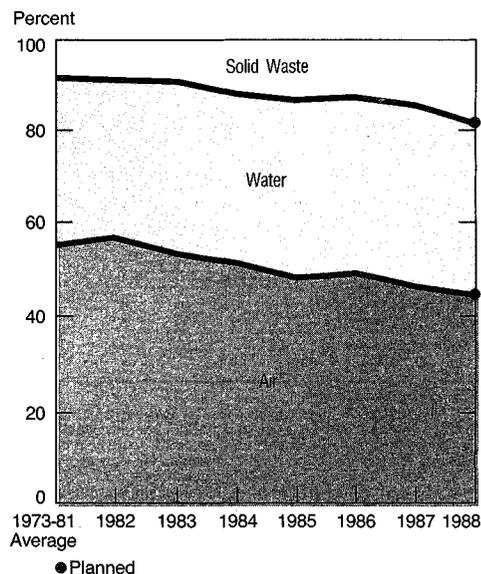
1. The implicit price deflators for 1988 are based on preliminary source data.

The tendencies noted in shares of spending for air PA, water PA, and solid waste disposal are consistent with priorities in environmental regulation in the 1980's. The focus has been on increased control of the more hazardous substances, with attention directed to implementing regulations for solid waste disposal and, to a lesser extent, for water PA. The implementation for air PA has tended to lag, possibly reflecting uncertainty over the outcome of congressional deliberation over amendments to the Clean Air Act.

Air and water PA plant and equipment spending—which accounts for most of total PA plant and equipment spending, about 90 percent in the early 1980's and about 85 percent more recently—is for one of two general methods. End-of-line methods involve the separation and treatment of pollutants after they are generated but before they are emitted into the environment. An example is the use of baglike filters mounted in a large housing for collecting particles from gaseous exhausts. Changes-in-production-process methods are preventive; they reduce the generation of pollutants during the production activity. An example is the use of a water recirculation system, instead of a once-through system, for cooling machinery used in production. (Changes-in-production-process methods generally have production and PA features,

CHART 5

**Media Shares of Pollution Abatement New Plant and Equipment Expenditures**



U.S. Department of Commerce, Bureau of Economic Analysis 88-115

but respondents to the survey on which the estimates are based are asked to report only the part of spending that is for PA.)

Business reported spending \$6.9 billion in 1987 for end-of-line methods and planned \$6.4 billion in 1988 (table 3). Spending for end-of-line methods accounted for 89.0 percent of air and water PA plant and equipment spending in 1987, up from 1986 and several percentage points higher than in 1985. The share is expected to be 87.6 percent in 1988.

### Industry detail

In 1988, manufacturing industries plan to spend \$6.5 billion for PA plant and equipment, an increase of \$0.3 billion (4.7 percent); nonmanufacturing industries plan to spend \$2.5 billion, a decrease of \$0.4 billion (13.4 percent). Within manufacturing, durable goods industries indicated an increase of \$0.1 billion, and nondurable goods industries indicated an increase of \$0.2 billion. Across industry groups, the largest decreases planned were by electric utilities (\$0.5 billion, or 23.3

percent), petroleum (\$0.5 billion, or 21.8 percent), and electrical machinery (\$0.1 billion, or 37.5 percent). Although the sum of decreases slightly exceeded increases, the number of industries planning increases and decreases was equal. The largest increases planned were by chemicals (\$0.4 billion, or 46.5 percent), paper (\$0.3 billion, or 60.0 percent), and other nondurables (\$0.1 billion, or 60.0 percent).

In 1987, manufacturing industries increased spending \$0.9 billion (16.7 percent); nonmanufacturing industries decreased spending \$0.2 billion (7.1 percent). Within manufacturing, durable goods industries increased spending \$0.2 billion, and nondurable goods industries increased spending \$0.7 billion. Across industry groups, the largest increases were by the petroleum (\$0.8 billion, or 64.8 percent), stone-clay-glass (\$0.1 billion, or 80.0 percent), and electrical machinery (\$0.1 billion, or 28.0 percent); other notable increases were by fabricated metals, blast furnaces-steel works, and machinery except electrical. Several

industries reduced spending in 1987: Electric utilities (\$0.2 billion, or 8.6 percent), motor vehicles (\$0.2 billion, or 33.3 percent), chemicals (\$0.1 billion, or 12.2 percent), mining (\$0.1 billion, or 32.0 percent), and paper (\$0.1 billion, or 18.2 percent).

Four industries accounted for well over one-half of the nonfarm business total of PA plant and equipment spending in 1987: Electric utilities, petroleum, chemicals, and blast furnaces-steel works (chart 6). Since 1973, the share for electric utilities has been largest each year; it reached 38 percent in each of its 3 high years, 1982-84. Since 1984, the electric utilities' share has decreased substantially and plans for 1988 indicate another substantial decrease. The share for petroleum has trended up; its peak of 23 percent in 1987 almost equaled that for electric utilities. As the electric utilities' share has fallen, the manufacturing industries' share has risen—from 54 percent in 1984 to 68 percent in 1987, and plans for 1988 indicate 72 percent. The manufacturing industries whose shares increased most, in one or more years, were petroleum (1987), chemicals (1985-88), blast furnaces-steel works (1985), motor vehicles (1985), and paper (1988).

Table 3.—New Plant and Equipment Expenditures by U.S. Nonfarm Business for Air and Water Pollution Abatement by End-of-Line Methods

[Billions of dollars]

	1986			1987			Planned 1988		
	Total	Air	Water	Total	Air	Water	Total	Air	Water
Total nonfarm business <sup>1</sup> .....	6.39	3.60	2.79	6.91	3.63	3.29	6.41	3.34	3.07
Manufacturing.....	4.11	2.13	1.98	4.86	2.41	2.45	4.81	2.33	2.48
Durable goods.....	1.62	.94	.68	1.79	.85	.94	1.64	.80	.84
Primary metals <sup>2</sup> .....	.66	.39	.27	.77	.42	.35	.76	.47	.29
Blast furnaces, steel works.....	.46	.25	.21	.49	.22	.27	.47	.29	.18
Nonferrous metals.....	.13	.10	.03	.13	.13	.04	.16	.10	.06
Fabricated metals.....	.06	.02	.04	.12	.02	.11	.12	.02	.09
Electrical machinery.....	.15	.04	.11	.24	.06	.18	.13	.04	.09
Machinery, except electrical.....	.08	.02	.07	.13	.04	.09	.13	.03	.10
Transportation equipment <sup>3</sup> .....	.46	.35	.11	.30	.18	.12	.22	.09	.13
Motor vehicles.....	.48	.34	.08	.26	.17	.09	.15	.07	.08
Aircraft.....	.03	.01	.02	.04	.01	.03	.05	.01	.03
Stone, clay, and glass.....	.09	.05	.03	.11	.05	.05	.10	.06	.04
Other durables <sup>4</sup> .....	.12	.07	.05	.13	.08	.05	.19	.10	.09
Nondurable goods.....	2.49	1.19	1.30	3.06	1.56	1.51	3.17	1.53	1.63
Food, including beverage.....	.11	.05	.06	.14	.04	.10	.24	.08	.16
Textiles.....	.02	.02	(*)	.03	.02	(*)	.02	.02	.01
Paper.....	.30	.20	.09	.28	.23	.06	.45	.39	.06
Chemicals.....	.82	.36	.46	.64	.27	.37	.91	.41	.50
Petroleum.....	1.12	.49	.62	1.83	.89	.94	1.40	.57	.83
Rubber.....	.05	.03	.02	.06	.03	.03	.05	.02	.02
Other nondurables <sup>5</sup> .....	.08	.04	.04	.09	.07	.02	.09	.03	.05
Nonmanufacturing.....	2.28	1.47	.82	2.05	1.22	.83	1.60	1.00	.60
Mining.....	.19	.08	.11	.13	.07	.06	.13	.06	.07
Transportation.....	.07	.02	.05	.10	.02	.08	.07	.01	.06
Railroad.....	.03	.01	.02	.03	.01	.02	.02	(*)	.02
Air.....	(*)	(*)	(*)	.01	(*)	.01	.01	(*)	(*)
Other.....	.04	.01	.03	.06	.01	.05	.05	.01	.04
Public utilities.....	1.89	1.29	.59	1.65	1.03	.61	1.14	.76	.38
Electric.....	1.85	1.28	.57	1.62	1.02	.60	1.12	.76	.36
Gas and other.....	.04	.01	.03	.03	.01	.02	.03	.01	.02
Trade and services <sup>6</sup> .....	.12	.06	.06	.15	.09	.06	.20	.14	.06
Communication and other <sup>6</sup> .....	.02	.01	(*)	.02	.01	.01	.05	.02	.02

\* Less than \$5 million.

1. End-of-line methods involve the separation, treatment, or reuse of pollutants after they are generated but before they are emitted from a company's property. Changes-in-production-process methods involve the modification of existing production processes or the substitution of new processes to reduce or eliminate the generation of pollutants. Changes-in-production-process estimates for air and water pollution abatement can be derived by subtracting the estimates in this table from those in table 1.

2. Includes industries not shown separately.

3. Consists of lumber, furniture, instruments, and miscellaneous.

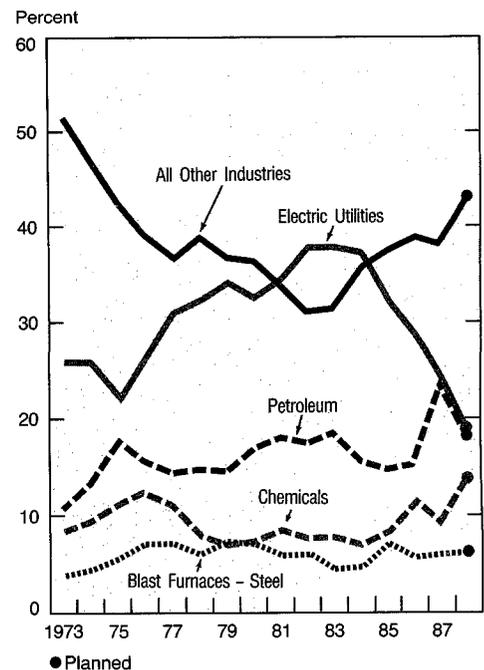
4. Consists of apparel, tobacco, leather, and printing-publishing.

5. Consists of wholesale and retail trade; finance and insurance; personal and business services (excluding construction); and real estate.

6. Consists of communication; construction; social services and membership organizations; and forestry, fisheries, and agricultural services.

CHART 6

### Selected Industry Shares of Pollution Abatement New Plant and Equipment Expenditures



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The declining share of electric utilities reflects several developments. Electric utilities have added little capacity in recent years due to slow growth in electricity demand, past cost overruns, and regulatory constraints. Instead, many utilities are investing to prolong the lives of existing plants that are not required to comply with the stricter emission standards for newly

constructed plants and many are entering into purchased power agreements as an alternative to new construction.

The surprisingly strong 1987 increase in petroleum PA plant and equipment spending, which pushed the petroleum share to a peak, came when crude oil prices showed continued improvement from the low levels of 1986. Based on plans reported by chemi-

cal companies, that industry's share of PA plant and equipment spending will reach a record high in 1988. Following restructuring actions taken over the past 5 years, the industry continues to enjoy strong sales and rising profits. Spending for PA plant and equipment in the next few years is likely to increase as the industry is also beginning to consider construction of new plants.

# Papers from the Conference on Research in Income and Wealth

*The fiftieth anniversary meeting of the Conference on Research in Income and Wealth was held in Washington, DC in May 1988. Two conference sessions that were jointly titled "New Horizons in Data Sets" contained papers that described new developments in the economic data produced by statistical agencies. One group of the "New Horizons" papers appears in this issue of the SURVEY OF CURRENT BUSINESS; another group will appear in a subsequent issue. As is customary at meetings of the Conference on Research in Income and Wealth, all of the "New Horizons" papers had formal discussants. A comment from one of the discussants appears in this issue. Other comments will appear in the subsequent issue.*

*Innovations from statistical agencies that expand economic information are vital, because the needs for economic information are not static. New economic problems emerge, and new questions are suggested by economic policy analysis and research. Moreover, when new techniques are developed for analyzing economic information, they sometimes entail requirements for new data or new requirements for arraying existing data.*

*As the needs for economic data evolve, Government statistical agencies must respond to these needs—or even anticipate them, so that new data become available in a timely fashion. At the same time, these agencies must be aggressive in holding down the costs of Government statistical programs—the direct costs that are measured by the resources that the agencies apply to collecting, processing, and distributing data and the indirect costs that arise from the burden placed on the respondents to Government statistical surveys.*

*The three papers in this issue each report an expansion of economic information obtained without conducting a new statistical survey. Each paper reports an innovation that extracts more economic information from an existing survey or expands economic information by combining information from two or more surveys. Because expanded economic information contributes to improving the NIPA estimates, or provides supplemental data that are useful for analyzing NIPA components, the conference papers are being published in the SURVEY.*

**Jack E. Triplett**

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## The Longitudinal Research Database: Status and Research Possibilities

By Robert H. McGuckin and George A. Pascoe, Jr.

### Introduction

THE Longitudinal Research Database (LRD) is a large micro database<sup>1</sup> of establishment-level data constructed by pooling information from the Census of Manufactures (CM) and the Annual Survey of Manufactures (ASM). It is housed within the Census Bureau at the Center for Economic Studies (the Center), which was established in 1982 to oversee the development of this database, to use the data to improve future Census Bureau data collection and reports, and to make the data available to outside users.

The construction of the database was itself a major achievement. It contains linked data from 5 censuses and 11 annual surveys. There are 2,311,794 individual establishment year records currently in the file, and it is updated as new data become available. Thus, the LRD is one

of the most ambitious and comprehensive data sets available for the study of manufacturing, and it promises to provide an exciting and stimulating research environment for many years. At the same time, the sheer magnitude of the database, coupled with its complexity, means that researchers must take the time to fully understand the structure of the database before embarking on research. This paper outlines the development of the database, its structure and current status, and the possibilities for its use in economic research.

The discussion is organized into four sections. We begin with some general observations on the characteristics that researchers desire in a database. In particular, we focus on the need for micro-level detail to adequately examine many economic issues. These observations provide the framework for the more specific remarks in the remainder of the paper. These remarks include a brief section outlining the origins of the LRD. The main portion of the paper details the major components of the LRD, the kinds of information included in the database, and the related data sets available at the Center. Throughout, we try to describe the research conducted at the Center as a way of providing concrete examples of the kinds of activity the LRD will support. We then briefly discuss access to the database and conclude with some observations intended to provide an overall assessment of the usefulness and flexibility of the LRD.

NOTE.—Robert H. McGuckin is the Chief of the Center for Economic Studies, Bureau of the Census, U.S. Department of Commerce, and George A. Pascoe, Jr., is an economist at the Center.

1. A micro database is one composed of the individual observations collected in a survey (the establishment-level observations in the Annual Survey of Manufactures, for example). The term distinguishes such data from *aggregations* of the survey observations, such as employment or value of shipments for an industry.

## The Need For Detail in a Database

Economic analysis has a profound influence on data development. Researchers often approach particular problems with a well-defined theory, sophisticated econometric or statistical techniques, and data that are inadequate or inappropriate for testing the theory. This situation provides the incentive for developing new data. The theory provides guidance and direction to the data development strategy. Unfortunately, the need for better data often occurs when an answer to a question is required in a timeframe too short to develop a new data set. Even if there is time, the costs of developing new data are often prohibitive. In these instances, the available data influence the theory and the econometric procedures used. Thus, data development also influences economic analysis.

In most research on production functions and total factor productivity, data availability dictates the estimation procedures. The absence of detailed data for specific producing units often causes researchers to use aggregate data in econometric specifications. Several recent papers using the LRD suggest the existence of substantial aggregation bias in estimates of productivity relationships.<sup>2</sup> Moreover, there are many productivity-related questions that simply cannot be examined with aggregate data. John Solow (1987) argues convincingly that it is impossible to determine whether energy is a complement or substitute for other inputs using aggregate data (for example, two-digit manufacturing industries).

As an example of the need for detailed data, consider the problem of the measurement of trade flows and the technological leadership of U.S. industry. Examinations of this problem have focused on the high-tech trade balance defined in terms of trade flows measured at the three-digit industry level. This level of aggregation was chosen because high-tech industries are distinguished from low-tech industries solely on the basis of research and development (R&D) to sales ratios. Use of this procedure means that low-tech products are often included in the high-tech industry category. For instance, the office and computing equipment industry (Standard Industrial Classification 357) includes high-tech products, such as electronic computers and peripheral computing equipment. It also includes low-tech products, such as adding machines and coin counters. Conclusions based on such aggregate numbers may be misleading.<sup>3</sup>

These examples show that the need for more detailed data is a central feature of economic research. This need cuts across all applied fields of economics. The LRD is a longitudinal micro database that consists of individual establishment (plant) data and that provides a substantial source of detailed data.

2. Abbott (1988) shows that the use of aggregate industry price deflators leads to biased estimates of productivity growth and production functions estimated in first differences. Lichtenberg and Siegel (1987) found that failure to account for the diversified structure of a firm's production when applying price deflators has a substantial effect on estimates of the role of technical change in total factor productivity. Similar findings are also reported by Kokkelenberg and Nguyen (1987). Finally, in a recent theoretical paper, using examples from the Census Bureau's Survey of Plant Capacity and from earlier work performed under Center sponsorship, McGuckin and Zadrozny (1988) describe several econometric problems with existing work on capacity utilization, most of which employs aggregate data.

3. A comparison of trade balances derived from allocating aggregate industries to high-tech and low-tech categories with those derived by aggregating information on individual products separated into high-tech and low-tech categories showed substantial level and trend differences. See McGuckin and Monahan (1987) and Abbott, McGuckin, Herrick, and Norfolk.

## Other elements of data structure

Elements of data structure other than the level of aggregation are also important for determining the usefulness of a data set to researchers. Such elements are the aspects of the data used to classify individual records. Although it is unlikely that any list of categories of economic data would satisfy all researchers, it is possible to list typical categories that are required for most economic research. As might be anticipated from the title of this paper, we view time as one of the most important structural characteristics. Various cross-sectional aspects of data are also regularly desired in economic research. Although for some problems the plant may be the appropriate unit for analysis, the firm or enterprise affiliation of the plant is more important for other issues. The location, industry classification, and size of the plant are other important aspects of the data structure that are of particular interest to economic researchers. Each of these variables has been made a part of the basic key structure of the LRD. As the discussion proceeds, we will highlight these structural characteristics of the LRD, but we will also emphasize that the LRD has the flexibility to accommodate research requiring new key variables.

## Origins of the LRD

In the late 1970's, the Census Bureau agreed to develop a longitudinal database of individual establishments based on data collected in the CM and the ASM. The project was carried out under the direction of Richard and Nancy Ruggles of Yale University. Initial funding was provided by the National Science Foundation (NSF), the Small Business Administration, and the Census Bureau. The product of this effort was the Longitudinal Establishment Database (LED), which contains data for establishments for 1972 to 1981.

The Center was created to facilitate access to the LED file. Much of the Center's early efforts at database development were focused on a balanced panel of the LED file called the Time Series File. However, it soon became obvious that a balanced panel strategy was inappropriate. Exits due to plant closings continually reduced the number of plants in the file. Adding to the decline in the number of plants operating continuously were changes in the sample design used to collect data in noncensus years. Furthermore, analysis of the births of new plants and firms had extensive direct policy and research interest. In particular, many of the questions of interest to researchers required a focus on the firm, not simply on plants.

These factors led the Center to rethink its strategy in early 1987. All CM data for 1963, 1967, 1972, 1977, and 1982 and ASM data for 1973 to 1985 were grouped into a distributed database, which was termed the Longitudinal Research Database. The change of the database name from LED to LRD was made to emphasize the new database structure used for updating and extracting microdata; to focus attention on the primary use of the data—research and analysis; and to eliminate any confusion that may have existed, because the Time Series File and LED file had become synonymous in the minds of some people. The main consequence of this substantial undertaking is that it is now possible to generate extracts of the data using a variety of selection keys, such as geographic location, industry, size, firm, etc. Panels can be selected that meet the needs of the researcher and that are not constrained to certain years.

Consequently, this paper focuses on the LRD—an unbalanced panel from which various balanced and unbalanced time series may be obtained.

## Contents of the LRD

To determine if the LRD is a useful data source requires a clear understanding of what the LRD contains. The two principal components of the LRD—the CM and the ASM—are fundamentally different. We will discuss the CM first, and then we will contrast it with the ASM.

We want to alert the reader that our discussion concentrates on methodological issues that the researcher must be careful about when conducting research. Such a discussion has a tendency to emphasize problems with the data. As already noted, the LRD has been successfully employed in a wide range of studies. The results of these studies show that the LRD is a rich data source with great potential as a research tool.

### *The Census of Manufactures component*

The CM is an enumeration of all establishments whose primary activity is manufacturing, as classified by the Census Bureau according to the Standard Industrial Classification System (SIC). An establishment is defined as an economic unit, at a single location, where business is conducted or where services or industrial operations are performed. The basic unit of data collection is the establishment, and accordingly, one of the primary data keys in the LRD is the establishment.

Since 1954, the Census Bureau has obtained the mailing lists used for data collection from the Internal Revenue Service (IRS) and the Social Security Administration (SSA). For single-establishment companies, these lists are usually sufficient for data collection purposes. However, for multi-establishment companies, the Census Bureau must request additional information, in particular, the name and address of each of the company's establishments. (An interesting byproduct of this survey is a detailed description of the firm's legal form of ownership, which we will discuss later in this article.) The information from the Census Bureau survey of multiestablishment companies is combined with the information from the IRS and the SSA to form the Standard Statistical Establishment List, which forms the basis for both the CM and the ASM.

Although the CM is a complete enumeration of all manufacturing establishments, not all establishments actually report data to the Census Bureau. Some data items for some establishments are obtained from other Government agencies, and other data items for these establishments are estimated. After the 1963 CM, it was decided to reduce the reporting burden, particularly for small companies, by making greater use of the data in the records obtained from the IRS and the SSA. Beginning in 1967, some small companies were exempted from reporting their data to the Census Bureau. Instead, census-type statistics for these establishments were developed from IRS and SSA records. The information obtained from these records includes the firm's name and address, payroll, and gross business receipts. Other statistics for these small firms are estimated using industry averages in conjunction with this administrative information.

In 1972, approximately 120,000 small single-establishment manufacturing firms identified as having less than 10 employees were designated administrative record cases and were excused from filing reports. In 1977 and 1982, approximately 145,000 and 130,000 firms, respectively, were designated administrative record cases. (See Appendix A.) The impact of administrative record data on industry aggregates is slight; for manufacturing as a whole, administrative record cases accounted for only 1.2 percent of the value added in 1972, 1.7 percent in 1977, and 1.3 percent in 1982. However, these data may be important in particular industries and for certain research topics.

The information on sales and payrolls obtained from the IRS and the SSA appears to be of high quality. Moreover, the estimation techniques for the unobserved variables work well for aggregate data. However, the methods used to estimate values for the unobserved variables in these administrative record cases may produce less useful data for microeconomic projects. Researchers must determine if the Census Bureau estimation method or some alternative is more appropriate for their projects.<sup>4</sup>

The treatment of the data collected from the approximately 220,000 remaining establishments reflects the demands of primary Census Bureau users and the budget constraints. The Census Bureau's primary objective for both the CM and ASM is to publish useful and accurate current year aggregates. Consequently, the data are evaluated and edited with the accuracy of the aggregate statistics in mind. Little consideration is given to the time series or microaspects of the data. In designing sampling plans and other collection procedures, the time and expense required to edit the data for an individual establishment is weighed against the probable effect that data for that particular establishment will have on the aggregates. The result is that, during editing, data for larger establishments receive more careful evaluating and editing than the data for smaller establishments.

### *The Annual Survey of Manufactures component*

There are two major differences between the CM and the ASM: In the ASM, the number of establishments is smaller, and fewer data items are collected.

The ASM is a *sample* of establishments drawn from the universe of establishments in the CM. The sample is selected during the year following each census and is used for data collection for 5 years. After 5 years, a new sample is drawn from the most recent CM.

The LRD contains data from the annual surveys for 1973 to 1985. These data were collected from four separate ASM panels—the survey samples drawn originally in 1969, 1974, 1979, and 1984. Although there is substantial overlap in the establishments present in each ASM sample, the correspondence is not perfect. Details of the sampling plan are therefore important in evaluating the possibilities of using a continuous panel of establishments. Moreover, since the sampling methodology for the ASM has changed over time and since these changes have a significant effect on the time series that can be derived from the LRD, we describe them in some detail.

For the panels selected for 1969 and 1974, an establishment's size, industry, and company affiliation determined

4. To this end, the Center is developing software that will enable a researcher to select alternative estimation strategies.

the probability of selection. If an establishment of a multi-establishment company was included in the sample, *all* of the company's establishments were also required to report their data, regardless of size. Thus, all firms in the ASM sample for these years were complete in the sense that all their manufacturing establishments were included.

The probability of selection for a company is related to the size of its establishments.<sup>5</sup> All companies with a manufacturing establishment with 250 employees or more were selected. These large companies account for more than two-thirds of total manufacturing employment in each of the censuses conducted from 1963 forward. Companies with smaller establishments were assigned probabilities proportional to their size.

In 1979, under severe budget pressure, the Census Bureau adopted a new procedure for sample selection. The main change was that the probability of selection for any establishment was now solely a function of the size of the establishment itself. Company affiliation played no part in the sample design. All establishments with 250 employees or more in the 1977 Census of Manufactures were included in the 1979 sample panel. Smaller establishments were still sampled with probabilities proportional to their size, but the plants of multiestablishment companies were not included in the sample automatically if one of the company's other plants was chosen.

The 1979 panel captures about 91 percent of the total manufacturing activity (measured by total value of shipments) captured by the previous panel, but the number of sampled individual establishments was reduced significantly—from about 75,000 to about 55,000. The major effect of the change was that many small establishments of multiestablishment companies were excluded from the ASM sample. In turn, the number of companies for which complete data were collected was also substantially reduced. Approximately 5,000 companies, roughly half of the total number of companies in the ASM for which complete data would have been available under the old sampling design, reported for only a portion of their establishments under the 1979 sampling methodology. Consequently, any time series research that requires complete information on the activities of a company will have substantially fewer observations after 1979.

To compensate for the loss of information that resulted from the 1979 change, the 1984 ASM panel now includes all establishments of companies with value of shipments of \$500 million or more in 1982. As before, establishments with 250 employees or more are always included in the sample, regardless of company size, and smaller establishments are selected with probabilities that are proportional to their size.

It is important to note that the sampling design has implications for analysis conducted on the basis of categorizations of the data other than at the national level. Consider, for example, the establishment location information in the LRD. The location of each establishment is coded by state, standard metropolitan statistical area, county, and place. A sample based on these codes permits analysis below the national level. However, the selection probabilities for the ASM sample make such analysis subject to potential error.

5. In this section, we focus on the size of the reporting unit in determining its probability of selection. In practice, the sampling design is more complex, including factors such as the existence of the unit in the previous panel and industry affiliation. In the past, location may also have been included in the sample design. It is not currently a criterion variable.

Each ASM sample provides sufficient sample points to develop estimates for national totals. But since location is not a criterion used in determining the selection probability for a particular establishment, totals derived from aggregating the microdata may not be appropriate for subnational levels of aggregation. For example, developing county or State totals in ASM years requires reweighting the data. Similarly, irrespective of the aggregations involved, the use of data from survey years requires careful consideration of the sample selection process before estimating microeconomic models. As part of the Center's software development, we plan to provide data users with methods to account for such selection biases.

#### *Summary of CM and ASM coverage*

The LRD contains data for all large establishments for every year from 1972 to 1985. These data are likely to be of high quality due to the attention they receive during collection and editing. The data for smaller establishments are less reliable, because they receive less attention during editing. However, the sales and payroll data for the administrative record establishments are not subject to substantial response error.

The ASM samples are less likely to contain small establishments because of policies to reduce reporting burdens and costs. Moreover, the composition of the sample of smaller establishments changes every 5 years. Establishments with 250 employees or more remain in the ASM panels over time. Even though the available time series of firms is less after 1979 than before, there are still over 6,000 complete multiunit companies available for annual analysis, and there are substantially more available than that for census years. Taken together, these sampling procedures imply that time series over many years will contain primarily large establishments. Finally, although the sampling procedures limit the size of continuous panels available for research, several current projects are utilizing continuous panels of over 20,000 establishments.

#### *Data items in the CM and ASM*

From every manufacturing establishment with one employee or more, the CM collects data on the establishment's inputs of labor, materials, and capital; its output of products and services; its location; and the legal form of organization of the owning firm. Associated with each establishment record is a permanent identification number and location. Both of these items stay with the establishment from its birth until it shuts down. In addition, each plant is linked to a parent firm, and detailed status codes allow one to trace ownership changes over time.

These establishment-firm codes were used to identify mergers among the largest firms in each four-digit industry for the study of conglomerate mergers by McGuckin and Andrews (1987). The same codes were used for the Lichtenberg and Siegel (1987) study of ownership changes in continuously operated plants. Lichtenberg and Siegel examined the relationship between total factor productivity growth and ownership changes using the time series panel. The McGuckin-Andrews work examined the performance of acquired lines of business in the period following their acquisition by a firm not previously operating in the same industry. This study used census year data and includes analysis of closed and opened plants. The Lichtenberg and Siegel work

used yearly observations on continuously operated plants derived from the CM and the ASM.

The ASM collects the same basic measures of economic activity as the CM, and, in addition, the ASM collects detailed information on assets, capital expenditures, rental payments, supplemental labor costs, retirements and depreciation (after 1976), and in selected years, the cost of purchased services. In survey years, however, less detailed information on materials consumption and the plant's product outputs is collected. Data on individual materials consumption are not requested in survey years. Additionally, in survey years, the value of products shipped is recorded only in terms of approximately 1,500 product classes, instead of the roughly 11,000 individual products used in census years.

A detailed description of the individual data items can be found in the *LED Technical Documentation* (1987). A brief list of the data items gives one a good idea of the breadth of coverage. On the input side, the LRD contains the following: Total employment, number of production workers, production worker hours, salaries and wages, supplemental labor costs, cost of materials, inventory stocks for finished products, work-in-process and materials, capital expenditures, rental payments, capital stocks of buildings and equipment, depreciation, retirements, and rents and repairs. Appendix B provides the complete list.

The output data include the value of shipments reported for each seven-digit product in CM years and for each five-digit product class in ASM years. Related information—such as value added, miscellaneous receipts, value of re-sales, and receipts for contract work—are also available for each establishment.

There are two important points to keep in mind when designing research projects with the LRD. First, the reporting unit for data collection is the establishment. The various inputs used by the establishment are not allocated to the specific products produced by the establishment. In most applications and for most Census Bureau published tabulations, a plant is classified by the industry that accounts for the plant's largest output. As noted, detailed information on the value of shipments and physical output of products, at the seven-digit level in census years and at the five-digit level in survey years, is available for each plant. The other variables are reported at the level of the entire establishment.

Second, price data, in the form of unit values, are only collected in census years.<sup>6</sup> The units (quantity) are not always well defined. For example, the seven-digit level of detail does not distinguish between a \$200, 10-speed bicycle and a \$1,000 racing bicycle. The absence of even this information outside of census years means that price series needed, for example, for deflation in production function estimation must be obtained from non-Census Bureau sources for annual time series analysis.

This problem was recognized early on by researchers studying total factor productivity. Fortunately, the Bureau of Industrial Economics (BIE) at the U.S. Department of Commerce published an SIC-based price series based on Bureau of Labor Statistics (BLS) data. This series has been used by several researchers working with the continuous panel.<sup>7</sup>

We want to make one final point with regard to the price data available in census years: These unit value figures are obtained by dividing total product (or establishment) value of shipments by the quantity produced. They represent an average value for all the outputs of the establishment or product class. They may represent the combined outputs of the plant better than the BLS prices, which are based on probability samples of products. There has been little research on the relative usefulness of these alternative measures. We explicitly raise this point, because there appears to be a tendency to deemphasize unit value collection as a way to meet budget reductions, which may be very shortsighted, since it is not clear that BLS price indexes are appropriate in all cases.<sup>8</sup>

Although there have been a number of specific research projects using the LRD, an NSF-sponsored Resources for the Future study is developing a complete data set for research into productivity issues. Phase I of the study established the feasibility of producing a balanced panel containing detailed output, price, and input data. Preliminary analysis of the information developed for selected industries was reported at the American Economic Association annual meeting in 1987. The goal of phase II of this work is to develop a full-scale data set incorporating the methodological lessons learned in phase I. Unfortunately, budget cuts will probably prevent the completion of phase II.

#### *Related data files*

The tendency for data availability to influence the development and testing of economic models is evident in many of the research projects undertaken at the Center and described previously. To most users, the data development efforts associated with the Center's research agenda are perhaps more interesting. In this section, we highlight several projects involving extensions of the LRD that have been driven by the requirements of particular research projects. Each of these extensions involved linking the LRD to another database. Some of these efforts, like the use of BIE price index data discussed previously, involved outside databases. Other examples involved specialized Census Bureau surveys.

In an extension of their 1987 paper, McGuckin and Andrews (1988) are linking stock market premium data and other financial statistics for a small sample of companies to LRD-based performance measures for acquired lines of business (market share, profits, and productivity). This effort is an attempt to reconcile the disparate findings regarding the gains to takeovers found in the literature. Financial market studies show substantial gains that are not observed in accounting studies.<sup>9</sup>

One future project, which could have big payoffs, would be the development of an association between Census Bureau identification numbers and numbers used to identify companies in public financial databases. Such a step would improve research possibilities at the Center. Currently, the linking of company-level data to LRD companies in the McGuckin-Andrews study is being made by name matches. A similar procedure has been used to match companies reporting R&D data in the NSF-sponsored R&D survey to

6. *Current Industrial Reports* data are not linked to the LRD. These reports contain yearly and sometimes monthly unit value data for many detailed SIC classifications. The Center hopes eventually to link these data to the LRD.

7. See Lichtenberg and Siegel (1988) and Hazilla and Kopp (1986).

8. A recent paper by Lichtenberg and Griliches (1986) discusses these differences.

9. See, for example, the paper by Ravenscraft and Scherer (1987), which uses accounting data, and the ones by McGuckin, Warren-Boulton, and Waldstein (1988) and Guerin-Calvert, McGuckin, and Warren-Boulton (1987), both of which report premiums based on financial market data.

companies in the LRD. This latter procedure has resulted in several published papers about large firms.<sup>10</sup> Currently, with supplemental NSF support, the R&D and LRD linking is being extended to small firms. Completion of this work will mean that the entire R&D survey data will be linked to the LRD.

Supplementing the LRD by including the operations of firms outside manufacturing would be useful in research.<sup>11</sup> Restricting analysis of a firm to its manufacturing activities is unnecessarily limiting.

There are several areas in which the Center is working to expand the LRD's compatibility with existing Census Bureau data. One major area is foreign trade; the increasingly global nature of the economy has made it necessary to merge foreign trade data with domestic statistics. Because the foreign trade data are collected on a product basis, it is sometimes difficult to reconcile these data with LRD data collected under the SIC system. The Center is currently heading up a task force at the Census Bureau that is examining the feasibility of producing trade-adjusted concentration and market penetration statistics for detailed product classes (five- and seven-digit). The project includes CM, ASM, and *Current Industrial Reports* data. If the product codes and firm identifiers can be successfully linked, then these data can also be linked to the LRD. One of the first studies will examine the impact of foreign imports on domestic markets. In turn, research involving the linked data should help refine edit procedures and provide for adjustments in collection procedures when necessary.

Finally, a major long-term interest of the Center is the exploitation of individual data collected through the population censuses and surveys. The Center has at least one project that will make use of both LRD and demographic information.<sup>12</sup> The Center also has recently become the repository for the relatively new Survey of Characteristics of Business Owners (CBO). This survey was first conducted in 1982, and there is hope that a new panel can be developed for 1987. It is the only Census Bureau survey that directly links the characteristics of business owners with the characteristics of the businesses they operate. This data will greatly expand our ability to examine the nature and characteristics of entrepreneurs.

### Accessing the Data

Establishment data are collected by the Census Bureau under the authority of Title 13 of the United States Code. To protect confidentiality, Title 13 and the disclosure rules and regulations of the Census Bureau prohibit the release of information that could be used to identify or closely approximate the data for an individual establishment or enterprise. In practice, the Census Bureau considers disclosure protection a binding constraint, but it provides as much public information as possible within this constraint. Although the Census Bureau has well-defined procedures for evaluating and releasing aggregate data and tabulations, it does not have similar procedures for evaluating and releasing

microdata files. As a result, only a limited number of outside researchers working at the Census Bureau as special sworn employees (such as NSF and Census Bureau research fellows and associates) have access to the LRD.<sup>13</sup>

The practical considerations that make it impossible to accommodate all demands for microdata by allowing outside researchers to work at the Census Bureau have led to considerable interest in the development of public use data files. The major structural characteristics of a public use data file would be similar to those of the original data file so that the important economic relationships among variables in the file would be maintained. Ideally, the public use data file would preserve the economic relationships with sufficient precision so that elasticities and other parameters of interest could be directly obtained without any need for processing by the Center.<sup>14</sup>

In line with the public use data concept, the provision of researchers with a mock file that they could use to debug programs written in Service Annual Survey or other standard packages for execution by the Center would be a way to increase the access to the LRD. For projects involving the new and relatively clean CBO database, we hope to be able to provide complete processing without the researcher having to obtain special employee status. For LRD projects, until we have developed better software for editing the data and have had more experience with it, most researchers will still need to visit the Center to examine the data.<sup>15</sup> Nonetheless, with the use of programs debugged outside the Center, the necessary time required at the Center would be reduced. This means that research costs would be reduced and the Center could accommodate more LRD users.

### Concluding Comment

We began our discussion by emphasizing the need for detailed microdata in resolving important issues in economic research and policy. In closing, we note that the limit on detail in the LRD is imposed by the establishment collection unit. However, within this limit, available computer technology makes it possible to classify and aggregate the data in a variety of dimensions. No longer does data collection and dissemination need to be tied to only one system. In contrast to the past, when tabulations of the data have been restricted to SIC classifications and to particular localities, the use of the data can be the determining factor in classification.

This principle has been described recently in work conducted at the Center involving the SIC system.<sup>16</sup> After recounting numerous complaints and shortcomings that have been voiced about the SIC system, Abbott and Andrews (1988) examined how well it classifies the data under alternative conceptual frameworks that have been proposed as a basis for the SIC system (markets, production compatibil-

10. Lichtenberg (1987) and Guerard, Bean, and Andrews (1987).

11. This could be accomplished in part by linking LRD companies to publicly available financial data. A better procedure, which the Center hopes to undertake, would be the development of longitudinal panels for census programs conducted outside manufacturing. Such a program is already under way for the agriculture census.

12. See Davis and Haltiwanger (1987).

13. The Center has begun to create public use microdata files. However, precise criteria for evaluating disclosure risk in economic microdata like those found in the LRD are not yet available. Masked microdata files of demographic data have been released by the Census Bureau. These files contain samples of 100,000 individuals or more. The skewed size distribution and the relatively small number of establishments in the LRD make the development of useful, disclosure free, public use files difficult.

14. See McGuckin and Nguyen (1988) for an extended discussion and several proposals.

15. In some cases, for projects involving data tabulations, arrangements can be made for the Center staff to undertake the data work directly.

16. See Abbott and Andrews (1988).

ity, etc.). They find that the current system is a compromise that satisfies no particular objective. Extensions of the research to show (through the use of cluster algorithms) how the LRD data would look under various classification criteria are currently under way. But the real message that we draw from their work is that the data are sufficiently detailed and rich to support many classifications developed from objectively determined criteria. One such criterion is the grouping of producers based on the closeness of their production technologies, as judged by input proportions.<sup>17</sup> There are other possibilities. Regardless of the desired categorizations of the data, the Center is attempting to build into the LRD software the flexibility to organize the raw observations according to research needs.

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17. This type of procedure was used by Gollop and Monahan (1986) in constructing an index of diversification. They measured the closeness of products by the technologies of pure producers.

### Appendix A.—Number of Establishments in the LRD for Each Year

Year	Number of establishments	Number of administrative record cases
1963	305,477	(1)
1967	305,611	118,622
1972	312,398	122,158
1973	73,460	(2)
1974	68,262	(2)
1975	71,145	(2)
1976	70,346	(2)
1977	350,648	144,648
1978	73,853	(2)
1979	57,559	(2)
1980	55,953	(2)
1981	55,045	(2)
1982	348,384	128,307
1983	51,619	(2)
1984	56,551	(2)
1985	55,128	(2)

1. There were no administrative record cases in 1963.
2. There are no administrative record cases in the ASM.

### Appendix B.—Variables in the LRD

Symbol	Variable	Availability <sup>1</sup>
ppn	permanent plant number	
id	identification	
ind	tabulated industry code	
ppc	primary product class	
pisr	primary product specialization ratio	
ppsr	primary product specialization ratio	
i13	status of establishment	
tv	total value of shipments	
ei	employer identification number	
dind	derived industry code	
et	establishment type (0=ASM)	C
ar	administrative record (1=AR)	C
cc	coverage code	
sc	source code	
lfo	legal form of organization	C
st	state code	
smsa	standard metropolitan statistical area code	
cou	county code	
plac	place code	
va	value added	
vr	value of resales	
rcw	receipts for contract work	
msc	miscellaneous receipts	
te	total employment	
pw1	production workers: March	
pw2	production workers: May	
pw3	production workers: August	
pw4	production workers: November	
pw	production workers (average)	

### Appendix B.—Variables in the LRD—Continued

Symbol	Variable	Availability <sup>1</sup>
ph1	employee hours: January–March	
ph2	employee hours: April–June	
ph3	employee hours: July–September	
ph4	employee hours: October–December	
ph	total employee hours	
sw	total salaries and wages	
ww	wages: production workers	
ow	wages: other employees	
lc	total supplemental labor costs	
le	legally required supplemental labor costs	
vlc	voluntary supplemental labor costs	
cp	cost of materials, parts, etc.	
cr	cost of resales	
cf	cost of fuels	
ee	cost of purchased electricity	
pe	quantity purchased electricity	
cw	cost of contract work	
cpc	cost of purchased communications	A; 1977 & 1982
fib	b.o.y. inventory: finished goods	
wib	work-in-progress	
mib	materials	
fie	e.o.y. inventory: finished goods	
wie	work-in-progress	
mie	materials	
tib	b.o.y. inventory: total	
tie	e.o.y. inventory: total	
nb	new building expenditures	
nm	new machinery expenditures	
ue	used capital expenditures	
bab	building assets—b.o.y.	A; after 1973
mab	machinery assets—b.o.y.	A; after 1973
bae	building assets—e.o.y.	A
mae	machinery assets—e.o.y.	A
br	building rents	A
mr	machinery rents	A
bd	building depreciation	A; after 1976
md	machinery depreciation	A; after 1976
brt	building retirements	A; after 1976
mrt	machinery retirements	A; after 1976
rbs	building repair	A; 1977 & 1982
rm	machinery repair	A; 1977 & 1982
m	material code	C
nqpc	quantity produced and consumed	C
mqdc	quantity received and consumed	C
mc	delivered cost	C
pi	product code	
pqp	product quantity produced	C
pqs	product quantity shipped	C
pv	product value shipped	
pqit	quantity of interplant transfers	C
pvit	value of interplant transfers	C
pqpc	quantity produced and consumed	C

b.o.y. beginning of year  
e.o.y. end of year

1. The variable is available for all years and all establishments except as noted: A, collected for ASM establishments only; and C, collected in census years only.

# A New Measure of the Cost of Compensation Components

By G. Donald Wood

**T**HIS paper describes and evaluates a new measure of employer costs—that is, cents per hour measures—for the components of employee compensation. The new measure is estimated from data collected for the Employment Cost Index (ECI), which has provided, since 1980, index numbers of the change in compensation costs. It was decided to use ECI data to prepare cost-level estimates, since these estimates could be generated from the ECI without increasing in any way the reporting burden on establishments and at only a fraction of the cost of a separate survey.

The first cost-level estimates, for March 1987, were published in the October 1987 *Monthly Labor Review* and are presented in tables 1–5 (Nathan 1987). Beginning this year, cost estimates with a March reference date will be published annually by the Bureau of Labor Statistics in a news release issued in June.

Data collected for one purpose are rarely ideal for other purposes, and cost-level estimates from the ECI are no exception. However, evidence presented in this paper indicates that these estimates are very reliable.

## Summary of Results

In March 1987, compensation for all private industry workers averaged \$13.42 per hour worked. Wages were \$9.83, or 73.2 percent of total compensation. Benefit costs were \$3.60, or 26.8 percent of total compensation. The largest component of benefits was legally required benefits, which was dominated by social security costs and which accounted for 32 percent of benefit costs. Other major components of benefits are paid leave (26 percent), insurance (20 percent), retirement benefits (13 percent), and supplemental pay (9 percent).

There is considerable variation in levels of compensation and proportions of benefits to compensation among the broad industrial and occupational groups for which estimates are available. White-collar workers received \$15.56 an hour, which is 16 percent more than the \$13.43 received by blue-collar workers. The highest paid white-collar occupational group is composed of executive, administrative, and managerial workers who received \$23.81 per hour worked, which is 3.7 times the pay of workers in the lowest paid occupational group—service workers—who received \$6.43 per hour.

Workers in the goods-producing sector received \$15.86 an hour, which is 28 percent more than the \$12.41 received by workers in the service-producing sector. Workers in the highest paid industry—transportation and public utilities—received \$20.24 an hour, which is 2.6 times the pay of workers in the lowest paid industry—retail trade—who received \$7.85 an hour.

NOTE.—G. Donald Wood is Chief of the Division of Employment Cost Trends, Bureau of Labor Statistics, U.S. Department of Labor.

The proportion of total compensation that is accounted for by wages decreases as the level of compensation by industry increases. Wages and salaries as a proportion of total compensation ranged from 77.3 percent for retail trade to 68 percent for transportation and public utilities. This inverse relationship between the level of compensation and the proportion accounted for by wages should be expected. Most benefits have a high income elasticity of demand, and social security has become less regressive, because the 1987 earnings ceiling of \$45,000 is well above most annual wage and salary incomes.

However, for any level of compensation, blue-collar workers tend to have a lower proportion of total compensation accounted for by wages than do white-collar workers, even though blue-collar workers earn less. Wages and salaries for white-collar workers average \$11.61, and wages and salaries for blue-collar workers average \$9.38. Benefit costs for blue-collar workers of \$4.05, however, are slightly higher than the benefit costs of \$3.95 for white-collar workers.

Even when blue-collar and white-collar worker groups are considered separately, the expected inverse relationship between the level of compensation and the proportion of compensation accounted for by wages and salaries does not appear. Wages account for 70.6 percent of total compensation

Table 1.—Employer Cost for Employee Compensation for Private Industry and Major Occupational Categories

[Per hour worked and relative errors <sup>1</sup>]

Compensation components	Private industry workers		White-collar workers		Blue-collar workers		Service workers	
	Cost	Relative error	Cost	Relative error	Cost	Relative error	Cost	Relative error
Total compensation.....	\$13.42	1.1	\$15.56	1.6	\$13.43	1.3	\$6.43	1.6
Wages and salaries.....	9.83	1.2	11.61	1.8	9.38	1.1	4.96	1.6
Percent of total compensation.....	73.2		74.6		69.8		77.2	
Total benefits.....	3.60	1.1	3.95	1.4	4.05	1.9	1.47	2.4
Paid leave.....	.98	1.5	1.20	1.9	.82	2.0	.30	3.9
Vacation.....	.46	1.8	.58	2.5	.43	2.4	.15	3.4
Holidays.....	.31	1.3	.39	1.8	.30	2.1	.09	3.8
Sick.....	.12	2.5	.17	2.4	.06	3.3	.04	9.8
Other.....	.03	5.1	.05	4.4	.03	11.3	.02	15.7
Supplemental pay.....	.32	2.6	.28	4.7	.47	3.5	.08	6.4
Premium pay.....	.16	3.1	.08	4.1	.34	3.8	.04	9.7
Nonproduction bonuses.....	.12	6.1	.18	7.4	.07	8.3	.02	14.1
Shift pay.....	.04	4.6	.03	7.4	.06	5.5	.02	9.4
Insurance.....	.72	1.3	.77	1.6	.87	2.5	.27	5.7
Pensions and savings.....	.48	2.2	.57	2.8	.50	4.0	.12	8.4
Pensions.....	.42	2.3	.48	3.3	.47	4.2	.11	7.9
Savings and thrift.....	.06	5.6	.10	4.9	.03	6.7	(?)	(?)
Legally required.....	1.13	.9	1.12	1.1	1.37	1.6	.69	1.8
Social security.....	.75	.8	.85	1.1	.75	1.2	.39	1.7
Federal unemployment.....	.03	.9	.03	1.5	.03	.9	.03	1.4
State unemployment.....	.12	1.8	.11	2.1	.15	2.6	.10	4.2
Worker's compensation.....	.21	2.4	.11	3.3	.39	3.2	.16	3.8
Other benefits <sup>2</sup> .....	.02	6.8	.02	7.7	.08	8.9	(?)	(?)

1. The relative error is the standard error expressed as a percent of the cost. We can be 95-percent confident that the interval around the cost estimate bounded by two times plus and minus the relative error contains the "true" costs. In the case of total compensation for all private industry workers (the upper left-hand cell of the table) for example, this interval is \$13.12 to \$13.72.

2. Cost is \$0.01 or less.

3. Includes severance pay, supplemental unemployment benefits, and merchandise discounts in department stores.

Table 2.—Employer Cost for Employee Compensation for Selected Major White-Collar Groups

[Per hour worked and relative errors<sup>1</sup>]

Compensation components	Professional specialty, technical		Executive, administrative, managerial		Administrative support, including clerical	
	Cost	Relative error	Cost	Relative error	Cost	Relative error
Total compensation.....	\$19.81	2.5	\$23.81	2.7	\$10.94	1.5
Wages and salaries.....	14.66	2.5	17.86	3.0	7.91	1.4
Percent of total compensation.....	74.0		75.0		72.3	
Total benefits.....	5.15	2.7	5.95	2.4	3.04	1.9
Paid leave.....	1.66	3.6	1.99	2.8	.85	2.8
Supplemental pay.....	.32	6.1	.54	10.5	.20	3.9
Insurance.....	.92	3.1	.98	2.8	.72	2.0
Pensions and savings.....	.85	6.1	.88	4.5	.42	4.2
Legally required.....	1.40	2.0	1.55	1.4	.85	1.4
Other benefits <sup>2</sup> .....	( <sup>3</sup> )	( <sup>3</sup> )	.02	11.8	( <sup>3</sup> )	( <sup>3</sup> )

1. The relative error is the standard error expressed as a percent of the cost. We can be 95-percent confident that the interval around the cost estimate bounded by two times plus and minus the relative error contains the "true" costs.

2. Includes severance pay, supplemental unemployment benefits, and merchandise discounts in department stores.

3. Cost is \$0.01 or less.

for the lowest paid blue-collar group—laborers—and 70.8 percent for the highest paid blue-collar group—precision workers. Wages account for 72.3 percent for the lowest paid white-collar group—clerical workers—and 75 percent for the highest paid white-collar group—executive, administrative, and managerial workers.

There are a number of other relationships to be found among the data in the tables; some of these are expected, and some are perplexing. But the purpose of this paper is not to analyze the data; instead, it is to provide information to aid potential users in properly interpreting and analyzing these new data from the ECI program.

### ECI Survey Design

The 1987 cost-level estimates were based on data collected from about 3,200 establishments in the price nonfarm sector of the economy. The establishments were selected with probability proportional to employment from the Bureau of Labor Statistics (BLS) Unemployment Insurance (UI) File. The file lists every establishment with one employee or more covered by State unemployment insurance. About 98 percent of all private industry workers are employed by establishments listed in the file.

The ECI sample is replaced on a 4-year cycle, with about one-fourth of the establishments replaced each year. Replacement is by industry or by groups of industries. Each selected establishment is visited by a BLS economist from one of the eight regional offices. The first task, after explaining the survey and securing the cooperation of the establishment, is to select the jobs for which wage and benefit data are to be collected.

Four, six, or eight narrowly defined jobs are selected with probability proportional to the number of workers employed in each job. The number of jobs selected depends on the size of the establishment, but, on average, about five jobs are selected for each establishment. For these jobs, initial wage and benefit data are collected and then updated each quarter. The March 1987 estimates are based on about 16,000 jobs selected in 3,200 establishments.<sup>1</sup>

Job selection is crucial to the index. It plays the same role in the ECI that item specification plays in the Consumer

Table 3.—Employer Cost for Employee Compensation for Major Blue-Collar Groups

[Per hour worked and relative errors<sup>1</sup>]

Compensation components	Precision production, craft, repair		Machine operators, assemblers, inspectors		Transportation, material moving		Handlers, equipment cleaners, helpers, laborers	
	Cost	Relative error	Cost	Relative error	Cost	Relative error	Cost	Relative error
Total compensation.....	\$16.85	1.8	\$12.44	1.8	\$13.83	2.4	\$9.81	3.0
Wages and salaries.....	11.92	1.6	8.44	1.6	9.65	2.2	6.93	2.7
Percent of total compensation.....	70.8		67.9		69.8		70.6	
Total benefits.....	4.98	2.5	4.00	2.5	4.17	3.2	2.89	4.0
Paid leave.....	.98	2.3	.39	3.0	.55	5.1	.51	5.2
Supplemental pay.....	.57	4.4	.55	5.2	.39	6.9	.29	6.8
Insurance.....	.99	3.6	.98	3.4	.84	4.2	.63	5.4
Pensions and savings.....	.69	6.1	.42	4.9	.50	7.3	.36	8.5
Legally required.....	1.67	2.3	1.17	1.9	1.58	3.4	1.08	3.1
Other benefits <sup>2</sup> .....	.04	13.4	.04	9.8	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )

1. The relative error is the standard error expressed as a percent of the cost. We can be 95-percent confident that the interval around the cost estimate bounded by two times plus and minus the relative error contains the "true" costs.

2. Includes severance pay, supplemental unemployment benefits, and merchandise discounts in department stores.

3. Cost is \$0.01 or less.

Price Index. Each job selected in an establishment must be defined narrowly enough that its incumbents carry out the same tasks at roughly the same skill level. If the selected jobs are not narrowly and clearly defined, then the changes in cost over time might reflect, not the change in the cost to the employer of having specific tasks performed, but rather the collection of cost for a higher or lower skilled group of workers.

Once the jobs are selected, BLS economists collect the information necessary to compute the employer's cost, by kind of benefit, and change in cost when it occurs. Before describing the data collected, it is necessary to discuss the concept of cost used in the ECI.

### ECI Costs

In estimating the cost of the compensation package (wages, salaries, and the employer's cost of employee benefits), the ECI measures the cost per hour worked as a rate at a point in time—the time of data collection. The rate is what the cost per hour worked would be if the wage or salary, the benefit package, and the employer's cost of each benefit were unchanged for a long enough time period for the employee to receive all benefits and for the employer to make all payments for benefits provided.

Such a concept of a rate at a point in time is necessary for the ECI, which attempts to measure change in labor cost in a timely fashion. The concept makes it easy to identify when a change occurs and to compute the cost of the change. A change in labor cost occurs when the wage or salary changes, when the benefits provided change, or when the cost of providing benefits with the same provisions changes.

1. The occupation selection method described in the text has only recently been implemented, and much of the existing sample has been selected using earlier designs. The sample designs have been changed a number of times, as experience has led the way to new and improved designs. The change in the sample design does not affect the interpretation of the cost-level estimates. For a discussion of the changing occupation sample design and other statistical features of the ECI, see Schindler (1988).

A simple example will illustrate the difference between the ECI rate of cost at the time of collection and the actual expenditures over an interval. Suppose that, for the selected occupation, the wage rate is \$10.00 per hour, the work schedule is 52 weeks a year, the workweek is 40 hours, and the only benefit is 2 weeks, or 80 hours, paid vacation per year.

The wage cost is \$10.00 per hour worked. Leave is also paid at \$10.00 an hour. The cost of leave is \$800 (80 hours  $\times$  \$10.00) per year. Of the 2,080 scheduled hours, 2,000 are worked per year. Then the cost of leave per hour worked is \$800 divided by 2,000 or \$0.40. The total cost per hour worked is the wage plus the cost of leave or \$10.40.

If the wage rate rises to \$11.00 on July 1 with no change in the vacation plan, then the cost of paid leave will rise by the same percent, 10 percent, as wages to \$0.44, and the total cost per hour worked will rise to \$11.44.

The \$10.40 used for the ECI in the first half of the year and the \$11.44 used in the second half will not equal the actual expenditures per hour worked for incumbents in the job over, for example, a year. The cost per hour worked at a point in time would equal the actual expenditures per hour worked over a year only if the wage remains unchanged over the entire year and if the number of paid vacation days granted per year remains unchanged.

### Data Collected

The wide range of wage and benefit practices precludes a thorough discussion of what is collected or of how costs are calculated for every possible situation for every benefit (Nathan 1987). Instead, a few examples will be given, which should be sufficient to provide the user with the information required to properly use the estimates.

#### Hours worked

Hours worked are also considered as a rate at the time of collection and not as actual hours worked over any calendar time period. They are the number of hours that would be worked if conditions at the time of collection were to remain unchanged for a long enough period for the entire schedule to be worked—usually a year.

Scheduled hours per day and per week and scheduled weeks per year are collected. They are used to determine scheduled annual hours and the number of hours not worked. Hours paid but not worked—based on the vacation, holiday, sick leave, and other leave plans at the time of collection—are deducted from scheduled annual hours; scheduled hours not worked and not paid are also deducted. Overtime hours are added to scheduled work hours.

#### Wages and salaries

For ECI purposes, wages and salaries exclude shift differentials, premium pay, and nonproduction bonuses. All costs for these items are included in benefit cost, not in wages and salaries. In addition to straight time pay, wages and salaries include a number of add-ons—such as incentive pay, sales commissions, hazard pay, on call pay, deadhead pay, and cost-of-living allowances, which are not paid as part of the straight time rate.

*Wages.*—If all workers receive the same hourly wage rate, then the wage rate is collected and used. If different incum-

bents within the same job receive different wage rates—for example, because of length-of-service premiums or differences in commissions earnings—then the average wage is used.

The use of the average wage highlights the importance of the definition of the job selected for the index. If differences in wages among workers in a selected job reflect differences in duties or skill levels, then a change in the mix of duties or skill levels would introduce error in the index.

*Salaries.*—Salaries are labor payments that are not quoted on an hourly basis. In most cases, there is a work schedule for salaried employees. When this is true, the salary is divided by scheduled hours to obtain a salary cost per hour worked. Scheduled hours, not hours worked, are used to compute salary per hour worked, because the salary includes pay both for hours worked and for hours not worked but paid.

When the salary is not related to a work schedule—for example, for executives, teachers, sales workers, truckdrivers, and airline flight crews—the field economists try to get the respondent to supply a reasonable estimate of the employee's work schedule or hours paid. If this is not possible, the predominant work schedule for similar occupations in the establishment is used.

#### Benefit costs

If all incumbents receive the same benefit, then data collection and calculation of benefit cost are fairly straightforward. In the previous example in which all employees received 2 weeks paid vacation a year, the hours of vacation are multiplied by the wage rate and divided by hours worked, yielding vacation benefit as cents per hour. Other plans would be treated similarly. For example, if all employees received the same basic health plan, then only the price of the plan is collected. The price is divided by the number of hours worked per employee to obtain cents per hour worked.

*Usage.*—Frequently, employees doing the same job do not all receive the same benefits. For example, the amount of paid vacation received may depend on the employee's length of service—1 week the first year, 2 weeks the second through the fifth year, and so on. In these cases, it is necessary to determine how much of each benefit is received by each employee, and the result is termed the "usage" of the benefit.

Determining usage greatly increases the collection burden and the complexity of evaluating the cost. In the previous example, the length of service of each incumbent in the job is collected. The length-of-service distribution and the benefit plan determine how much vacation each employee receives. Average hours of vacation per year is then calculated. The average number of hours is multiplied by the wage rate, and the product is divided by hours worked to get vacation costs per hour worked.

If no vacation is given until the employee has worked for a minimum period of time, then those employees that fail to meet the eligibility requirements are included with no benefit. This procedure is used for any benefit with an eligibility requirement.

Another usage issue arises in measuring health insurance. Suppose the employer pays the total cost for a health insurance plan in which married employees receive a family plan and single employees receive a self-only plan. The

proportion of employees that receive each type of plan is collected. The price of each plan is multiplied by the proportion of employees receiving the plan, and then the products are summed and divided by the hours worked per employee.

**Expenditures.**—In the previous examples, costs have been computed by multiplying the number (proportion) of employees that receive a benefit by the price (cost) of the benefit. In the ECI, this is the preferred method, which is termed "rate times usage."

When rate and usage cannot be collected, expenditures data can be collected and used. Perhaps the most important use of expenditures data occurs when the employer is self-insured and there is no rate. For example, employees might receive health insurance, but the establishment itself pays for covered expenditures. Expenditures over the previous year per employee are collected. The expenditures per employee are divided by hours worked.

### Quarterly Change

Once all the required data have been collected and the cost of all benefits for each occupation computed, the initiation of the establishment is completed. Once the establishment is initiated, it is requested (usually by mail or telephone) to provide quarterly the information required to update the costs. Prior to each quarter, the establishment is sent a wage "shuttle" form and a summary of benefits form. The wage shuttle identifies the selected jobs and the wages of the previous quarter. The summary of benefits

summarizes the benefits provided for each job the previous quarter.

The Employment Cost Index is published the month after the reference month. The only reason why the data can be collected and processed so quickly is that the ECI concept of change does not, in general, require that usage be collected each quarter. For the ECI, as noted, a change in labor cost occurs for a benefit only when the benefit changes or the price of an existing benefit changes. For example, if an establishment provides family and self-only health coverage and if there is no change in the plans or their cost, the ECI cost remains unchanged; it remains unchanged even though the distribution between married and single employees in the job may have changed.

Furthermore, even if the benefit or its price changes so that there is a change in ECI costs, usage is not updated unless the change in the benefit or its price will induce (cause) a change in usage. In general, new usage data will be collected only if new plans are added, if old plans are dropped, or if the cost or provisions of contributory plans change.

For example, suppose the employer provided family and self-only health plans to the employees the previous quarter, but this quarter employees are also given the option to join a health maintenance organization (HMO). Since some employees would join the HMO, the proportion of workers receiving the other plans would fall. Then, new usage data, as well as the price of the HMO membership, would be collected, and a new cost would be calculated (Bureau of Labor Statistics 1986).

This treatment of usage is appropriate for an index number that measures the change in cost over time. Cost levels, however, should have current usage, which does raise a question concerning the accuracy of the ECI cost levels (Scheifer 1975). Empirical analysis of this question is presented later in this paper.

Table 4.—Employer Cost for Employee Compensation by Major Industrial Sectors

[Per hour worked and relative errors <sup>1</sup>]

Compensation components	Goods-producing industries <sup>2</sup>		Service-producing industries <sup>3</sup>		Manufacturing industries		Nonmanufacturing industries	
	Cost	Relative error	Cost	Relative error	Cost	Relative error	Cost	Relative error
Total compensation.....	\$15.86	1.5	\$12.41	1.4	\$15.51	1.3	\$12.80	1.3
Wages and salaries.....	11.12	1.3	9.29	1.6	10.77	1.2	9.55	1.5
Percent of total compensation.....	70.1		74.8		69.5		74.6	
Total benefits.....	4.74	2.0	3.12	1.3	4.73	1.7	3.26	1.2
Paid leave.....	1.09	2.2	.87	2.0	1.21	2.2	.85	1.9
Vacation.....	.55	2.3	.43	2.5	.61	2.2	.42	2.4
Holidays.....	.40	2.4	.28	1.7	.45	2.1	.27	1.6
Sick.....	.10	4.4	.12	3.0	.11	5.0	.12	2.9
Other.....	.03	6.9	.04	6.5	.04	7.6	.03	6.2
Supplemental pay.....	.53	3.6	.23	3.6	.52	4.0	.25	3.3
Premium pay.....	.33	3.3	.09	4.5	.34	3.9	.11	4.1
Nonproduction bonuses.....	.13	11.9	.11	6.8	.10	14.7	.12	7.2
Shift pay.....	.07	5.7	.02	6.5	.08	5.7	.02	6.4
Insurance.....	1.02	2.6	.60	1.6	1.06	2.4	.62	1.6
Pensions and savings.....	.64	4.5	.41	3.0	.58	3.5	.45	2.8
Pensions.....	.56	4.9	.36	3.3	.49	3.6	.40	3.0
Savings and thrift.....	.08	6.3	.05	8.6	.09	7.0	.05	8.1
Legally required.....	1.43	1.9	1.01	.9	1.31	1.5	1.08	1.0
Social security.....	.88	1.3	.69	.9	.87	1.2	.71	.9
Federal unemployment.....	.03	1.3	.03	1.1	.03	1.6	.03	1.0
State unemployment.....	.18	2.9	.10	2.1	.17	3.3	.10	2.1
Worker's compensation.....	.32	4.6	.16	2.5	.23	4.6	.20	2.5
Other benefits <sup>4</sup> .....	.04	9.5	( <sup>5</sup> )	( <sup>5</sup> )	.04	9.2	( <sup>5</sup> )	( <sup>5</sup> )

1. The relative error is the standard error expressed as a percent of the cost. We can be 95-percent confident that the interval around the cost estimate bounded by two times plus and minus the relative error contains the "true" cost.

2. Includes mining, construction, and manufacturing.

3. Includes transportation and public utilities; trade; finance, insurance, and real estate; and services.

4. Includes severance pay, supplemental unemployment benefits, and merchandise discounts in department stores.

5. Cost is \$0.01 or less.

### Employment Weights

In March 1987, the ECI survey yielded estimates of wage and benefit cost for about 16,000 occupational observations, where the costs, as noted, are estimates of a rate at a point in time. These costs are estimated with usage ranging from the current year to 4 years old.

These 16,000 occupational observations are aggregated in the ECI using the 1980 census of population (because the ECI is a "fixed weight" index). Data for 1980 are clearly not suitable for weighting cost estimates for March 1987.

The weights for 1987 cost levels are obtained in two steps. First, the ECI sample provides an estimate of the occupational employment distribution within each industry at the time of initiation. Second, these occupational distributions are used to apportion the employment by industry for March 1987 from the BLS Current Employment Statistics program. The industry employment distribution is current, but the occupational distribution by industry varies from the current year to 4 years old (depending on the phase of the ECI initiation schedule).

There is evidence suggesting that labor cost indexes are not very sensitive to variation in employment weights (Schwenk 1985), but the use of occupational employment distributions by industry that range from the current year to 4 years old does raise a question about the accuracy of the ECI cost levels. Empirical analysis of this question is given later.

## Evaluation of Estimates

The usual concerns about data quality are sampling and nonsampling errors.

### Sampling error

Standard errors of the estimate are calculated for each estimate using a balanced, repeated replication method with 64 pseudoreplicates. A detailed description of the method used for calculating the variance for the index, which is the same method used for calculating the levels, will be published in early 1989 in the *Monthly Labor Review*.

### Nonsampling error

There are no measurements of nonsampling error for the ECI, but all BLS surveys, including the ECI, have a wide range of quality management programs that are designed to hold nonsampling errors within acceptable bounds. ECI survey procedures designed to control nonsampling error include clear documentation and instructions for each survey activity, quality control to ensure that the instructions are followed, the collection of data by personal visit by professional field economists, regular training on program procedures, professional review of all data collected, and machine edits and review at each stage of processing. The only sources of nonsampling error that will be explicitly discussed here are nonresponse and noncurrent distribution, which is the error introduced because usage and the occupation distributions within industry are not current.

**Refusal to participate in survey.**—Refusals are eligible establishments that refuse to provide data. The ECI survey has one of the highest refusal rates of all BLS wage surveys. In March 1987, the response rate—that is, responding establishments divided by responding establishments plus eligible nonresponding establishments—was 73 percent.

There are a number of reasons for the high nonresponse to the ECI survey relative to other wage surveys. The ECI is a length interval survey, so it has refusals not only at the time of initiation but also over time, as respondents drop out of the program. The ECI sample includes establishments of all sizes in all industries, whereas other wage surveys usually exclude small establishments, which tend to have higher nonresponse rates. The ECI is relatively new and, therefore, is not widely known; there are establishments that will continue to respond to surveys that they have responded to in the past, but they will not participate in new surveys. Other establishments will only respond to a survey if they use the survey or if they are already familiar with the survey.

Every effort is being made to reduce nonresponse rates, and we expect them to decline, though slowly, over time, as the ECI becomes more widely known and used. But whatever the future holds, the response rate for the March 1987 estimates was 73 percent.

In deriving cost-level estimates, the weight of nonrespondents is allocated to similar (same industry, establishment, size, area, and so on) responding establishments. The accuracy of the estimates depends on how close the data of the nonrespondents are to the data of the respondents that carry their weight. It is not possible to determine how ac-

Table 5.—Employer Cost for Employee Compensation for Major Service-Producing Industries

[Per hour worked and relative errors<sup>1</sup>]

Compensation components	Transportation and public utilities		Wholesale trade		Retail trade		Services	
	Cost	Relative error	Cost	Relative error	Cost	Relative error	Cost	Relative error
Total compensation.....	\$20.24	2.6	\$15.15	2.8	\$7.85	2.2	\$12.34	2.0
Wages and salaries.....	13.77	2.3	11.24	2.8	6.07	2.0	9.84	2.0
Percent of total compensation.....	68.0		74.2		77.3		75.7	
Total benefits.....	6.47	3.8	3.91	3.4	1.78	3.4	3.00	2.3
Paid leave.....	1.75	3.9	1.05	5.0	.37	5.3	.91	4.1
Supplemental pay.....	.51	13.3	.35	6.1	.15	5.7	.19	5.3
Insurance.....	1.32	3.6	.80	3.4	.35	5.8	.53	2.9
Pensions and savings.....	1.17	6.9	.49	7.9	.14	8.8	.37	5.8
Legally required.....	1.70	2.3	1.21	1.9	.74	2.0	1.00	1.6
Other benefits <sup>2</sup> .....	.03	23.9	( <sup>3</sup> )	( <sup>3</sup> )	.02	12.6	( <sup>3</sup> )	( <sup>3</sup> )

1. The relative error is the standard error expressed as a percent of the cost. We can be 95-percent confident that the interval around the cost estimate bounded by two times plus and minus the relative error contains the "true" cost.

2. Includes severance pay, supplemental unemployment benefits, and merchandise discounts in department stores.

3. Cost is \$0.01 or less.

curate the nonresponse adjustments are, because, by definition, data from the nonrespondents are not available. The only way to reduce the potential error caused by nonresponse is to reduce the proportion of nonrespondents.

**Noncurrent distribution.**—The other potential sources of nonsampling error that have been identified are the use of dated occupation distributions and usage. The potential bias of these sources of nonsampling error can be analyzed because of the ECI's sample replacement program.

Whenever the sample for an industry is replaced, there are two estimates of labor cost for the same industry for the same time period. One estimate is for the sample to be dropped, which has a dated occupational distribution and usage pattern that is 4 years old. The other estimate is for the sample to be added, which has a current occupational distribution and usage pattern. If the impact on the estimates of the dated occupational distribution and usage pattern is large, it should be possible to reject the hypothesis that the two estimates are based on samples drawn from the same universe.

At the time the analysis was carried out, data on two replacement samples were available only for wholesale trade. The wholesale trade sample was replaced first in 1982 and then in 1986. The difference of the means of the two sample estimates would reflect differences in both usage and occupational mix. A test of the differences between two means could not reject the hypothesis that the means are equal. Being unable to reject the hypothesis does not imply that the estimates of the old sample are unbiased, because they almost certainly are biased. It simply implies that whatever bias exists is small relative to the variances.

Dated occupational structure and fixed usage can be tested separately. The impact on the estimates of the dated occupational weights was evaluated by reweighting the costs from the 1982 wholesale trade sample using the weights of the 1986 sample. The only difference between the 1982 estimates with the 1986 weights and the actual estimates of the 1982 sample is the occupational weights. The differences were small relative to sampling errors. Dated

usage was evaluated by developing a distribution of the number of days paid but not worked by benefit plan and occupation from the 1986 sample. For each establishment in the 1982 sample, usage was selected from the 1986 distribution. The only difference between the 1982 sample with the 1986 distribution and the actual estimates of the 1982 sample is the usage. The differences were small relative to sampling errors.

### Comparisons with Other Data

The ECI estimates will be compared with estimates prepared by the Bureau of Economic Analysis (BEA) and with estimates of average hourly earnings prepared by the Bureau of Labor Statistics from the Current Employment Statistics survey.

#### *BEA compensation*

The Bureau of Economic Analysis provides estimates of expenditures on total compensation and wages for the private nonfarm economy. The BEA definition of total compensation is roughly the same as that used for the ECI. The BEA definition of wages, however, includes the payments for hours paid but not worked and supplemental payments—that is, payments for shift pay, premium pay, and nonproduction bonuses.

For 1987 the BEA estimates showed that wages (which are equivalent to gross earnings from the ECI) were 84.9 percent of compensation. In the ECI data for March 1987, wages, paid leave, and supplemental payments are 82.5 percent of compensation. The difference between 84.9 percent and 82.5 percent is reasonable given the differences in the reference periods and the data sources.

#### *Average hourly earnings*

The Average Hourly Earnings (AHE) series covers all production workers in goods-producing industries and non-supervisory workers in service-producing industries. Similar coverage can be obtained from the ECI by excluding all white-collar occupations from the goods-producing industries and the manager, executive, and administrator occupations from the service-producing industries.

Wages from the AHE include overtime and shift pay. Average earnings from the AHE for March 1987 were \$8.92. The ECI wage rate for the AHE occupational coverage was \$8.72, overtime was \$0.18, and shift differential was \$0.04. Thus, the value from the ECI, comparable with the AHE wage, was \$8.94. The difference between \$8.92 and \$8.94 is well within sampling error of the ECI.

Another interesting comparison with the AHE uses wages for production workers in manufacturing, the only industry for which the AHE has a separate estimate for overtime. In addition to the impact of the occupation distribution and nonresponse, this comparison gives an indication of the impact of dated usage on overtime. The ECI estimate of overtime cost was \$0.43 per hour, and the AHE estimate

of overtime cost was \$0.41. The ECI wages, plus shift differentials, was \$9.34, and the comparable value from the AHE was \$9.44.

Although the AHE has only limited coverage of benefits, the above comparisons are of interest, since the dated occupational distribution and the nonresponse affect wages as well as benefit costs.

### Uses of Cost Levels

The new measures do not place any additional burden on respondents, nor are they expensive. The estimates are not free, however; resources are required for their preparation and publication. In these days of very scarce resources for general economic statistics, it is necessary to justify any expenditures. The justification can only be in the use made of the statistics.

The ECI costs, as rates at a point in time, are the statistics of choice for wage and salary administration, labor negotiations, and comparisons of compensation among groups of workers. Because of these uses, cost levels were the most requested statistics by the BLS's Business Research Advisory and Labor Research Advisory Committees. The Employment Standards Administration wanted ECI cost levels in order to carry out their responsibilities under the Service Contract Act. It is their responsibility to set minimum wages and benefits for employees of firms that have contracts to provide services to the Federal Government.

Other users may be interested in cost levels for different purposes. For example, benefits might be measured as income to employees rather than as cost to employers.

I cannot recommend without qualification the use of the ECI cost levels for analysis that requires expenditures rather than rates or employee income rather than employer cost. But if the ECI data and their limitations are clearly understood, it seems to me that the data could prove of value in research in these areas as well.

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## Enhanced Demographic-Economic Data Sets

By Roger Herriot, Chester Bowie, Daniel Kasprzyk, and Sheldon Haber

**T**HIS paper explores the possible development and uses of data sets that combine demographic data—both survey and population census—with economic census and administrative information. It describes the 1984 Survey of Income and Program Participation (SIPP) and various pilot projects to augment the SIPP data with information about the establishments and firms for labor force analysis and with tax return information for income studies. The ability to add industry or labor market variables is also discussed.

The idea of augmenting survey data with information from other sources is not new. Such microdata record matches have a number of uses.

- They can add information that cannot be collected from survey respondents—information, such as the amount of the employer's contribution for the respondent's health insurance or of a respondent's contribution to social security over a worklife.
- They can add "contextual" variables about the area in which a person lives or works—variables such as a city's unemployment rate or a neighborhood's racial composition.
- They can provide direct comparisons for evaluation of the accuracy of a respondent's answers to the survey questions—for example, the amounts of wages or social security receipts reported by respondents can be compared with the amounts on administrative records.
- They can be used as weighting controls to calibrate the survey and to reduce the variance for many items.
- Finally, they can be used to replace a respondent's answers in some situations to improve accuracy or to model estimates using both survey and administrative data.

The SIPP was the first Census Bureau survey designed from the beginning to facilitate such matching activities. The SIPP, which began in 1983, was preceded by an 8-year development program—the Income Survey Development Program (ISDP). With respect to matching survey data to administrative records, the philosophy, attitudes, and plans of the ISDP strongly reflected the experience gained in a 1973 exact match study (Scheuren et al. 1975). A review of the work of the ISDP with regard to the use of administrative records can be found in Kasprzyk (1983) and Griffith and Kasprzyk (1980).

### *SIPP design features*

The primary goals in designing the SIPP were twofold: (1) To improve the reporting of income and program-related data in a way that would allow the analysis of changes over time at a microlevel, and (2) to accommodate the collection of a large quantity of information in a flexible manner that

allowed some information to be collected more frequently than other information. These goals were met principally by using a survey design in which the same people are interviewed more than once.

Persons (15 years old or older) in households selected for a sample panel are interviewed about their income and other topics once every 4 months for approximately 2½ years. These sample persons are interviewed at new addresses if they move, and any other persons that they move in with, or vice versa, are also interviewed. In this way, a highly detailed record is built up over time for each person and household in a sample panel. This design minimizes the need for sample persons to recall most of the information for more than a few months, and it reduces the number of questions asked in one interview.

To enhance the estimates of change, particularly year-to-year change, a new sample panel is introduced every year rather than at the conclusion of a panel. Consequently, two, or sometimes three, panels are in the field concurrently. The overlapping panel design allows cross-sectional estimates to be produced from a larger, combined sample that is about double in size when two panels overlap and about triple with three overlapping panels.

The reference period for the primary survey items is the 4 months preceding the interview; for example, for the February interview, the reference period is the preceding October through January. When the household is interviewed again in June, the reference period is February through May. To create manageable interviewing and processing work loads, the sample households within a given panel are divided into four subsamples of nearly equal size. These subsamples are called rotation groups, and one rotation group, or one-fourth of the sample, is interviewed each month. Thus, it takes 4 consecutive months to interview the entire sample. This 4-month period of interviewing is termed a "wave."

### *SIPP content*

Each interview is planned to take about 30 minutes, and it includes content that is divided into three main groups of questions—control card items, core items, and topical module items.

The *control card* is used to list every person residing at an address and to record basic social and demographic characteristics (e.g., age, race, sex, and educational attainment) for each person at the time of the initial interview. At subsequent interviews, changes in these characteristics are recorded on the card, as well as the dates when persons enter or leave the household. Some information relating to the housing unit or household also is collected (e.g., number of units in the structure and tenure).

The *core* is a set of questions that are asked at the first interview and then updated in each subsequent interview. The core collects the basic data on labor force, income, and program participation for each of the 4 reference months. Among the items included in the core are the following:

- Information associated with wage and salary earnings—e.g., industry and occupation codes, hours

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and weeks of work, and hourly earnings for up to two jobs;

- Data associated with self-employment—e.g., the type of business (farm or nonfarm), earnings, whether it was incorporated, the profits and losses from the business—for up to two self-employment jobs;
- Data associated with nonearned income—e.g., Aid to Families with Dependent Children, supplemental security income, general assistance, workmen's compensation, social security and other retirement income, miscellaneous sources of income (such as alimony, child support, income for foster child care, and educational assistance), and noncash benefits (such as food stamps, Women, Infants, and Children Nutrition Program, Medicaid, Medicare, and health insurance coverage);
- Data associated with asset holdings—e.g., income from savings accounts, bonds, stocks, and rental property—for the 4-month reference period on both individual and joint recipiencies.

A wide variety of topics not covered in the core portion of the questionnaire are collected in *topical modules*. The module data may be analyzed independently of, or in conjunction with, the core data. The topics include many subjects, such as wealth, taxes, health, and personal histories (e.g., lifetime work experience, marriage, and education).

#### *Collection and validation of social security numbers in the SIPP*

The SIPP data system has always been thought of as a combination of data from administrative records and household surveys. To make these linkages accurate, social security numbers (SSN) are obtained for sample individuals. These numbers are then verified and corrected to maximize the number of accurate linkages to other record systems.

Persons who refuse to provide an SSN are not included in the verification process. The Social Security Administration identifies (by machine validation) incorrectly reported numbers and then clerically resolves these cases along with those cases not reporting an SSN. This work is completed by the fourth wave interview, at which time a field followup is conducted to obtain missing SSN's (provided they are not refusals) and to reconcile inconsistencies in SSN or demographic data generated by the computer match or by the clerical resolution.

The following summarizes the SSN validation results from the wave 1 sample of the 1984 panel: Total wave 1 sample persons, 53,588; persons who refused to provide an SSN and were excluded from the validation process, 1,674; persons eligible for SSN validation, 51,914; validated SSN's (85 percent of those eligible), 44,172; unvalidated SSN's (mostly children who have no SSN), 7,742. Sater (1986) concluded that the SSN acquisition rate for persons who have SSN is between 93 and 97 percent.

### **Enhancing SIPP Data**

#### *SSA-SIPP data linkage project*

This section briefly describes several areas in which matched data sets can extend the analytical potential of the SIPP. Interest in a data set that matches SSA adminis-

trative data with household survey data follows closely the intended uses of SIPP at its inception. A matched data set would enable researchers: (1) To estimate future costs for programs, such as the Old Age, Survivor, and Disability Insurance (OASDI) Program and the Supplemental Security Income (SSI) Program; (2) to assess the effects of program policy changes on the economic well-being of participant families; (3) to describe nonprogrammable characteristics of program participants; and (4) to test social science theories as they relate to the dynamics of social security programs.

In essence, the SSA-SIPP data linkage project involves a maximum linkage with SIPP. For each SIPP panel, all waves of data—including core questions and topical modules—can be linked to extracts of the basic SSA program records, including the following: The Master Beneficiary Record, which contains eligibility and benefit histories of the OASDI program; the Supplemental Security Record, which contains eligibility and benefit histories for the SSI program; and the Summary Earnings Record, which contains a history of covered earnings for each worker. SSA records will be updated periodically so that each SIPP panel's files will contain additional years of the SSA's program data. We may also want to link SIPP to new disability administrative files that are now being developed at the SSA. All initial and subsequent linkages will be by mutual agreement between the SSA and the Bureau of the Census.

#### *Employer-provided benefits feasibility study*

Employer contributions to health insurance plans, retirement plans, and life insurance plans have recently been the focus of national attention by Congress, other policymakers, and researchers. SIPP collects information on whether a person is covered by health insurance and whether the employer makes contributions for health insurance, but it stops short of obtaining amounts for either the respondent's contribution or the employer's contribution. For life insurance, information is obtained on coverage, face value, and whether the policies are provided through an employer. Amounts of employee payments and employer contributions are not obtained.

The employer-provided benefits feasibility study involved obtaining a signed release from the respondent at the interview, contacting the respondent's employer, and asking the employer to fill out a short questionnaire. The questionnaire was designed to obtain data on both the employer's and the employee's contributions to the firm's health insurance, pension, and life insurance plans. One-half of one rotation group's households were selected for the study. The study was done in August 1987 using rotation group 4 in wave 8 of the 1985 panel. This was the last interview for these households.

The study included only employed persons, 18 years old or older, for whom a wave 8 interview questionnaire was completed. Of the 1,352 persons eligible for the test, 569 persons (42 percent) signed the authorization form, 446 persons (33 percent) refused to sign, and 337 proxy or telephone respondents (25 percent) did not return the authorization form that was left with or mailed to them. We did not conduct a followup of the refused or nonreturn cases, since the primary purpose of the test was to evaluate the process of collecting the information from the employers.

Of the 569 questionnaires that were mailed to an employer, 548 (96 percent) were completed and returned. A more detailed evaluation of the data collected in this study

and an assessment of the future prospects for a study of this type on the complete sample will be undertaken next year.

#### *Adding "contextual" variables*

Summary information from the decennial census offers another way to enhance the SIPP data. Although SIPP offers a very rich set of data about persons, the only contextual information collected concerns their living arrangements (household and family characteristics) and the areas in which they live (state, urban, etc.).

Because SIPP's addresses are computer readable, it is possible to geocode them into 1990 census geography (census block, tract, and city) using the new "Tiger" geocoding system. With such identifiers added to the SIPP files, one could augment the data with various contextual variables that have been created from the census. For example, labor force analysis could be enhanced by knowledge of the unemployment rate in a labor market, and migration analysis could be improved by the inclusion of per capita income information in out-migration and in-migration areas. Adding such variables would permit the testing of additional hypotheses that could not otherwise be examined. Besides those variables relating to labor markets and income, numerous others relating to spatial areas and demographic, social, and educational variables could be incorporated into the SIPP data. We believe that adding such variables would greatly enhance the usefulness of the data, but there are no formal plans to add such variables at present. However, if there is sufficient interest, the capability to create such data exists.

### **Merging Economic Data with SIPP Demographic Data**

During the first 2 years of the SIPP program, a good deal of background research was completed on the potential for augmenting SIPP data with microlevel establishment and enterprise data from the economic census and other data files maintained by the Bureau of the Census. The analytic potential of SIPP suggests the desirability of augmenting it with these data. Additionally, the marginal cost of merging these data with SIPP is relatively small, and the potential gain in knowledge is very large.

Besides the substantive knowledge to be gained by merging SIPP demographic data with economic data, merging these data sets makes it possible to verify the accuracy of the estimates given by respondents in survey data (for example, one could verify the respondent's estimate of the employment size of the firm for which he or she worked). An additional, indirect benefit of linking SIPP and economic data stems from the fact that the former is a representative sample of the working population. Accordingly, the probability of an establishment's employee being included in SIPP is inversely related to its employment size; estimates of the population of establishments in each establishment-size group can be derived from the number of SIPP respondents employed in each group and the SIPP respondent population weights. These advantages, plus the manageable size of the SIPP sample, should result in valuable insights into how the size distribution of establishments is changing over time and the economic implications stemming from this change.

#### *SIPP and the economic data files*

In merging SIPP demographic data and economic data, it is necessary to know the information contained in the various files to be linked and how each file is constructed. Three data sets that might be incorporated into a SIPP-economic data file are the Standard Statistical Establishment List (SSEL), the Longitudinal Research Database (LRD) file, and the enterprise statistics (ES) file.

The SSEL is a complete directory of establishments in single-establishment and multiestablishment enterprises with one employee or more, irrespective of industry. The SSEL links parent companies, subsidiaries, and their establishments. It contains information on approximately 4.7 million enterprises and 5.7 million establishments.

The SSEL is important because it is a current file containing a complete list of establishments and companies that have paid employees. Although the SSEL contains only a narrow range of economic data, these data impart information not found elsewhere. For example, the SSEL contains the addresses of the physical locations of establishments; this information is useful for merging the demographic and economic data, since the addresses are a primary way of identifying an individual's place of work. Employment and payroll figures yield an estimate of average annual earnings, thereby indicating whether an employer is a low- or high-wage employer. Sales and employment figures provide a proxy measure of productivity. Operational status information can be utilized to identify those establishments that have become inactive. Additionally, the SSEL contains longitudinal information. Currently, establishment and company data are carried for 2 years in the SSEL.

The LRD is a longitudinal micro database containing data at the establishment level from the Annual Survey of Manufactures and the Census of Manufactures. The LRD provides a broader range of information about establishments than the SSEL. For each manufacturing establishment, value added per production worker, which is a proxy for labor productivity, can be calculated. For the larger establishments with 250 workers or more, information is available on depreciable assets and rented machinery so that capital-to-labor ratios can be computed. Additionally, a measure of labor compensation, including fringe benefits, can be obtained.

Like the Census of Manufactures, the ES data are collected every 5 years. These data cover enterprises whose primary activities are in in-scope industries. For each enterprise, the data are consolidated from all operating units. The information contained in the ES is similar to that in the Census of Manufactures; however, the ES contains fringe benefit, asset, and related data only for companies with 500 workers or more. Haber (1985) has presented a detailed accounting of the economic files—their universe restrictions, data content, and applications—when merged with the SIPP data.

#### *Some applications of microdemographic and economic data*

In this section, two applications of a SIPP-economic data file are discussed to illustrate the use of this data set.

*Low-wage workers and low-wage firms.*—Although survey data, such as data from the Current Population Survey, provide insights into the characteristics of low-wage workers, they provide little information about low-wage firms. A number of hypotheses have been formulated about how pro-

duction is organized in low-wage and high-wage firms. For example, to the extent that high-wage firms are capital intensive, their need for trained workers is likely to be greater than that of low-wage firms (Oi 1983). To reduce turnover, which disrupts the production process, high-wage firms are also more likely to substitute future benefits in the form of pensions for current benefits in the form of wages (Lazear 1981). A SIPP-economic data file would permit verification of these, and related, hypotheses.

There are two other questions that could be explored. To what extent are the differences in individual earnings in low- and high-paying firms due to the characteristics of the workers and of the capital employed in each type of firm? And, to what extent are workers with similar characteristics (i.e., skills or training) remunerated in the same way in each type of firm?

*Structural unemployment.*—An issue of long standing is what happens to workers who are displaced from their jobs as a result of structural changes. How long do they remain unemployed vis-a-vis other workers who separate from an employer? What sources of income, including cash and non-cash government transfers, do they draw on when they are unable to find a new job? When they find a new job, how do the earnings in the new job compare with those in the old one? If there is an earnings loss, how much of this loss is recouped after, for example, 2 years?

One way of identifying structurally unemployed workers is to ascertain whether a firm has closed down or has undergone a substantial decline in employment. A SIPP-economic data file would enable one to determine the extent to which firms are subject to severe, long-term shocks, as evidenced by plant closures or substantial reductions in employment, and to determine how such shocks affect their work forces.

#### *Methodological issues in matching SIPP demographic and economic data*

In this section, attention is focused on two methodological problems. The first problem deals with procedures for linking worker data to establishment and company data. The second relates to the estimation of data—in particular, asset and fringe benefit data that are collected for large establishments and companies, but generally not for small ones.

Essential to the creation of a SIPP-economic data file is the ability to determine the establishment and company in which a person is employed. The most promising, and least expensive, way of accomplishing the SIPP-economic data link is to use the employer identification number (EIN). A promising source of EIN information for SIPP respondents is the employer-provided benefits questionnaire discussed previously. In the feasibility test of this questionnaire, the EIN was asked for and was well reported.

Without the EIN, for employers with only one establishment in an area, the firm name and the employee's address will typically be sufficient to determine where a person is employed. This information is available in SIPP and the SSEL. For companies with more than one establishment in an area, the firm name, address, census industry code, and the respondent's estimate of size of establishment and company can be used to identify a person's workplace. In the event that a unique workplace cannot be determined for a multiestablishment firm, an employer's characteristics can be imputed. For example, data from the SSEL on number of employees and on payroll can be averaged over a company's

establishments in a local area. When it is not possible to identify a worker's firm by name in the SSEL, imputations can be made by averaging over establishments in the same local area with the same census industry code as that of the given employer.

Imputations can also be made for variables not contained in the SSEL. For example, the average capital-to-labor ratio for a large firm with a chain of fast-food stores can be used as an estimate of the capital-to-labor ratio for each store in the chain. It should be noted that information on capital stock is not generally available for small establishments. However, such information is available for a large sample of small establishments in manufacturing, and it can be utilized in an economic model to obtain capital stock estimates for all small manufacturing establishments. For example, it is plausible that an establishment's capital-to-labor ratio is positively related to its use of purchased electricity per employee. The latter ratio could then be used to infer the former.

#### *Match of the decennial census to the economic census and surveys?*

We have included a question mark in this title because very little work has been done in this area. However, it appears that advances in the decennial census procedures permit such a possibility. Block-level geographic coding of place of work and automated industry and occupation coding using the company name suggest the possibility of forming labor force statistics from the decennial census for establishments, enterprises, and five-digit Standard Industrial Classification industry codes.

The resulting record would contain the data about the economic unit from the economic surveys and the data about the labor force (e.g., age, race, occupation, and education) in the economic unit from the decennial census.

A large-scale application of this idea is probably not possible for the 1990 census. However, if initial research could begin and if limited studies for use in a particular industry or area could be done, then it would be more likely that a much more ambitious program could be designed in the future. At this point, we need guidance from researchers about the potential uses of this file so that we can concentrate our efforts in the most productive manner.

### **Issue of Data Access**

Given the confidentiality requirements of Title 13, data access to these enhanced files is a major issue. There are several avenues available for a researcher to gain access to such files. One could obtain a permanent staff position at the Census Bureau, or one could obtain a temporary position (for example, when on sabbatical) or a postdoctoral position in the Center for Demographic Studies or the Center for Economic Studies. One could become a research fellow at the Bureau to work on a specific proposal involving these data sets. One could enter into a Joint Statistical Arrangement with the Census Bureau and access the data at one of the Bureau's regional offices, or one could access the data through the Data Resource Center (DRC). Options for access are discussed in detail in Gates (1988).

The DRC provides a new capability that we are experimenting with at the Bureau. Its goal is to improve access to data collected by the Census Bureau and, thus, to fa-

cilitate analysis and research. The initial activities of the DRC were concerned with assisting Census Bureau personnel with access to SIPP. Its long-term mission will expand to include the following activities: To create and manage enhanced data sets, to provide liaison between internal and external users for access to such data, and to review the outputs for confidentiality. The process for gaining access to DRC data by outside users has been sketched out by Cavanaugh (1987).

The Census Bureau is also exploring new ways to make the information content of enhanced data files publicly available. We are experimenting with new products that could substitute for the original microdata file in cases where the disclosure risk is great. One approach is microaggregation in which individual records are grouped according to specified criteria and responses are replaced with averages for the group (McGuckin and Nguyen 1988). This approach, which is operationally straightforward, has been suggested as a way to provide access to sensitive economic microdata (Govoni and Waite 1985). The primary objection to this approach is that the linking of "like" establishments is dependent on the grouping criteria.

Another aggregation approach that we are considering for more general application is the release of summary statistics, such as variance-covariance measures or correlation matrices of the data. Such files would contain all the information needed for linear regression analysis; they would also provide excellent confidentiality protection, since any given covariance matrix can be derived from an infinite number of data sets. The biggest disadvantage to this approach is that different users require different matrices, and a user may require new columns in a matrix as the analysis proceeds.

The Census Bureau confidentiality staff is also currently looking into microaggregation and data transformation as techniques to allow the release of economic microdata.

In conclusion, we hope that this paper will stimulate researchers to investigate new hypotheses and to reexamine old ones. Although the research suggests that the creation of such data sets is feasible, the Bureau will need to work with interested researchers to develop the required data for substantive analyses. We are taking the initial steps of restructuring the Center of Demographic Studies to support such activities and to continue research, but it will take a concerted effort by both producers and users to make the potential a reality.

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## How Valuable Are Matched Data Files?

(A Comment on "Enhanced Demographic-Economic Data Sets")

By Walter Y. Oi

"PROBABLY the most conspicuous and important fact to be found in the history of economic science during the last 30 years is this, namely while there has been no change in the objects to which it is directed . . . there has been a marked change in the methods according to which economic science is cultivated. It has ceased to be an abstract science—it has ceased to be a system of subtle and ingenious reasoning—and little by little, and by a process cautious and full of promise, become a science almost entirely experimental."

This assessment was voiced by William Newmarch in an address to the British Association for the Advancement of Science in 1861.<sup>1</sup> Quantitative economics was nourished by Henry L. Moore<sup>2</sup> and by Henry Schultz, and it has blossomed into what we now know as Econometrics. The development of this discipline owes much to the substantial public and private resources allocated to the collection and dissemination of economic statistics.

That facts are valuable is an unassailable fact. Frank Stafford (1986) contends that the large microdata sets that were collected over the last 20 to 30 years have contributed much, not only to our understanding of the determinants of wages, labor supply, and fertility, but also to the advances in theoretical economics and econometric methodology. The panel surveys and large data sets—such as the Current Population Survey, the Survey of Economic Opportunity, and the Survey of Income and Program Participation, or SIPP, which is the centerpiece of the present paper—have complemented the other bodies of statistics assembled by public and private agencies. Stafford argues that the available data are inadequate to study various aspects of the functioning of labor markets, especially on the demand side of the market.

Stafford's opinion is shared by Dan Hamermesh who claims that the slower progress in the study of labor demand (employment dynamics and factor substitution) is due to "a failure to invest in the kinds of data that would allow us to obtain answers, a failure that continues today" (Hamermesh 1988, 10).

Hamermesh argues that a representative sample of establishments surveyed at monthly or quarterly intervals would yield useful data for studying adjustment costs, employment dynamics, etc. Household data could, evidently, be collected by sampling employees from the establishment's payroll records. This suggestion calls for a new longitudinal establishment survey rather than for combining existing files.

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1. The address was quoted by Henry L. Moore ([1911] 1967, 170–171).

2. The case is persuasively argued by Professor George Stigler who wrote: "If one seeks distinctive traits of modern economics, traits which are not shared to any important degree with the Marshallian or earlier period, he will find only one, the development of statistical estimation of economic relationships. Mathematical analysis became increasingly more common after Walras' first edition. . . . But Statistical Economics, the name given by Henry Moore, is the one important modern development. Henry Moore was its founder in the sense in which most large movements have a founder." (Stigler 1965, 343–344.)

Hamermesh cautions us against trying to make do with what we already have when he writes, "Rather than rely on inappropriate data, those of us interested in empirical research . . . must adopt some of the sociologists' willingness to generate new sets of data" (p. 27). There is clearly a perceived demand for data that will aid in estimating labor demand functions and in analyzing the interaction of labor demand and supply functions.

Hamermesh is vague about the way in which establishments and workers will be sampled. Should we follow the Rees-Shultz (1970) procedure of sampling employees from the establishment payroll records? Or should we randomly select individuals and tie them to the establishments? The latter approach is examined in the paper "Enhanced Demographic-Economic Data Sets" (Herriot et al. 1988). These authors propose to supply us not with *more new data* but rather, by linking existing data files, with *more information*.

Their first project—linking SIPP to Social Security Administration (SSA) administrative records—is an exciting one. It will provide work histories for the SIPP respondents that will go back to their first jobs in which they contributed to social security. However, the authors tell us that they were able to find valid social security numbers for only 85 percent of the SIPP respondents. To solve this problem, would it be possible to begin with a sample drawn from the SSA files that could be included in the rotation for SIPP?

Some 1,352 SIPP respondents were asked to sign releases so that employer-provided fringe benefits data could be obtained directly from the employer, but only 560 persons (42 percent) signed the releases. Two questions come to mind. First, were attempts made to follow up the 58 percent who did not sign the releases to ascertain whether there is a sample selection bias? Second, did the SIPP data include employee-provided estimates of fringe benefits that could be compared with employer-provided data in a manner analogous to a record-checking project?

The linkages of SIPP to economic data files go at least part of the way in addressing the concerns voiced by Hamermesh (1988) and Stafford (1986). Three data files are discussed by Herriot et al. The first, the Standard Statistical Establishment List (SSEL), appears to be a nearly complete canvas of all establishments; it includes nearly 5 million plants. SSEL contains relatively few variables and is maintained for only 2 years. If the SSEL records for the establishments that are linked to the SIPP respondents could be retained, one could construct a panel data set of worker-plant matches; constructing such a panel would probably involve retaining data for 100,000 to 200,000 establishments.

The second, the Longitudinal Research Database (LRD), covers only manufacturing establishments, but it contains a longer list of variables than the SSEL, especially for plants with 250 employees or more. However, only a subset of all manufacturing establishments are surveyed on an annual basis. The chances of finding a "match" with SIPP data are very small: Only one in every six workers is employed in

manufacturing, and an even smaller fraction of manufacturing establishments is included in the annual surveys.

The third economic file, enterprise statistics (ES), is only collected every 5 years. If the turnover of firms is important for employment continuity, links to the ES have very little value.

In the section on low-wage workers and low-wage firms, attention is directed to a hypothetical project that could be undertaken if the SIPP file was linked to the SSEL, the LRD, or the ES. Do these three existing economic data files provide enough information?

None of these three existing files has data to validate very many propositions about low-wage firms. They cannot tell us whether firms acquire new or used capital equipment, operate single or multiple shifts, and own or lease assets. Although the Census of Manufactures distinguishes between production and nonproduction workers, the latter group covers a wide range of employees—clerks, supervisors, salaried sales personnel, managers, etc. Indeed, Kochan, Katz, and McKersie (1986) describe one plant that produces agricultural implements and that has no employees on hourly rates of pay. I have argued elsewhere that firm size is a close proxy for the set of employers in a “low-wage” labor market (Oi 1985, 1988). The relationship between firm size and wages was initially examined by Henry Moore ([1911] 1967, Ch. 6), and it was more carefully documented by Mellow (1982) and Brown and Medoff (1986).<sup>3</sup>

It is regrettable that the SIPP did not include questions inquiring about the size of the firm and establishment in which the respondent was employed. These questions were included in the Current Population Survey for May 1979 and May 1983. I strongly urge that these questions be included in every wave of the SIPP for two reasons: (1) Without linkages, the response can be used to control for the effect of firm and plant sizes on wages, job tenure, fringe benefits, etc., and (2) if SIPP is linked to establishment files, we can determine the accuracy of employee estimates of firm and plant sizes. The relationship between firm size and wages varies across industries and, possibly, by occupation. If a longitudinal SSEL file could be matched with the SIPP, we could learn how establishment traits affect the firm-size profile of wages.

The problems that can be analyzed with matched files are limited by the information available in the establishment files. The preliminary projects that were conducted by Sater (1986) and Haber (1985) have to be studied to gauge the potential benefits of these matched files.

Herriot et al. identify two methodological issues in matching demographic and economic data: (1) Tying workers to firms and (2) estimating missing data, notably assets and fringe benefits for the establishment. The authors argue that data on capital assets for small establishments can be interpolated from a relationship between capital assets and establishment size for the large establishments that report such data. It is a questionable procedure.

Clark (1923) analyzed the implications of overhead costs and emphasized the proposition that “Sunk costs are sunk.” The costs of collecting, editing, and coding the data for the SIPP, the SSEL, the Census of Manufactures, and other existing data files are *sunk costs*. The incremental cost of

linking two or more *existing* data files is small compared to the cost of a new survey. Further, a *new survey* may render an existing survey obsolete.

But costs are only one side of the equation. One has to compare the incremental benefits of linkages to the incremental costs. But what are the incremental benefits?

Public agencies are very reluctant to abandon existing projects, especially when large sums have already been invested in them. That a data file exists is not, in itself, enough to justify its use, *unless* its use is costless.

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3. W.I. King (1923) assembled data on hours, earnings, and employment by industry and establishment size for the period 1921–22. References to other studies of what I call the firm-size profile of wages can be found in Oi (1988) and Brown and Medoff (1986).





# CURRENT BUSINESS STATISTICS

The statistics here update series published in BUSINESS STATISTICS: 1986, a statistical supplement to the SURVEY OF CURRENT BUSINESS. That volume (available from the Superintendent of Documents for \$16.00, stock no. 003-010-00181-0) provides a description of each series, references to sources of earlier figures, and historical data as follows: For all series, monthly or quarterly, 1983 through 1986, annually, 1961-86; for selected series, monthly or quarterly, 1961-86 (where available).

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Units	Annual		1987				1988									
	1986	1987	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
<b>GENERAL BUSINESS INDICATORS</b>																
<b>PERSONAL INCOME BY SOURCE †</b>																
Seasonally adjusted, at annual rates:																
Total personal income.....bil. \$..	3,531.1	3,780.0	3,820.8	3,897.2	3,884.1	3,939.0	3,921.8	3,946.7	3,985.9	4,001.0	4,021.4	4,044.9	4,073.7	4,090.5	4,112.9	4,185.0
Wage and salary disbursements, total.....do.....	2,094.0	2,248.4	2,278.6	2,302.9	2,318.7	2,353.5	2,342.3	2,359.0	2,374.7	2,394.0	2,408.4	2,427.5	2,451.9	2,459.1	2,473.3	2,511.4
Commodity-producing industries, total.....do.....	625.5	649.8	657.6	662.9	667.3	666.3	669.4	673.5	685.0	685.1	687.7	694.4	699.3	700.2	704.2	716.4
Manufacturing.....do.....	473.1	490.3	497.4	499.8	502.3	501.8	505.2	507.3	516.3	514.3	516.8	521.1	524.4	524.9	528.4	539.4
Distributive industries.....do.....	498.9	531.7	539.9	545.7	547.6	548.6	554.8	559.3	560.4	568.5	571.6	576.3	583.9	584.7	587.5	596.1
Service industries.....do.....	575.9	646.8	656.1	667.4	674.7	706.4	689.1	689.0	690.2	699.5	706.1	712.0	721.8	725.1	730.3	745.8
Govt. and gov't. enterprises.....do.....	393.7	420.1	425.0	426.9	429.2	432.3	435.0	437.1	439.0	441.0	443.0	444.8	447.0	449.1	451.2	453.2
Other labor income.....do.....	196.1	207.9	210.3	211.4	212.4	213.3	214.0	214.6	215.2	215.8	216.4	217.4	218.5	219.5	220.5	221.5
Proprietors' income: ‡																
Farm.....do.....	36.4	43.0	31.1	67.9	31.6	41.4	35.9	41.5	56.8	44.8	45.2	40.3	33.9	30.8	26.5	46.7
Nonfarm.....do.....	250.3	270.0	273.3	277.8	278.6	280.6	278.6	279.0	283.3	285.2	287.5	289.4	291.1	291.1	294.6	298.8
Rental income of persons with capital consumption adjustment.....bil. \$..	12.4	18.4	18.5	19.5	20.5	21.5	20.8	20.5	20.2	19.3	18.9	19.0	19.5	20.1	20.8	21.3
Dividends.....do.....	82.8	88.6	90.6	91.3	91.9	92.4	92.8	94.0	94.7	95.0	95.4	96.3	97.5	98.0	98.9	99.9
Personal interest income.....do.....	499.1	527.0	539.0	545.0	550.0	555.1	554.4	554.1	558.3	563.7	568.7	574.6	581.2	588.2	594.2	594.2
Transfer payments.....do.....	521.1	548.8	552.7	556.4	556.1	557.9	572.2	574.6	582.2	582.8	582.0	583.6	585.8	587.8	588.3	591.5
Less: Personal contributions for social insurance.....do.....	161.1	172.0	173.4	175.1	175.8	176.8	189.1	190.2	191.2	192.4	193.4	194.6	196.2	196.5	197.4	199.4
Total nonfarm income.....do.....	3,472.5	3,716.0	3,768.8	3,808.5	3,831.9	3,877.1	3,865.5	3,884.7	3,908.7	3,935.4	3,955.1	3,983.3	4,018.7	4,038.5	4,065.2	4,117.0
<b>DISPOSITION OF PERSONAL INCOME †</b>																
Seasonally adjusted, at annual rates:																
Total personal income.....bil. \$..	3,531.1	3,780.0	3,820.8	3,897.2	3,884.1	3,939.0	3,921.8	3,946.7	3,985.9	4,001.0	4,021.4	4,044.9	4,073.7	4,090.5	4,112.9	4,185.0
Less: Personal tax and nontax payments.....do.....	511.4	570.3	580.5	585.2	588.2	599.5	578.1	570.0	579.5	643.5	579.9	579.6	584.2	585.9	588.9	595.3
Equals: Disposable personal income.....do.....	3,019.6	3,209.7	3,240.3	3,312.0	3,295.9	3,339.5	3,343.7	3,376.7	3,406.4	3,357.6	3,441.5	3,465.3	3,489.4	3,504.5	3,524.0	3,589.7
Less: Personal outlays.....do.....	2,898.0	3,105.5	3,160.7	3,156.5	3,165.7	3,193.1	3,206.9	3,222.9	3,247.2	3,259.6	3,289.8	3,331.4	3,339.3	3,372.1	3,375.7	3,401.3
Personal consumption expenditures.....do.....	2,807.5	3,012.1	3,066.0	3,061.4	3,070.3	3,097.0	3,109.8	3,125.4	3,149.0	3,161.3	3,190.9	3,231.5	3,238.9	3,271.1	3,274.5	3,299.7
Durable goods.....do.....	406.5	421.9	441.3	415.4	419.6	431.0	437.1	437.4	438.9	442.6	447.4	459.3	448.5	455.5	451.5	446.0
Nondurable goods.....do.....	943.6	997.9	1,008.0	1,006.8	1,011.5	1,018.8	1,009.1	1,011.9	1,027.5	1,025.7	1,038.2	1,046.0	1,063.0	1,064.4	1,068.4	1,074.8
Services.....do.....	1,457.3	1,592.3	1,616.7	1,639.2	1,639.2	1,647.2	1,663.6	1,676.0	1,682.6	1,693.1	1,705.3	1,726.1	1,737.4	1,751.2	1,754.6	1,778.9
Interest paid by consumers to business.....do.....	89.1	92.1	93.5	93.9	94.3	95.0	95.9	96.4	97.1	97.5	98.1	99.1	99.4	100.0	100.2	100.6
Personal transfer payments to foreigners (net).....do.....	1.4	1.3	1.3	1.2	1.2	1.2	1.2	1.2	1.2	.8	.8	.8	1.0	1.0	1.0	1.0
Equals: personal saving.....do.....	121.7	104.2	79.6	155.5	130.2	146.4	136.9	153.8	159.1	97.9	151.7	133.9	150.1	132.4	148.3	188.3
Personal saving as percentage of disposable personal income §.....percent..	4.0	3.2	3.0	3.7	4.3	4.1	4.3	4.4	4.1	4.0	3.7	4.2	4.0	4.1	4.4	.....
Disposable personal income in constant (1982) dollars.....bil. \$..	2,640.9	2,686.3	2,683.3	2,731.0	2,710.5	2,745.1	2,739.8	2,768.0	2,779.2	2,721.5	2,776.5	2,788.4	2,795.5	2,801.7	2,802.1	2,841.1
Personal consumption expenditures in constant (1982) dollars.....do.....	2,455.2	2,521.0	2,538.9	2,524.4	2,525.0	2,545.8	2,548.1	2,562.0	2,569.2	2,562.5	2,574.3	2,600.3	2,594.8	2,615.1	2,603.7	2,611.6
Durable goods.....do.....	385.0	390.9	405.2	382.0	385.6	395.2	399.8	401.7	402.0	405.0	408.7	418.0	407.8	412.6	408.2	402.2
Nondurable goods.....do.....	879.5	890.5	889.2	885.8	889.1	896.6	887.7	892.1	898.3	888.1	893.5	899.1	901.0	909.4	906.0	908.0
Services.....do.....	1,190.7	1,239.5	1,244.5	1,256.6	1,250.2	1,254.1	1,260.7	1,268.2	1,269.0	1,269.4	1,272.0	1,283.1	1,286.0	1,289.0	1,289.5	1,301.5
Implicit price deflator for personal consumption expenditures.....index, 1982=100..	114.3	119.5	120.8	121.3	121.6	121.7	122.0	122.0	122.6	123.4	124.0	124.3	124.8	125.1	125.8	126.3
<b>INDUSTRIAL PRODUCTION ◊</b>																
<i>Federal Reserve Board Index of Quantity Output</i>																
<b>Not Seasonally Adjusted</b>																
Total index.....1977=100..	125.1	129.8	135.3	135.2	132.7	129.9	130.8	134.2	134.1	133.9	135.0	139.3	136.3	141.6	143.2	141.8
By industry groupings:																
Mining and utilities.....do.....	103.5	104.3	106.2	104.7	106.9	108.1	111.8	111.2	106.1	103.5	101.3	106.5	108.3	112.8	108.1	104.6
Manufacturing.....do.....	129.1	134.7	140.9	141.0	137.5	134.0	134.4	138.5	139.4	139.6	141.3	145.5	141.5	147.0	149.8	149.0
Nondurable manufactures.....do.....	130.1	136.8	145.8	143.0	139.1	135.0	134.2	138.4	139.2	139.8	140.7	146.4	145.1	151.5	153.0	150.5
Durable manufactures.....do.....	128.4	133.1	137.3	139.6	136.3	133.3	134.6	138.6	139.5	139.4	141.6	144.8	138.9	143.9	147.6	147.9
<b>Seasonally Adjusted</b>																
Total index.....do.....	125.1	129.8	131.0	132.5	133.2	133.9	134.4	134.4	134.7	135.4	136.1	136.5	138.0	138.4	138.7	139.2
By market groupings:																
Products, total.....do.....	133.3	138.3	139.4	140.9	141.0	141.3	142.7	143.4	143.6	144.1	145.0	145.3	146.5	147.1	147.4	148.4
Final products.....do.....	132.4	136.8	137.8	139.3	139.2	139.8	141.1	141.6	141.8	142.5	143.5	144.0	145.0	145.7	146.0	146.8
Consumer goods.....do.....	124.0	127.8	127.7	129.0	129.4	129.8	131.2	131.3	131.2	131.9	132.7	133.0	134.2	134.9	134.7	135.5

See footnotes at end of tables.

Units	Annual		1987				1988									
	1986	1987	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
	GENERAL BUSINESS INDICATORS—Continued															
<b>INDUSTRIAL PRODUCTION</b> ◊—Continued																
Seasonally Adjusted—Continued																
By market groupings—Continued																
Final products—Continued																
Durable consumer goods..... 1977=100.....	115.6	120.2	118.6	124.3	123.9	120.3	121.7	120.6	120.4	123.3	125.6	125.3	125.3	125.4	125.6	127.0
Automotive products.....do.....	115.3	118.5	114.2	124.3	121.3	115.4	118.7	117.6	120.6	121.9	127.1	127.1	124.4	123.8	126.1	128.2
Autos and trucks, consumer.....do.....	112.9	115.1	107.2	122.2	118.7	110.2	112.8	111.8	116.4	118.0	126.9	125.3	120.8	122.8	124.6	127.9
Autos, consumer.....do.....	97.3	90.7	79.1	94.7	91.9	83.7	77.5	79.5	86.3	91.0	98.9	99.0	93.8	92.6	97.4	100.7
Trucks, consumer.....do.....	141.8	160.5	159.4	173.2	168.5	159.5	173.3	171.6	172.2	168.2	178.9	174.1	170.8	179.0	175.3	180.1
Home goods.....do.....	115.8	121.6	121.9	124.3	125.8	123.9	124.0	122.8	120.2	124.3	124.4	123.9	125.9	125.1	126.1	126.1
Nondurable consumer goods.....do.....	127.1	130.6	131.0	130.8	131.5	133.3	134.7	135.3	135.1	135.1	135.4	135.8	137.5	138.4	138.0	138.6
Consumer staples.....do.....	133.9	137.4	137.8	137.4	138.3	140.7	142.3	142.9	142.5	142.5	143.1	143.5	145.3	146.5	146.0	146.9
Consumer foods and tobacco.....do.....	132.7	136.3	137.0	137.5	137.3	139.2	140.3	140.8	139.4	138.3	139.2	139.3	141.1	141.3	141.4	141.4
Nonfood staples.....do.....	135.2	138.5	138.6	137.2	139.4	142.2	144.3	145.0	145.7	146.8	147.0	147.9	149.6	151.9	150.8	151.7
Equipment.....do.....	143.6	148.9	151.2	153.0	152.2	153.1	154.3	155.3	155.9	156.5	157.7	158.5	159.4	159.9	160.9	161.7
Business and defense equipment.....do.....	148.1	153.6	155.2	157.2	156.6	157.8	159.2	160.3	160.8	161.4	162.7	163.5	164.6	165.1	166.2	167.2
Business equipment.....do.....	139.4	144.5	146.3	148.7	148.3	149.8	151.2	152.4	153.3	154.6	156.9	158.1	159.3	160.1	161.4	162.7
Construction, mining, and farm.....do.....	55.7	62.2	66.1	66.5	66.3	67.4	67.1	67.6	68.3	70.8	71.8	72.4	73.6	72.5	73.4	74.2
Manufacturing.....do.....	114.0	117.9	122.0	120.5	120.6	122.2	125.4	124.9	127.0	127.7	128.3	130.3	132.4	134.5	137.1	139.5
Power.....do.....	82.4	82.6	81.1	83.0	83.1	84.2	86.2	88.3	87.8	87.4	88.3	89.8	89.8	91.3	93.0	94.0
Commercial.....do.....	217.4	226.5	229.1	232.4	232.1	235.5	238.0	240.3	239.9	241.5	245.7	247.1	248.2	249.1	249.7	249.9
Transit.....do.....	108.8	108.4	105.1	112.5	111.2	109.1	106.5	108.2	111.1	108.3	115.3	115.7	115.9	115.5	116.9	119.5
Defense and space equipment.....do.....	182.0	188.9	189.8	190.3	188.7	188.9	190.6	191.0	189.9	187.9	185.5	184.6	184.9	184.7	184.7	184.6
Intermediate products.....do.....	136.2	143.4	144.9	146.1	147.3	146.5	148.1	149.4	149.9	149.6	150.4	150.0	151.6	152.2	152.5	153.9
Construction supplies.....do.....	126.4	131.5	132.3	133.3	134.2	133.8	136.8	137.7	137.3	137.6	138.8	137.6	138.4	138.1	138.6	140.4
Business supplies.....do.....	144.6	153.5	155.6	157.1	158.4	157.4	157.8	159.4	160.7	159.9	160.3	160.6	162.8	164.2	164.4	164.4
Materials.....do.....	113.8	118.2	119.7	121.2	122.5	123.7	123.0	122.1	122.5	123.6	123.9	124.5	126.4	126.6	126.8	126.8
Durable goods materials.....do.....	120.0	125.0	126.4	128.7	130.2	132.0	131.8	131.4	131.3	132.7	134.8	134.9	136.8	136.5	138.0	138.2
Nondurable goods materials.....do.....	117.5	125.9	128.6	128.2	129.6	132.5	129.9	128.1	130.1	131.1	130.1	130.1	132.8	133.0	133.1	133.3
Energy materials.....do.....	99.7	99.8	100.2	101.8	102.8	101.7	101.4	100.6	100.6	101.0	99.5	101.3	102.7	103.5	101.9	101.2
By industry groupings:																
Mining and utilities.....do.....	103.5	104.3	105.4	106.8	107.9	107.3	107.8	106.8	106.7	107.1	106.0	106.8	108.1	109.2	107.4	106.9
Mining.....do.....	100.4	100.7	101.9	103.6	104.6	104.6	103.3	101.5	102.7	104.7	102.6	103.0	104.3	104.0	103.8	102.8
Metal mining.....do.....	74.2	77.6	86.5	85.6	90.4	96.5	91.5	83.9	84.9	86.9	86.0	82.2	94.0	96.5	96.5	96.5
Coal.....do.....	127.7	131.8	133.3	140.3	142.9	140.6	140.2	133.7	129.1	136.0	127.8	126.9	141.5	137.2	142.2	142.2
Oil and gas extraction #.....do.....	93.9	92.7	93.3	94.1	94.2	94.1	93.1	92.4	94.8	95.5	94.6	95.8	93.3	93.6	92.1	90.4
Crude oil.....do.....	105.0	100.3	97.9	100.7	101.1	100.7	99.6	98.4	100.9	101.4	99.4	100.5	98.3	98.5	97.5	97.5
Natural gas.....do.....	83.9	85.5	84.9	84.5	85.2	85.6	87.2	87.1	86.1	85.4	87.2	87.7	84.9	84.9	84.9	84.9
Stone and earth minerals.....do.....	123.1	128.2	130.0	131.0	134.1	135.6	132.1	134.3	136.9	141.2	140.1	137.4	140.2	141.2	140.1	140.1
Utilities.....do.....	108.5	110.3	111.2	112.1	113.2	111.7	115.2	115.6	113.3	111.0	111.6	113.2	114.4	117.8	113.3	113.7
Electric.....do.....	122.4	126.6	127.5	126.8	127.5	125.6	130.3	130.7	129.0	127.6	129.7	132.1	134.6	138.8	132.1	138.8
Manufacturing.....do.....	129.1	134.7	135.7	137.3	137.9	138.9	139.4	139.5	140.0	140.8	141.8	142.1	143.6	143.9	144.5	145.2
Nondurable manufactures.....do.....	130.1	136.8	138.6	138.1	139.6	141.3	141.4	141.1	141.7	142.3	142.1	142.6	144.6	145.0	145.3	145.7
Foods.....do.....	134.4	137.3	139.5	138.0	138.9	140.1	141.2	141.9	141.1	140.3	141.0	141.3	143.3	143.1	143.0	143.0
Tobacco products.....do.....	97.1	103.5	101.7	103.7	106.5	105.8	105.8	107.2	107.2	107.2	107.2	104.5	106.0	105.1	105.1	105.1
Textile mill products.....do.....	109.2	115.9	118.2	116.8	117.3	118.2	116.2	115.3	117.0	117.3	114.6	114.3	117.1	116.3	116.6	116.6
Apparel products.....do.....	103.1	107.4	107.6	108.0	109.4	107.8	108.7	108.5	108.7	109.2	108.6	109.3	109.4	109.9	109.9	109.9
Paper and products.....do.....	136.5	144.4	147.4	146.0	148.3	150.6	149.9	148.0	149.1	149.2	149.5	148.6	152.3	150.8	150.3	150.3
Printing and publishing.....do.....	160.9	172.1	174.9	175.2	175.7	176.9	177.5	178.7	180.4	181.8	180.7	182.3	184.9	186.1	187.4	187.5
Chemicals and products.....do.....	132.0	140.2	142.4	141.5	144.4	147.9	147.9	145.4	146.4	148.9	149.1	150.5	153.4	154.7	155.2	155.2
Petroleum products.....do.....	92.7	93.5	93.5	94.6	93.3	96.1	96.3	95.9	98.4	98.5	95.2	94.1	95.0	95.9	95.4	96.9
Rubber and plastics products.....do.....	151.4	163.6	165.2	166.7	169.9	170.6	170.5	172.3	172.2	172.3	173.4	174.4	175.4	175.0	176.6	176.6
Leather and products.....do.....	61.4	60.0	60.7	59.6	60.7	57.5	58.3	59.7	59.5	58.0	57.1	58.9	59.1	59.4	60.2	60.2
Durable manufactures.....do.....	128.4	133.1	133.7	136.8	136.7	137.3	137.9	138.4	138.8	139.7	141.5	141.7	142.9	143.1	144.0	144.8
Lumber and products.....do.....	124.1	130.3	126.9	129.8	134.0	133.6	136.3	139.0	137.8	138.0	139.8	136.4	136.6	133.5	133.0	133.0
Furniture and fixtures.....do.....	143.8	152.8	155.9	156.0	158.5	159.4	158.0	158.3	159.4	159.2	160.5	161.2	162.9	163.5	163.5	163.5
Clay, glass, and stone products.....do.....	118.2	119.1	118.6	118.9	120.5	120.1	120.4	121.6	122.5	121.4	121.5	123.4	122.2	122.3	122.6	122.6
Primary metals.....do.....	75.1	81.3	84.5	90.6	90.2	90.6	86.5	86.4	85.1	85.3	89.2	87.5	91.5	91.1	91.3	91.6
Iron and steel.....do.....	63.4	70.6	74.6	82.0	79.7	81.9	77.8	74.2	74.5	78.6	74.2	80.2	79.1	81.3	81.3	81.3
Nonferrous metals.....do.....	97.2	101.6	103.3	106.9	110.0	107.0	103.0	103.5	105.7	105.6	109.1	112.7	112.7	113.8	115.3	115.3
Fabricated metal products.....do.....	108.0	111.0	111.1	113.5	112.6	115.8	117.1	117.6	118.8	118.8	119.8	120.4	121.7	121.8	122.6	123.2
Nonelectrical machinery.....do.....	145.0	152.7	156.6	158.0	157.2	161.0	162.9	163.6	164.6	167.2	170.3	171.2	173.1	174.1	176.0	177.7
Electrical machinery.....do.....	165.7	172.3	173.4	175.5	175.6	175.9	177.4	177.8	176.6	178.7	179.1	179.5	181.5	182.5	182.9	183.3
Transportation equipment.....do.....	127.5	129.2	125.5	132.0	130.4	128.1	128.6	128.4	130.0	130.4	133.1	132.8	131.9	131.7	131.7	131.4
Motor vehicles and parts.....do.....	111.5	111.8	105.6	116.0	114.0	110.2	109.7	109.3	113.0	114.8	119.6	119.1	116.6	117.3	118.6	121.2
Instruments.....do.....	139.8	143.9	145.6	146.7	147.8	145.5	148.2	149.2	149.7	150.5	151.3	150.8	156.4	156.4	157.0	158.0
<b>BUSINESS SALES</b>																
Mfg. and trade sales (unadj.), total \$.....mil. \$.....	5,090,127	5,421,451	4,722,215	4,765,516	4,573,997	4,922,797	4,207,740	4,48								

Units	Annual		1987				1988									
	1986	1987	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
	GENERAL BUSINESS INDICATORS—Continued															
<b>BUSINESS INVENTORIES</b>																
Mfg. and trade inventories, book value (non-LIFO basis), end of period, (unadjusted), total †.....mil. \$.	645,225	696,652	682,936	704,365	711,539	696,652	703,279	714,741	721,685	727,433	727,528	729,780	731,876	734,849	743,933	
Mfg. and trade inventories, book value (non-LIFO basis), end of period, (seas. adj.), total †.....mil. \$.	655,065	707,329	*686,700	694,810	700,688	707,329	711,586	714,746	717,249	721,016	725,381	730,916	735,890	*743,851	749,375	
Manufacturing, total.....do	316,182	331,132	323,877	325,716	329,075	331,132	333,374	335,416	336,695	337,936	340,074	341,963	343,788	*345,798	347,881	
Durable goods industries.....do	208,313	216,598	211,334	212,863	215,557	216,598	218,507	219,913	220,523	221,405	222,948	224,000	225,467	*226,600	228,357	
Nondurable goods industries.....do	107,869	114,534	112,543	112,853	113,518	114,534	114,867	115,503	116,172	116,531	117,126	117,963	118,321	*119,198	119,524	
Retail trade, total.....do	185,996	211,100	*203,202	206,577	208,260	211,100	209,824	208,698	208,822	209,550	211,889	213,952	214,795	*218,888	222,120	
Durable goods stores.....do	91,085	107,948	*101,928	104,846	106,490	107,948	106,377	104,479	103,631	104,349	106,551	107,607	108,020	*111,078	114,529	
Nondurable goods stores.....do	94,911	103,152	*101,274	101,731	101,770	103,152	103,447	104,219	105,191	105,201	105,338	106,345	106,775	*107,810	107,591	
Merchant wholesalers, total.....do	152,887	165,097	*159,621	162,517	163,353	165,097	168,388	170,632	171,732	173,530	173,418	175,001	177,307	*179,165	179,374	
Durable goods establishments.....do	100,871	107,996	*104,257	106,734	106,603	107,996	111,259	112,661	113,694	114,812	113,666	112,674	114,702	*115,685	116,606	
Nondurable goods establishments.....do	52,016	57,101	*55,364	55,783	56,850	57,101	57,129	57,971	58,038	58,718	59,752	62,327	62,605	*63,480	62,768	
Mfg. and trade inventories in constant (1982) dollars, end of period(seas. adj.),total \$...bil. \$.			660.5	666.4	669.9	674.9	679.9	683.2	684.9	686.2	688.0	689.7	*689.4	*693.3	695.4	
Manufacturing.....do			318.7	319.3	320.9	322.3	324.4	325.7	326.3	326.5	327.2	327.7	*327.8	*328.6	329.3	
Retail trade.....do			185.1	187.6	189.0	191.3	191.5	191.2	191.7	191.9	193.9	195.1	*194.1	*196.4	198.0	
Merchant wholesalers.....do			156.7	159.5	160.0	161.2	163.9	166.3	166.9	167.8	166.9	166.9	167.6	*168.4	168.0	
<b>BUSINESS INVENTORY-SALES RATIOS</b>																
Manufacturing and trade, total †.....ratio.	1.55	1.50	1.48	1.50	1.52	1.52	1.53	1.53	1.50	1.51	1.51	1.50	1.50	1.50	1.51	
Manufacturing, total.....do	1.70	1.61	1.59	1.59	1.60	1.60	1.62	1.62	1.59	1.59	1.58	1.56	1.59	1.56	1.57	
Durable goods industries.....do	2.11	2.00	1.95	1.97	1.99	1.95	2.00	2.00	1.96	1.97	1.94	1.92	1.99	1.92	1.94	
Materials and supplies.....do	.61	.57	.56	.56	.56	.55	.57	.56	.55	.55	.55	.55	.55	.55	.55	
Work in process.....do	.97	.91	.90	.90	.92	.90	.92	.93	.90	.91	.90	.89	.92	.88	.89	
Finished goods.....do	.54	.51	.50	.50	.51	.50	.51	.51	.50	.50	.49	.48	.50	.49	.50	
Nondurable goods industries.....do	1.24	1.18	1.18	1.17	1.17	1.19	1.18	1.19	1.17	1.16	1.16	1.15	1.14	1.15	1.15	
Materials and supplies.....do	.47	.46	.46	.46	.45	.46	.46	.46	.45	.45	.45	.45	.45	.45	.45	
Work in process.....do	.20	.19	.19	.19	.19	.19	.19	.19	.19	.19	.19	.19	.19	.18	.18	
Finished goods.....do	.57	.53	.53	.52	.52	.53	.53	.54	.52	.52	.52	.51	.51	.51	.52	
Retail trade, total.....do	1.56	1.58	*1.58	1.63	1.64	1.64	1.63	1.60	1.58	1.59	1.60	1.60	1.60	1.62	1.65	
Durable goods stores.....do	2.07	2.14	*2.11	*2.23	2.26	2.25	2.18	2.10	2.07	2.11	2.12	2.12	2.13	*2.21	2.31	
Nondurable goods stores.....do	1.25	1.25	1.27	1.27	1.27	1.28	1.29	1.30	1.29	1.29	1.28	1.28	1.28	1.28	1.27	
Merchant wholesalers, total.....do	1.30	1.25	*1.22	1.23	1.27	1.29	1.30	1.30	1.29	1.30	1.30	1.28	1.28	*1.29	1.28	
Durable goods establishments.....do	1.76	1.69	*1.65	1.66	1.71	1.74	1.78	1.77	1.75	1.74	1.72	1.70	1.71	1.72	1.73	
Nondurable goods establishments.....do	.86	.83	*.82	.83	.86	.86	.85	.85	.85	.88	.89	.89	.88	.88	.87	
Manufacturing and trade in constant (1982) dollars, total \$.....do			1.48	1.49	1.51	1.52	1.53	1.52	1.50	1.51	1.51	1.51	1.51	*1.51	1.51	
Manufacturing.....do			1.60	1.59	1.60	1.60	1.62	1.62	1.60	1.59	1.58	1.58	1.60	1.58	1.59	
Retail trade.....do			1.55	1.58	1.59	1.59	1.59	1.57	1.56	1.57	1.58	1.59	*1.57	*1.59	1.62	
Merchant wholesalers.....do			1.22	1.25	1.29	1.31	1.31	1.31	1.31	1.32	1.32	1.31	1.32	1.32	1.32	
<b>MANUFACTURERS' SHIPMENTS, INVENTORIES, AND ORDERS †</b>																
Shipments (not seas. adj.), total.....mil. \$.	2,260,317	2,390,045	215,590	210,597	204,204	202,861	188,349	207,962	222,888	213,670	216,450	232,773	199,670	*217,031	234,533	
Durable goods industries, total.....do	1,199,867	1,263,492	114,346	112,009	107,526	108,990	97,328	110,727	121,221	114,059	116,049	126,159	101,893	*112,493	124,836	
Stone, clay, and glass products.....do	57,274	62,142	5,629	6,089	5,241	4,649	4,449	4,933	5,374	5,445	5,505	5,767	4,999	*5,653	5,864	
Primary metals.....do	105,648	117,092	10,517	10,732	10,672	10,765	10,280	11,112	12,150	11,772	11,970	12,922	10,728	*11,930	12,561	
Blast furnaces, steel mills.....do	44,787	50,812	4,520	4,749	4,710	4,661	4,586	5,031	5,417	5,305	5,256	5,577	4,641	*4,978	5,172	
Fabricated metal products.....do	137,976	135,005	11,617	11,455	10,999	10,390	10,212	11,704	12,446	11,951	12,338	13,338	10,832	*11,845	12,755	
Machinery, except electrical.....do	208,529	216,605	20,402	18,523	17,945	20,846	16,521	18,955	21,993	19,929	20,147	23,727	18,553	*19,565	23,108	
Electrical machinery.....do	196,245	210,695	19,690	18,210	18,708	18,987	16,391	18,187	19,752	17,760	18,309	20,102	16,961	*18,845	21,109	
Transportation equipment.....do	313,826	323,026	28,173	28,722	27,375	27,213	24,460	28,860	31,488	29,219	30,383	31,388	22,550	*27,100	30,573	
Motor vehicles and parts.....do	191,552	197,409	16,713	18,369	17,067	14,055	15,500	18,475	19,423	18,686	19,646	19,733	12,605	*16,616	19,141	
Instruments and related products.....do	61,910	66,805	6,144	5,791	5,686	5,859	5,140	5,716	6,263	5,939	5,894	6,590	5,895	*5,900	6,512	
Nondurable goods industries, total.....do	1,060,450	1,126,553	101,244	98,588	96,678	93,871	91,021	97,235	101,667	99,611	100,401	106,614	98,277	*104,538	109,697	
Food and kindred products.....do	308,523	324,996	29,193	28,258	27,716	27,526	26,564	27,971	29,178	28,438	29,130	31,036	29,479	*29,913	32,558	
Tobacco products.....do	19,073	19,935	2,092	1,882	2,007	2,322	955	1,466	2,106	1,444	2,244	2,192	1,275	*1,771	2,353	
Textile mill products.....do	55,349	57,481	5,343	5,185	4,874	4,426	4,143	4,726	5,103	4,872	4,888	5,419	4,256	*5,186	5,603	
Paper and allied products.....do	97,854	110,252	9,670	9,676	9,360	9,474	9,520	10,075	10,194	10,213	10,201	10,859	10,076	*10,639	10,939	
Chemical and allied products.....do	197,090	212,705	19,064	17,780	17,600	18,053	18,317	19,393	20,721	20,419	19,838	20,887	18,748	*20,342	21,091	
Petroleum and coal products.....do	124,878	124,528	10,952	10,984	10,699	10,241	9,790	9,542	9,847	10,395	10,556	10,867	10,877	*10,966	10,385	
Rubber and plastics products.....do	73,385	80,510	7,003	7,320	6,942	6,334	6,447	7,249	7,668	7,619	7,662	8,066	6,935	*7,707	8,132	
Shipments (seas. adj.), total.....do			203,806	204,706	205,495	207,447	206,283	206,932	211,778	213,036	215,777	218,881	216,698	*221,715	221,405	
By industry group.....do																
Durable goods industries, total #.....do			108,377	108,303	108,287	111,183	109,125	109,829	112,744	112,521	114,751	116,522	113,122	*117,866	117,828	
Stone, clay, and glass products.....do			5,193	5,753	5,364	5,373	5,193	5,226	5,299	5,184	5,211	5,305	5,115	*5,435	5,411	
Primary metals.....do			10,433	10,558	11,094	11,351	10,855	10,755	11,472	11,254	11,576	12,201	11,667	*11,990	12,273	
Blast furnaces, steel mills.....do			4,565	4,724	4,979	5,097	4,745	4,882	5,152	5,023	5,061	5,160	5,032	*5,091	5,172	
Fabricated metal products.....do			11,071	10,888	11,276	11,509	11,306	11,659	11,779	11,785	12,082	12,398	11,519	*11,870	12,102	
Machinery, except electrical.....do			18,787	18,708	18,316	19,254	19,248	19,368	19,692	20,113	20,346	21,003	20,749	*21,488	21,288	
Electrical machinery.....do			18,069	17,857	18,262	18,322	18,421	18,235	18,480	18,444	18,588	18,742	19,019	*19,131	19,302	
Transportation equipment.....do																

Unless otherwise stated in footnotes below, data through 1986 and methodological notes are as shown in BUSINESS STATISTICS: 1986

Units	Annual		1987				1988									
	1986	1987	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
<b>GENERAL BUSINESS INDICATORS—Continued</b>																
<b>MANUFACTURERS' SHIPMENTS, INVENTORIES, AND ORDERS +—Continued</b>																
Shipments (seas. adj.)—Continued																
By market category:																
Home goods and apparel.....mil. \$	'156,166	'164,861	13,996	13,815	13,810	13,798	14,003	13,962	13,786	13,890	13,958	14,297	14,270	'14,073	14,182	
Consumer staples.....do	'493,621	'461,025	38,917	38,970	39,612	39,178	39,970	39,749	40,507	41,266	41,474	41,538	41,765	'42,823	42,497	
Equipment and defense products, except auto.....do	'373,460	'391,189	33,885	33,306	32,841	34,681	34,570	34,524	35,337	35,398	35,651	36,288	36,557	'36,507	37,018	
Automotive equipment.....do	'215,314	'223,069	18,699	19,292	18,835	18,939	18,213	18,996	19,854	19,622	20,755	20,793	18,685	'21,888	21,137	
Construction materials, supplies, and intermediate products.....do	'178,779	'192,664	16,254	16,794	16,802	16,851	16,576	16,795	16,983	16,976	16,958	17,125	16,646	'16,963	17,059	
Other materials, supplies, and intermediate products.....do	'897,977	'957,237	82,055	82,529	83,595	84,000	82,951	82,906	85,311	85,884	86,981	88,842	88,775	'89,461	89,512	
Supplementary series:																
Household durables.....do	'71,399	'75,607	6,350	6,337	6,505	6,342	6,565	6,509	6,416	6,484	6,567	6,292	6,424	'6,571	6,529	
Capital goods industries.....do	'427,068	'445,633	38,912	37,772	37,496	38,797	39,151	38,776	39,906	39,542	40,045	40,543	40,675	'41,449	41,343	
Nondefense.....do	'320,302	'336,190	29,385	28,859	28,555	29,491	30,274	30,179	30,593	31,001	31,668	31,822	32,012	'32,414	32,517	
Defense.....do	'106,766	'109,443	9,527	8,933	8,941	9,306	8,877	8,597	9,313	8,541	8,377	8,721	8,663	'9,035	8,826	
Inventories, end of year or month:																
Book value (non-LIFO basis), (unadjusted), total.....do																
Durable goods industries, total.....do	311,124	325,695	322,794	325,299	327,519	325,695	331,784	336,650	337,392	340,312	343,446	342,678	344,304	'346,830	346,406	
Nondurable goods industries, total.....do	106,897	113,430	111,070	112,727	114,125	112,265	115,239	116,256	112,136	117,193	117,800	117,632	118,208	'119,309	118,512	
Book value (non-LIFO basis), (seasonally adjusted), total.....do																
Durable goods industries, total.....do	316,182	331,132	323,877	325,716	329,075	331,132	333,374	335,416	336,695	337,936	340,074	341,963	343,788	'345,798	347,881	
By industry group:																
Durable goods industries, total #.....do																
Stone, clay, and glass products.....do	7,118	7,216	7,154	7,203	7,207	7,216	7,236	7,217	7,169	7,220	7,297	7,198	7,276	'7,293	7,331	
Primary metals.....do	17,822	18,189	17,280	17,542	17,859	18,189	18,476	18,790	18,845	18,851	18,897	18,730	18,958	'19,246	19,576	
Blast furnaces, steel mills.....do	8,325	8,590	8,033	8,226	8,370	8,590	8,867	9,004	9,046	9,103	9,067	9,029	9,206	'9,351	9,539	
Fabricated metal products.....do	21,661	22,684	22,301	22,455	22,555	22,684	22,992	23,142	22,900	23,129	23,111	22,831	22,925	'23,266	23,542	
Machinery, except electrical.....do	42,054	41,935	40,972	41,352	41,631	41,935	42,206	42,441	42,846	43,018	43,497	43,942	44,391	'45,123	45,939	
Electrical machinery.....do	38,405	39,396	38,657	38,866	39,451	39,596	39,535	39,642	39,526	39,440	39,438	39,493	39,558	'39,791	39,932	
Transportation equipment.....do	52,061	57,203	55,241	56,009	57,060	57,203	57,891	58,206	58,739	59,309	59,997	60,932	61,206	'60,621	60,843	
Motor vehicles and parts.....do	11,092	11,391	11,279	11,214	11,413	11,391	11,704	11,606	11,485	11,443	11,419	11,574	11,548	'11,618	11,570	
Instruments and related products.....do	12,550	12,669	12,669	12,530	12,583	12,669	12,704	12,786	12,802	12,907	13,109	13,127	13,275	'13,455	13,520	
By stage of fabrication:																
Materials and supplies.....do																
Work in process.....do	94,466	99,952	97,268	97,991	99,614	99,952	100,751	101,955	101,709	102,665	103,678	104,112	104,257	'104,927	104,477	
Finished goods.....do	53,629	55,391	53,868	54,543	55,092	55,391	56,003	56,128	56,262	56,199	56,165	56,366	57,072	'57,675	58,501	
Nondurable goods industries, total #.....do																
Food and kindred products.....do	107,869	114,534	112,543	112,853	113,518	114,534	114,867	115,503	116,172	116,531	117,126	117,963	118,321	'119,198	119,524	
Tobacco products.....do	23,630	24,744	24,655	24,600	24,655	24,744	24,670	24,861	24,862	25,068	25,140	25,068	25,140	'25,688	25,789	
Textile mill products.....do	5,621	5,586	5,770	5,661	5,630	5,586	5,632	5,606	5,638	5,669	5,613	5,703	5,784	'5,848	5,746	
Paper and allied products.....do	7,127	7,458	7,452	7,500	7,511	7,458	7,537	7,495	7,484	7,552	7,588	7,571	7,742	'7,737	7,481	
Chemicals and allied products.....do	10,369	11,242	11,002	10,949	10,969	11,242	11,326	11,393	11,316	11,391	11,390	11,436	11,530	'11,647	11,819	
Petroleum and coal products.....do	24,400	25,061	24,331	24,568	24,714	25,061	25,459	25,765	25,922	25,633	25,742	25,954	26,154	'26,544	26,727	
Rubber and plastics products.....do	9,216	9,951	10,090	10,059	10,024	9,951	9,694	9,693	9,937	10,055	10,154	10,024	9,839	'9,518	9,408	
By stage of fabrication:																
Materials and supplies.....do																
Work in process.....do	41,540	44,354	43,944	43,901	44,123	44,354	44,694	44,858	45,458	45,578	45,790	46,255	46,350	'46,931	47,274	
Finished goods.....do	17,360	18,752	18,428	18,460	18,322	18,752	18,759	18,610	18,921	19,061	19,075	19,179	19,218	'19,163	18,865	
By market category:	49,969	51,428	50,176	50,492	50,773	51,428	51,414	52,035	51,823	51,892	52,261	52,658	52,753	'53,104	53,385	
Home goods and apparel.....do																
Consumer staples.....do	24,713	26,772	25,869	26,158	26,339	26,772	26,615	26,689	26,645	26,492	26,696	26,643	26,544	'26,662	26,587	
Equip. and defense prod., exc. auto.....do	40,783	42,399	41,875	41,952	42,110	42,399	42,430	42,704	43,068	43,111	43,010	43,510	43,793	'44,157	44,242	
Automotive equipment.....do	92,644	96,004	93,599	94,474	95,622	96,004	96,530	97,063	98,120	98,492	99,582	100,817	100,716	'101,110	101,954	
Construction materials, supplies, and intermediate products.....do	13,561	14,013	13,878	13,824	14,115	14,013	14,327	14,201	14,088	14,062	14,068	14,309	14,414	'14,411	14,409	
Other materials, supplies, and intermediate products.....do	23,027	24,222	23,725	23,787	24,086	24,222	24,754	24,844	24,618	24,758	24,857	24,762	25,022	'25,142	25,146	
Supplementary series:																
Household durables.....do	121,454	127,722	124,931	125,521	126,803	127,722	128,718	129,915	130,156	131,021	131,861	132,102	133,119	'134,316	135,525	
Capital goods industries.....do	12,465	12,843	12,760	12,837	12,881	12,843	12,888	12,924	12,801	12,599	12,650	12,609	12,653	'12,620	12,670	
Nondefense.....do	105,627	110,643	107,575	108,686	110,258	110,643	111,273	112,012	112,971	113,689	114,833	116,012	116,243	'116,653	117,741	
Defense.....do	74,865	77,139	74,907	75,515	76,322	77,139	77,617	78,153	79,026	79,620	80,143	80,834	81,444	'82,582	82,913	
New orders, net (unadj.), total.....do	30,762	33,504	32,668	33,171	33,936	33,504	33,656	33,859	33,945	34,069	34,695	35,328	34,799	'34,071	34,828	
Durable goods industries, total.....do	2,263,954	2,423,597	2,15,731	211,833	206,442	207,295	198,988	215,304	225,993	216,330	214,369	239,026	203,370	'218,860	235,095	
Nondurable goods industries, total.....do	1,201,996	1,293,236	1,144,555	1,133,269	1,103,339	1,135,540	1,073,342	1,177,701	1,244,082	1,168,889	1,144,133	1,182,393	1,043,377	'1,144,410	1,254,467	
New orders, net (seas. adj.), total.....do	1,061,958	1,130,361	1,012,276	98,569	96,103	98,755	91,646	97,603	101,911	99,441	100,236	106,633	98,993	'104,450	109,628	
By industry group:																
Durable goods industries, total.....do																
Primary metals.....do	'1,201,996	'1,293,236	109,677	112,016	111,961	113,192	113,069	114,155	113,063	116,836	115,369	125,442	116,112	'122,806	118,888	
Blast furnaces, steel mills.....do	'105,943	'122,590	11,339	11,137	11,251	12,592	10,813	11,074	11,553	11,200	12,348	12,271	12,103	'11,794	12,508	
Nonferrous and other primary metals.....do	'45,466	'53,724	4,935	4,521	5,273	5,431	4,684	4,607	5,130	4,692	5,654	5,210	5,085	'4,788	5,412	
Fabricated metal products.....do	'50,210	'59,129	5,493	5,799	5,105	6,322	5,371	5,613	5,546	5,658	5,771	6,178	6,156	'6,097	6,130	
Machinery, except electrical.....do	'137,908	'136,494	11,230	11,493	11,150	11,683	10,669	11,918	11,775	11,640	12,038	11,958	11,471	'11,638	12,055	
Electrical machinery.....do	'203,112	'221,041	19,208	19,286	18,564	19,594	19,997	19,815	20,097	21,051	20,969	22,018	21,408	'22,851	21,631	
Transportation equipment.....do	'198,172	'212,442	18,528	18,476	19,531	18,753	19,133	18,082	17,839	18,417	18,865	18,461	19,039	'19,025	18,470	
Aircraft, missiles, and parts.....do	'318,291	'337,585	26,550	28,137	28,702	28,411	30,050	30,486	29,664	31,435	28,313	37,735	29,239	'34,707	31,303	
Nondurable goods industries, total.....do	'106,532	'116,408	8,594	9,997	9,076	10,262	11,653	12,005	9,464	11,479	8					

Units	Annual		1987				1988								
	1986	1987	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.

GENERAL BUSINESS INDICATORS—Continued

<b>MANUFACTURERS' SHIPMENTS, INVENTORIES, AND ORDERS #1—Continued</b>																
Unfilled orders, end of period (unadjusted), total.....mil. \$..	382,446	415,998	408,085	409,326	411,564	415,998	426,637	433,979	437,084	439,744	437,663	443,916	447,616	*449,445	450,007	
Durable goods industries, total.....do	366,819	396,563	387,940	389,200	392,013	396,563	406,577	413,551	416,412	419,242	417,326	423,560	426,544	*428,461	429,092	
Nondurable goods industries with unfilled orders †.....do	15,627	19,435	20,145	20,126	19,551	19,435	20,060	20,428	20,672	20,502	20,337	20,356	21,072	*20,984	20,915	
Unfilled orders, end of period (seasonally adjusted) total.....mil. \$..	387,065	421,243	411,467	415,363	419,126	421,243	425,162	429,513	429,534	433,527	434,148	443,357	446,536	*451,830	453,044	
By industry group:																
Durable goods industries, total #.....do	370,700	400,720	391,324	395,037	398,711	400,720	404,664	408,990	409,309	413,624	414,242	423,162	426,152	*431,092	432,152	
Primary metals.....do	18,259	23,896	22,419	22,998	23,155	23,896	23,854	24,143	24,224	24,170	24,942	25,012	25,448	*25,252	25,487	
Blast furnaces, steel mills.....do	8,702	11,637	11,152	10,949	11,243	11,637	11,576	11,301	11,279	10,948	11,541	11,591	11,644	*11,341	11,581	
Nonferrous and other primary metals.....do	7,701	10,265	9,335	10,128	9,932	10,265	10,276	10,807	10,872	11,136	11,293	11,295	11,626	*11,707	11,687	
Fabricated metal products.....do	28,519	29,970	29,317	29,922	29,796	29,970	29,333	29,592	29,588	29,443	29,399	28,959	28,911	*28,679	28,632	
Machinery, except electrical.....do	48,309	52,702	51,536	52,114	52,362	52,702	53,451	53,898	54,303	55,241	55,864	56,879	57,538	*58,901	59,244	
Electrical machinery.....do	91,932	93,696	91,377	91,996	93,265	93,696	94,408	94,255	93,614	93,587	93,564	93,283	93,303	*93,197	92,365	
Transportation equipment.....do	159,117	173,733	170,424	171,195	173,026	173,733	176,870	180,058	180,960	184,384	183,537	192,008	193,995	*198,019	199,440	
Aircraft, missiles, and parts.....do	131,534	144,343	140,763	142,266	142,915	144,343	147,082	150,535	150,744	153,599	153,459	157,516	159,569	*162,950	165,077	
Nondurable goods industries with unfilled orders †.....do	16,365	20,523	20,143	20,326	20,415	20,523	20,498	20,523	20,225	19,903	19,906	20,195	20,384	*20,738	20,892	
By market category:																
Home goods and apparel.....do	7,518	9,075	8,347	8,913	9,393	9,075	8,996	9,352	8,725	8,630	8,237	8,287	8,024	*8,121	8,304	
Consumer staples.....do	751	675	645	602	638	675	594	771	792	735	711	705	835	*883	886	
Equip. and defense prod., excl. auto.....do	234,406	252,751	246,219	247,740	250,955	252,751	254,023	258,043	258,669	260,278	259,242	267,218	269,814	*272,590	271,687	
Automotive equipment.....do	8,753	9,239	9,519	9,281	9,297	9,239	9,075	8,860	8,866	8,996	9,019	8,882	8,878	*8,715	8,786	
Construction materials, supplies, and intermediate products.....do	15,276	15,060	14,666	14,728	14,864	15,060	15,144	15,155	15,498	15,304	15,316	15,475	15,435	*15,494	15,438	
Other materials, supplies, and intermediate products.....do	120,361	134,443	132,071	134,099	134,239	134,443	137,330	137,332	136,984	139,584	141,623	142,790	143,550	*146,027	147,943	
Supplementary series:																
Household durables.....do	6,171	6,480	6,013	6,417	6,806	6,480	6,368	6,636	6,103	6,080	5,856	5,886	5,720	*5,817	5,975	
Capital goods industries.....do	281,046	301,674	295,113	297,423	300,406	301,674	305,613	309,136	309,219	313,294	312,986	321,730	324,263	*329,659	330,280	
Nondefense.....do	119,587	139,814	132,797	134,176	136,276	139,814	143,407	147,047	148,378	151,123	150,977	154,613	158,814	*165,208	167,625	
Defense.....do	161,459	161,860	162,316	163,247	164,130	161,860	162,206	162,089	160,841	162,171	162,009	167,117	165,449	*164,451	162,655	
<b>BUSINESS INCORPORATIONS @</b>																
New incorporations (50 States and Dist. Col.):																
Unadjusted.....number	702,101	683,686	*55,956	55,226	49,118	55,912	53,274	57,030	67,757	57,144	59,547	58,806	*53,439	60,186	53,980	
Seasonally adjusted.....do			*57,746	55,006	55,753	53,453	55,610	57,490	59,698	54,841	58,379	54,908	*57,277	59,649	56,112	
<b>INDUSTRIAL AND COMMERCIAL FAILURES @</b>																
Failures, total.....number	61,601	61,235	4,302	5,284	4,077	4,441	4,790	4,775	5,646	4,899						
Commercial service.....do	20,966	24,029	1,766	2,104	1,684	1,875	1,971	1,974	2,441	1,977						
Construction.....do	7,110	6,724	477	616	467	488	486	528	610	561						
Manufacturing and mining.....do	5,699	4,939	318	431	323	320	346	386	475	365						
Retail trade.....do	13,623	12,185	863	1,092	763	913	928	969	1,021	963						
Wholesale trade.....do	4,865	4,304	289	390	317	296	363	343	390	383						
Liabilities (current), total.....mil. \$..	43,284.7	33,024.5	2,026.2	3,151.6	1,610.5	5,516.2	4,101.3	4,093.3	3,370.9	2,892.8						
Commercial service.....do	8,370.2	8,088.7	495.4	565.2	454.6	544.3	773.8	1,433.1	894.6	790.7						
Construction.....do	1,782.7	2,278.6	85.1	153.3	84.3	107.6	97.5	172.0	332.7	86.3						
Manufacturing and mining.....do	8,955.8	4,746.4	141.0	199.5	173.3	1,382.7	262.3	1,194.5	359.7	203.7						
Retail trade.....do	2,718.0	3,713.7	144.3	229.7	168.7	1,531.7	186.7	152.3	278.4	230.9						
Wholesale trade.....do	2,035.4	1,336.8	89.1	81.8	128.1	62.6	82.8	112.0	86.0	115.4						
Failure annual rate.....No. per 10,000 concerns	120.0	102.0														

COMMODITY PRICES

<b>PRICES RECEIVED AND PAID BY FARMERS †</b>																
Prices received, all farm products.....1910-14=100..	561	578	588	579	601	581	599	592	593	594	614	627	642	657	*658	659
Crops #.....do	461	458	452	458	519	485	496	472	477	482	508	550	577	585	*583	582
Commercial vegetables.....do	646	717	639	606	1,054	880	990	644	678	658	574	580	629	732	*692	659
Cotton.....do	462	502	548	544	549	542	512	480	487	502	497	517	495	444	*437	422
Feed grains and hay.....do	309	269	264	270	278	291	294	304	307	316	330	401	449	437	*431	439
Food grains.....do	300	281	279	296	310	313	319	331	325	327	343	378	394	404	*415	431
Fruit.....do	630	674	682	726	873	627	628	615	603	592	722	661	596	669	*689	686
Tobacco.....do	1,339	1,255	1,338	1,316	1,262	1,259	1,305	1,298	1,298	1,228	1,228	1,228	1,225	1,254	1,361	1,388
Livestock and products #.....do	666	703	731	706	687	681	706	718	714	711	726	707	709	731	*737	738
Dairy products.....do	766	765	777	789	789	777	764	752	728	709	697	691	697	722	*759	783
Meat animals.....do	817	921	967	931	885	886	935	972	966	971	994	947	917	950	*944	946
Poultry and eggs.....do	293	244	250	223	237	224	230	217	231	223	241	260	311	313	317	302
Prices paid:																
Production items.....do	835	850		870			880			897			925			939
All commodities and services, interest, taxes, and wage rates (parity index).....1910-14=100..	1,096	1,115		1,132			1,138			1,158			1,182			1,198
Parity ratio \$.....do	51	52		51			53			51			*54			55
<b>CONSUMER PRICES ◊ (U.S. Department of Labor Indexes)</b>																
<b>Not Seasonally Adjusted</b>																
ALL ITEMS, WAGE EARNERS AND CLERICAL WORKERS, REVISED (CPI-W).....1982-84=100..	108.6	112.5	113.8	114.1	114.3	114.2	114.5	114.7	115.1	115.7	116.2	116.7	117.2	117.7	118.5	118.9
ALL ITEMS, ALL URBAN CONSUMERS (CPI-U).....1982-84=100..	109.6	113.6	115.0	115.3	115.4	115.4	115.7	116.0	116.5	117.1	117.5	118.0	118.5	119.0	119.8	120.2
Special group indexes:																
All items less shelter.....do	108.0	111.6	113.0	113.2	113.3	113.2	113.3	113.5	114.0	114.7	115.2	115.7	116.1	116.5	117.5	117.9
All items less food.....do	109.3	113.6	115.1	115.5	115.7	115.5	115.7	116.0	116.6	117.2	117.6	118.1	118.4	118.9	119.7	120.2
All items less medical care.....do	108.8	112.6	113.9	114.2	114.4	114.3	114.6	114.8	115.3	115.9	116.3	116.8	117.2	117.8	118.6	118.9

See footnotes at end of tables.

Units	Annual		1987				1988									
	1986	1987	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
<b>COMMODITY PRICES—Continued</b>																
<b>CONSUMER PRICES †—Continued</b>																
<i>(U.S. Department of Labor Indexes)—Continued</i>																
<b>Not Seasonally Adjusted</b>																
<b>All items (CPI-U)—Continued</b>																
Commodities.....1982-84=100	104.4	107.7	108.9	109.3	109.5	109.3	109.2	109.1	109.8	110.7	111.1	111.1	111.5	111.9	113.0	113.5
Nondurables.....do	103.5	107.5	109.0	109.4	109.5	109.1	109.0	109.8	111.0	111.4	111.4	111.9	112.4	113.7	114.2	
Nondurables less food.....do	98.5	101.8	104.0	104.6	104.8	103.7	102.8	102.7	104.1	105.6	106.0	105.5	105.4	105.9	107.7	108.3
Durables.....do	106.6	108.2	108.3	108.8	109.6	109.5	109.4	109.4	109.5	109.7	109.9	110.2	110.3	110.3	110.6	111.1
Commodities less food.....do	101.7	104.3	105.7	106.3	106.7	106.0	105.5	105.4	106.3	107.3	107.6	107.4	107.4	107.7	108.9	109.5
Services.....do	115.4	120.2	121.7	121.9	122.0	122.2	122.9	123.4	123.8	124.1	124.6	125.5	126.1	126.7	127.3	127.6
Food #.....do	109.0	113.5	114.1	114.3	114.2	114.7	115.7	115.7	115.9	116.6	117.0	117.6	118.8	119.4	120.2	120.3
Food at home.....do	107.3	111.9	112.4	112.4	112.1	112.8	114.1	113.9	113.9	114.6	115.1	115.8	117.3	118.1	119.0	119.0
Housing.....do	110.9	114.2	115.6	115.5	115.5	115.6	116.2	116.6	117.0	117.3	117.7	118.6	119.1	119.5	119.9	119.9
Shelter #.....do	115.8	121.3	122.5	123.2	123.4	123.7	124.6	125.0	125.6	125.8	126.2	126.6	127.4	128.2	128.4	128.8
Rent, residential.....do	118.3	123.1	124.4	124.8	124.8	125.6	126.0	126.3	126.4	126.6	126.9	127.3	127.8	128.4	129.1	129.4
Homeowners' cost.....12/82=100	119.4	124.8	126.0	127.1	127.4	128.0	128.5	129.0	129.2	129.4	129.9	130.4	131.0	131.8	132.6	133.1
Fuel and utilities #.....1982-84=100	104.1	103.0	105.5	103.2	102.4	102.0	102.4	102.8	102.7	102.8	103.5	105.9	106.0	106.1	106.4	105.4
Fuel oil, coal, and bottled gas.....do	77.6	77.9	77.6	78.5	80.3	80.5	80.8	80.9	80.5	80.2	80.0	79.1	76.9	76.3	75.9	74.6
Gas (piped) and electricity.....do	105.7	103.8	108.2	103.3	101.4	100.9	101.5	101.9	101.7	101.6	102.6	107.8	108.1	108.3	108.5	105.8
Household furnishings and operation.....do	105.2	107.1	107.5	107.4	107.4	107.3	107.5	107.7	108.3	109.1	109.3	109.6	109.8	109.7	110.1	110.3
Apparel and upkeep.....do	105.9	110.6	113.3	115.4	115.4	112.7	110.4	110.2	114.3	117.0	116.3	114.6	112.7	112.6	117.8	120.7
Transportation.....do	102.3	105.4	106.6	107.1	107.3	107.6	107.1	106.8	106.5	107.2	108.1	108.5	108.9	109.6	109.7	110.0
Private.....do	101.2	104.2	105.4	106.0	106.8	106.5	106.0	105.7	105.4	106.0	107.0	107.4	107.8	108.6	108.6	109.0
New cars.....do	110.6	114.6	114.1	115.2	116.6	116.6	116.2	116.2	116.0	115.9	116.3	116.5	116.5	116.3	116.8	117.7
Used cars.....do	108.8	113.1	116.0	116.2	116.5	116.3	116.0	116.0	116.1	116.6	117.0	117.6	117.9	119.2	119.4	119.9
Public.....do	117.0	121.1	122.1	121.2	122.0	122.1	121.8	120.8	121.4	122.4	123.2	123.2	123.7	123.7	124.0	124.2
Medical care.....do	122.0	130.1	131.7	132.3	132.8	133.1	134.4	135.5	136.3	136.9	137.5	138.2	139.3	139.9	140.4	141.2
<b>Seasonally Adjusted</b>																
<b>All items, percent change from previous month.....</b>																
Commodities.....1982-84=100			3	3	3	2	3	2	5	4	3	3	4	4	3	4
Commodities less food.....do			108.8	109.1	109.3	109.2	109.4	109.3	109.9	110.6	111.0	111.3	111.9	112.2	112.9	113.2
Food.....do			105.5	105.9	106.2	105.9	106.0	105.9	106.6	107.3	107.7	107.8	108.0	108.1	108.7	109.1
Food at home.....do			114.5	114.7	114.8	115.3	115.6	115.3	115.7	116.5	117.0	117.7	118.9	119.6	120.5	120.7
Apparel and upkeep.....do			112.7	112.8	112.8	113.5	113.7	113.0	113.4	114.3	114.9	115.7	117.3	118.2	119.4	119.5
Transportation.....do			111.3	112.7	113.1	112.2	112.3	112.0	114.2	116.5	116.5	116.1	115.4	113.5	115.8	117.9
Private.....do			106.8	107.2	107.7	107.4	107.3	107.1	107.2	107.5	108.2	108.4	108.8	109.8	109.9	110.2
New cars.....do			105.7	106.2	106.6	106.4	106.3	106.1	106.2	106.5	107.2	107.4	107.7	108.8	108.9	109.2
Services.....do			115.2	115.5	115.7	115.7	115.5	115.8	116.2	116.2	116.4	116.6	116.6	116.9	117.8	118.0
Medical care.....do			121.2	121.7	122.2	122.6	123.2	123.7	124.2	124.6	125.0	125.5	126.0	126.5	126.8	127.4
<b>PRODUCER PRICES \$</b>																
<i>(U.S. Department of Labor Indexes)</i>																
<b>Not Seasonally Adjusted</b>																
All commodities.....1982=100	100.2	102.8	103.7	104.1	104.2	104.2	104.6	104.8	104.9	105.8	106.5	107.2	107.8	108.0	108.1	108.2
By stage of processing:																
Crude materials for further processing.....do	87.7	93.7	95.7	95.3	94.7	94.4	93.7	94.7	94.1	95.6	97.2	97.9	97.0	97.3	96.6	95.8
Intermediate materials, supplies, etc.....do	99.1	101.5	102.7	103.1	103.4	103.6	104.2	104.3	104.7	105.6	106.3	107.4	108.2	108.4	108.7	108.6
Finished goods #.....do	103.2	105.4	106.3	106.2	105.8	105.8	106.3	106.1	106.3	107.0	107.5	107.7	108.5	108.8	108.6	109.3
Finished consumer goods.....do	101.4	103.6	104.2	104.4	104.5	104.0	104.5	104.1	104.4	105.1	105.7	105.9	107.0	107.2	107.0	107.5
Capital equipment.....do	109.7	111.7	111.2	112.5	112.5	112.4	112.9	113.2	113.2	113.8	113.8	113.9	114.2	114.5	114.3	115.8
By durability of product:																
Durable goods.....do	107.5	109.9	110.2	111.4	111.7	112.0	112.8	113.0	113.3	113.8	114.1	114.4	114.8	115.1	115.2	116.2
Nondurable goods.....do	94.8	97.5	98.8	98.5	98.6	98.3	98.5	98.6	98.8	99.8	100.8	101.8	102.5	102.7	102.7	102.2
Total manufactures.....do	101.7	104.4	105.1	105.8	106.0	106.0	106.6	106.8	107.1	107.9	108.6	109.0	109.8	110.0	110.1	110.5
Durable manufactures.....do	107.5	109.6	109.7	110.9	111.1	111.4	112.2	112.4	112.6	113.2	113.5	113.7	114.1	114.3	114.5	115.5
Nondurable manufactures.....do	96.0	99.2	100.4	100.7	100.9	100.6	101.1	101.3	101.7	102.7	103.7	104.3	105.4	105.6	105.7	105.5
Farm products, processed foods and feeds.....do	101.2	103.7	104.6	104.1	104.1	104.0	105.3	105.3	105.8	106.4	108.1	111.2	113.0	112.6	114.0	113.5
Farm products.....do	92.9	95.5	96.1	94.9	96.3	95.7	97.3	97.9	98.2	99.2	102.2	106.8	108.7	108.9	111.1	110.3
Foods and feeds, processed.....do	105.4	107.9	108.9	108.7	108.1	108.2	109.3	109.1	109.6	110.1	111.2	113.5	115.3	114.6	115.6	115.2
Industrial commodities.....do	100.0	102.6	103.5	104.0	104.2	104.2	104.4	104.6	104.7	105.6	106.1	106.4	106.7	107.1	106.9	107.1
Chemicals and allied products.....do	102.6	106.4	107.5	108.2	108.8	109.1	110.6	111.6	112.7	113.8	114.6	115.3	117.3	118.4	119.1	120.1
Fuels and related prod., and power.....do	69.8	70.2	72.2	71.1	70.8	69.5	67.2	66.7	65.9	67.6	68.4	68.6	67.6	67.9	66.1	64.5
Furniture and household durables.....do	108.2	109.9	110.3	110.5	110.7	110.9	111.6	111.9	112.3	112.5	112.8	112.7	113.1	113.4	113.7	114.0
Hides, skins, and leather products.....do	113.0	120.4	123.0	124.1	124.3	125.7	128.4	129.1	132.6	134.2	134.6	131.2	129.4	131.3	132.7	132.0
Lumber and wood products.....do	107.2	112.8	116.2	116.1	116.9	117.1	117.8	118.4	118.9	119.2	119.1	119.3	120.2	118.9	119.0	118.8
Machinery and equipment.....do	108.8	110.4	110.6	110.9	111.0	111.3	111.9	112.2	112.3	112.5	112.9	112.9	113.2	113.6	113.8	114.1
Metals and metal products.....do	103.2	107.1	108.8	110.8	111.7	112.9	114.4	114.7	115.4	116.9	117.4	118.0	119.2	119.7	120.3	121.3
Nonmetallic mineral products.....do	110.0	110.0	110.0	110.4	110.5	110.4	110.8	110.9	110.9	111.0	111.2	111.3	111.2	111.2	111.3	111.5
Pulp, paper, and allied products.....do	116.1	121.8	122.9	123.8	123.9	124.2	126.6	127.3	128.0	128.9	129.6	130.0	130.7	131.3	132.1	132.9
Rubber and plastics products.....do	101.9	103.0	103.7	104.4	105.1	105.5	106.2	106.9	107.7	108.2	108.8	109.1	110.2	110.9	111.2	111.4
Textile products and apparel.....do	103.2	105.1	106.0	106.4	106.6	107.0	107.6	108.1	108.4	108.7	108.9	109.3	109.6	109.6	110.0	109.9
Transportation equip. #.....do	110.5	112.5	110.9	113.8	113.5	112.5	113.2	113.2	11							

Units	Annual		1987				1988									
	1986	1987	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
<b>CONSTRUCTION AND REAL ESTATE</b>																
<b>CONSTRUCTION PUT IN PLACE @</b>																
New construction (unadjusted), total.....mil. \$.	386,093	398,850	38,327	37,194	35,191	31,579	26,307	25,776	29,132	30,977	34,266	36,206	*37,219	*38,641	38,112	
Private, total #.....do.....	314,652	323,820	30,135	29,979	28,833	26,118	21,852	21,382	23,950	25,248	27,560	28,730	*29,459	*30,551	29,908	
Residential.....do.....	187,148	194,772	18,408	18,082	17,076	14,531	12,689	12,023	13,957	15,059	16,521	17,568	*18,505	*18,948	18,472	
New housing units.....do.....	133,192	139,915	13,267	13,005	12,431	10,540	9,470	8,788	10,253	10,889	11,776	12,560	*12,971	*13,202	13,156	
Nonresidential buildings, except farm and public utilities, total #.....mil. \$.	91,171	91,994	8,523	8,458	8,497	7,952	6,766	6,813	7,205	7,484	8,051	8,034	7,761	*8,213	8,222	
Industrial.....do.....	13,747	13,707	1,402	1,269	1,273	1,274	1,003	993	1,053	1,069	1,168	1,152	1,098	*1,125	1,203	
Commercial.....do.....	56,761	55,445	5,153	5,145	5,178	4,598	3,956	4,012	4,233	4,523	4,891	4,840	4,756	*5,104	5,025	
Public utilities:																
Telephone and telegraph.....do.....	8,445	8,530	751	792	759	838	505	602	672	542	663	680	*693	807		
Public, total #.....do.....	71,441	75,030	8,192	7,215	6,358	5,461	4,454	4,394	5,181	5,730	6,706	7,476	7,760	*8,090	8,204	
Buildings (excl. military) #.....do.....	23,456	25,158	2,358	2,151	2,056	2,034	1,787	1,799	2,049	2,103	2,291	2,516	2,438	*2,700	2,681	
Housing and redevelopment.....do.....	1,456	1,519	139	127	123	128	122	101	130	123	124	133	124	*120	126	
Industrial.....do.....	1,657	1,457	142	103	105	110	106	104	117	116	108	129	116	132	170	
Military facilities.....do.....	3,867	4,324	504	334	423	407	348	273	351	323	296	404	349	*337	350	
Highways and streets.....do.....	22,682	22,757	2,833	2,732	1,988	1,361	1,001	991	1,283	1,677	2,288	2,737	3,046	*3,048	2,849	
New construction (seasonally adjusted at annual rates), total.....bil. \$.			405.4	400.8	407.1	410.9	395.3	392.5	408.6	396.2	398.5	395.7	*401.8	*401.1	403.4	
Private, total #.....do.....			327.1	325.9	331.5	331.6	321.6	317.8	324.3	318.5	320.2	317.7	*322.5	*324.4	325.2	
Residential.....do.....			194.3	194.5	195.6	195.8	195.2	192.1	195.6	192.0	190.4	188.1	*192.8	*193.9	195.3	
New housing units.....do.....			140.0	140.7	142.3	142.8	140.8	138.0	139.2	138.5	137.7	136.8	*136.4	*137.2	138.6	
Nonresidential buildings, except farm and public utilities, total #.....bil. \$.			94.5	93.9	97.7	95.2	91.1	90.5	93.7	93.2	94.9	94.2	*92.5	*92.2	91.7	
Industrial.....do.....			15.3	14.0	14.5	14.1	13.5	13.5	14.5	13.8	13.9	13.7	*13.2	*12.9	13.0	
Commercial.....do.....			56.5	56.9	59.4	55.8	53.6	53.6	54.8	56.2	57.4	56.6	*56.7	*56.4	55.6	
Public utilities:																
Telephone and telegraph.....do.....			8.5	8.6	9.0	9.9	8.0	8.3	8.0	6.7	7.7	7.5	8.3	8.5		
Public, total #.....do.....			78.2	74.9	75.6	79.2	73.7	74.7	79.3	77.7	78.3	78.0	*79.3	*76.8	78.2	
Buildings (excl. military) #.....do.....			25.3	24.6	24.8	26.5	24.4	25.3	26.8	26.4	27.5	28.1	27.0	*28.4	28.8	
Housing and redevelopment.....do.....			1.7	1.5	1.5	1.5	1.5	1.2	1.6	1.5	1.5	1.6	1.5	*1.4	1.5	
Industrial.....do.....			1.7	1.2	1.3	1.3	1.3	1.2	1.4	1.4	1.3	1.5	1.4	1.6	2.0	
Military facilities.....do.....			6.0	4.0	5.1	4.9	4.2	3.3	4.2	3.9	3.5	4.8	4.2	*4.0	4.2	
Highways and streets.....do.....			23.1	24.4	23.4	25.3	24.8	25.3	27.0	26.9	25.3	24.8	*27.5	*23.6	23.6	
<b>CONSTRUCTION CONTRACTS</b>																
Construction contracts in 50 States (F.W. Dodge Division, McGraw-Hill):																
Valuation, total.....mil. \$.	248,588	254,673	22,418	*23,360	17,930	17,626	14,523	16,247	21,708	20,510	23,013	25,461	21,379	23,142	21,174	20,313
Index (mo. data seas. adj.).....1982=100	'158	'162	160	164	157	157	145	159	154	144	157	165	156	155	151	153
Public ownership.....mil. \$.	59,862	65,857	5,867	*6,420	4,377	4,698	3,919	4,223	5,562	5,311	6,468	7,756	5,592	5,496	5,659	5,370
Private ownership.....do.....	188,726	188,816	16,550	*16,940	13,553	12,928	10,604	12,024	16,145	15,199	16,545	17,705	15,788	17,645	15,515	14,943
By type of building:																
Nonresidential.....do.....	83,721	89,422	8,174	*9,403	6,967	6,646	5,354	5,386	6,957	6,438	6,826	8,567	7,595	8,391	7,524	6,939
Residential.....do.....	122,896	119,915	10,445	*10,290	8,229	7,827	6,610	7,846	10,898	10,326	11,004	11,888	9,912	11,119	10,117	9,996
Non-building construction.....do.....	41,972	45,337	3,798	*3,668	2,734	3,153	2,560	3,016	3,852	3,746	5,182	5,006	3,872	3,632	3,533	3,378
New construction planning (Engineering News-Record) §.....do.....	288,568	267,823	20,656	18,713	17,829	25,375	28,423	28,172	31,547	21,094	23,321	20,096	19,566	21,883	20,405	
<b>HOUSING STARTS AND PERMITS</b>																
New housing units started:																
Unadjusted:																
Total (private and public).....thous.	1,807.1	1,622.7	152.3	139.1	118.9	85.4	78.2	90.3	129.0	153.4	140.3	150.3	137.2			
Privately owned.....do.....	1,805.4	1,620.5	152.0	139.1	118.8	85.4	78.2	90.2	128.8	153.2	140.2	150.2	137.0	*136.8	*128.4	138.0
One-family structures.....do.....	1,179.4	1,146.4	109.1	96.6	79.3	61.2	55.8	64.0	99.9	106.1	104.0	113.6	100.3	*101.4	*91.2	98.7
Seasonally adjusted at annual rates: ◊																
Total privately owned.....do.....			1,679	1,538	1,661	1,399	1,382	1,519	1,529	1,584	1,393	1,465	1,477	*1,461	*1,449	1,554
One-family structures.....do.....			1,211	1,105	1,129	1,035	1,016	1,102	1,172	1,093	1,004	1,092	1,068	*1,078	*1,042	1,146
New private housing units authorized by building permits (17,000 permit-issuing places):																
Monthly data are seas. adj. at annual rates:																
Total.....thous.	1,769	1,535	1,501	1,453	1,459	1,372	1,248	1,429	1,476	1,449	1,436	1,493	1,420	1,464	*1,394	1,497
One-family structures.....do.....	1,078	1,024	983	962	971	957	918	1,003	1,030	960	982	1,002	984	1,022	*974	1,024
Manufacturers' shipments of mobile homes:																
Unadjusted.....thous.	244.3	232.8	21.7	22.2	17.0	14.3	13.0	15.2	18.8	18.8	20.0	21.7	16.7	21.9	20.6	
Seasonally adjusted at annual rates.....do.....			240	234	228	227	200	208	212	213	216	230	206	223	225	
<b>CONSTRUCTION COST INDEXES</b>																
Dept. of Commerce composite §.....1982=100	111.8	114.3	115.1	114.3	114.9	114.3	114.9	115.7	116.1	115.1	115.4	115.4	116.0	115.9	116.0	
Boeckh indexes:																
Average, 20 cities:																
Apartments, hotels, office buildings.....1982=100	114.9	117.3	117.9		118.1		118.5		119.6		120.0		120.6		121.1	
Commercial and factory buildings.....do.....	113.2	115.1	115.8		116.1		116.2		117.7		118.3		118.9		119.0	
Residences.....do.....	117.3	119.7	120.2		120.7		120.1		121.8		122.3		122.9		123.1	
Engineering News-Record:																
Building.....1967=100	367.3	375.6	378.0	380.2	379.6	383.2	381.8	382.0	383.5	384.2	384.4	384.0	384.6	386.5	386.6	*386.6
Construction.....do.....	399.5	410.2	414.8	415.1	414.6	416.9	416.1	416.4	417.5	418.0	418.3	421.3	421.9	422.8	422.2	*424.1
Federal Highway Adm.—Highway construction: Composite (avg. for year or qtr.).....1977=100	171.6	172.0	171.9				172.8					167.4				

See footnotes at end of tables.

Unless otherwise stated in footnotes below, data through 1988 and methodological notes are as shown in BUSINESS STATISTICS: 1986

Units	Annual		1987				1988									
	1986	1987	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
<b>CONSTRUCTION AND REAL ESTATE—Continued</b>																
<b>REAL ESTATE ◊</b>																
Mortgage applications for new home construction:																
PHA applications.....thous. units.....	325.5	165.3	10.1	7.8	5.8	6.5	7.4	8.3	10.8	9.6	10.5	9.5	8.1	9.4	8.3	8.5
Seasonally adjusted annual rates.....do.....			114	100	86	95	108	101	103	102	112	109	104	102	96	120
Requests for VA appraisals.....do.....	244.6	193.4	14.6	13.8	11.0	9.6	10.5	13.5	15.6	12.5	19.9	15.3	13.7	15.8		
Seasonally adjusted annual rates.....do.....			180	182	201	190	194	163	154	140	216	163	167			
Home mortgages insured or guaranteed by:																
Fed. Hous. Adm.: Face amount.....mil. \$.....	57,108.02	81,880.51	6,179.54	4,816.08	4,092.54	3,986.85	4,452.92	3,350.77	2,926.84	2,508.44	3,545.40	3,006.04	4,383.24	4,069.62	3,654.99	4,642.41
Vet. Adm.: Face amount \$.....do.....	24,721.62	33,322.54	2,488.48	2,182.60	1,882.55	1,511.22	1,143.23	1,503.09	1,381.52	1,038.50	1,168.94	1,209.49	1,287.15	1,451.05	1,504.53	
Federal Home Loan Banks, outstanding advances to member institutions, end of period.....mil. \$.....	108,645	133,054	120,090	124,775	127,056	133,054	130,911	129,582	129,503	130,238	132,118	134,832	135,759	137,953	141,562	142,260
New mortgage loans of FSLIC-insured institutions, estimated total @.....mil. \$.....	265,513	253,407	20,587	20,327	16,875	21,524	13,077	13,664	18,378	19,078	21,235	25,372	21,739	24,544	23,171	
By purpose of loan:																
Home construction.....do.....	28,825	28,410	2,585	2,474	2,082	2,459	1,546	1,763	2,569	2,614	2,613	2,884	2,460	2,833	2,871	
Home purchase.....do.....	195,513	190,748	14,897	15,014	12,483	14,543	9,372	9,435	12,820	13,790	15,933	18,982	16,532	18,695	17,069	
All other purposes.....do.....	41,169	34,247	3,104	2,840	2,310	4,522	2,159	2,466	2,988	2,674	2,689	3,506	2,748	3,017	3,233	

<b>DOMESTIC TRADE</b>																
<b>ADVERTISING</b>																
Magazine advertising (Leading National Advertisers):																
Cost, total.....mil. \$.....																
Apparel and accessories.....do.....																
Automotive, incl. accessories.....do.....																
Building materials.....do.....																
Drugs and toiletries.....do.....																
Foods, soft drinks, confectionery.....do.....																
Beer, wine, liquors.....do.....																
Household equip., supplies, furnishings.....do.....																
Industrial materials.....do.....																
Soaps, cleansers, etc.....do.....																
Smoking materials.....do.....																
All other.....do.....																
Newspaper advertising expenditures (Newspaper Advertising Bureau, Inc.):																
Total.....mil. \$.....	26,989	29,412	2,469	2,658	2,828	2,507	2,165	2,173								
Classified.....do.....	9,303	10,691	919	969	893	717	845	841								
National.....do.....	3,376	3,494	309	319	334	240	284	269								
Retail.....do.....	14,311	15,227	1,241	1,370	1,600	1,549	1,036	1,064								
<b>WHOLESALE TRADE †</b>																
Merchant wholesalers sales (unadj., total).....mil. \$.....	1,392,313	1,520,827	132,110	137,621	126,896	132,747	118,752	124,987	142,148	131,787	136,044	141,242	130,726	142,673	141,401	
Durable goods establishments.....do.....	681,177	739,277	65,226	69,005	61,096	62,735	54,944	59,327	69,184	66,378	67,242	70,060	64,080	69,460	70,015	
Nondurable goods establishments.....do.....	711,136	781,550	66,884	68,616	65,800	70,022	63,808	65,660	72,964	65,409	68,802	71,182	66,696	73,213	71,386	
Merchant wholesalers inventories, book value (non-LIFO basis), end of period (unadj.), total.....mil. \$.....	153,571	165,819	158,624	163,892	164,406	165,819	168,783	171,742	173,184	174,543	171,978	174,346	175,528	175,692	177,687	
Durable goods establishments.....do.....	100,212	107,257	104,729	107,150	106,314	107,257	109,662	111,920	113,888	115,597	114,132	113,721	115,596	115,639	116,990	
Nondurable goods establishments.....do.....	53,359	58,562	53,895	56,742	58,092	58,562	59,121	59,822	59,296	58,946	57,846	60,625	59,932	60,053	60,697	
<b>RETAIL TRADE ‡</b>																
All retail stores:																
Estimated sales (unadj.), total.....mil. \$.....	1,437,497	1,510,579	124,515	128,298	126,897	157,189	113,639	115,101	131,589	130,884	135,959	137,472	134,098	138,863	131,949	133,759
Durable goods stores #.....do.....	538,618	559,105	47,675	46,755	44,732	53,526	41,293	44,126	51,327	51,170	53,467	55,343	51,451	53,505	49,442	48,507
Building materials, hardware, garden supply, and mobile home dealers.....mil. \$.....	75,842	78,005	6,890	7,172	6,359	6,215	4,852	5,214	6,590	7,398	8,119	8,013	7,457	7,731	7,442	7,516
Automotive dealers.....do.....	320,336	326,850	28,512	27,028	24,517	25,618	24,942	27,422	32,144	31,240	32,342	33,685	30,915	31,991	28,784	27,702
Furniture, home furnishings, and equipment.....do.....	80,347	84,148	6,929	7,075	7,399	9,729	6,577	6,457	7,208	7,106	7,269	7,681	7,451	7,781	7,493	7,590
Nondurable goods stores.....do.....	898,879	951,474	76,840	81,543	82,165	103,663	72,346	70,975	80,262	79,714	82,492	82,129	82,647	85,358	82,507	85,252
General merch. group stores.....do.....	165,074	175,885	13,268	14,826	17,533	28,132	10,318	10,662	13,743	13,814	14,707	14,339	13,310	14,786	14,002	15,371
Food stores.....do.....	301,762	314,287	25,867	26,895	25,431	28,287	26,682	24,693	26,968	26,762	27,620	27,866	28,940	28,409	27,970	28,166
Gasoline service stations.....do.....	97,277	103,154	8,845	9,012	8,595	8,817	8,316	8,018	8,708	8,817	9,248	9,294	9,469	9,751	9,045	9,217
Apparel and accessory stores.....do.....	74,765	79,069	6,403	6,748	7,132	11,112	5,103	4,952	6,640	6,449	6,516	6,298	6,190	7,149	6,877	7,104
Eating and drinking places.....do.....	135,308	147,645	12,223	12,639	11,986	12,574	11,515	11,347	12,537	12,874	13,279	13,570	14,092	14,268	13,466	13,533
Drug and proprietary stores.....do.....	51,631	56,000	4,468	4,733	4,640	6,342	4,619	4,642	4,987	4,850	4,960	4,904	4,759	4,934	4,841	4,957
Liquor stores.....do.....	19,635	19,506	1,562	1,653	1,638	2,314	1,443	1,348	1,462	1,529	1,598	1,629	1,690	1,587	1,515	
Estimated sales (seas. adj.), total.....do.....			128,211	126,973	127,248	128,615	128,769	130,121	132,259	131,717	132,833	133,617	134,342	134,759	134,380	135,622
Durable goods stores #.....do.....			48,249	47,053	47,067	48,000	48,689	49,708	50,480	50,419	50,418	50,709	50,754	50,257	49,578	50,026
Bldg. materials, hardware, garden supply, and mobile home dealers#.....mil. \$.....			6,553	6,632	6,605	6,582	6,558	6,817	6,987	7,057	7,087	6,988	6,904	6,952	7,011	7,011
Building materials and supply stores.....do.....			4,960	4,937	4,965	4,844	4,841	5,045	5,188	5,259	5,329	5,264	5,182	5,203	5,236	
Hardware stores.....do.....			1,174	1,238	1,208	1,204	1,152	1,196	1,240	1,285	1,268	1,280	1,282	1,271	1,313	
Automotive dealers.....do.....			28,759	27,758	27,499	28,220	28,935	29,523	29,895	29,569	29,488	29,623	29,890	29,388	28,749	29,239
Motor vehicle and miscellaneous auto dealers.....do.....			26,451	25,423	25,194	25,877	26,528	27,038	27,401	27,112	27,022	27,087	27,440	26,899	26,294	26,773
Auto and home supply stores.....do.....			2,308	2,335	2,305	2,343	2,407	2,485	2,494	2,457	2,466	2,536	2,450	2,489	2,455	
Furniture, home furnishings, and equipment #.....do.....			7,077	6,937	6,979	6,944	7,194	7,348	7,513	7,655	7,720	7,853	7,672	7,684	7,658	7,674
Furniture, home furnishings stores.....do.....			3,727	3,704	3,671	3,616	3,744	3,797	3,892	3,941	3,935	3,992	3,933	3,885	3,894	
Household appliance, radio, and TV stores.....do.....			2,893	2,770	2,846	2,849	2,963	3,071	3,155	3,224	3,278	3,337	3,206	3,261	3,231	

See footnotes at end of tables.

Unless otherwise stated in footnotes below, data through 1986 and methodological notes are as shown in BUSINESS STATISTICS: 1986

Units	Annual		1987				1988									
	1986	1987	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
<b>DOMESTIC TRADE—Continued</b>																
<b>RETAIL TRADE —Continued</b>																
All retail stores—Continued																
Estimated sales (seas. adj.)—Continued																
Nondurable goods stores.....mil. \$			'79,962	'79,920	80,181	80,615	80,080	80,413	81,779	81,298	82,415	82,908	83,588	'84,502	'84,802	'85,596
General merch. group stores.....do			'14,648	'14,702	14,805	15,035	14,953	14,650	14,911	14,787	14,952	15,129	15,126	'15,118	'15,234	'15,599
Department stores excluding leased departments.....do			'12,206	'12,273	12,403	12,548	12,526	12,252	12,468	12,399	12,512	12,685	12,682	'12,667	'12,806	'13,102
Variety stores.....do			'704	'702	700	711	693	693	691	670	670	684	724	'711	'701	
Food stores.....do			'26,388	'26,302	26,259	26,309	26,169	26,612	27,036	26,869	27,451	27,423	27,656	'28,094	'28,088	'28,406
Grocery stores.....do			24,842	24,774	24,739	24,787	24,622	25,072	25,507	25,309	25,833	25,780	25,990	'26,473	'26,469	'26,789
Gasoline service stations.....do			'8,854	'8,801	8,761	8,687	8,754	8,715	8,996	8,879	8,979	8,962	8,950	'9,173	'9,018	'9,126
Apparel and accessory stores #			'6,655	'6,646	6,594	6,708	6,514	6,537	6,689	6,621	6,737	6,782	6,925	'6,952	'7,088	'7,183
Men's and boys' clothing and furnishings stores.....do			'761	'774	722	777	783	767	768	751	742	755	771	'758	'774	
Women's clothing, specialty stores, and furriers.....do			'2,615	'2,606	2,578	2,597	2,582	2,606	2,605	2,624	2,673	2,680	2,684	'2,681	'2,722	
Shoe stores.....do			'1,204	'1,192	1,209	1,276	1,175	1,163	1,227	1,200	1,226	1,200	1,200	'1,283	'1,292	
Eating and drinking places.....do			'12,309	'12,389	12,604	12,791	12,547	12,636	12,664	12,659	12,744	12,899	13,060	'13,236	'13,412	'13,386
Drug and proprietary stores.....do			4,758	4,790	4,803	4,754	4,832	4,891	4,977	4,985	5,000	4,974	4,962	'5,019	'5,090	'5,121
Liquor stores.....do			'1,629	'1,630	1,651	1,642	1,589	1,578	1,586	1,616	1,634	1,626	1,606	'1,585	'1,565	
Estimated inventories, end of period:																
Book value (non-LIFO basis), (unadjusted), total.....mil. \$	180,530	205,138	201,518	215,174	219,614	205,138	202,712	206,349	211,109	212,578	212,104	212,756	212,044	212,327		
Durable goods stores #	89,850	106,689	96,303	104,172	108,022	106,689	105,297	106,051	107,493	108,039	108,992	109,423	'107,070	'104,371		
Bldg. materials, hardware, garden supply, and mobile home dealers.....do	13,339	14,503	14,759	14,602	14,545	14,503	14,834	15,375	16,030	15,975	15,731	15,731	'15,465	'15,300		
Automotive dealers.....do	45,529	57,740	47,014	52,627	55,868	57,740	56,313	56,403	56,236	56,034	56,636	57,169	'54,651	'51,207		
Furniture, home furnishings, and equipment.....do	15,199	16,881	16,578	17,554	17,707	16,881	16,598	16,537	17,283	17,655	17,730	17,828	'17,679	'18,136		
Nondurable goods stores #	90,680	98,449	105,215	111,002	111,592	98,449	97,415	100,298	103,616	104,539	103,112	103,333	104,974	'107,956		
General merch. group stores.....do	31,280	33,401	33,049	31,883	31,587	33,401	33,361	35,191	37,053	37,956	37,034	36,804	'36,686	'37,936		
Department stores excluding leased departments.....do	24,559	26,032	29,683	32,482	32,734	26,032	26,156	27,581	28,982	29,857	29,134	28,756	'28,244	'29,223		
Food stores.....do	20,044	20,581	20,151	20,773	21,113	20,581	20,420	20,482	20,904	20,788	20,796	21,084	'21,134	'21,392		
Apparel and accessory stores.....do	14,625	17,471	19,705	20,554	20,925	17,471	16,933	17,997	18,739	18,727	18,728	18,443	'19,409	'20,266		
Book value (non-LIFO basis), (seas. adj.), total.....do	185,996	211,100	203,708	206,577	208,260	211,100	209,824	208,698	208,822	209,550	211,889	213,952	214,795	217,754		
Durable goods stores #	91,085	107,948	102,394	104,846	106,490	107,948	106,377	104,479	103,631	104,349	106,551	107,607	'108,020	'109,967		
Bldg. materials, hardware, garden supply, and mobile home dealers.....do	13,997	15,234	14,863	14,875	14,872	15,234	15,356	15,499	15,609	15,435	15,222	15,423	'15,297	'15,239		
Automotive dealers.....do	45,267	57,312	53,755	55,680	56,703	57,312	55,500	53,307	51,905	52,575	54,396	55,116	'55,253	'56,873		
Furniture, home furn., and equip.....do	15,260	16,932	16,414	16,670	16,673	16,932	17,006	17,101	17,618	17,797	17,891	17,972	'18,040	'18,264		
Nondurable goods stores #	94,911	103,152	101,314	101,731	101,770	103,152	103,447	104,219	105,191	105,201	105,338	106,345	'106,775	'107,787		
General merch. group stores.....do	34,405	36,742	35,800	36,241	36,259	36,742	37,145	37,500	37,976	37,905	37,902	38,351	'37,595	'37,707		
Department stores excluding leased departments.....do	26,870	28,481	28,082	28,568	28,390	28,481	29,192	29,404	29,664	29,649	29,638	29,985	'29,718	'29,223		
Food stores.....do	19,803	20,334	20,318	20,253	20,188	20,334	20,467	20,665	20,951	20,957	21,015	21,165	'21,398	'21,826		
Apparel and accessory stores.....do	15,760	18,827	18,625	18,584	18,817	18,827	18,710	18,904	18,871	18,783	19,149	19,272	'19,625	'19,752		
Firms with 11 or more stores:																
Estimated sales (unadj.), total.....mil. \$	534,148	569,081	45,201	48,517	50,998	70,238	41,161	40,583	47,574	47,340	48,818	48,629	'47,931	'49,909		
Durable goods stores.....do	59,789	67,665	5,444	5,663	6,223	9,494	4,661	4,674	5,563	5,809	6,051	6,203	'6,014	'6,125		
Auto and home supply stores.....do	6,744	7,185	615	642	596	618	513	489	628	641	651	670	'652	'684		
Nondurable goods stores #	474,359	501,436	39,757	42,864	44,775	60,744	36,510	35,909	42,011	41,531	42,767	42,426	'41,917	'43,784		
General merchandise group stores.....do	153,110	162,289	12,222	13,642	16,271	26,264	9,510	9,845	12,722	12,735	13,610	13,303	'12,280	'13,730		
Food stores.....do	171,121	179,695	14,614	15,535	14,700	16,580	15,064	14,257	15,559	15,413	15,518	15,735	'16,223	'15,791		
Grocery stores.....do	168,343	176,918	14,416	15,323	14,489	16,199	14,862	14,042	15,334	15,182	15,302	15,521	'16,009	'15,577		
Apparel and accessory stores.....do	39,002	42,405	3,425	3,598	3,946	6,277	2,537	2,506	3,613	3,417	3,487	3,365	'3,272	'3,882		
Eating places.....do	34,976	37,486	3,052	3,217	2,970	3,106	2,891	3,159	3,217	3,258	3,294	3,258	'3,455	'3,457		
Drug stores and proprietary stores.....do	30,030	32,868	2,566	2,684	2,730	4,037	2,724	2,696	2,930	2,805	2,907	2,853	'2,747	'2,858		
Estimated sales(seas. adj.), total.....do			47,623	48,015	48,070	48,404	48,504	48,288	48,895	48,831	49,207	49,626	'49,846	'50,038		
Auto and home supply stores.....do			602	586	579	614	614	634	624	631	635	625	'625	'635		
Department stores excluding leased departments.....do			11,787	11,968	12,031	12,182	12,128	11,853	12,075	11,951	12,083	12,259	'12,275	'12,216		
Variety stores.....do			561	568	565	569	544	532	545	519	521	541	'579	'584		
Grocery stores.....do			14,740	14,964	14,922	14,902	14,922	15,050	15,182	15,167	15,348	15,428	'15,488	'15,703		
Apparel and accessory stores.....do			3,570	3,597	3,554	3,553	3,531	3,492	3,579	3,566	3,668	3,669	'3,735	'3,687		
Women's clothing, specialty stores, and furriers.....do			1,424	1,454	1,412	1,414	1,420	1,402	1,390	1,400	1,431	1,447	'1,441	'1,422		
Shoe stores.....do			749	721	734	751	720	712	774	751	790	779	'820	'808		
Drug stores and proprietary stores.....do			2,771	2,773	2,814	2,769	2,904	2,911	2,945	2,937	2,951	2,920	'2,898	'2,937		

**LABOR FORCE, EMPLOYMENT, AND EARNINGS**

<b>LABOR FORCE AND POPULATION</b>																
<b>Not Seasonally Adjusted</b>																
Noninstitutional population, persons 16 years of age and over.....thous.	182,293	184,490	184,904	185,052	185,225	185,370	185,571	185,705	185,847	185,964	186,088	186,247	186,402	186,522	186,666	186,801
Labor force @.....do	119,540	121,602	121,627	122,485	122,366	121,956	121,491	121,673	121,693	121,996	122,489	124,713	125,561	125,088	123,546	124,119
Resident Armed Forces.....do	1,706	1,737	1,743	1,741	1,755	1,750	1,749	1,736	1,736	1,732	1,714	1,685	1,673	1,692	1,704	1,687
Civilian noninstitutional population.....do	180,587	182,753	183,161	183,311	183,470	183,620	183,822	183,969	184,111	184,232	184,374	184,562	184,729	184,830	184,962	185,114
Civilian labor force, total.....do	117,834	119,865	119,884	120,744	120,611	120,206	119,742	119,942	119,957	120,264	120,775	123,028	123,888	123,396	121,842	122,432
Employed.....do	109,597	112,440	113,027	113,898	113,809	113,679	112,139	112,460	112,867	113,905	114,222	116,209	117,066	116,737	115,474	116,250

Unless otherwise stated in footnotes below, data through 1988 and methodological notes are as shown in BUSINESS STATISTICS, 1986

Units	Annual		1987				1988									
	1986	1987	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
<b>LABOR FORCE, EMPLOYMENT, AND EARNINGS—Continued</b>																
<b>LABOR FORCE—Continued</b>																
Seasonally Adjusted ◊																
Civilian labor force—Continued																
Unemployed—Continued																
Rates/unemployed in each group as percent of civilian labor force in the group:																
All civilian workers.....	7.0	6.2	5.9	6.0	5.9	5.8	5.8	5.7	5.6	5.4	5.6	5.3	5.4	5.6	5.4	5.3
Men, 20 years and over.....	6.1	5.4	5.0	5.1	5.0	4.9	5.1	4.9	4.9	4.6	4.9	4.6	4.5	4.9	4.5	4.6
Women, 20 years and over.....	8.2	5.4	5.4	5.2	5.2	5.2	5.1	5.2	4.8	4.8	4.9	4.9	5.1	4.8	4.8	4.7
Both sexes, 16-19 years.....	18.3	16.9	16.4	17.2	16.6	16.1	16.0	15.4	16.5	15.9	15.6	13.6	15.2	15.8	15.7	14.9
White.....	6.0	5.3	5.1	5.2	5.1	4.9	5.0	4.8	4.7	4.6	4.7	4.5	4.7	4.9	4.8	4.6
Black.....	14.5	13.0	12.3	12.1	12.2	12.2	12.2	12.6	12.8	12.2	12.4	11.5	11.4	11.3	10.8	11.0
Hispanic origin.....	10.6	8.8	8.2	8.3	9.0	8.1	7.2	8.3	8.2	9.3	9.0	8.0	8.4	7.4	7.7	7.7
Married men, spouse present.....	4.4	3.9	3.7	3.7	3.5	3.4	3.6	3.4	3.4	3.0	3.0	3.1	3.0	3.4	3.1	3.1
Married women, spouse present.....	5.2	4.3	4.2	4.2	4.2	4.3	4.2	4.1	4.0	3.8	3.9	3.7	4.1	4.1	3.8	3.7
Women who maintain families.....	9.8	9.2	8.8	8.9	8.5	8.4	8.9	8.3	7.5	8.7	8.4	7.8	8.6	7.4	8.1	7.9
Industry of last job:																
Private nonagricultural wage and salary workers.....	7.0	6.2	5.9	5.9	5.8	5.7	5.8	5.7	5.6	5.3	5.7	5.4	5.4	5.6	5.4	5.4
Construction.....	13.1	11.6	11.9	11.2	10.6	10.6	12.2	11.0	10.7	10.6	10.5	10.2	10.2	11.0	9.2	9.9
Manufacturing.....	7.1	6.0	5.6	5.7	5.3	5.1	5.6	5.6	5.2	5.3	5.4	4.8	5.2	5.6	5.6	5.3
Durable goods.....	6.9	5.8	5.4	5.2	4.8	4.8	5.5	5.9	5.2	4.8	4.9	4.4	5.0	5.0	5.5	5.0
Agricultural wage and salary workers.....	12.5	10.5	8.6	10.6	11.1	10.9	11.5	10.2	11.0	10.6	13.9	9.7	10.8	11.4	11.3	10.0
Not Seasonally Adjusted																
Occupation:																
Managerial and professional specialty.....	2.4	2.3	2.4	2.2	2.0	2.1	2.1	2.0	1.6	1.7	1.7	2.0	2.3	2.6	2.1	1.9
Technical, sales, and administrative support.....	4.7	4.3	4.4	4.2	4.1	3.6	4.4	4.1	4.1	3.5	4.1	4.0	4.1	4.1	4.2	3.9
Service occupations.....	8.6	7.7	7.5	7.3	7.5	7.0	7.7	8.0	7.0	6.4	6.8	7.0	7.0	6.6	6.5	6.8
Precision production, craft, and repair.....	7.2	6.1	5.1	4.9	5.2	5.2	6.9	6.9	6.8	5.3	5.1	4.8	4.6	4.2	4.3	5.0
Operators, fabricators, and laborers.....	10.9	9.4	7.8	8.3	8.3	8.7	10.4	10.3	9.8	8.6	8.3	7.2	7.3	7.6	7.7	7.0
Farming, forestry, and fishing.....	7.8	7.1	5.8	6.8	8.4	8.7	10.3	9.5	8.6	6.3	6.1	5.0	6.0	6.1	6.7	6.3
<b>EMPLOYMENT \$</b>																
Employees on payrolls of nonagricultural establishment, not adjusted for seas. variation.....thous.																
Private sector (excl. government).....do.....	82,832	85,295	86,566	86,855	87,034	87,318	85,593	85,844	86,490	87,505	88,268	89,478	89,619	*89,933	*89,914	*90,156
Seasonally Adjusted																
Total employees, nonagricultural payrolls.....do.....																
Private sector (excl. government).....do.....	82,832	85,295	85,851	86,241	86,520	86,794	87,044	87,475	87,700	87,973	88,139	88,678	89,341	*89,066	*89,151	*89,513
Nonmanufacturing industries.....do.....	63,867	66,230	66,695	67,016	67,223	67,446	67,075	68,085	68,256	68,513	68,649	69,134	69,348	*69,506	*69,633	*69,866
Goods-producing.....do.....	24,558	24,784	24,902	25,025	25,123	25,201	25,180	25,271	25,300	25,435	25,466	25,992	26,639	*25,639	*25,642	*25,734
Mining.....do.....	777	794	794	740	736	735	728	731	733	739	740	739	740	*739	*738	*731
Construction.....do.....	4,816	4,998	5,012	5,060	5,090	5,118	5,083	5,150	5,192	5,238	5,297	5,308	5,330	*5,340	*5,361	*5,356
Manufacturing.....do.....	18,965	19,065	19,156	19,225	19,297	19,348	19,369	19,390	19,405	19,460	19,490	19,544	19,593	*19,560	*19,548	*19,647
Durable goods.....do.....	11,230	11,218	11,269	11,315	11,355	11,390	11,398	11,404	11,411	11,459	11,477	11,515	11,566	*11,547	*11,534	*11,597
Lumber and wood products.....do.....	710	740	744	744	750	754	754	756	755	758	757	757	756	*753	*751	*762
Furniture and fixtures.....do.....	498	518	526	529	531	533	536	535	534	535	537	537	541	*537	*537	*540
Stone, clay and glass products.....do.....	585	582	580	583	585	588	583	584	585	587	585	587	589	*586	*584	*589
Primary metal industries.....do.....	752	749	761	766	768	769	768	770	772	773	776	781	789	*785	*787	*794
Fabricated metal products.....do.....	1,423	1,407	1,412	1,421	1,429	1,433	1,435	1,438	1,439	1,444	1,448	1,457	1,464	*1,458	*1,460	*1,468
Machinery, except electrical.....do.....	2,053	2,023	2,039	2,049	2,062	2,074	2,085	2,091	2,095	2,111	2,121	2,134	2,151	*2,156	*2,159	*2,173
Electric and electronic equip.....do.....	2,116	2,084	2,085	2,094	2,100	2,110	2,112	2,112	2,115	2,117	2,115	2,120	2,122	*2,126	*2,124	*2,125
Transportation equipment.....do.....	2,025	2,048	2,052	2,052	2,047	2,046	2,036	2,031	2,025	2,045	2,048	2,047	2,052	*2,044	*2,033	*2,044
Instruments and related products.....do.....	706	696	696	700	704	704	704	705	705	706	709	713	715	*718	*716	*718
Miscellaneous manufacturing.....do.....	361	370	374	377	379	379	380	382	382	383	381	382	387	*384	*383	*384
Non-durable goods.....do.....	7,734	7,847	7,887	7,910	7,942	7,958	7,976	7,986	7,994	8,001	8,013	8,029	8,027	*8,013	*8,014	*8,050
Food and kindred products.....do.....	1,609	1,624	1,627	1,630	1,636	1,638	1,647	1,649	1,647	1,648	1,643	1,645	1,631	*1,630	*1,633	*1,657
Tobacco manufactures.....do.....	59	54	53	52	54	54	55	54	54	54	52	52	52	*52	*51	*51
Textile mill products.....do.....	703	725	730	731	733	733	732	732	729	727	728	727	726	*719	*722	*722
Apparel and other textile products.....do.....	1,101	1,100	1,104	1,106	1,110	1,106	1,105	1,104	1,106	1,100	1,100	1,097	1,096	*1,098	*1,087	*1,085
Paper and allied products.....do.....	674	679	682	682	683	684	685	686	687	687	689	691	692	*691	*688	*690
Printing and publishing.....do.....	1,459	1,507	1,518	1,522	1,528	1,532	1,538	1,544	1,548	1,554	1,559	1,565	1,567	*1,572	*1,575	*1,579
Chemicals and allied products.....do.....	1,022	1,026	1,032	1,036	1,041	1,047	1,047	1,049	1,052	1,056	1,060	1,065	1,067	*1,070	*1,069	*1,070
Petroleum and coal products.....do.....	169	165	166	167	167	167	166	165	164	165	166	167	167	*167	*168	*169
Rubber and plastics products, nec.....do.....	790	823	830	839	845	851	854	856	860	864	870	873	882	*878	*875	*882
Leather and leather products.....do.....	149	144	145	145	145	146	147	147	146	146	146	146	147	*145	*146	*145
Service-producing.....do.....	74,967	77,525	78,004	78,346	78,555	78,800	79,082	79,458	79,690	79,846	80,023	80,465	80,608	*80,786	*81,087	*81,318
Transportation and public utilities.....do.....	5,255	5,385	5,427	5,448	5,466	5,481	5,499	5,513	5,530	5,543	5,556	5,582	5,598	*5,605	*5,621	*5,636
Wholesale trade.....do.....	5,753	5,872	5,914	5,935	5,958	5,984	6,010	6,035	6,061	6,089	6,115	6,148	6,174	*6,192	*6,219	*6,240
Retail trade.....do.....	17,930	18,509	18,605	18,705	18,761	18,784	18,927	19,045	19,050	19,093	19,130	19,205	19,261	*19,279	*19,285	*19,334
Finance, insurance, and real estate.....do.....	6,283	6,549	6,588	6,604	6,608	6,619	6,633	6,636	6,651	6,650	6,656	6,679	6,684	*6,689	*6,690	*6,700
Services.....do.....	23,053	24,196	24,415	24,524	24,604	24,725	24,795	24,975	25,078	25,163	25,216	25,472	25,561	*25,662	*25,724	*25,869
Government.....do.....	16,693	17,015	17,055	17,130	17,158	17,207	17,218	17,254	17,320	17,308	17,350	17,379	17,330	*17,359	*17,548	*17,539
Federal.....do.....	2,899	2,943	2,962	2,966	2,974	2,980	2,973	2,972	2,970	2,963	2,967	2,951	2,956	*2,991	*2,993	*2,993
State.....do.....	3,893	3,963	3,973	3,985	3,988	4,001	4,006	4,014	4,031	4,041	4,050	4,049	4,059	*4,070	*4,094	*4,091
Local.....do.....	9,901	10,109	10,120	10,179	10,196	10,226	10,239	10,268	10,319	10,304	10,340	10,379	10,320	*10,333	*10,463	*10,455
Production or nonsupervisory workers on private nonagric. payrolls, not seas. adjusted.....thous.																
Manufacturing.....do.....	67,018	69,039	70,135	70,369	70,523	70,767	69,028	69,239	69,797	70,717	71,379	72,446	72,533	*72,831	*72,785	*72,972
Seasonally Adjusted	12,877	12,995	13,240	13,226	13,256	13,239	13,101	13,136	13,165	13,213	13,271	13,424	13,268	*13,407	*13,499	*13,529
Production or nonsupervisory workers on private nonagricultural payrolls.....thous.																
Goods-producing.....do.....	67,018	69,039	69,463	69,766	69,988	70,234	70,405	70,787	70,961	71,701	71,260	71,736	71,948	*72,063	*72,095	*72,337
Mining.....do.....	17,197	17,412	17,506	17,601	17,6											

Unless otherwise stated in footnotes below, data through 1986 and methodological notes are as shown in BUSINESS STATISTICS: 1986

Units	Annual		1987				1988									
	1986	1987	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
<b>LABOR FORCE, EMPLOYMENT, AND EARNINGS—Continued</b>																
<b>EMPLOYMENT §—Continued</b>																
<b>Seasonally Adjusted</b>																
Production or nonsupervisory workers—Continued																
Nondurable goods.....thous.	5,450	5,543	5,576	5,586	5,611	5,625	5,643	5,650	5,653	5,648	5,653	5,665	5,662	5,647	5,643	5,678
Food and kindred products.....do	1,131	1,149	1,151	1,153	1,159	1,161	1,169	1,172	1,168	1,169	1,164	1,168	1,158	1,151	1,154	1,177
Tobacco manufactures.....do	44	41	39	39	40	41	42	41	41	40	39	40	39	38	37	37
Textile mill products.....do	608	629	634	634	636	636	636	636	634	632	632	630	632	622	625	627
Apparel and other textile products.....do	927	924	927	929	932	930	929	928	930	926	925	923	922	916	914	912
Paper and allied products.....do	511	516	520	518	518	519	520	521	521	520	521	523	524	524	524	522
Printing and publishing.....do	817	842	849	851	856	858	863	867	870	871	872	875	876	879	880	883
Chemicals and allied products.....do	568	576	582	582	585	589	589	592	593	593	596	599	600	603	601	603
Petroleum and coal products.....do	106	108	109	109	109	109	109	108	107	107	108	108	108	109	109	110
Rubber and plastics products, nec.....do	615	639	644	650	655	661	664	666	669	670	676	679	687	685	682	687
Leather and leather products.....do	123	120	121	121	121	121	122	122	121	120	120	120	121	120	121	120
Service-producing.....do	49,822	51,628	51,957	52,165	52,310	52,491	52,707	52,989	53,122	53,261	53,335	53,711	53,863	54,005	54,047	54,212
Transportation and public utilities.....do	4,345	4,464	4,502	4,517	4,533	4,545	4,560	4,574	4,587	4,600	4,611	4,632	4,648	4,661	4,661	4,672
Wholesale trade.....do	4,615	4,704	4,736	4,752	4,777	4,802	4,825	4,848	4,881	4,902	4,924	4,956	4,975	4,990	5,011	5,021
Retail trade.....do	15,969	16,454	16,520	16,610	16,651	16,671	16,795	16,902	16,897	16,949	16,949	17,028	17,070	17,087	17,073	17,099
Finance, insurance, and real estate.....do	4,645	4,807	4,821	4,822	4,818	4,824	4,831	4,827	4,825	4,823	4,828	4,842	4,844	4,851	4,846	4,853
Services.....do	20,248	21,198	21,378	21,464	21,531	21,649	21,696	21,838	21,932	21,987	22,023	22,253	22,326	22,416	22,456	22,567
<b>AVERAGE HOURS PER WEEK §</b>																
<b>Seasonally Adjusted</b>																
Avg. weekly hours per worker on private nonag. payroll: ◊																
Not seasonally adjusted.....hours	34.8	34.8	34.7	34.9	34.8	34.8	34.4	34.5	34.4	34.7	34.6	34.9	34.9	35.1	35.0	34.8
Seasonally adjusted.....do			34.6	34.9	34.8	34.6	34.7	34.8	34.6	34.9	34.7	34.7	34.9	34.9	34.6	34.7
Mining.....do	42.2	42.4	42.3	42.9	42.6	43.1	42.1	41.8	41.9	42.8	42.2	42.5	42.3	42.0	42.1	42.6
Construction.....do	37.4	37.8	36.5	38.8	37.1	37.6	35.9	36.1	37.4	37.9	38.2	38.7	38.5	38.6	38.4	38.9
Manufacturing.....do																
Not seasonally adjusted.....do	40.7	41.0	40.8	41.3	41.4	41.8	41.0	40.7	40.9	41.0	40.9	41.2	40.7	40.8	41.3	41.2
Seasonally adjusted.....do			40.6	41.2	41.2	41.0	41.1	41.0	40.9	41.2	41.0	41.1	41.1	41.0	41.2	41.1
Overtime hours.....do	3.4	3.7	3.7	3.9	3.9	3.8	3.9	3.7	3.7	3.9	3.9	3.9	3.9	3.9	3.9	4.0
Durable goods.....do	41.3	41.5	41.0	41.8	41.8	41.5	41.6	41.5	41.5	42.0	41.8	41.8	41.8	41.6	41.9	41.9
Overtime hours.....do	3.5	3.8	3.7	4.0	4.0	3.9	4.0	3.8	3.8	4.2	4.2	4.1	4.0	4.1	4.0	4.2
Lumber and wood products.....do	40.3	40.6	39.6	40.4	40.7	40.4	40.2	40.3	40.1	40.6	40.1	40.2	40.5	40.0	39.9	40.4
Furniture and fixtures.....do	39.8	40.0	39.5	40.1	40.2	39.8	39.6	39.5	39.3	39.5	39.5	39.4	39.7	39.0	39.5	39.5
Stone, clay, and glass products.....do	42.2	42.3	42.0	42.5	42.4	42.5	42.0	42.3	42.3	42.5	42.3	42.4	42.1	42.1	42.4	42.4
Primary metal industries.....do	41.9	43.1	43.2	43.6	43.5	43.4	43.4	43.3	43.3	43.5	43.6	43.6	43.4	43.5	44.0	44.1
Fabricated metal products.....do	41.3	41.5	40.9	41.9	42.1	41.7	41.8	41.6	42.0	41.9	42.0	41.9	42.0	41.7	41.8	42.0
Machinery, except electrical.....do	41.6	42.2	41.7	42.6	42.7	42.6	42.7	42.6	42.5	42.8	42.6	42.5	43.0	42.4	42.7	42.7
Electric and electronic equip.....do	41.0	40.9	40.4	41.0	41.0	40.9	41.1	40.9	40.9	41.2	41.0	41.1	41.0	40.8	41.1	40.9
Transportation equipment.....do	42.3	42.0	41.4	42.4	42.3	41.5	42.0	42.0	42.1	43.0	43.0	43.0	42.6	42.7	43.4	43.4
Instruments and related products.....do	41.0	41.4	41.0	41.9	41.4	41.2	41.8	41.3	41.4	41.8	41.4	41.3	41.8	41.5	41.5	41.7
Miscellaneous manufacturing.....do	39.6	39.4	38.9	39.5	39.2	39.2	39.1	39.3	39.2	39.4	39.2	39.3	39.2	39.2	39.2	39.0
Nondurable goods.....do	39.9	40.2	40.1	40.4	40.3	40.3	40.3	40.2	40.1	40.3	40.0	40.1	40.2	40.1	40.2	40.1
Overtime hours.....do	3.3	3.6	3.6	3.8	3.7	3.7	3.8	3.6	3.6	3.6	3.6	3.6	3.6	3.7	3.6	3.7
Food and kindred products.....do	40.0	40.2	40.2	40.4	40.4	40.5	40.6	40.3	40.1	40.1	40.1	40.3	40.5	40.4	40.2	40.3
Tobacco manufactures.....do	37.4	39.0	40.1	41.4	40.9	40.5	39.2	38.6	39.3	38.5	39.5	39.8	39.2	40.1	40.9	40.9
Textile mill products.....do	41.1	41.8	41.4	41.8	41.6	41.5	41.5	41.6	41.2	41.6	40.8	40.7	41.1	41.1	41.1	40.9
Apparel and other textile products.....do	36.7	37.0	36.4	37.3	37.1	37.1	36.8	37.0	37.0	37.4	36.8	36.9	36.9	36.8	37.2	36.9
Paper and allied products.....do	43.2	43.4	43.7	43.6	43.5	43.3	43.4	43.3	43.2	43.3	43.3	43.2	43.2	43.2	43.3	43.3
Printing and publishing.....do	38.0	38.0	38.1	38.1	38.0	38.0	38.1	38.1	38.1	38.2	37.7	38.0	38.0	38.0	38.1	37.9
Chemicals and allied products.....do	41.9	42.3	42.5	42.5	42.5	42.5	42.5	42.4	42.5	42.1	42.0	42.4	42.3	42.1	42.2	42.1
Petroleum and coal products.....do	43.8	44.0	44.0	44.0	44.1	44.5	44.2	43.3	43.7	44.4	44.1	45.1	45.3	44.6	44.5	44.3
Rubber and plastics products, nec.....do	41.3	41.6	41.3	41.8	41.8	41.6	41.7	41.6	41.7	42.0	41.7	41.6	41.6	41.5	41.6	41.4
Leather and leather products.....do	36.9	38.2	37.8	38.8	38.3	38.0	38.0	37.8	37.9	37.3	37.3	36.9	37.0	37.6	37.5	37.3
Transportation and public utilities.....do	39.2	39.2	39.1	39.3	39.2	39.1	39.5	39.1	38.8	39.5	39.4	39.3	39.5	39.3	39.3	39.5
Wholesale trade.....do	38.3	38.1	38.0	38.2	38.2	38.0	38.1	38.2	38.1	38.3	38.0	37.9	38.2	37.8	38.1	38.1
Retail trade.....do	29.2	29.2	29.5	29.2	29.2	28.8	29.0	29.1	29.0	29.2	29.0	29.1	29.3	29.0	28.9	29.1
Finance, insurance, and real estate.....do	36.4	36.3	36.0	36.2	36.3	36.0	36.2	36.4	35.8	36.2	35.8	35.8	36.2	35.7	35.8	36.0
Services.....do	32.5	32.5	32.5	32.6	32.6	32.5	32.6	32.7	32.4	32.7	32.5	32.5	32.7	32.4	32.6	32.7
<b>AGGREGATE EMPLOYEE-HOURS §</b>																
<b>Seasonally Adjusted</b>																
Employee-hours, wage & salary workers in non-agric. establish, for 1 week in the month, seas adj. at annual rate.....bil. hours																
Total private sector.....do	185.21	190.09	188.46	192.76	192.99	193.22	193.56	195.05	194.92	196.33	196.09	197.14	198.25	197.60	198.22	199.85
Mining.....do	1.71	1.59	1.62	1.66	1.63	1.62	1.57	1.59	1.59	1.64	1.63	1.64	1.63	1.63	1.61	1.63
Construction.....do	9.37	9.82	9.28	10.09	10.03	10.13	9.76	10.01	10.24	10.31	10.26	10.57	10.44	10.50	10.44	10.70
Manufacturing.....do	40.15	40.59	40.81	41.10	41.23	41.20	41.28	41.29	41.29	41.50	41.49	41.66	41.77	41.62	41.75	41.96
Transportation and public utilities.....do	10.74	10.99	11.04	11.17	11.20	11.17	11.26	11.25	11.17	11.36	11.37	11.43	11.55	11.49	11.48	11.59
Wholesale trade.....do	11.46	11.65	11.72	11.81	11.82	11.83	11.90	12.00	12.01	12.13	12.06	12.13	12.26	12.19	12.31	12.38
Retail trade.....do	27.23	28.10	28.46	28.44	28.48	28.24	28.60	28.84	28.72	28.88	28.81	28.98	29.35	29.10	29.00	29.30
Finance, insurance, and real estate.....do	11.93	12.37	12.45	12.43	12.49	12.40	12.50	12.58	12.38	12.54	12.40	12.47	12.59	12.43	12.47	12.56
Services.....do	39.39	41.35	41.72	41.95	42.10	42.15	42.39	42.97	42.76	43.20	43.15	43.54	43.97	43.70	43.96	44.41
Government.....do	33.25	33.62	31.36	34.14	34.02	34.47	34.31	34.54	34.77	34.77	34.93	34.73	34.69	34.95	35.19	35.32
Indexes of employee-hours (aggregate weekly): ◊																
Private nonagric. payrolls, total.....1977=100	117.3	120.9	121.1	122.5	122.8	122.5	123.0	123.9	123.6	125.1	124.4	125.4	126.4	125.5</		

Unless otherwise stated in footnotes below, data through 1986 and methodological notes are as shown in BUSINESS STATISTICS, 1986

Units	Annual		1987				1988									
	1986	1987	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.

LABOR FORCE, EMPLOYMENT, AND EARNINGS—Continued

HOURLY AND WEEKLY EARNINGS \$

Average hourly earnings per worker: ◊

Not seasonally adjusted:

Private nonagric. payrolls.....dollars..	8.76	8.98	9.05	9.08	9.13	9.13	9.18	9.17	9.18	9.23	9.26	9.23	9.25	9.24	9.40	9.45
Mining.....do.....	12.46	12.52	12.50	12.42	12.54	12.60	12.77	12.71	12.59	12.60	12.54	12.55	12.66	12.62	12.76	12.66
Construction.....do.....	12.48	12.69	12.79	12.82	12.83	12.81	12.99	12.82	12.87	12.88	12.87	12.85	12.91	12.95	13.12	13.12
Manufacturing.....do.....	9.73	9.91	9.99	9.95	10.01	10.07	10.07	10.05	10.07	10.12	10.14	10.16	10.16	10.12	10.25	10.25
Excluding overtime.....do.....	9.34	9.48	9.53	9.48	9.54	9.59	9.62	9.63	9.64	9.68	9.70	9.70	9.72	9.66	9.75	9.76
Durable goods.....do.....	10.29	10.43	10.49	10.48	10.54	10.60	10.60	10.58	10.59	10.65	10.67	10.69	10.67	10.64	10.78	10.79
Excluding overtime.....do.....	9.87	9.98	10.02	9.99	10.04	10.09	10.13	10.13	10.13	10.17	10.19	10.19	10.20	10.16	10.25	10.26
Lumber and wood products.....do.....	8.34	8.40	8.46	8.42	8.47	8.43	8.51	8.53	8.45	8.50	8.54	8.60	8.65	8.58	8.73	8.73
Furniture and fixtures.....do.....	7.46	7.67	7.74	7.71	7.71	7.78	7.80	7.74	7.76	7.81	7.87	7.91	7.97	8.00	8.07	8.05
Stone, clay, and glass products.....do.....	10.04	10.25	10.37	10.27	10.30	10.29	10.35	10.33	10.36	10.41	10.45	10.48	10.54	10.46	10.54	10.57
Primary metal industries.....do.....	11.86	11.94	12.19	12.00	12.04	12.11	12.06	12.03	12.07	12.11	12.13	12.15	12.22	12.11	12.26	12.18
Fabricated metal products.....do.....	9.88	10.00	10.00	10.06	10.10	10.19	10.12	10.13	10.14	10.22	10.23	10.26	10.18	10.20	10.30	10.33
Machinery, except electrical.....do.....	10.57	10.70	10.74	10.79	10.83	10.89	10.85	10.82	10.84	10.88	10.90	10.93	10.94	10.93	11.04	11.05
Electric and electronic equip.....do.....	9.65	9.88	9.94	9.92	9.98	10.03	10.02	10.02	10.04	10.09	10.12	10.15	10.13	10.15	10.20	10.19
Transportation equipment.....do.....	12.81	12.95	13.04	13.07	13.18	13.25	13.22	13.17	13.20	13.28	13.31	13.35	13.23	13.26	13.49	13.51
Instruments and related products.....do.....	9.47	9.71	9.76	9.78	9.83	9.84	9.93	9.92	9.88	9.89	9.87	9.88	9.93	9.91	9.96	10.02
Miscellaneous manufacturing.....do.....	7.55	7.75	7.78	7.79	7.80	7.91	7.97	7.90	7.91	7.92	7.94	7.93	7.94	7.93	8.09	8.09
Nonurable goods.....do.....	8.95	9.18	9.30	9.20	9.26	9.32	9.32	9.31	9.33	9.37	9.38	9.39	9.45	9.40	9.50	9.48
Excluding overtime.....do.....	8.59	8.78	8.86	8.78	8.84	8.89	8.92	8.93	8.95	8.98	8.99	8.99	9.05	8.98	9.04	9.05
Food and kindred products.....do.....	8.75	8.94	8.95	8.88	8.98	9.07	9.06	9.06	9.07	9.14	9.15	9.12	9.13	9.04	9.12	9.05
Tobacco manufactures.....do.....	12.88	14.03	13.34	13.18	13.75	13.69	13.79	14.01	14.42	14.98	15.24	15.78	15.66	14.84	14.07	14.09
Textile mill products.....do.....	6.93	7.17	7.23	7.24	7.29	7.31	7.34	7.30	7.31	7.35	7.31	7.33	7.31	7.37	7.42	7.42
Apparel and other textile products.....do.....	5.84	5.98	5.99	5.97	5.98	6.00	6.02	6.02	6.03	6.04	6.05	6.08	6.02	6.07	6.19	6.20
Paper and allied products.....do.....	11.18	11.43	11.66	11.46	11.49	11.53	11.54	11.50	11.52	11.60	11.64	11.65	11.71	11.63	11.71	11.65
Printing and publishing.....do.....	9.99	10.28	10.48	10.41	10.39	10.43	10.38	10.40	10.45	10.40	10.43	10.43	10.49	10.55	10.70	10.68
Chemicals and allied products.....do.....	11.98	12.37	12.56	12.50	12.55	12.61	12.55	12.55	12.53	12.57	12.59	12.60	12.70	12.63	12.75	12.80
Petroleum and coal products.....do.....	14.19	14.59	14.74	14.66	14.77	14.73	14.89	14.96	14.98	15.00	14.93	15.04	14.99	14.91	15.09	15.09
Rubber and plastics products, nec.....do.....	8.73	8.91	9.01	8.93	8.98	9.04	9.00	9.00	9.00	9.04	9.04	9.07	9.11	9.14	9.18	9.17
Leather and leather products.....do.....	5.92	6.08	6.13	6.12	6.15	6.16	6.16	6.19	6.23	6.29	6.27	6.27	6.20	6.23	6.30	6.35
Transportation and public utilities.....do.....	11.70	12.03	12.11	12.12	12.21	12.24	12.16	12.23	12.19	12.27	12.28	12.27	12.33	12.25	12.36	12.42
Wholesale trade.....do.....	9.35	9.59	9.64	9.65	9.72	9.73	9.78	9.78	9.78	9.88	9.87	9.85	9.93	9.88	10.00	10.10
Retail trade.....do.....	6.03	6.11	6.20	6.16	6.18	6.19	6.24	6.23	6.24	6.26	6.28	6.26	6.28	6.26	6.37	6.39
Finance, insurance, and real estate.....do.....	8.36	8.73	8.73	8.76	8.89	8.81	8.96	9.02	8.97	9.03	9.09	8.98	9.03	9.04	9.13	9.27
Services.....do.....	8.18	8.48	8.54	8.61	8.71	8.73	8.81	8.81	8.80	8.82	8.84	8.78	8.79	8.79	8.98	9.09

Seasonally adjusted:

Private nonagricultural payrolls.....dollars..	8.76	8.98	9.02	9.07	9.10	9.11	9.14	9.13	9.16	9.23	9.27	9.27	9.32	9.32	9.37	9.44
Mining.....do.....	12.46	12.52	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Construction.....do.....	12.48	12.69	12.70	12.72	12.81	12.74	12.91	12.82	12.90	12.93	12.91	12.93	13.03	12.99	13.03	13.02
Manufacturing.....do.....	9.78	9.91	10.00	9.99	10.00	10.01	10.02	10.03	10.05	10.11	10.15	10.18	10.17	10.20	10.26	10.29
Transportation and public utilities.....do.....	11.70	12.03	12.07	12.12	12.13	12.16	12.19	12.19	12.21	12.29	12.35	12.33	12.37	12.39	12.32	12.42
Wholesale trade.....do.....	9.35	9.59	9.64	9.70	9.71	9.69	9.75	9.72	9.76	9.88	9.88	9.86	9.97	9.93	10.00	10.15
Retail trade.....do.....	6.03	6.11	6.18	6.16	6.17	6.19	6.20	6.20	6.22	6.25	6.28	6.29	6.33	6.32	6.34	6.38
Finance, insurance, and real estate.....do.....	8.36	8.73	8.76	8.82	8.89	8.84	8.92	8.91	8.90	8.99	9.08	9.00	9.10	9.09	9.17	9.34
Services.....do.....	8.18	8.48	8.55	8.60	8.65	8.67	8.72	8.72	8.75	8.81	8.88	8.86	8.92	8.93	8.99	9.08

Indexes of avg. hourly earnings, seas. adj. ◊

Private nonfarm economy:																
Current dollars.....1977=100..	169.4	173.5	174.6	174.9	175.6	175.7	176.6	176.7	177.0	178.0	178.7	178.6	179.3	179.5	180.2	181.6
1977 dollars \$.....do.....	95.0	94.9	93.7	93.5	93.8	93.7	93.8	93.7	93.5	93.6	93.6	93.2	93.2	92.9	92.9	93.2
Mining \$.....do.....	181.4	182.2	182.8	182.1	184.1	183.9	185.2	184.6	183.6	184.6	184.2	184.6	185.8	185.8	186.7	185.5
Construction.....do.....	152.4	154.9	154.8	155.2	156.5	155.4	157.6	156.8	157.5	157.8	157.5	157.8	158.8	158.8	159.2	159.0
Manufacturing.....do.....	172.2	174.9	176.3	176.1	176.4	176.6	176.8	177.0	177.3	177.9	178.4	178.8	178.8	179.3	180.0	180.5
Transportation and public utilities.....do.....	171.0	176.1	176.8	177.5	177.6	178.2	178.3	179.1	179.4	180.6	181.6	181.0	181.5	181.9	181.3	182.9
Wholesale trade \$.....do.....	172.5	177.1	178.1	178.3	179.6	179.6	180.4	180.5	180.4	182.3	182.2	181.7	183.0	182.1	184.3	186.2
Retail trade.....do.....	158.3	160.9	162.3	162.1	162.4	162.7	163.4	163.4	163.8	164.8	165.4	165.7	166.8	166.7	167.0	168.6
Finance, insurance, and real estate \$.....do.....	179.8	187.5	187.7	188.4	191.2	189.9	192.9	194.2	193.4	194.8	195.9	194.0	194.8	195.2	197.0	199.9
Services.....do.....	174.4	181.1	182.5	183.9	184.9	185.2	186.5	186.3	186.9	188.3	189.9	189.4	190.8	190.9	191.9	194.6

Hourly wages, not seasonally adjusted:

Construction wages, 20 cities (ENR): §§																
Common labor.....\$ per hr..	16.37	16.86	17.05	17.05	17.05	17.05	17.06	17.07	17.11	17.11	17.20	17.36	17.40	17.41	17.42	17.55
Skilled labor.....do.....	21.46	22.12	22.41	22.42	22.43	22.43	22.43	22.45	22.54	22.54	22.58	22.54	22.61	22.71	22.80	22.89
Railroad wages (average, class I).....do.....	13.89	14.25	14.26	14.23	14.39	14.87	14.75	15.04	14.75	15.00	15.11	15.06	15.04	15.10	15.10	15.10

Avg. weekly earnings per worker, private nonfarm: ◊

Current dollars, seasonally adjusted.....	304.85	312.50	312.09	316.54	316.68	315.21	317.16	317.72	316.94	322.13	321.67	321.67	325.27	322.47	325.14	328.51
1977 dollars, seasonally adjusted \$.....	171.07	169.28	167.52	169.27	169.08	168.02	168.43	168.46	167.43	169.36	168.41	167.89	169.06	166.82	167.68	168.55
Current dollars, not seasonally adjusted:																
Private nonfarm, total.....dollars..	304.85	312.50	314.04	316.89	317.72	317.72	315.79	316.37								

Unless otherwise stated in footnotes below, data through 1986 and methodological notes are as shown in Business Statistics, 1986

Units	Annual		1987				1988									
	1986	1987	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
<b>LABOR FORCE, EMPLOYMENT, AND EARNINGS—Continued</b>																
<b>WORK STOPPAGES</b>																
Work stoppages involving 1,000 or more workers:																
Number of stoppages:																
Beginning in month or year.....number	68	46	7	1	6	0	3	5	1	0	3	3	4	7	1	3
Workers involved in stoppages:																
Beginning in month or year.....thous.	529	174	46	1	12	0	7	17	6	0	10	7	24	11	1	8
Days idle during month or year.....do.	12,140	4,481	1,155	353	223	159	37	337	203	208	271	264	605	656	412	240
<b>UNEMPLOYMENT INSURANCE</b>																
Unemployment insurance programs:																
Insured unemployment, all programs, average weekly # @.....thous.	2,746															
State programs (excluding extended duration provisions):																
Initial claims.....thous.	19,673															
Insured unemployment, avg. weekly.....do.	2,650															
Percent of covered employment: @@																
Unadjusted.....do.	2.8															
Seasonally adjusted.....do.																
Beneficiaries, average weekly.....thous.	2,337															
Benefits paid @.....mil. \$.	15,403															
Federal employees, insured unemployment, average weekly.....thous.	23															
Veterans' program (UCX):																
Initial claims.....thous.	151															
Insured unemployment, avg. weekly.....do.	20															
Beneficiaries, average weekly.....do.	18															
Benefits paid.....mil. \$.	139.8															
Railroad program, insured unemployment, average weekly.....thous.	26															

**FINANCE**

<b>BANKING</b>																
Open market paper outstanding, end of period:																
Bankers' acceptances.....mil. \$.	64,974	70,565	68,771	71,891	71,068	70,565	63,152	62,419	63,454	64,111	63,381	64,359	63,240	64,036	63,452	62,304
Commercial and financial company																
paper, total.....do.	326,144	373,586	360,173	361,124	354,012	373,586	379,192	389,156	388,492	409,497	415,492	415,125	419,003	422,090	425,104	429,549
Financial companies.....do.	253,131	287,274	280,848	279,957	273,760	287,274	296,593	302,541	302,755	316,061	324,985	324,953	327,959	331,754	332,630	332,513
Dealer placed.....do.	102,753	115,034	113,988	108,064	103,234	115,034	122,838	127,032	129,698	135,673	139,339	143,026	143,725	145,427	151,089	147,759
Directly placed.....do.	150,378	172,240	166,860	171,893	170,526	172,240	173,755	175,509	173,057	180,388	185,646	181,927	184,234	186,327	181,591	184,754
Nonfinancial companies.....do.	73,013	86,312	79,325	81,167	80,252	86,312	82,599	86,615	85,737	93,436	90,507	90,172	91,044	90,336	92,474	97,036
Loans of the Farm Credit System: **																
Total, end of period.....mil. \$.	58,250	52,498	53,638			52,498				52,814			53,110			
Federal land banks and Federal																
land bank associations.....do.	39,286	34,346	35,124			34,346				33,566			33,048			
Federal intermediate credit banks and																
production credit associations.....do.	11,563	9,927	10,518			9,927				9,479			10,127			
Banks for cooperatives.....do.	7,400	8,225	7,995			8,225				9,770			9,935			
Federal Reserve banks, condition, end of period:																
Assets, total #.....mil. \$.	267,359	275,566	262,649	270,048	266,491	275,566	265,174	260,693	265,072	283,979	269,989	277,442	275,408	274,592	285,185	279,331
Reserve bank credit outstand-																
ing, total #.....do.	224,285	236,046	221,753	229,428	230,022	236,046	226,563	225,526	227,504	244,006	233,886	239,867	236,075	233,882	243,607	238,370
Loans.....do.	1,565	3,815	1,941	587	790	3,815	333	336	2,311	2,590	3,304	2,464	3,650	3,237	2,154	2,275
U.S. Government securities.....do.	211,316	222,551	211,941	217,614	218,960	222,551	218,411	216,891	217,496	203,971	223,192	227,636	224,450	222,795	229,181	225,638
Gold certificate account.....do.	11,084	11,078	11,075	11,085	11,082	11,078	11,068	11,063	11,063	11,063	11,063	11,063	11,063	11,061	11,062	11,062
Liabilities, total #.....do.	267,359	275,566	262,649	270,048	266,491	275,566	265,174	260,693	265,072	283,979	269,989	277,442	275,408	274,592	285,185	279,331
Deposits, total.....do.	56,899	48,368	49,022	52,798	46,177	48,368	46,284	42,954	42,150	58,481	42,354	46,176	44,464	42,881	52,757	46,547
Member-bank reserve balances.....do.	48,107	41,784	39,028	43,187	41,781	41,784	35,338	39,701	38,777	41,720	38,758	35,681	39,994	37,868	39,038	39,741
Federal Reserve notes in circula-																
tion.....do.	195,360	212,890	199,680	202,712	207,873	212,890	205,871	206,300	209,719	210,842	215,168	217,812	217,240	218,068	217,676	219,232
All member banks of Federal Reserve System,																
averages of daily figures:																
Reserves held, total.....mil. \$.	59,560	62,123	59,813	61,106	61,205	62,123	62,640	60,047	60,076	62,064	60,681	61,991	62,756	61,965	62,153	61,920
Required.....do.	58,191	61,094	59,020	59,977	60,282	61,094	61,345	58,914	59,147	61,205	59,641	61,103	61,749	61,012	61,181	60,854
Excess.....do.	1,369	1,029	793	1,129	923	1,029	1,295	1,133	929	859	1,040	888	1,007	953	792	1,066
Borrowings from Federal Reserve																
banks.....do.	827	777	940	943	625	777	1,082	396	1,752	2,993	2,578	3,083	3,440	3,241	2,539	2,299
Free reserves ↑.....do.	845	735	262	635	692	735	585	942	655	490	569	359	105	365	192	548
Large commercial banks reporting to Federal																
Reserve System, last Wed. of mo.: †																
Deposits:																
Demand, total #.....mil. \$.	299,435	247,359	247,662	238,194	225,252	247,359	221,655	214,894	223,226	225,053	215,417	233,070	226,623	229,814	221,621	215,612
Individuals, partnerships, and																
corporations.....do.	230,624	190,558	192,186	184,623	177,922	190,558	173,528	167,736	175,045	176,868	170,851	182,936	177,802	184,300	174,338	172,675
States and political subdivisions.....do.	7,810	6,744	6,921	6,089	6,391	6,744	6,741	6,743	5,882	6,317	5,629	5,979	6,156	6,157	5,788	5,575
U.S. Government.....do.	1,871	3,258	3,183	2,156	2,273	3,258	3,079	3,250	3,069	4,010	2,121	3,008	2,899	1,656	2,083	2,610
Depository institutions in U.S.....do.	34,659	27,448	26,664	24,802	23,542	27,448	23,250	21,878	21,954	21,590	21,035	22,306	22,710	21,829	20,696	20,272
Transaction balances other than demand																
deposits *.....do.	64,881	67,094	65,110	64,815	65,539	67,094	68,742	69,248	70,977	72,244	70,507	70,702	71,614	73,511	70,240	71,308
Nontransaction balances, total *.....do.	537,869	565,046	556,013	563,832	565,981	565,046	583,641	587,949	590,904	589,401	594,842	599,611	603,936	609,987	611,896	616,569
Individuals, partnerships, and																
corporations.....do.	496,382	524,423	515,415	523,404	525,604	524,423	543,581	547,278	550,777	549,652	553,766	559,581	564,529	569,683	572,104	576,524
Loans and leases(adjusted),total \$.....do.	836,845	846,807	846,247	852,240	842,808	846,807	864,261	861,774	871,882	881,326	882,613	893,086	891,898	898,166	894,711	897,345
Commercial and industrial.....do.	297,246	287,232	282,932	282,877	283,311	287,232	288,028	290,090	293,278	297,918	299,004	300,160	299,456	296,817	296,542	297,205
For purchasing and carrying																
securities.....do.	14,591	12,490	18,133	19,205	12,555	12,490	12,600	12,853	14,216	13,081	11,704	13,712	11,994	13,667	12,530	12,651
To nonbank depository and other																
financial.....do.	28,449	23,925	22,800	22,688	22,765	23,925	22,492	21,782	22,274	22,031	22,350	22,717	22,302	22,479	22,158	21,195
Real estate loans.....do.	222,785	260,308	251,990	254,830	257,323	260,308	267,728	268,713	271,581	273,834	276,959	280,873	283,672	288,289	290,991	293,242
To States and political subdivisions.....do.	36,953	32,448	34,152	33,525	33,373	32,448	32,422	32,076	31,632	31,258	30,993	30,759	30,352	30,036	29,754	29,351
Other loans.....do.	236,821	230,404	236,240	239,115	233,481	230,404	240,991	236,260	238,901	243,204	241,603	244,865	244,122	246,878	242,736	243,701
Investments, total.....do.	196,123	196,268	193,884	194,152	196,692	196,268	202,980	204,712	202,529	202,133	205,463	203,455	203,860	203,630	203,339	207,287
U.S. Treasury and Govt. agency securities,																
total.....do.	119,454	122,902	121,792	122,746	123,616	122,902	129,273	132,168	129,797	130,107	132,752	130,311	130,854	130,814	130,713	134,510
Investment account.....do.	99,832	111,858	107,612	108,748	109,136	111,858	115,280	114,980	114,258	115,498	117,084	113,455	113,340	113,982	114,183	114,283
Other securities.....do.	76,669	73,366	71,592	71,406	73,076	73,366	73,707	72,544	72,732	72,026	72,711	73,144	73,006	72,816	72,626	72,777

See footnotes at end of tables.

Unless otherwise stated in footnotes below, data through 1986 and methodological notes are as shown in BUSINESS STATISTICS, 1986

Units	Annual		1987				1988									
	1986	1987	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
<b>FINANCE—Continued</b>																
<b>BANKING—Continued</b>																
Commercial bank credit, seas. adj.: \$																
Total loans and securities ( ).....bil. \$ ..	2,089.9	2,233.0	2,220.5	2,230.5	2,235.3	2,233.0	2,244.8	2,264.1	2,281.3	2,304.7	2,328.5	2,348.4	2,360.8	2,374.9	2,373.6	2,387.5
U.S. Government securities.....do .....	309.3	335.0	333.1	332.6	332.6	335.0	336.4	336.4	340.2	343.8	346.5	350.5	348.0	350.5	352.5	355.1
Other securities.....do .....	196.1	194.5	193.0	192.2	195.1	194.5	192.0	193.7	195.7	196.6	196.1	196.5	196.8	196.4	194.2	195.4
Total loans and leases ( ).....do .....	1,584.5	1,703.5	1,694.5	1,704.7	1,707.5	1,703.5	1,716.5	1,734.0	1,745.4	1,764.3	1,786.0	1,801.5	1,815.9	1,827.9	1,826.8	1,836.9
<b>Money and interest rates:</b>																
Prime rate charged by banks on short-term business loans.....percent..	8.33	8.22	8.70	9.07	8.78	8.75	8.75	8.51	8.50	8.50	8.84	9.00	9.29	9.84	10.00	10.00
Discount rate (New York Federal Reserve Bank) @ @.....do .....	6.33	5.66	5.95	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.37	6.50	6.50
Federal intermediate credit bank loans.....do .....	9.70	8.54	8.43	8.55	8.65	8.57	8.56	(3)								
<b>Home mortgage rates (conventional 1st mortgages):</b>																
New home purchase (U.S. avg.).....percent..	9.74	8.94	9.03	8.86	8.92	8.78	8.75	8.76	8.77	8.76	8.59	8.90	8.80	8.68	8.90	8.77
Existing home purchase (U.S. avg.).....do .....	9.80	8.94	8.91	8.86	8.89	8.86	8.92	8.84	8.84	8.93	8.90	8.98	8.98	9.00	8.98	9.11
<b>Open market rates, New York City:</b>																
Bankers' acceptances, 90 days.....do .....	6.39	6.75	7.31	7.85	7.07	7.48	6.77	6.49	6.51	6.79	7.12	7.38	7.77	8.19	8.06	8.15
Commercial paper, 6-month.....do .....	6.39	6.85	7.55	7.96	7.17	7.49	6.92	6.58	6.64	6.92	7.31	7.53	7.90	8.36	8.23	8.24
Finance co. paper placed directly, 6-mo.....do .....	6.31	6.37	6.90	7.17	6.69	6.64	6.53	6.27	6.23	6.51	6.75	7.01	7.19	7.57	7.71	7.80
Yield on U.S. Gov. securities (taxable): 3-month bills (rate on new issue).....percent..	5.960	5.820	6.320	6.400	5.810	5.800	5.900	5.690	5.690	5.920	6.270	6.500	6.730	7.020	7.230	7.340
<b>CONSUMER INSTALLMENT CREDIT +</b>																
<b>Not seasonally adjusted</b>																
Total outstanding (end of period) #.....mil. \$ ..	581,336	623,628	607,777	610,751	612,341	623,628	621,579	618,926	621,625	627,052	632,329	641,198	646,689	654,667	660,236	
<b>By major holder:</b>																
Commercial banks.....do .....	265,926	285,856	278,679	279,668	279,606	285,856	286,159	286,024	288,362	291,542	293,708	298,954	302,617	307,130	310,867	
Finance companies.....do .....	134,660	141,118	141,558	142,339	141,523	141,118	140,811	140,321	140,935	141,716	142,542	143,751	144,231	145,371	145,995	
Credit unions.....do .....	77,075	82,044	81,079	81,450	81,692	82,044	81,669	81,094	81,645	82,339	83,269	84,470	85,340	86,310	87,496	
Retailers.....do .....	43,490	46,907	46,788	41,182	42,438	46,907	44,725	43,078	42,673	42,560	42,655	42,793	42,622	42,931	42,944	
Savings institutions.....do .....	56,914	64,099	61,940	62,349	63,495	64,099	64,456	64,873	64,564	65,341	66,551	65,570	68,039	68,957	69,123	
<b>Seasonally adjusted</b>																
Total outstanding (end of period) #.....do .....			602,978	606,927	608,726	613,021	619,258	624,293	629,485	633,336	636,318	644,371	647,993	653,317	655,197	
<b>By major holder:</b>																
Commercial banks.....do .....			276,805	278,855	279,550	281,564	284,753	287,344	290,332	293,166	295,547	300,275	303,189	307,119	308,836	
Finance companies.....do .....			138,395	139,236	138,928	140,072	141,695	142,946	144,053	144,516	144,454	144,748	143,812	143,962	142,723	
Credit unions.....do .....			80,351	80,672	80,922	81,064	81,662	81,897	82,595	83,204	83,881	84,911	85,469	85,881	86,707	
Retailers.....do .....			41,692	42,012	42,291	42,782	42,926	43,080	43,271	43,295	43,162	43,450	43,634	43,712	43,956	
Savings institutions.....do .....			62,099	62,458	63,411	63,949	64,638	65,396	65,078	65,387	65,510	67,274	68,182	68,920	69,310	
<b>By major credit type:</b>																
Automobile.....do .....			261,902	263,823	264,474	267,180	269,883	273,133	276,762	278,567	279,418	282,254	283,359	285,561	285,610	
Revolving.....do .....			152,553	155,196	156,425	159,307	162,065	163,462	165,644	167,356	169,154	172,310	174,928	177,568	179,086	
Mobile home.....do .....			26,845	26,698	26,604	25,957	25,926	25,857	25,732	25,764	25,703	25,852	25,882	25,914	25,885	
Total net change (during period) #.....do .....			4,788	3,949	1,799	4,295	6,236	5,035	5,191	3,851	2,982	8,053	3,621	5,324	1,880	
<b>By major holder:</b>																
Commercial banks.....do .....			2,926	2,050	695	2,014	3,188	2,591	3,487	2,835	2,380	4,729	2,914	3,929	1,717	
Finance companies.....do .....			732	841	-908	1,144	1,623	1,251	1,107	462	-61	294	-936	149	-1,233	
Credit unions.....do .....			535	321	250	142	598	235	695	609	677	1,030	557	412	826	
Retailers.....do .....			251	380	279	491	144	154	191	24	-133	287	185	78	244	
Savings institutions.....do .....			301	359	953	538	684	763	-318	309	123	1,765	908	727	401	
<b>By major credit type:</b>																
Automobile.....do .....			2,344	1,921	651	2,706	2,704	3,250	3,628	1,805	851	2,896	1,106	2,201	49	
Revolving.....do .....			2,738	2,643	1,229	2,882	2,758	1,396	2,182	1,713	1,798	3,655	2,118	2,641	1,518	
Mobile home.....do .....			-84	-147	-94	-647	-32	-69	-125	32	-61	149	29	33	-29	
<b>FEDERAL GOVERNMENT FINANCE</b>																
<b>Budget receipts and outlays:</b>																
Receipts (net).....mil. \$ ..	1,769,091	1,854,143	92,410	62,354	56,987	85,525	81,791	60,355	65,730	109,323	59,711	99,205	60,690	69,479	97,303	63,646
Outlays (net) \$ \$.....do .....	1,990,231	1,003,804	77,206	93,164	84,009	109,889	65,895	84,382	95,013	95,554	82,295	90,071	83,634	92,561	87,588	91,086
Budget surplus or deficit (-) \$ \$.....do .....	-221,140	-149,661	15,204	-30,810	-27,022	-24,363	15,896	-24,027	-29,283	13,769	-22,583	9,134	-22,944	-23,082	10,214	-27,440
Budget financing, total \$ \$.....do .....	1,221,140	1,149,661	-15,204	30,810	27,022	24,363	-15,896	24,027	29,283	-13,769	22,583	-9,134	22,944	23,082	-10,214	27,440
Borrowing from the public \$ \$.....do .....	1,236,187	1,151,717	-7,994	27,351	24,854	10,253	5,470	20,280	17,296	-213	7,680	11,699	3,665	23,370	14,665	10,716
Reduction in cash balances.....do .....	-15,047	-2,056	-7,210	3,459	2,168	14,110	-21,366	3,747	11,987	-13,556	14,903	-20,888	19,279	-288	-24,879	16,724
Gross amount of debt outstanding \$ \$.....do .....	2,129,964	2,355,206	2,355,206	2,389,573	2,415,486	2,437,637	2,454,096	2,477,438	2,493,195	2,508,342	2,526,492	2,555,086	2,560,795	2,586,091	2,614,581	2,637,088
Held by the public \$ \$.....do .....	1,746,044	1,897,761	1,897,761	1,925,137	1,949,999	1,960,257	1,965,645	1,985,923	2,008,207	2,003,007	2,010,706	2,022,232	2,025,897	2,049,267	2,063,332	2,074,648
<b>Budget receipts by source and outlays by agency:</b>																
Receipts (net), total.....mil. \$ ..	1,769,091	1,854,143	92,410	62,354	56,987	85,525	81,791	60,355	65,730	109,323	59,711	99,205	60,690	69,479	97,303	63,646
Individual income taxes (net).....do .....	348,959	392,557	39,797	32,429	25,039	36,537	43,987	25,651	20,637	53,334	17,958	46,092	25,791	31,942	41,784	31,287
Corporation income taxes (net).....do .....	63,143	83,926	20,506	1,855	1,667	1,748	3,630	975	12,706	12,026	1,613	18,347	1,499	1,461	20,668	1,794
Social insurance taxes and contributions (net).....mil. \$ ..	283,901	303,318	25,403	22,177	23,756	23,361	28,162	28,500	25,676	37,357	33,396	27,967	26,915	28,373	28,694	23,848
Other.....do .....	73,087	74,342	6,705	5,891	6,525	7,880	6,012	5,230	6,711	6,606	6,745	6,800	6,485	7,703	6,657	6,717
Outlays (net), total \$ \$.....do .....	1,990,231	1,003,804	77,206	93,164	84,009	109,889	65,895	84,382	95,013	95,554	82,295	90,071	83,634	92,561	87,588	91,086
Agriculture Department.....do .....	58,666	49,593	733	7,645	5,194	3,806	4,428	643	4,358	4,449	3,642	2,552	2,300	2,221	2,764	5,769
Defense Department, military.....do .....	265,636	273,938	21,470	25,274	20,660	28,358	19,205	23,067	25,756	26,102	20,273	24,589	23,856	23,764	21,036	25,189
Health and Human Services Department.....mil. \$ ..	333,935	351,315	28,792	30,587	28,531	47,607	12,441	30,790	32,479	32,044	30,025	35,005	29,228	32,162	32,271	29,138
Treasury Department.....do .....	179,189	180,345	11,143	11,796	15,912	29,084	13,992	15,184	13,900	14,704	16,681	30,071	13,291	14,901	13,045	13,838
National Aeronautics and Space Administration.....do .....	7,403	7,591	698	936	772	843	622	606	804	816	777	863	805	717	530	998
Veterans Administration.....do .....	26,536	26,952	2,178	3,639	893	3,771	1,210	2,158	2,555	3,748	1,432	2,130	2,355	2,261	3,091	1,854
<b>GOLD AND SILVER:</b>																
<b>Gold:</b>																
Monetary stock, U.S. (end of period) @.....mil. \$ ..	11,064	11,078	11,075	11,085	11,082	11,078	11,068	11,063	11,063	11,063	11,063	11,063	11,063	11,061		
Price at New York \$ \$.....dol. per troy oz..	367.867	446.504	460.198	465.355	466.468	486.305	476.580	441.903	443.607	451.833	450.840	451.332	437.633	431.313	412.790	406.781
<b>Silver:</b>																
Price at New York \$ \$.....dol. per troy oz..	5.470	7.009	7.590	7.562	6.662	6.790	6.732	6.325	6.413	6.478	6.543	7.037	7.146	6.708	6.365	6.285

See footnotes at end of tables.

Units	Annual		1987				1988									
	1986	1987	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
<b>FINANCE—Continued</b>																
<b>MONETARY STATISTICS</b>																
Currency in circulation (end of period).....bil. \$..	212.0	230.2	216.8			230.2				227.1		235.4				235.5
Money stock measures and components (averages of daily figures): †																
Measures (not seasonally adjusted): ‡																
M1.....bil. \$..	666.8	744.0	745.2	753.7	756.0	765.9	764.7	745.0	752.1	778.3	763.8	778.8	785.5	781.2	779.8	780.9
M2.....do	2,687.2	2,861.7	2,875.8	2,895.1	2,899.9	2,914.7	2,937.4	2,933.6	2,958.9	2,985.5	2,988.3	3,014.3	3,030.3	3,030.8	3,029.2	3,038.4
M3.....do	3,860.0	3,588.2	3,620.5	3,644.6	3,666.9	3,681.0	3,703.0	3,711.4	3,741.4	3,776.8	3,776.9	3,809.3	3,833.5	3,846.0	3,851.9	3,868.8
L (M3 plus other liquid assets).....do	3,993.6	4,242.4	4,280.3	4,315.2	4,337.1	4,347.4	4,385.7	4,394.3	4,424.1	4,469.8	4,484.2	4,514.6	4,550.3	4,571.8	4,580.2	
Components (not seasonally adjusted):																
Currency.....do	174.4	188.8	190.9	192.6	195.9	199.4	197.1	197.2	199.2	201.6	203.6	205.8	207.9	207.9	207.9	209.0
Demand deposits.....do	281.0	294.3	289.3	295.7	294.1	298.5	295.8	279.1	279.9	292.0	282.9	291.0	292.7	288.7	287.1	288.4
Other checkable deposits ‡.....do	205.1	254.0	257.5	258.5	259.3	261.6	265.2	261.8	266.1	277.8	270.1	274.4	276.8	276.3	276.9	276.1
Overnight RP's and Eurodollars.....do	71.8	79.2	83.3	85.9	79.6	77.9	82.9	78.2	75.0	76.1	80.8	81.0	77.8	80.1	77.3	75.2
General purpose and broker/dealer money market funds.....do	196.3	213.8	216.3	218.2	219.7	221.1	225.0	231.0	234.8	235.3	231.8	228.9	229.6	230.8	230.9	231.4
Money market deposit accounts.....do	544.0	551.8	540.5	539.9	527.7	525.2	524.1	522.6	524.7	523.3	519.6	522.3	521.1	517.0	510.7	506.7
Savings deposits.....do	328.3	407.7	417.3	417.8	413.2	410.0	411.2	412.2	418.6	424.5	428.3	433.4	437.2	434.9	432.0	432.1
Small time deposits @.....do	879.3	865.3	873.2	885.6	903.8	914.6	929.5	944.5	953.7	960.5	964.2	970.0	979.1	986.7	998.4	1,012.0
Large time deposits @.....do	446.9	459.6	465.9	473.1	481.3	485.4	484.8	490.0	492.6	490.4	495.1	499.8	504.9	514.1	524.0	530.6
Measures (seasonally adjusted): ‡																
M1.....do			747.5	756.2	752.7	750.8	758.8	759.5	762.9	770.1	770.2	776.5	782.3	782.5	782.4	783.5
M2.....do			2,880.8	2,894.5	2,896.5	2,901.0	2,925.1	2,946.2	2,967.5	2,990.9	3,002.2	3,016.5	3,025.8	3,031.6	3,033.9	3,036.9
M3.....do			3,622.7	3,644.6	3,659.6	3,664.4	3,690.5	3,722.9	3,748.3	3,772.0	3,789.4	3,814.0	3,836.2	3,848.3	3,853.2	3,868.4
L (M3 plus other liquid assets).....do			4,285.2	4,314.9	4,327.3	4,329.3	4,367.1	4,398.7	4,425.5	4,469.4	4,501.7	4,518.1	4,561.0	4,579.7	4,584.4	
Components (seasonally adjusted):																
Currency.....do			191.4	193.1	195.0	196.5	198.4	199.3	200.9	202.5	203.6	204.9	206.3	207.2	208.5	209.5
Demand deposits.....do			290.5	295.9	291.3	288.0	289.9	287.8	287.9	290.2	287.4	289.9	290.6	290.1	288.4	288.6
Other checkable deposits ‡.....do			258.6	260.3	259.5	259.3	263.3	265.0	266.9	270.1	271.9	274.4	278.2	278.0	278.2	277.9
Savings deposits.....do			418.6	417.0	415.0	414.3	414.4	416.2	419.8	422.7	425.1	429.0	432.0	434.2	434.3	431.3
Small time deposits @.....do			872.1	883.3	901.7	913.1	924.6	941.5	953.5	964.8	972.0	974.9	978.5	985.7	997.4	1,009.9
Large time deposits @.....do			465.3	472.3	480.5	484.7	482.6	488.6	490.3	492.1	495.4	501.7	509.2	515.1	523.6	530.2
<b>PROFITS AND DIVIDENDS (QTRLY.)</b>																
<b>Manufacturing corps. (Bureau of the Census):</b>																
Net profit after taxes, all manufacturing.....mil. \$..	83,121	115,599	33,252			26,127				36,924		41,465				
Food and kindred products.....do	13,292	15,627	3,869			4,982				4,548		6,093				
Textile mill products.....do	1,706	1,891	547			527				388		473				
Paper and allied products.....do	3,280	5,520	1,586			1,495				1,744		2,195				
Chemicals and allied products.....do	12,900	16,559	5,614			2,666				6,378		6,199				
Petroleum and coal products.....do	8,823	10,900	3,829			1,185				4,996		4,102				
Stone, clay, and glass products.....do	2,120	2,911	976			435				94		1,000				
Primary nonferrous metal.....do	760	1,077	526			203				802		1,125				
Primary iron and steel.....do	3,372	1,356	356			250				369		802				
Fabricated metal products.....do	3,232	4,427	1,411			1,262				1,481		1,751				
Machinery (except electrical).....do	6,551	10,203	2,786			3,613				3,017		2,954				
Electrical and electronic equipment.....do	7,619	9,570	2,544			1,970				2,784		3,485				
Transportation equipment (except motor vehicles and equipment).....mil. \$..	3,261	4,677	1,233			1,159				1,274		1,231				
Motor vehicles and equipment.....do	8,363	10,647	2,034			2,378				3,313		3,877				
All other manufacturing industries.....do	14,586	20,234	5,941			5,372				5,786		6,178				
Dividends paid (cash), all manufacturing.....do	46,044	49,512	13,564			12,498				12,234		13,710				
<b>SECURITIES ISSUED</b>																
<b>Securities and Exchange Commission:</b>																
Estimated gross proceeds, total.....mil. \$..	252,673	275,278	24,777	11,987	10,245	20,439	20,174	23,196	20,843	18,288	19,636	30,615	18,991	13,634		
By type of security:																
Bonds and notes, corporate.....do	177,524	191,339	17,592	7,040	7,232	13,974	15,769	15,303	16,532	15,132	14,513	26,114	11,518	9,595		
Common stock.....do	58,852	65,885	5,140	3,840	2,552	5,245	2,714	6,782	3,420	2,667	3,998	3,700	6,474	3,369		
Preferred stock.....do	12,195	11,595	946	161	163	122	1,242	261	625	241	400	501	699	495		
By type of issuer:																
Corporate, total #.....mil. \$..	248,571	268,769	23,678	11,041	9,947	19,341	19,725	22,346	20,577	18,040	18,911	30,315	18,691	13,459		
Manufacturing.....do	46,314	46,172	3,962	2,485	974	1,734	2,946	2,000	1,595	3,793	2,286	4,045	2,734	1,840		
Extractive.....do	4,687	8,229	345	374	361	533	802	87	189	315	221	928	1,150	642		
Public utility.....do	25,484	19,943	1,522	374	576	2,831	492	1,429	1,814	1,515	1,535	1,946	245	647		
Transportation.....do	4,970	6,698	11	152	150	404	1	760	589	250	365	631	0	72		
Communication.....do	14,954	7,326	91	857	49	1,668	60	0	488	243	78	906	1,307	3		
Financial and real estate.....do	126,501	150,909	16,284	6,249	5,931	8,084	12,905	16,842	13,754	10,657	18,608	19,579	11,108	8,401		
State and municipal issues (Bond Buyer): §																
Long-term.....do	142,544	98,673	5,744	6,644	8,494	7,685	5,410	8,003	10,200	6,180	7,222	13,286	9,853	7,538	9,462	9,192
Short-term.....do	20,111	15,486	491	1,216	1,854	626	405	630	355	3,017	847	2,761	956	5,919	726	811
<b>SECURITY MARKETS</b>																
<b>Stock Market Customer Financing</b>																
Margin credit at broker-dealers, end of year or month.....mil. \$..	36,840	31,990	44,170	38,250	34,180	31,990	31,320	31,990	32,660	33,270	33,070	32,300	31,770	31,930	32,770	33,410
Free credit balances at brokers, end of year or month:																
Margin-account.....do	4,880	4,750	4,270	8,415	6,700	4,750	4,675	4,555	4,615	4,395	4,380	4,580	4,485	4,655	4,725	5,065
Cash-account.....do	19,000	15,640	15,895	18,455	15,360	15,640	15,270	14,695	14,355	13,965	14,150	14,460	14,340	14,045	14,175	14,880
<b>Bonds</b>																
<b>Prices:</b>																
Standard & Poor's Corporation, domestic municipal (15 bonds).....dol. per \$100 bond..	65.1	62.7	58.0	55.0	59.8	60.5	61.8	63.7	61.8	61.0	60.4	61.4	61.4	61.4	62.5	63.8
<b>Sales:</b>																
New York Stock Exchange, exclusive of some stopped sales, face value, total.....mil. \$..	10,464.10	9,726.24	873.52	962.45	642.17	729.81	634.54	688.14	688.44	612.76	648.40	675.53	542.87	642.88	581.89	596.74

See footnotes at end of tables.

Units	Annual		1987				1988									
	1986	1987	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
	Unless otherwise stated in footnotes below, data through 1986 and methodological notes are as shown in BUSINESS STATISTICS, 1986															
<b>FINANCE—Continued</b>																
<b>Bonds—Continued</b>																
Yields:																
Domestic corporate (Moody's).....percent..	9.71	9.91	10.64	10.97	10.54	10.59	10.37	9.89	9.86	10.15	10.37	10.36	10.47	10.58	10.28	9.90
By rating:																
Aaa.....do.....	9.02	9.38	10.18	10.52	10.01	10.11	9.88	9.40	9.39	9.67	9.90	9.86	9.96	10.11	9.82	9.51
Aa.....do.....	9.47	9.68	10.35	10.74	10.27	10.33	10.09	9.60	9.59	9.86	10.10	10.13	10.26	10.37	10.06	9.71
A.....do.....	9.95	9.99	10.72	10.98	10.63	10.62	10.43	9.94	9.89	10.17	10.41	10.42	10.55	10.63	10.34	9.99
Baa.....do.....	10.39	10.58	11.31	11.62	11.23	11.29	11.07	10.62	10.57	10.90	11.04	11.00	11.11	11.21	10.90	10.41
By group:																
Industrials.....do.....	9.96	9.83	10.28	10.60	10.25	10.18	9.98	9.67	9.61	9.76	9.97	9.99	9.98	10.07	10.00	9.88
Public utilities.....do.....	9.46	9.98	11.00	11.32	10.82	10.99	10.75	10.11	10.11	10.53	10.75	10.71	10.96	11.09	10.56	9.92
Railroads.....do.....	9.85	9.63	9.96	10.07	10.30	10.08	10.04	9.85	9.91	10.08	10.03	10.04	10.06	10.10	10.12	10.03
Domestic municipal:																
Bond Buyer (20 bonds).....do.....	7.23	7.69	8.53	8.43	7.90	7.86	7.51	7.47	7.90	7.77	7.87	7.74	7.76	7.76	7.64	7.33
Standard & Poor's Corp. (15 bonds).....do.....	7.38	7.73	8.36	8.84	8.09	8.07	7.58	7.55	7.80	7.91	8.01	7.86	7.87	7.86	7.71	7.54
U.S. Treasury bonds, taxable $\frac{1}{2}$ .....do.....	8.14	8.64	9.58	9.61	8.99	9.12	8.82	8.41	8.61	8.91	9.24	9.04	9.20	9.33	9.06	8.89
<b>Stocks</b>																
Prices:																
Dow Jones averages (65 stocks).....	702.50	849.46	936.34	821.81	716.13	703.60	722.21	739.63	766.55	759.10	739.31	784.20	785.26	767.55	780.41	808.29
Industrial (30 stocks).....	1,792.76	2,275.99	2,570.80	2,224.59	1,931.86	1,910.07	1,947.35	1,980.65	2,044.31	2,036.13	1,988.91	2,104.94	2,104.22	2,051.29	2,080.06	2,144.31
Public utility (15 stocks).....	195.24	201.70	198.23	188.68	182.49	176.05	182.18	184.96	177.68	171.40	169.30	180.02	178.71	178.56	179.85	185.01
Transportation (20 stocks).....	785.41	929.19	1,027.73	895.24	744.53	728.84	755.97	790.14	861.33	853.73	820.24	873.11	881.17	856.14	879.45	923.12
Standard & Poor's Corporation: \$																
Combined index (500 Stocks).....1941-43=10..	236.34	286.83	318.66	280.16	245.01	240.96	250.48	258.13	265.74	262.61	256.12	270.68	269.05	263.73	267.97	277.40
Industrial, total (400 Stocks) #.....do.....	262.16	330.90	372.49	323.13	280.11	277.68	288.36	296.46	308.04	305.73	297.39	312.78	310.87	303.12	307.40	319.05
Capital goods.....do.....	227.14	288.23	327.04	280.84	240.41	245.87	246.47	249.68	258.47	255.19	246.32	265.21	262.93	247.69	247.60	253.19
Consumer goods.....do.....	260.72	323.77	365.08	309.49	273.59	272.17	279.64	292.04	305.52	301.69	286.71	305.51	302.22	301.27	313.68	327.18
Utilities (40 Stocks).....do.....	107.65	112.70	114.98	111.73	106.49	102.36	106.13	110.67	107.24	104.12	103.11	109.86	108.49	107.89	109.67	113.00
Transportation (20 Stocks).....do.....	200.19	228.91	257.77	226.47	188.23	185.50	192.20	199.03	212.88	209.54	197.57	211.33	210.37	203.10	209.71	219.89
Railroads.....1941-43=10..	141.73	166.90	191.61	165.87	143.44	146.46	150.08	153.52	162.44	160.17	148.23	160.44	157.72	152.79	158.59	164.78
Financial (40 Stocks).....1970=10..	28.36	28.15	30.02	26.67	22.89	21.12	22.41	23.27	23.30	22.38	22.28	24.46	24.55	25.00	25.75	26.05
Money center banks.....1941-43=10..	115.71	112.03	118.70	102.06	84.15	76.47	78.23	83.39	84.76	82.50	84.24	97.54	97.87	97.85	102.18	99.61
Major regional banks.....do.....	114.41	109.54	116.76	99.93	87.00	83.17	89.63	94.09	95.74	96.44	99.23	107.94	108.85	110.97	112.82	111.78
Property-Casualty Insurance.....do.....	312.67	311.50	323.85	309.35	290.15	270.19	278.01	283.37	276.33	258.31	256.05	274.56	270.45	270.64	276.57	280.22
N.Y. Stock Exchange common stock indexes:																
Composite.....12/31/65=50..	136.00	161.70	178.39	157.13	137.21	134.88	140.55	145.13	149.88	148.46	144.94	152.72	152.12	149.25	151.47	156.36
Industrial.....do.....	155.84	195.31	219.52	189.86	163.42	162.19	168.47	173.44	181.57	180.88	176.02	184.92	184.09	179.72	182.18	188.58
Transportation.....do.....	119.87	140.39	158.58	140.95	117.57	115.85	121.20	126.09	135.15	133.43	127.63	136.02	136.49	132.53	136.27	141.93
Utility.....do.....	71.36	74.30	76.13	73.27	69.86	67.39	70.01	72.89	71.16	69.40	68.65	72.25	71.50	70.67	71.83	74.19
Finance.....do.....	147.20	146.48	154.08	137.35	118.30	111.47	119.40	124.36	125.27	121.67	120.35	129.04	130.00	130.77	133.15	134.66
NASDAQ over-the-counter price indexes:																
Composite.....2/5/71=100..	366.96	402.74	442.80	385.05	318.75	314.54	339.28	353.58	375.54	377.24	371.88	386.44	391.40	379.61	382.16	385.01
Industrial.....do.....	367.27	422.72	473.10	401.95	319.74	318.90	344.41	354.62	386.34	387.54	382.72	400.91	405.62	385.38	384.00	382.49
Insurance.....do.....	430.57	425.25	450.84	413.18	363.26	345.95	375.55	400.05	404.17	400.42	392.32	398.09	398.52	412.14	429.93	432.45
Bank.....do.....	410.17	464.95	494.26	439.88	384.31	378.87	410.93	435.03	446.07	447.76	441.27	450.95	456.96	457.12	452.91	450.81
NASDAQ/NMS composite.....7/10/84=100..	156.10	172.49	189.82	165.09	136.92	135.51	146.36	152.69	162.34	163.05	160.65	167.16	169.21	164.06	165.30	166.78
Industrial.....do.....	138.03	161.06	181.31	154.08	122.80	123.08	132.97	135.97	149.52	149.52	148.02	155.29	156.97	148.94	148.48	148.10
Yields (Standard & Poor's Corp.):																
Composite (500 stocks).....percent..	3.48	3.08	2.78	3.25	3.66	3.71	3.66	3.56	3.48	3.57	3.80	3.58	3.65	3.75	3.69	3.69
Industrials (400 stocks).....do.....	3.09	2.62	2.38	2.78	3.15	3.18	3.14	3.07	2.96	3.02	3.26	3.08	3.14	3.25	3.21	3.21
Utilities (40 stocks).....do.....	6.54	6.52	6.42	6.60	6.95	7.19	7.04	6.73	6.96	7.30	7.44	6.96	7.16	7.20	7.09	7.09
Transportation (20 stocks).....do.....	2.43	2.20	1.97	2.37	2.62	2.63	2.57	2.44	2.34	2.46	2.43	2.45	2.64	2.55	2.55	
Financial (40 stocks).....do.....	3.22	3.60	3.39	3.93	4.50	4.83	4.66	4.49	4.51	4.78	4.24	4.24	4.12	4.12	3.96	
Preferred stocks, 10 high-grade.....do.....	8.76	8.37	8.64	8.99	9.11	9.08	9.04	9.02	9.07	9.19	9.25	9.32	9.33	9.39	9.28	9.23
Sales:																
Total on all registered exchanges (SEC):																
Market value.....mil. \$..	1,705,124	2,284,166	197,013	267,786	152,649	142,612	128,230	140,033	158,878	141,203	115,481	150,481	134,368	128,517	128,517	128,517
Shares sold.....millions..	48,338	63,771	4,894	7,489	5,306	5,263	4,323	4,641	5,471	4,429	3,927	4,857	4,521	4,467	4,467	4,467
On New York Stock Exchange:																
Market value.....mil. \$..	1,448,235	1,983,311	171,341	238,749	136,468	124,179	112,389	123,996	144,622	123,459	100,894	131,410	118,972	112,242	112,242	112,242
Shares sold (cleared or settled).....millions..	39,150	53,038	4,067	6,408	4,573	4,374	3,643	3,981	4,791	3,714	3,297	4,150	3,819	3,759	3,759	3,759
New York Stock Exchange:																
Exclusive of odd-lot stock sales (sales effected).....millions..	35,680	47,801	3,724	6,095	3,590	3,927	3,495	3,694	4,052	3,261	3,232	4,307	3,338	3,327	3,060	3,415
NASDAQ over-the-counter:																
Market value.....mil. \$..	378,216	498,301	40,424	52,213	25,550	26,946	27,577	27,609	38,729	28,887	25,292	33,296	29,054	29,585	26,524	28,698
Shares sold.....millions..	28,737	37,890	3,115	4,090	2,520	2,973	2,465	2,502	3,158	2,381	2,468	3,115	2,614	2,601	2,348	2,522
Shares listed, NYSE, end of period:																
Market value, all listed shares.....bil. \$..	2,199.26	2,216.31	2,885.08	2,258.54	2,079.20	2,216.31	2,321.33	2,411.62	2,346.23	2,369.71	2,359.14	2,456.51	2,439.65	2,353.78	2,440.00	2,489.44
Number of shares listed.....millions..	59,620	71,802	70,444	71,165	71,540	71,802	72,952	73,025	73,517	73,911	74,360	74,688	75,267	75,320	75,498	75,891

FOREIGN TRADE OF THE UNITED STATES

VALUE OF EXPORTS																
Exports (mdse.), incl. reexports, total @	Seasonally adjusted $\frac{1}{4}$															
mil. \$.	do	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
227,158.5	254,121.9	21,183.7	22,777.8	23,278.7	24,314.4	22,990.1	24,138.6	29,105.7	26,334.9	28,142.6	26,838.8	25,093.2	26,538.1	27,440.9	28,204.8	28,204.8
By geographic regions:																
Africa.....do.....	5,978.2	6,283.4	450.2	467.1	585.4	505.5	492.0	509.2	577.9	573.8	741.2	769.2	555.0	648.7	648.7	648.7
Asia.....do.....	64,531.8	73,267.5														

Units	Annual		1987				1988									
	1986	1987	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
<b>FOREIGN TRADE OF THE UNITED STATES—Continued</b>																
<b>VALUE OF EXPORTS—Continued</b>																
Exports (mdse.), incl. reexports—Continued																
<b>Europe:</b>																
France.....mil. \$.	7,215.9	7,943.2	649.2	728.1	735.8	824.5	806.9	815.8	986.3	830.7	782.3	823.2	721.4	759.3	897.8	
German Democratic Republic.....do.	67.9	53.9	5.7	1.2	7.6	3.2	4.9	1.7	1.3	1.8	10.6	6.1	1.9	21.0	41.0	
Federal Republic of Germany.....do.	10,560.5	11,747.7	977.2	1,064.7	1,091.2	1,128.5	1,086.1	1,141.8	1,407.0	1,247.8	1,229.9	1,262.6	1,028.6	1,035.7	1,178.5	
Italy.....do.	4,838.3	5,529.7	423.6	441.4	491.8	541.4	503.0	483.5	642.4	626.9	573.4	591.7	474.8	519.2	551.8	
Union of Soviet Socialist Republics.....do.	1,247.5	1,479.8	64.2	54.3	104.8	260.3	263.8	328.0	308.9	341.8	313.1	151.0	63.2	127.5	115.9	
United Kingdom.....do.	11,418.2	14,113.9	1,171.6	1,213.5	1,266.1	1,270.5	1,279.9	1,465.7	1,768.4	1,486.1	1,605.8	1,618.3	1,360.9	1,457.5	1,507.8	
<b>North and South America:</b>																
Canada.....do.	55,511.6	59,814.3	4,844.7	5,273.1	5,511.8	5,540.8	5,154.0	5,589.9	6,527.4	5,796.1	6,520.8	6,373.4	4,776.0	5,840.3	5,926.8	
<b>Latin American Republics,</b>																
total #.....do.	27,968.0	31,574.4	2,839.1	2,785.3	2,994.9	2,913.8	2,623.9	2,728.5	3,349.3	2,966.7	3,507.1	3,243.3	3,329.8	3,554.9	3,772.2	
Brazil.....do.	3,885.3	4,039.9	398.3	387.7	400.3	371.4	340.6	304.8	340.7	368.0	510.7	314.6	387.9	384.3	330.8	
Mexico.....do.	12,391.6	14,582.2	1,327.7	1,258.2	1,414.6	1,282.1	1,215.5	1,359.7	1,678.3	1,482.8	1,789.1	1,737.6	1,645.3	1,859.8	1,935.6	
Venezuela.....do.	3,141.0	3,586.0	318.5	317.3	342.9	411.9	312.8	295.4	389.1	334.3	350.6	353.0	403.9	408.4	469.4	
Exports of U.S. merchandise, total @.....do.	216,230.5	245,115.0	20,413.8	21,979.7	22,434.2	23,448.6	22,106.9	23,304.9	28,138.0	25,311.3	26,979.5	25,756.0	24,114.4	25,596.9	26,336.5	
Agricultural products, total.....do.	26,061.0	28,636.2	2,334.0	2,676.1	2,825.3	2,958.6	2,876.7	3,156.2	3,326.9	3,054.0	2,970.6	2,675.8	2,622.7	2,876.4	3,179.5	
Nonagricultural products, total.....do.	190,494.2	215,222.7	17,881.7	18,277.9	20,129.0	20,977.0	18,569.7	19,569.4	24,676.8	22,443.3	23,134.7	23,026.2	21,491.7	22,720.5	23,157.0	
<b>By commodity groups and principal commodities:</b>																
Food and live animals #.....mil. \$.	17,302.6	19,178.8	1,681.4	1,766.1	1,684.8	1,783.3	1,735.5	1,874.1	2,142.0	2,026.3	2,201.5	1,954.6	2,295.6	2,384.0	2,554.1	
Beverages and tobacco.....do.	2,920.2	3,666.7	284.1	320.2	377.2	421.9	375.7	348.9	383.4	382.1	389.8	359.9	361.9	343.6	377.0	
Crude materials, inedible, exc. fuels #.....do.	17,323.8	20,416.3	1,670.6	1,832.1	2,051.7	2,153.4	1,929.6	2,209.6	2,306.8	2,135.8	2,021.9	2,128.0	1,842.5	1,984.8	1,922.3	
Mineral fuels, lubricants, etc. #.....do.	8,114.5	7,713.1	658.6	630.1	660.1	816.3	560.0	548.0	645.2	678.4	728.6	753.3	659.8	727.2	711.4	
Oils and fats, animal and vegetable.....do.	1,014.9	981.4	106.4	86.2	97.4	107.9	67.9	151.6	153.7	117.5	106.5	156.1	121.8	85.9	158.2	
Chemicals.....do.	22,765.8	26,380.9	2,217.7	2,075.5	2,275.2	2,405.7	2,287.0	2,444.6	2,983.1	2,646.2	2,645.7	2,815.2	2,616.8	2,805.4	3,119.1	
Manufactured goods #.....do.	14,005.0	17,136.1	1,457.4	1,430.0	1,545.4	1,576.9	1,498.9	1,685.1	1,948.9	1,781.2	1,949.1	1,969.0	1,746.9	1,981.4	2,180.6	
<b>Machinery and transport equipment,</b>																
total.....mil. \$.	95,289.5	108,596.0	9,478.5	9,210.1	10,622.3	10,388.3	9,441.4	10,107.9	12,743.1	11,182.4	11,814.7	11,327.0	10,112.2	11,136.8	11,275.4	
Machinery, total #.....do.	60,396.8	69,637.0	6,067.7	6,134.5	6,775.2	6,701.1	6,431.7	6,515.9	7,993.4	7,079.3	7,330.9	7,353.1	6,952.3	7,430.2	7,567.1	
Transport equipment, total.....do.	34,892.7	38,959.0	3,410.8	3,075.6	3,847.0	3,688.2	3,009.7	3,592.0	4,749.7	4,103.1	4,483.8	3,973.9	3,159.9	3,706.6	3,708.2	
Motor vehicles and parts.....do.	18,575.0	20,878.8	1,777.9	1,812.9	2,178.5	1,782.7	1,729.9	2,110.6	2,563.8	2,208.8	2,345.2	2,133.7	1,463.2	1,817.0	2,275.1	
<b>VALUE OF IMPORTS</b>																
General imports, total @.....do.	365,437.7	406,241.0	33,667.5	38,076.5	35,210.9	35,758.7	32,995.1	35,569.0	37,030.0	35,026.9	36,146.9	38,589.5	35,582.9	37,741.1	36,454.1	
Seasonally adjusted ↑.....do.	34,582.4	35,966.5	3,516.1	3,826.6	3,516.1	3,658.4	34,257.6	37,729.0	36,643.7	34,825.0	35,731.7	37,948.4	34,532.9	38,139.7	37,172.9	
<b>By geographic regions:</b>																
Africa.....do.	10,348.1	11,939.4	1,009.4	1,019.8	1,156.0	1,088.9	955.9	915.8	894.5	854.8	1,028.0	929.3	908.8	927.6	858.2	
Asia.....do.	153,869.1	174,452.3	14,874.8	16,509.9	14,602.8	14,933.7	14,314.4	15,374.9	14,802.2	14,489.5	14,740.2	16,145.3	16,032.2	17,445.6	16,048.4	
Australia and Oceania.....do.	3,717.0	4,135.9	386.1	322.1	293.8	301.1	467.1	430.9	428.7	387.4	415.6	466.9	370.9	341.8	341.8	
Europe.....do.	91,826.0	97,418.7	7,308.1	8,800.5	8,681.1	9,123.2	7,458.3	8,200.1	9,329.4	8,163.3	8,676.7	9,069.3	8,523.7	7,922.3	7,898.4	
Northern North America.....do.	68,259.0	71,093.5	6,094.7	6,573.3	6,723.9	6,127.8	5,993.4	6,598.6	7,273.0	6,830.9	7,242.2	7,470.4	5,790.9	6,301.1	7,017.6	
Southern North America.....do.	23,465.0	26,497.9	2,246.1	2,426.6	2,266.8	2,205.2	2,186.6	2,524.3	2,557.8	2,248.7	2,492.2	2,670.7	2,225.6	2,576.8	2,450.9	
South America.....do.	18,477.2	20,362.8	1,653.2	2,061.8	1,749.8	1,663.7	1,842.0	1,773.0	1,826.2	1,827.2	1,858.5	1,694.6	1,730.4	2,100.5	1,839.0	
<b>By leading countries:</b>																
<b>Africa:</b>																
Egypt.....do.	111.5	464.9	47.1	32.4	42.0	55.5	9.8	29.2	25.5	17.4	12.8	12.6	15.1	31.8	15.9	
Republic of South Africa.....do.	2,364.5	1,345.5	87.8	113.1	127.5	130.5	107.8	125.1	128.7	110.3	128.9	126.0	132.7	136.6	121.0	
<b>Asia; Australia and Oceania:</b>																
Australia, including New Guinea.....mil. \$.	2,676.6	3,029.5	294.5	246.7	234.4	221.5	366.7	336.3	286.6	276.5	288.8	346.1	248.5	302.7	248.0	
Japan.....do.	81,911.1	84,575.0	6,780.9	7,932.0	7,179.0	7,472.2	6,353.9	7,186.4	7,480.8	7,183.0	6,785.6	7,537.6	7,405.5	7,736.0	7,073.4	
<b>Europe:</b>																
France.....do.	10,128.6	10,730.2	792.9	1,036.3	969.0	1,008.0	860.3	954.9	1,087.8	895.8	1,149.1	1,281.8	1,056.1	922.0	943.6	
German Democratic Republic.....do.	86.5	85.4	7.8	9.3	6.6	6.2	10.0	8.9	17.3	5.8	10.8	7.7	7.6	8.7		
Federal Republic of Germany.....do.	25,123.7	27,069.3	1,859.8	2,306.7	2,482.1	2,542.2	2,090.1	2,162.8	2,513.2	2,154.6	2,158.8	2,212.5	2,067.1	1,942.6	2,182.4	
Italy.....do.	10,607.4	11,039.6	723.6	1,019.5	964.5	960.9	859.9	970.6	1,060.2	893.5	893.7	1,033.1	1,089.9	1,058.6	717.2	
Union of Soviet Socialist Republics.....do.	558.2	424.7	36.2	34.6	51.7	45.7	49.4	45.5	70.6	28.9	39.2	28.3	24.9	54.5	38.9	
United Kingdom.....do.	15,396.0	17,341.3	1,441.0	1,551.1	1,479.9	1,657.5	1,154.4	1,463.5	1,649.8	1,546.0	1,549.7	1,551.5	1,401.2	1,449.0	1,381.0	
<b>North and South America:</b>																
Canada.....do.	68,252.6	71,085.0	6,094.7	6,573.0	6,723.1	6,126.8	5,992.8	6,598.1	7,272.7	6,830.7	7,241.8	7,470.1	5,790.6	6,301.0	7,017.4	
<b>Latin American Republics,</b>																
total #.....do.	39,541.2	44,370.9	3,678.0	4,275.1	3,830.7	3,675.0	3,825.0	4,075.9	4,173.4	3,923.3	4,155.1	4,160.8	3,754.0	4,487.7	4,129.7	
Brazil.....do.	6,812.9	7,865.4	682.8	821.4	722.0	715.5	791.6	741.1	728.6	763.0	746.9	754.4	743.2	934.0	857.0	
Mexico.....do.	17,301.7	20,270.8	1,724.4	1,871.4	1,783.3	1,707.4	1,746.3	1,982.0	2,004.9	1,799.2	1,978.8	2,116.6	1,699.9	2,025.8	1,951.6	
Venezuela.....do.	5,096.7	5,579.0	428.8	532.0	426.4	408.1	444.9	416.1	403.6	435.1	549.1	429.5	405.8	497.2	437.7	
<b>By commodity groups and principal commodities:</b>																
Agricultural products, total.....mil. \$.	21,284.4	20,686.9	1,577.1	1,810.6	1,710.6	1,701.1	1,888.1	1,935.0	1,946.2	1,715.0	1,662.5	1,599.5	1,594.8	1,897.3	1,659.4	
Nonagricultural products, total.....do.	348,676.9	385,213.7	31,995.5	35,903.5	33,763.7	33,742.4	31,329.5	33,882.7	35,165.6	33,086.8	34,790.9	36,846.8	33,987.7	35,810.8	34,794.9	
Food and live animals #.....do.	20,802.5	20,547.1	1,628.7	1,816.9	1,646.5	1,665.8	1,840.1	1,838.4	1,868.6	1,628.5	1,633.4	1,530.8	1,519.1	1,752.3	1,548.0	
Beverages and tobacco.....do.	3,866.1	4,104.9	315.0	425.1	421.6	318.6	286.8	318.8	305.7	318.0	323.9	340.7	322.2	353.2	361.9	
Crude materials, inedible, exc. fuels #.....do.	10,431.5	11,525.7	1,029.4	1,002.1	1,015.1	1,030.3	976.7	1,050.5	1,199.2	1,098.1	1,150.3	1,165.6	1,070.1	1,186.8	1,110.8	
Mineral fuels, lubricants, etc. Petroleum and products.....do.	37,309.9	44,219.5	3,829.7	4,240.2	3,940.2	3,611.5	3,575.6	3,795.1	3,190.3	3,280.6	3,864.6	3,490.5	3,338.8	3,608.0	3,203.6	
Oils and fats, animal and vegetable.....																

Unless otherwise stated in footnotes below, data through 1986 and methodological notes are as shown in BUSINESS STATISTICS: 1986

Units	Annual		1987				1988									
	1986	1987	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
<b>FOREIGN TRADE OF THE UNITED STATES—Continued</b>																
<b>Indexes</b>																
Exports (U.S. mdse., excl. military grant-aid):																
Unit value @ .....1977=100 .....	155.4	158.6	163.9	161.4	160.6	159.0	163.4	161.3	162.6	165.4	169.6	169.6	173.7	174.6	176.9	
Quantity.....do.....	112.6	127.0	125.5	127.1	142.6	147.1	130.7	142.4	173.0	154.0	153.1	151.9	136.7	145.9	148.6	
Value.....do.....	175.0	201.4	205.7	205.1	229.0	234.0	213.6	229.6	281.2	254.7	259.7	257.7	237.4	254.6	262.9	
General imports:																
Unit value @ .....do.....	154.0	164.6	170.8	169.3	169.7	168.8	168.7	170.4	171.5	172.2	176.3	176.9	177.1	174.0	172.5	
Quantity.....do.....	164.9	169.2	161.9	183.4	172.1	172.9	162.1	173.1	173.2	166.4	170.3	179.0	165.4	178.5	174.0	
Value.....do.....	253.9	278.5	276.5	310.6	292.1	291.9	273.5	294.9	305.6	286.6	300.2	316.6	293.0	310.5	300.2	
<b>Shipping Weight and Value</b>																
Waterborne trade:																
Exports (incl. reexports):																
Shipping weight.....thous. sh. tons.	328,419	357,287	30,348	30,516	29,986	35,306	28,246	29,911	34,890	35,766	35,092	33,834				
Value.....mil. \$.	87,946	99,011	8,040	8,366	9,230	9,887	8,801	9,467	11,166	10,234	10,374	10,396				
General imports:																
Shipping weight.....thous. sh. tons.	450,214	471,693	38,572	40,491	41,466	38,714	39,280	39,960	39,456	41,029	44,764	42,086				
Value.....mil. \$.	217,781	245,030	19,229	21,902	20,495	20,617	19,811	20,732	20,830	20,044	20,718	21,677				

<b>TRANSPORTATION AND COMMUNICATION</b>																
<b>TRANSPORTATION</b>																
<b>Air Carriers</b>																
<b>Certificated route carriers:</b>																
Passenger-miles (revenue).....bil.	366.55	404.31	31.58	32.63	29.87	31.60	30.45	29.71	36.19	34.02	35.35	38.24	40.88			
Passenger-load factor.....percent.	60.3	62.4	58.6	59.6	57.7	58.1	55.8	57.5	64.4	62.5	62.5	66.6	68.2			
Ton-miles (revenue), total.....mil.	45,681	50,451	4,012	4,210	3,906	4,111	3,861	3,803	4,585	4,305	4,449	4,780	5,058			
Operating revenues (quarterly) # \$.....mil. \$.	50,086	56,699	15,338			14,418			14,478							
Passenger revenues.....do.....	39,608	44,883	12,314			11,262			11,374							
Cargo revenues.....do.....	5,624	6,395	1,637			1,738			1,726							
Mail revenues.....do.....	833	924	221			273			244							
Operating expenses (quarterly) \$.....do.....	48,855	54,262	14,152			14,321			14,246							
Net income after taxes (quarterly) \$.....do.....	-205	459	615			-374			-52							
<b>Domestic operations:</b>																
Passenger-miles (revenue).....bil.	302.09	324.48	24.21	25.73	24.27	25.57	24.09	24.36	29.47	27.20	27.69	29.05	30.50			
Cargo ton-miles.....mil.	3,990	4,339	381	414	387	385	354	355	419	391	394	415	407			
Mail ton-miles.....do.....	1,247	1,312	102	112	103	161	111	105	121	111	105	106	103			
Operating revenues (quarterly) \$.....mil. \$.	41,043	45,468	11,934			11,616			11,616							
Operating expenses (quarterly) \$.....do.....	39,983	43,756	11,202			11,498			11,489							
Net income after taxes (quarterly) \$.....do.....	-108	712	732			-205			-90							
<b>International operations:</b>																
Passenger-miles (revenue).....bil.	64.44	79.83	7.37	6.90	5.60	6.02	6.36	5.34	6.72	6.32	7.66	9.18	10.38			
Cargo ton-miles.....mil.	3,346	3,921	339	383	385	348	316	338	388	364	379	399	424			
Mail ton-miles.....do.....	433	443	33	37	44	57	35	34	39	37	36	36	36			
Operating revenues (quarterly) \$.....mil. \$.	8,626	10,907	3,331			2,701			2,772							
Operating expenses (quarterly) \$.....do.....	8,461	10,214	2,882			2,739			2,681							
Net income after taxes (quarterly) \$.....do.....	-108	302	305			-160			28							
<b>Urban Transit Systems</b>																
Passengers carried, total *.....mil.	9,009	8,972	732	812	744	758	726	737	835	779	750	758	695	753	740	
<b>Motor Carriers</b>																
<b>Carriers of property, large, class I, qtrly.:</b>																
Number of reporting carriers.....do.....	100	100	100			100			100							
Operating revenues, total.....mil. \$.	18,480	18,772	4,859			4,909			4,403							
Net income, after extraordinary and prior period charges and credits.....mil. \$.	548	263	60			52			38							
Tonnage hauled (revenue), common and contract carrier service.....mil. tons.	166	179	45			48			42							
<b>Freight carried—volume indexes, class I and II intercity truck tonnage (ATA):</b>																
Common carriers of general freight, seas. adj. ....1967=100 .....	148.0	163.9	168.5	170.9	176.2	173.4	175.0	171.0	175.3	174.9	178.5	184.6	172.6	177.3	179.6	
<b>Class I Railroads †</b>																
<b>Financial operations, quarterly (AAR), excluding Amtrak:</b>																
Operating revenues, total #.....mil. \$.	25,957	26,623	6,712			6,840			6,868			7,009				
Freight.....do.....	25,098	25,798	6,513			6,632			6,666			6,804				
Passenger, excl. Amtrak.....do.....	110	95	22			20			21			21				
Operating expenses.....do.....	24,652	23,881	6,415			5,982			6,034			6,649				
Net railway operating income.....do.....	1,168	1,752	299			538			569			225				
Ordinary income †.....do.....	733	1,989	299			690			523			347				
<b>Traffic:</b>																
Revenue ton-miles, qtrly. (AAR).....bil.	867.7	939.7	242.3			248.7			247.2			250.9				
Price index for railroad freight .....12/84=100 .....	100.8	100.1	100.1	100.2	100.2	100.1	103.2	103.2	103.2	105.2	105.2	104.9	105.2	105.0	105.3	105.4
<b>Travel</b>																
<b>Lodging industry:</b>																
Restaurant sales index...same month 1967=100 .....	219	223	220	243	209	232	178	217	241	233	276	265	259			
Hotels: Average room sale.....dollars.	73.61	82.58	83.10	86.16	83.58	81.50	86.64	88.17	89.27	85.37	84.97	82.70	76.58			
Rooms occupied.....% of total.	66	68	68	73	66	52	57	63	72	70	70	70	68			
Motor hotels: Average room sale.....dollars.	48.07	47.79	47.17	47.45	46.23	45.86	47.11	45.78	48.88	46.35	44.48	45.58	51.56			
Rooms occupied.....% of total.	62	62	40	63	54	46	54	60	72	68	64	71	75			
Economy hotels: Average room sale.....dollars.	31.13	32.87	33.19	33.04	32.10	31.88	32.80	41.87	36.10	50.30	53.52	50.19	50.44			
Rooms occupied.....% of total.	63	64	63	64	55	41	52	56	71	68	66	74	80			
<b>Foreign travel:</b>																
U.S. citizens: Arrivals (quarterly).....thous.	15,343	17,005	5,285			3,692			4,126	1,418	1,327	1,507	1,834			
Departures (quarterly).....do.....	14,357	16,425	4,872			3,820			3,717	1,296	1,379	1,741	1,887			
Aliens: Arrivals (quarterly).....do.....	10,265	11,639	3,792			2,786			2,801	967	1,037	1,265	1,634			
Departures (quarterly).....do.....	8,818	10,239	3,327			2,539			2,440	911	900	1,018	1,181			
Passports issued.....do.....	4,109	4,872	333	300	276	304	326	378	467	432	408	421	335	339	263	235
National parks, recreation visits # #.....do.....	52,749	55,782	6,349	5,114	2,383	1,395	1,407	1,563	2,272	2,925	4,675	7,774	10,377	9,832	6,240	4,651

See footnotes at end of tables.

Units	Annual		1987				1988								
	1986	1987	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.

TRANSPORTATION AND COMMUNICATION—Continued

COMMUNICATION																
Telephone carriers: ◊																
Operating revenues #	mil. \$	73,897	74,657	18,832			18,900									
Station revenues	do	31,218	31,669	7,974			7,953									
Tolls, message	do	3,536	9,171	2,347			2,312									
Operating expenses (excluding taxes)	do	48,553	50,384	12,823			13,139									
Net operating income (after taxes)	do	13,140	13,370	3,372			3,164									
Access lines	mil.			112.4			113.2									

CHEMICALS AND ALLIED PRODUCTS

CHEMICALS																
Inorganic Chemicals																
Production:																
Aluminum sulfate, commercial (17% Al <sub>2</sub> O <sub>3</sub> ) ‡	thous. sh. tons	1,222	1,223	119	109	95	105	102	101	107	100	108	118	110	121	114
Chlorine gas (100% Cl <sub>2</sub> ) †	do	10,436	10,980	954	941	966	985	903	907	974	953	910	904	922	951	944
Hydrochloric acid (100% HCl) †	do	2,413	2,495	201	200	198	206	214	221	226	233	187	183	181	232	232
Phosphorus, elemental †	do	364	343	28	32	27	31	30	30	30	30	30	30	28	27	29
Sodium hydroxide (100% NaOH) †	do	10,691	11,518	998	1,008	1,026	1,036	939	946	1,031	1,022	851	845	872	999	1,017
Sodium silicate, anhydrous †	do	791	948	67	89	85	82	85	59	63	62	57	74	65	71	81
Sodium sulfate, anhydrous †	do	811	805	75	68	67	70	60	65	69	69	70	68	60	68	67
Sodium tripolyphosphate (100% Na <sub>3</sub> P <sub>3</sub> O <sub>10</sub> ) †	do	617	565	46	46	50	41	41	48	54	53	47	49	39	41	36
Titanium dioxide (composite and pure) †	do	931	952	79	77	85	78	83	81	86	88	92	84	85	84	88
Sulfur, native (Frasch) and recovered:																
Production	thous. met. tons	9,862	9,363	775	781	735	787	796	754	815	777	779	773	769	805	762
Stocks (producers') end of period	do	2,748	2,316	2,567	2,488	2,404	2,316	2,250	2,133	1,963	1,894	1,750	1,580	1,536	1,490	1,369
Inorganic Fertilizer Materials																
Production:																
Ammonia, synthetic anhydrous †	thous. sh. tons	14,474	16,161	1,238	1,403	1,357	1,450	1,409	1,304	1,455	1,475	1,513	1,395	1,443	1,388	1,286
Ammonium nitrate, original solution †	do	6,089	6,416	457	555	560	594	582	589	652	648	635	650	674	665	504
Ammonium sulfate †	do	2,080	2,133	179	181	187	181	191	200	187	210	172	188	190	188	188
Nitric acid (100% HNO <sub>3</sub> ) †	do	6,734	7,102	552	629	629	663	658	650	736	710	690	623	631	630	560
Nitrogen solutions (100% N) †	do	2,264	2,820	188	232	245	254	251	231	253	285	281	227	246	251	242
Phosphoric acid (100% P <sub>2</sub> O <sub>5</sub> ) †	do	9,578	10,473	894	943	898	967	940	973	1,017	1,015	972	902	958	971	978
Sulfuric acid (100% H <sub>2</sub> SO <sub>4</sub> ) †	do	35,759	38,750	3,353	3,443	3,237	3,578	3,425	3,366	3,591	3,657	3,590	3,376	3,510	3,549	3,427
Superphosphate and other phosphatic fertilizers (gross weight):																
Production	thous. sh. tons	12,710	15,674	1,418	1,415	1,304	1,337	1,351	1,370	1,392	1,385	1,277	1,223	1,339	1,436	1,382
Stocks, end of period	do	775	704	539	671	832	704	750	762	581	620	780	690	726	728	597
Potash, sales (K <sub>2</sub> O)	do	5,521	6,204	552	400	366	577	699	422	436	688	536	392	280	467	347
Imports:																
Ammonium nitrate	do	561	307	12	15	14	14	30	26	27	35	21	19	19	15	15
Ammonium sulfate	do	291	285	16	20	10	17	64	22	44	42	24	9	32	15	26
Potassium chloride	do	7,536	7,290	690	481	532	856	698	692	912	952	589	380	334	564	509
Sodium nitrate	do	118	102	( <sup>2</sup> )	2	3	6	( <sup>2</sup> )	7	12	42	19	10	7	16	17
Industrial Gases †																
Production:																
Acetylene	mil. cu. ft.	5,034	5,605	490	420	422	431	420	419	464	418	372	355	390	516	
Hydrogen (high and low purity)	do	141,815	163,659	14,025	12,949	12,167	12,566	12,408	12,212	11,824	12,152	13,215	12,724	12,389	11,865	
Nitrogen (high and low purity)	do	617,386	653,970	56,897	60,653	59,417	60,226	60,587	58,894	61,298	58,205	60,681	57,286	62,210	61,021	
Oxygen (high and low purity)	do	346,839	390,067	35,693	37,531	36,487	37,907	38,064	36,165	38,611	37,465	39,810	36,985	38,860	39,157	
Organic Chemicals §																
Production:																
Acetylsalicylic acid (aspirin)	mil. lb.	130.5	124.2	3.4			5.4			6.8			6.5			
Ethyl acetate	do	198.1	198.3	50.7			44.3			47.0			45.0			
Formaldehyde (37% HCHO)	do	5,549.4	6,064.4	1,548.5			1,552.6			1,534.9			1,650.0			
Glycerin, refined, all grades	do	295.0	276.4	24.0	25.9	23.9	22.3	24.0	23.3	24.9	24.2	24.8	22.0	25.5	20.8	21.6
Methanol, synthetic	mil. gal.	1,085.1	1,098.2	296.3			278.0			216.2			253.2			
Phthalic anhydride	mil. lb.	863.1	1,035.2	251.7			253.1			270.4			284.4			
ALCOHOL																
Ethyl alcohol and spirits:																
Production	mil. tax gal.	645.4	730.3	63.8	63.0	60.6	66.9	62.6	61.2	64.2	60.7	69.8	61.2	65.9		
Stocks, end of period	do	47.5	43.4	38.6	34.3	41.7	43.4	47.7	47.4	36.4	39.5	34.7	31.3	40.5		
Denatured alcohol:																
Production	mil. wine gal.	408.6	442.3	39.4	37.6	31.8	49.3	36.5	36.5	44.0	36.9	43.5	40.1	33.4		
Consumption (withdrawals)	do	444.6	460.5	41.4	39.4	30.2	40.1	34.8	35.7	45.8	40.8	41.6	42.2	35.4		
For fuel use	do	226.7	208.3	18.7	19.1	11.8	17.9	14.8	14.3	18.5	19.0	21.0	20.3	17.8		
Stocks, end of period	do	23.8	9.7	6.0	6.3	7.2	9.7	10.2	11.5	11.4	7.6	11.1	8.6	7.4		

See footnotes at end of tables.

Units	Annual		1987				1988									
	1986	1987	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
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CHEMICALS AND ALLIED PRODUCTS—Continued

PLASTICS AND RESIN MATERIALS																
Production:																
Phenolic resins.....mil. lb.	'1,813.5	(2)														
Polyethylene and copolymers.....do	'15,983.0	'17,675.8	4,323.3			4,515.2			4,584.6			4,555.8				
Polypropylene.....do	'6,256.5	'6,633.5	1,743.2			1,754.1			1,719.3			1,704.5				
Polystyrene and copolymers.....do	'7,078.4	(2)														
Polyvinyl chloride and copolymers.....do	'7,283.6	7,986.0	1,990.6			2,095.4			2,034.0			2,174.1				
PAINTS, VARNISH, AND LACQUER ◊																
Total shipments.....mil. \$.	'9,546.7	'10,058.4	'879.6	'895.4	'751.7	'681.3	751.5	822.3	958.0	970.1	1,034.0	1,067.0	937.5	1,000.0	964.7	
Architectural coatings.....do	'4,010.0	'4,215.8	'376.8	'343.7	'286.5	'244.3	273.8	304.8	385.0	390.7	421.0	457.6	401.4	427.6	383.6	
Product coatings (OEM).....do	'3,634.9	'3,858.8	'326.2	'369.5	'317.8	'299.3	334.5	358.0	387.7	381.7	395.8	392.2	334.2	367.5	383.7	
Special purpose coatings.....do	'1,901.9	'1,983.8	'176.7	'182.2	'147.4	'137.7	143.2	159.4	185.3	197.6	217.1	217.2	202.0	205.0	197.5	

ELECTRIC POWER AND GAS

ELECTRIC POWER																
Production:																
Electric utilities, total.....mil. kw.-hr.	2,437,310	2,572,127	213,008	203,009	200,258	220,500	237,586	216,813	213,838	195,818	208,144	232,183	257,048	267,148		
By fuels.....do	2,196,465	2,322,492	194,828	185,054	183,401	199,413	215,371	197,648	194,324	176,717	186,913	213,353	240,145	250,701		
By waterpower.....do	290,844	249,635	18,180	17,955	16,857	21,087	22,214	19,165	19,514	19,102	21,230	18,829	16,904	16,447		
Sales to ultimate customers, total (Edison Electric Institute) ◊.....mil. kw.-hr.																
Commercial \$.....do	630,260	658,249	186,440			159,110			166,780			165,289				
Industrial \$.....do	817,396	846,876	222,491			214,111			211,402			218,376				
Railways and railroads.....do	4,714	4,753	1,155			1,202			1,304			1,183				
Residential or domestic.....do	820,826	849,273	244,803			195,168			238,639			187,087				
Street and highway lighting.....do	14,921	14,738	3,594			3,771			3,755			3,469				
Other public authorities.....do	62,038	62,169	16,996			15,236			16,098			15,526				
Interdepartmental.....do	5,155	4,419	1,149			1,018			881			982				
Revenue from sales to ultimate customers (Edison Electric Institute) ◊.....mil. \$.	152,814	155,712	45,084			36,977			39,012			37,353				
GAS ◊																
Total utility gas, quarterly (American Gas Association):																
Customers, end of period, total @.....thous.	50,961	51,797	51,174			51,797			52,720							
Residential.....do	46,818	47,576	47,039			47,576			48,357							
Commercial.....do	3,915	3,994	3,908			3,994			4,133							
Industrial @.....do	176	174	175			174			175							
Other.....do	52	53	52			53			54							
Sales to customers, total.....tril. Btu.	11,126	10,115	1,478			2,798			4,084							
Residential.....do	4,380	4,350	381			1,246			2,192							
Commercial.....do	2,238	2,132	254			601			982							
Industrial.....do	2,892	2,158	453			614			640							
Electric generation.....do	1,449	1,306	362			292			211							
Other.....do	167	169	28			46			60							
Revenue from sales to customers, total.....mil. \$.	51,194	44,828	6,237			12,329			18,238							
Residential.....do	24,750	23,390	2,461			6,522			10,779							
Commercial.....do	11,268	10,065	1,200			2,800			4,510							
Industrial.....do	10,554	7,204	1,454			2,050			2,160							
Electric generation.....do	3,949	3,569	1,035			796			531							
Other.....do	673	600	87			161			208							

FOOD AND KINDRED PRODUCTS; TOBACCO

ALCOHOLIC BEVERAGES																
Beer:																
Production.....mil. bbl.	196.50	195.42	15.82	15.50	13.18	13.69	15.80	15.85	17.12	17.73	18.31	18.58	18.17			
Taxable withdrawals.....do	178.72	177.85	14.31	14.47	12.53	12.32	13.80	13.94	15.26	15.24	16.48	17.04	16.41			
Stocks, end of period.....do	13.42	12.94	14.20	13.66	12.85	12.94	13.47	13.85	14.12	15.13	15.25	14.95	14.88			
Distilled spirits (total):																
Production.....mil. tax gal.	85.70	76.51	6.52	9.24	6.72	4.41	4.80	6.50	7.43	7.87	9.16	7.10	5.70			
Consumption, apparent, for beverage purposes.....mil. wine gal.	394.22	387.73	31.11	31.09	37.56	48.19	25.12	26.53	30.64	30.31	30.11					
Stocks, end of period.....mil. tax gal.	500.72	455.00	469.86	464.20	543.57	455.00	449.63	448.14	446.43	445.14	395.06	440.21	435.39			
Imports.....mil. proof gal.	103.59	106.89	8.25	10.57	12.79	6.96	7.71	6.22	7.53	7.12	7.58	6.81	6.47	7.80	8.84	
Whisky:																
Production.....mil. tax gal.	50.44	38.33	1.77	2.34	3.01	2.02	1.79	2.53	4.06	4.46	4.68	3.45	3.00			
Stocks, end of period.....do	433.63	393.72	408.83	402.15	398.12	393.72	389.31	386.47	384.78	384.08	334.27	379.87	377.28			
Imports.....mil. proof gal.	67.68	70.92	5.47	7.01	8.60	4.20	4.97	3.67	5.00	4.34	4.85	4.27	3.69	5.06	5.61	
Wines and distilling materials:																
Effervescent wines:																
Production.....mil. wine gal.	30.86	'27.88	2.86	3.31	2.80	2.30	1.78	2.48	1.66	2.26	1.36	3.45	2.71			
Taxable withdrawals.....do	30.23	30.12	3.40	4.37	4.38	3.44	2.13	1.24	1.51	1.36	1.91	1.96	1.70			
Stocks, end of period.....do	15.96	14.99	18.72	13.72	16.17	14.99	15.36	16.50	16.46	17.29	17.57	17.67	18.45			
Imports.....do	14.30	13.87	1.05	1.96	2.45	1.23	.60	.72	.94	.72	.86	.78	.87	1.08	1.06	
Still wines:																
Production.....do	482.34	'441.69	176.15	78.80	25.70	24.78	6.23	4.61	5.14	3.84	4.88	3.50	6.72			
Taxable withdrawals.....do	448.14	'452.55	34.48	36.26	34.60	37.11	35.02	31.84	38.47	40.49	41.65	47.22	38.98			
Stocks, end of period.....do	598.74	601.63	617.61	617.66	598.20	601.63	586.92	539.39	501.19	542.89	470.22	454.47	387.52			
Imports.....do	90.31	82.42	5.89	8.04	7.72	5.80	4.78	4.98	6.11	5.38	5.69	5.68	5.52	5.34	5.24	
Distilling materials produced at wineries.....do																
	143.17	145.90	42.61	24.79	4.37	6.79	7.60	10.98	2.21	3.10	3.50	2.94	1.96			

See footnotes at end of tables.

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<b>FOOD AND KINDRED PRODUCTS; TOBACCO—Continued</b>																
<b>DAIRY PRODUCTS</b>																
Butter:																
Production (factory).....mil. lb.	1,202.4	1,104.1	77.9	91.2	87.9	108.5	124.7	117.1	116.4	111.7	107.9	91.7	75.9	74.2	83.0	
Stocks, cold storage, end of period.....do	193.0	143.2	176.2	165.6	158.5	143.2	157.3	198.8	221.1	239.8	282.5	294.7	295.7	290.0	247.6	240.1
Producer Price Index.....1982=100	98.3	95.3	100.2	93.5	93.2	91.9	*88.9	88.6	88.8	88.8	88.8	*91.4	92.1	92.6	92.6	92.2
Cheese:																
Production (factory), total.....mil. lb.	5,209.3	5,344.2	430.7	448.6	431.8	469.7	432.8	428.8	483.9	473.1	490.2	474.4	454.2	441.7	448.5	
American, whole milk.....do	2,798.2	2,716.7	201.8	214.1	207.4	232.6	225.8	221.0	244.6	251.8	258.7	245.2	235.9	213.7	210.1	
Stocks, cold storage, end of period.....do	693.6	457.1	580.8	538.0	495.9	457.1	452.8	445.9	443.1	458.3	460.1	481.8	492.1	458.0	411.0	392.8
Imports, whole milk.....do	601.7	367.4	485.3	441.2	403.4	367.4	362.7	357.5	354.1	360.6	366.7	382.4	384.7	348.1	304.5	285.8
Price, wholesale, cheddar, single daisies (Chicago).....\$ per lb.	1.575	(*)														
Condensed and evaporated milk:																
Production, case goods.....mil. lb.	584.4	579.7	41.1	50.0	49.8	56.2	44.2	41.6	53.0	54.4	51.3	54.5	44.8	47.9	46.6	
Stocks, manufacturers', case goods, end of period.....do	45.0	31.8	85.5	64.2	34.8	31.8	40.2	51.8	59.7	71.3	85.1	94.3	103.5	105.3	92.3	
Exports.....do	10.8	5.2	4	5	3	2	1	6	2	2	9	6	6	4	1.4	
Fluid milk:																
Production on farms.....do	121,433	121,094	9,718	9,931	9,572	10,038	10,205	9,740	10,647	10,598	11,041	10,480	10,513	10,283	9,890	10,117
Utilization in manufactured dairy products.....do	82,596	81,740	6,418	6,506	6,108	6,851	6,881	6,847	7,552	7,489	7,832	7,592	7,076	6,891	6,684	
Price, wholesale, U.S. average.....\$ per 100 lb.	12.50	12.54	12.74	12.90	12.90	12.70	12.50	12.30	11.90	11.60	11.40	11.30	11.40	11.80	12.40	*12.80
Dry milk:																
Production:																
Dry whole milk.....mil. lb.	122.4	145.9	13.0	15.3	12.8	12.4	13.6	13.4	12.9	15.7	16.7	14.1	14.8	14.3	14.7	
Nonfat dry milk (human food).....do	1,284.1	1,059.0	65.7	64.7	65.5	90.0	83.8	85.8	95.8	102.6	104.1	104.6	79.5	66.6	60.1	
Stocks, manufacturers', end of period:																
Dry whole milk.....do	6.7	8.0	5.7	6.4	6.5	8.0	9.1	9.0	6.6	8.4	9.3	10.6	11.4	11.4	11.2	
Nonfat dry milk (human food).....do	57.9	65.1	55.1	45.0	45.1	65.1	56.9	63.5	56.2	70.8	74.1	67.7	71.3	53.3	44.4	
Exports, whole and nonfat (human food).....do	482.4	387.8	39.3	13.7	15.7	13.7	21.9	12.0	28.1	15.3	29.6	40.2	32.6	34.9	35.2	
Price, manufacturers' average selling, nonfat dry milk (human food).....\$ per lb.	.810	.793	.801	.793	.783	.780	.744	.738	.734	.734	.735	.740	.753	.770	.807	
<b>GRAIN AND GRAIN PRODUCTS</b>																
Exports (barley, corn, oats, rye, wheat).....mil. bu.	2,083.9	2,920.4	267.3	257.9	216.2	278.9	288.5	274.9	327.7	328.9	332.8	274.1	250.2	266.7	289.2	
Barley:																
Production (crop estimate).....do	*610.5	*529.5														**282.6
Stocks (domestic), end of period, total.....do	*324.8	*335.6														**440.8
On farms.....do	*199.3	*193.9														**229.2
Off farms.....do	*125.6	*141.7														**211.5
Exports, including malt \$.....do	75.9	143.0	10.2	17.1	18.1	16.1	9.8	7.2	15.8	9.0	5.0	12.4	11.7	8.8	8.8	
Producer Price Index, No. 2 feed, Minneapolis.....1982=100	74.6	**85.7	90.4	95.1		91.4	*89.3	89.3	97.7	106.6	102.4	125.4	122.8	104.5	138.7	120.2
Corn:																
Production (crop estimate, grain only).....mil. bu.	*8,249.9	*7,064.1														**4,671.2
Stocks (domestic), end of period, total.....do	*10,305.5	*9,768.5			9,768.5			7,635.2			*5,835.5					**4,259.6
On farms.....do	*6,795.5	*6,100.0			6,100.0			4,421.0			*3,241.0					**2,002.8
Off farms.....do	*3,510.0	*3,668.5			3,668.5			3,214.2			*2,594.5					**2,256.8
Exports, including meal and flour.....do	1,064.7	1,606.7	135.2	137.7	122.5	148.8	133.5	123.7	163.9	166.3	179.4	132.9	122.5	151.8	153.7	
Producer Price Index, No. 2, Chicago.....1982=100	83.5	67.7	64.8	68.3	73.1	75.7	*73.3	80.8	80.2	80.1	81.3	102.4	115.5	113.4	112.8	114.4
Oats:																
Production (crop estimate).....mil. bu.	*386.4	*374.0														**210.8
Stocks (domestic), end of period, total.....do	*183.7	*132.7									*111.9					
On farms.....do	*147.2	*103.3									*76.8					
Off farms.....do	*36.5	*29.4									*35.1					
Exports, including oatmeal.....do	3.9	2.1	1	2	1	(*)	2	2	1	2	3	4	1	2	1	
Producer Price Index, No. 2, Minneapolis.....1982=100	69.3	**92.5	99.1		106.2	106.2	*107.0	110.7	103.0	94.3	116.0	162.5	159.8	165.6	163.8	131.3
Rice:																
Production (crop estimate).....mil. bags #.	*133.4	*127.7														**158.4
Southern States mills (Ark., La., Tenn., Tex.):																
Receipts, rough, from producers.....mil. lb.	10,201	9,651	3,502	968	860	774	648	600	420	278	258	277	163			
Shipments from mills, milled rice.....do	6,537	7,791	762	638	582	593	556	596	491	400	525	465	428			
Stocks, domestic, rough and cleaned (cleaned basis), end of period.....mil. lb.	3,046	2,689	2,639	2,678	2,698	2,689	2,614	2,496	2,310	2,145	1,826	1,577	1,288			
Exports.....do	5,111	5,247	439	556	517	349	409	299	411	333	486	278	373	606	360	
Producer Price Index, medium grain, milled.....1982=100	91.2	83.3	80.9	100.6	101.0	104.5	*107.4	115.4	117.7	116.6	120.6	117.5	114.9	114.6	113.3	106.7
Rye:																
Production (crop estimate).....mil. bu.	*19.5	*19.8														**15.1
Producer Price Index, No. 2, Minneapolis.....1982=100	57.0	54.7	51.3	60.1	52.7	55.7	*54.9	54.9	50.5	46.9	53.5	93.8	82.1	78.4	81.3	71.8
Wheat:																
Production (crop estimate), total.....mil. bu.	*2,092	*2,108														**1,812
Spring wheat.....do	*570	*542														**251
Winter wheat.....do	*1,522	*1,565														**1,561
Distribution, quarterly @.....do	2,076	2,294			488			586			662					
Stocks (domestic), end of period, total.....do	*2,673.5	*2,505.3			2,505.3			1,923.4			*1,255.7			2,239.6		
On farms.....do	*1,063.0	*971.0			971.0			748.0			*520.0			793.0		
Off farms.....do	*1,610.5	*1,534.3			1,534.3			1,175.4			*735.7			1,446.6		
Exports, total, including flour.....do	939.0	1,168.1	121.5	102.9	75.5	114.0	145.0	143.8	148.0	153.4	148.1	128.4	115.8	112.1	126.4	
Wheat only.....do	883.7	1,106.7	118.0	100.4	69.0	109.8	137.9	141.7	147.3	151.6	146.1	121.5	110.0	106.5	124.8	

See footnotes at end of tables.

Units	Annual		1987				1988									
	1986	1987	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
<b>FOOD AND KINDRED PRODUCTS; TOBACCO—Continued</b>																
<b>GRAIN AND GRAIN PRODUCTS—Continued</b>																
<b>Wheat—Continued</b>																
<b>Producer Price Indexes:</b>																
Hard red winter, No. 1, ord. protein (K.C.) 1982=100	73.4	70.6	70.7	72.1	69.6	78.0	<sup>2</sup> 78.8	82.6	75.1	79.1	76.8	93.6	93.9	93.3	101.7	105.3
Hard red spring, No. 1, ord. protein (Minn.) 1982=100	72.5	68.8	69.9	72.6	70.6	77.7	<sup>2</sup> 76.5	83.8	75.5	79.6	81.6	104.0	97.9	102.6	104.0	106.2
<b>Wheat flour:</b>																
<b>Production:</b>																
Flour.....thous. sacks (100 lb.)	326,316	338,484	29,067	31,068	29,539	27,706	26,199	25,601	26,498	25,660	28,944	28,173	28,251	<sup>1</sup> 31,167	29,134	.....
Millfeed.....thous. sh. tons	5,799	6,135	522	546	526	494	473	460	476	453	515	500	502	<sup>1</sup> 556	530	.....
Grindings of wheat.....thous. bu.	737,537	760,459	65,188	68,900	66,152	61,925	58,333	57,590	60,371	57,583	64,858	62,961	63,002	<sup>1</sup> 69,182	65,231	.....
Stocks held by mills, end of period thous. sacks (100 lb.)	5,228	5,858	5,258	.....	.....	5,858	.....	.....	5,719	.....	.....	5,205	.....	.....	5,618	.....
Exports.....do	23,741	26,367	1,528	1,081	2,777	1,779	3,057	883	273	782	831	2,941	2,490	2,385	689	.....
Producer Price Index.....6/83=100	91.4	89.7	90.1	91.3	90.1	90.0	91.2	94.4	90.6	93.5	93.9	<sup>1</sup> 107.0	106.0	107.4	110.1	111.1
<b>POULTRY AND EGGS</b>																
<b>Poultry:</b>																
Slaughter.....mil. lb.	18,039	19,882	1,807	1,850	1,598	1,694	1,618	1,618	1,779	1,648	1,759	1,831	1,600	<sup>1</sup> 1,847	1,792	.....
Stocks, cold storage (frozen), end of period, total.....mil. lb.	369	501	842	841	530	501	526	562	594	628	639	674	719	739	<sup>1</sup> 770	789
Turkeys.....do	178	282	641	630	322	282	299	335	353	384	422	467	507	562	<sup>1</sup> 583	590
Price, in Georgia producing area, live broilers.....\$ per lb.	.325	.265	.255	.230	.235	.220	.245	.230	.250	.255	.315	.340	.425	.410	.390	.350
<b>Eggs:</b>																
Production on farms.....mil. cases \$	190.0	193.0	15.8	16.5	16.1	16.7	16.6	15.7	16.6	15.7	16.0	15.3	15.8	15.8	15.4	16.2
Stocks, cold storage, end of period: Shell.....thous. cases \$	22	43	33	51	40	43	67	53	67	14	21	30	28	25	23	24
Frozen.....mil. lb.	13	17	16	18	17	17	18	18	14	17	20	25	23	25	22	20
Price, wholesale, large (delivered; Chicago) \$ per doz.	.681	.579	.648	.555	.563	.521	.512	.489	.536	.479	.471	.528	.698	.654	.714	.631
<b>LIVESTOCK</b>																
<b>Cattle and calves:</b>																
<b>Slaughter (federally inspected):</b>																
Calves.....thous. animals	3,195	2,679	229	233	211	242	205	203	216	169	171	204	207	227	207	197
Cattle.....do	35,913	34,468	2,977	3,024	2,640	2,793	2,832	2,679	2,812	2,707	2,830	2,983	2,897	3,120	2,927	2,871
<b>Prices, wholesale:</b>																
Beef steers (Omaha).....\$ per 100 lb.	57.74	64.60	64.81	64.81	64.20	63.93	65.00	68.31	71.53	72.71	75.15	70.58	65.96	67.08	67.71	69.13
Steers, stocker and feeder (Kansas City).....do	60.38	71.32	77.10	73.21	74.92	73.69	80.26	81.64	83.12	82.61	78.99	70.77	74.14	79.45	79.89	82.99
Calves, vealers (So. St. Paul).....dollars †	59.92	78.92	80.25	82.50	82.50	83.00	86.88	87.50	87.50	96.41	97.66	100.88	77.50	87.50	<sup>2</sup> 202.44	213.75
<b>Hogs:</b>																
Slaughter (federally inspected).....thous. animals	77,290	78,913	6,855	7,519	7,121	7,583	6,803	6,519	7,505	6,929	6,713	6,715	6,199	7,101	7,534	7,887
<b>Prices:</b>																
Wholesale, average, all weights (Sioux City) \$ per 100 lb.	50.73	47.11	55.19	49.28	40.74	41.56	44.59	47.45	43.19	42.28	47.75	48.26	45.60	45.98	41.28	38.92
Hog-corn price ratio (bu. of corn equal in value to 100 lb. live hog).....do	26.1	33.6	36.4	<sup>1</sup> 31.5	25.1	23.4	24.3	25.0	22.7	22.3	23.7	19.5	16.2	16.9	<sup>1</sup> 15.7	14.5
<b>Sheep and lambs:</b>																
Slaughter (federally inspected).....thous. animals	5,464	5,042	459	446	399	439	380	408	535	388	414	413	387	442	452	437
Price, wholesale, lambs, average (Omaha) \$ per 100 lb.	67.54	75.77	67.14	66.00	63.50	72.44	78.17	79.38	79.50	<sup>(1)</sup>	75.17	58.80	57.55	54.90	58.35	60.44
<b>MEATS</b>																
<b>Total meats (excluding lard):</b>																
Production, total.....mil. lb.	39,050	38,442	3,331	<sup>1</sup> 3,521	3,197	3,378	3,242	3,070	3,354	3,158	3,206	3,317	3,170	3,505	3,462	3,510
Stocks, cold storage, end of period.....do	564	623	523	576	614	623	656	693	716	758	720	669	666	630	<sup>1</sup> 646	662
Exports (meats and meat prep- arations).....do	1,722	2,017	180	176	191	181	159	153	165	179	191	198	205	229	219	.....
Imports (meats and meat prep- arations).....do	2,544	2,755	249	244	191	156	290	238	280	247	230	276	219	252	200	.....
<b>Beef and veal:</b>																
Production, total.....do	24,722	23,821	2,075	2,134	1,860	1,960	1,975	1,860	1,958	1,870	1,948	2,058	2,013	2,197	2,075	2,040
Stocks, cold storage, end of period.....do	318	293	290	312	309	293	317	332	317	309	278	251	269	294	<sup>1</sup> 311	298
Exports.....do	884	868	77	78	80	72	65	60	68	72	73	74	81	99	97	.....
Imports.....do	1,505	1,599	150	135	90	65	198	134	168	154	135	178	127	159	116	.....
Price, wholesale, beef, fresh steer carcasses, choice (600-700 lbs.) (Central U.S.).....\$ per lb.	.890	.972	.969	.968	.953	.945	.972	.995	1.035	1.052	1.117	1.064	.971	1.010	1.032	1.044
<b>Lamb and mutton:</b>																
Production, total.....mil. lb.	330	310	28	28	25	28	24	26	35	26	27	27	24	28	28	28
Stocks, cold storage, end of period.....do	13	8	7	7	9	8	8	8	7	8	8	9	9	7	7	6
<b>Pork (excluding lard):</b>																
Production, total.....do	13,998	14,312	1,227	1,359	1,312	1,390	1,244	1,183	1,360	1,263	1,231	1,232	1,133	1,281	1,359	1,442
Stocks, cold storage, end of period.....do	197	285	186	212	252	285	287	308	346	396	389	363	337	257	<sup>1</sup> 288	321
Exports.....do	133	155	12	16	22	22	14	16	15	22	26	37	33	37	27	.....
Imports.....do	928	1,017	85	94	86	80	77	90	97	81	82	85	80	81	72	.....
<b>Prices:</b>																
Producer Price Index, Hams, smoked 1982=100	102.0	104.2	108.3	113.2	113.1	117.7	<sup>2</sup> 101.8	99.6	99.6	93.4	91.8	<sup>1</sup> 92.0	91.4	92.1	94.5	98.4
Fresh loins, 8-14 lb. average, wholesale (N.Y.).....\$ per lb.	1.285	1.265	1.413	1.218	1.019	1.042	1.245	1.150	1.098	1.142	1.298	1.315	1.259	1.277	1.215	1.071
<b>MISCELLANEOUS FOOD PRODUCTS</b>																
<b>Cocoa (cacao) beans, imports (including shells).....thous. lg. tons</b>																
	201.5	258.5	5.6	22.1	23.9	43.9	27.0	30.0	26.7	18.3	14.7	21.0	14.4	19.5	8.8	.....
<b>Coffee:</b>																
Imports, total.....thous. bags	19,483	19,906	1,770	2,631	1,246	1,056	1,175	1,633	1,426	1,179	1,141	832	1,543	1,621	1,238	.....
From Brazil.....do	2,200	3,928	523	745	239	161	357	373	276	315	233	250	375	512	438	.....
U.S. Import Price Index †.....1985=100	132.5	81.6	76.9	.....	.....	85.5	.....	.....	<sup>1</sup> 92.8	.....	.....	92.2	.....	.....	88.4	.....
<b>Fish:</b>																
Stocks, cold storage, end of period.....mil. lb.	340	421	421	436	447	421	419	395	372	381	367	384	376	407	<sup>1</sup> 406	<sup>2</sup> 424

See footnotes at end of tables.

Units	Annual		1987				1988									
	1986	1987	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
<b>FOOD AND KINDRED PRODUCTS; TOBACCO—Cont.</b>																
<b>MISCELLANEOUS FOOD PRODUCTS—Cont.</b>																
<b>Sugar:</b>																
Exports, raw and refined.....sh. tons..	454,394	617,947	26,994	33,431	32,577	40,787	11,435	25,483	14,325	24,716	9,873	45,883	39,671	31,171	25,371	
Imports, raw and refined.....thous. sh. tons..	1,913	1,275	189	87	128	51	78	104	78	84	106	68	123	159	109	
<b>Producer Price Indexes:</b>																
Raw (cane).....1982=100..	104.9	110.3	110.9	110.6	110.1	109.7	*109.7	111.4	111.4	111.9	111.8	112.7	118.2	111.8	111.6	110.7
Refined.....do.....	103.3	106.4	107.4	107.1	107.1	106.5	*105.7	107.0	106.7	107.2	106.6	*106.9	108.1	109.0	108.7	111.5
Tea, imports.....thous. lb.	197,963	170,616	11,207	15,569	12,562	11,480	14,377	15,800	17,770	19,962	18,596	19,386	17,609	17,356	12,918	
<b>TOBACCO</b>																
<b>Leaf:</b>																
Production (crop estimate).....mil. lb.	*1,164	*1,191														*1,332
Stocks, dealers' and manufacturers', end of period.....do.....	4,979	4,471	4,455			4,471			4,176			3,786				
Exports, incl. scrap and stems.....thous. lb.	466,630	425,886	21,640	28,096	53,734	64,842	72,022	37,692	48,364	56,740	34,933	22,778	26,025	24,651	31,480	
Imports, incl. scrap and stems.....do.....	457,658	489,861	30,372	40,936	43,352	33,135	33,369	28,984	40,392	43,969	40,121	41,363	43,354	42,543	44,983	
<b>Manufactured products:</b>																
<b>Consumption (withdrawals):</b>																
<b>Cigarettes (small):</b>																
Tax-exempt.....millions..	74,301	*111,199	10,136	11,110	10,488	9,511	8,728	10,311	10,195	9,286	10,316	12,526	9,164			
Taxable.....do.....	583,020	576,998	50,955	48,564	52,556	48,508	32,441	46,100	55,291	44,825	51,609	52,699	31,416			
Cigars (large), taxable.....do.....	2,909	*2,675	245	241	203	209	145	185	214	188	216	251	173			
Exports, cigarettes.....do.....	63,945	100,246	9,695	9,639	8,996	8,985	7,583	9,500	9,478	9,058	10,110	10,271	10,167	9,914	10,557	
<b>LEATHER AND PRODUCTS</b>																
<b>LEATHER</b>																
<b>Exports:</b>																
Upper and lining leather.....thous. sq. ft..	160,888	194,152	14,806	13,557	15,703	14,677	16,033	18,431	18,430	14,647	19,273	17,623	15,023	13,967	21,022	
Producer Price Index, leather.....1982=100..	122.9	140.9	145.6	148.6	149.6	153.0	*158.0	160.1	171.1	175.1	176.4	*165.0	162.9	166.2	169.2	171.1
<b>LEATHER MANUFACTURES</b>																
<b>Footwear:</b>																
Production, total.....thous. pairs..	240,932	225,888	20,559	20,327	17,960	14,783	15,349	19,018	19,763	17,520	18,265	17,905	*13,615	18,869		
Shoes, sandals, and play shoes, except athletic.....thous. pairs..	175,656	162,323	14,538	14,364	12,667	11,431	(*)	(*)	(*)	(*)	(*)	(*)	(*)	12,926		
Slippers, athletic.....do.....	55,926	55,548	5,365	5,384	4,790	2,822	2,675	3,470	4,371	3,827	4,216	4,338	*4,020	5,247		
Athletic.....do.....	9,350	8,017	656	579	503	530	(*)	(*)	(*)	(*)	(*)	(*)	(*)	696		
Other footwear.....do.....	2,971	2,360	253	214	208	126	267	282	283	290	311	282	175	248		
Exports.....do.....	10,277	14,713	1,285	1,425	1,539	1,236	1,278	1,603	1,903	1,495	1,369	1,443	1,661	1,432	1,635	
<b>Producer Price Indexes:</b>																
<b>Men's leather upper, dress and casual.....1982=100..</b>																
	107.2	111.4	113.3	114.1	112.7	115.6	*117.2	119.6	119.7	119.7	120.1	120.1	122.0	122.4	123.1	122.7
Women's leather upper.....do.....	104.3	107.2	108.9	108.3	108.3	109.0	*110.7	111.4	111.8	111.5	111.5	111.9	113.0	113.7	113.4	113.5
Women's plastic upper.....do.....	106.6	104.9	105.9	105.3	106.6	107.2	*107.4	107.4	107.2	107.2	107.3	*107.2	107.3	107.2	107.7	107.4
<b>LUMBER AND PRODUCTS</b>																
<b>LUMBER—ALL TYPES #</b>																
<b>National Forest Products Association:</b>																
Production, total.....mil. bd. ft..	*42,676	*46,053	3,617	3,942	3,458	3,829	3,814	4,042	4,389	4,247	4,245	4,137	3,671	3,982		
Hardwoods.....do.....	*7,403	*8,143	586	620	279	998	955	951	1,093	1,013	1,030	1,099	958	1,110		
Softwoods.....do.....	*35,273	*37,910	3,031	3,122	2,870	2,831	2,859	3,091	3,296	3,234	3,215	3,038	2,713	2,872		
Shipments, total.....do.....	*42,618	*47,090	3,540	4,034	3,470	3,865	3,790	4,092	4,320	4,257	4,261	4,309	3,688	3,859		
Hardwoods.....do.....	*7,486	*9,045	609	646	301	1,023	1,025	1,084	1,068	967	1,001	1,037	898	1,075		
Softwoods.....do.....	*35,132	*38,045	2,931	3,388	2,836	2,842	2,765	3,008	3,252	3,290	3,260	3,272	2,790	2,784		
Stocks (gross), mill, end of period, total.....do.....	6,549	6,183	6,088	6,002	5,970	6,183	6,251	6,282	6,341	6,302	6,257					
Hardwoods.....do.....	1,509	1,412	1,233	1,213	1,147	1,412	1,384	1,332	1,347	1,363	1,363					
Softwoods.....do.....	5,040	4,771	4,855	4,787	4,823	4,771	4,867	4,950	4,994	4,939	4,894	4,685	4,677	4,765		
Exports, total sawmill products.....do.....																
Imports, total sawmill products.....do.....	14,607	15,217	1,449	1,264	1,210	1,146	991	1,134	1,338	1,186	1,259	1,406	1,222	1,186	1,206	
<b>SOFTWOODS</b>																
<b>Douglas fir:</b>																
Orders, new.....mil. bd. ft..	9,570	10,325	708	869	710	725	766	741	898	786	817	844	599	721	896	
Orders, unfilled, end of period.....do.....	668	548	626	569	555	548	619	573	683	620	619	626	541	553	622	
Production.....do.....	9,412	10,354	839	863	757	688	728	822	839	818	834	734	668	751	840	
Shipments.....do.....	9,430	10,445	830	926	724	732	695	787	788	849	818	837	684	709	827	
Stocks (gross), mill, end of period.....do.....	881	790	864	801	834	790	823	858	909	878	894	791	775	817	830	
Exports, total sawmill products.....do.....	522	684	54	57	60	62	55	61	65	91	77	76	91	87	84	
Sawed timber.....do.....	105	138	8	8	9	13	7	10	8	25	12	11	14	13	10	
Boards, planks, scantlings, etc.....do.....	417	546	45	48	52	49	48	51	57	66	65	65	76	75	74	
Producer Price Index, Douglas fir, dressed.....1982=100..	124.5	125.1	138.2	128.2	126.1	127.7	*129.8	130.9	131.6	134.2	132.0	*135.7	145.7	138.9	142.7	140.5

See footnotes at end of tables.

Units	Annual		1987				1988									
	1986	1987	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
	Unless otherwise stated in footnotes below, data through 1986 and methodological notes are as shown in BUSINESS STATISTICS: 1986															
<b>LUMBER AND PRODUCTS—Continued</b>																
<b>SOFTWOODS—Continued</b>																
Southern pine:																
Orders, new.....mil. bd. ft.	'11,593	'12,575	761	1,218	891	1,024	848	985	1,090	1,063	1,155	1,116	867	1,017		
Orders, unfilled, end of period.....do	710	835	600	681	618	835	894	933	789	576	832	799	658	694		
Production.....do	'11,678	'12,437	1,004	1,102	929	994	938	966	1,124	1,085	1,081	1,127	1,033	1,017		
Shipments.....do	'11,562	'12,450	953	1,091	956	947	909	946	1,113	1,073	1,101	1,149	1,012	976		
Stocks (gross), mill and concentration yards, end of period.....mil. bd. ft.	2,010	1,997	2,001	2,013	1,986	1,997	2,026	2,046	2,056	2,068	2,049	2,024	2,045	2,086		
Exports, total sawmill products..... thous. bd. ft.	187,258	263,166	21,243	30,856	31,673	29,668	30,745	27,715	33,503	33,770	37,449	38,499	32,083	44,539	52,193	
Producer Price Index, southern pine, dressed.....1982=100	104.9	114.1	120.8	113.7	113.5	115.9	*118.1	119.6	118.4	118.6	115.7	115.2	114.9	106.5	101.6	102.7
Western pine:																
Orders, new.....mil. bd. ft.	10,500	11,427	810	1,076	859	889	979	961	1,026	987	1,032	901	705	790	897	
Orders, unfilled, end of period.....do	451	524	529	548	504	524	620	607	621	577	598	564	500	504	507	
Production.....do	10,482	11,407	903	1,058	935	881	889	997	1,011	999	968	839	714	787	940	
Shipments.....do	10,482	11,354	864	1,057	903	869	883	974	1,012	1,031	1,011	935	769	786	894	
Stocks (gross), mill, end of period.....do	1,312	1,365	1,320	1,321	1,353	1,365	1,371	1,394	1,393	1,361	1,318	1,222	1,167	1,168	1,214	
Producer Price Index, other softwood, dressed.....1982=100	109.7	119.0	124.4	120.4	119.4	116.4	*116.1	116.9	120.0	120.9	121.3	*124.2	126.7	123.1	119.9	118.0
<b>HARDWOOD FLOORING</b>																
Oak:																
Orders, unfilled, end of period.....mil. bd. ft.	7.5	11.0	11.8	12.8	10.7	11.0	11.3	10.9	12.3	13.4	11.8	10.2	10.1	8.6	8.6	
Shipments.....do	145.3	173.9	16.8	17.3	14.3	12.2	15.0	15.2	18.1	15.9	16.9	19.2	13.0	16.8	16.4	
Stocks (gross), mill, end of period.....do	7.4	8.7	7.8	8.6	8.5	8.7	8.9	9.6	8.9	9.6	10.0	10.1	10.4	10.5		

**METALS AND MANUFACTURES**

<b>IRON AND STEEL</b>																
Exports:																
Steel mill products.....thous. sh. tons	929	1,129	99	86	114	110	89	100	114	116	124	126	128	139	207	
Scrap.....do	11,704	10,367	779	809	782	1,009	649	630	724	903	1,006	1,288	815	799	935	
Pig iron.....do	47	50	4	2	2	2	15		3	18	10	(*)	2	2	17	
Imports:																
Steel mill products.....do	20,698	20,414	1,600	1,651	1,812	1,728	1,810	1,916	1,844	1,533	1,936	1,979	1,614	1,783	1,648	
Scrap.....do	724	843	71	88	89	125	89	86	69	102	39	65	66	90	136	
Pig iron.....do	295	355	25	53	53	54	136	54	11	77	67	84	12	45	25	
<b>Iron and Steel Scrap</b>																
Production.....thous. sh. tons	26,333	24,730	2,137	2,288	2,111	2,130	2,138	2,331	2,422	2,247	2,328	*2,219	2,168			
Receipts, net.....do	37,928	46,105	4,134	4,667	4,350	4,335	4,558	4,153	4,404	4,210	4,431	*4,169	3,987			
Consumption.....do	65,856	69,615	6,255	6,624	6,184	6,247	6,988	6,331	6,660	6,407	6,627	*6,277	6,090			
Stocks, end of period.....do	4,344	4,821	4,279	4,505	4,695	4,821	4,487	4,623	4,731	4,653	4,708	*4,691	4,644			
Composite price, No. 1 heavy melting scrap: American Metal Market *.....\$ per long ton	74.17	85.73	91.35	109.90	109.69	101.37	99.72	114.55	113.93	109.60	104.63	102.52	111.67	113.26	110.67	
<b>Ore</b>																
Iron ore (operations in all U.S. districts):																
Mine production.....thous. lg. tons	38,825	*46,894	4,759	4,633	4,634	4,508	4,083	4,278	4,243	4,718	4,941	4,273				
Shipments from mines.....do	*41,327	*47,257	5,604	5,701	5,357	5,461	2,289	1,327	1,153	5,282	5,826	5,723				
Imports.....do	16,749	16,601	1,452	1,493	2,238	*1,415	1,467	986	900	1,646	1,588	1,974	2,305	1,837	2,497	
U.S. and foreign ores and ore agglomerates:																
Receipts at iron and steel plants.....do	51,307	58,596	6,330	6,662	6,292	6,598	4,559	2,714	2,952	6,053	6,673	6,678	7,115	7,129	6,798	
Consumption at iron and steel plants.....do	55,283	60,087	5,194	5,450	5,395	5,765	5,751	5,504	5,903	5,707	6,118	5,641	5,998	5,549	5,729	
Exports (domestic).....do	6,501	6,121	626	647	441	644	223	27	84	548	363	677	674	423	358	
Stocks, total, end of period.....do	22,133	20,944	19,654	20,315	20,589	20,944	21,334	21,261	20,363	20,442	20,107	19,652				
At mines.....do	3,255	2,616	5,288	4,276	3,571	2,616	4,410	7,351	10,398	9,834	8,949	7,496				
At furnace yards.....do	17,163	16,304	13,343	14,554	15,452	16,304	14,980	12,190	9,239	9,585	10,136	11,119	12,265			
At U.S. docks.....do	1,987	2,024	1,023	1,485	1,566	2,024	1,944	1,720	726	1,023	1,022	1,037	1,662			
Manganese (manganese content), general imports.....do	883	801	62	85	116	101	85	64	96	128	63	118	95	74	82	
<b>Pig Iron and Iron Products</b>																
Pig iron:																
Production (including production of ferroalloys).....thous. sh. tons	43,952	*48,137	4,208	4,407	4,351	4,447	4,683	4,443	4,842	4,699	4,932	4,497	4,762	4,584	4,612	4,646
Consumption.....do	*41,789	*49,875	4,327	4,664	4,599	4,321	4,472	4,647	4,939	4,706	4,996	4,712	4,884			
Stocks, end of period.....do	226	281	260	256	275	281	240	225	228	250	222	236				
Castings, gray and ductile iron:																
Shipments, total.....thous. sh. tons	8,333	8,606	708	851	700	630	601	650	771	731	788	765	*605	744		
For sale.....do	5,536	6,002	457	607	508	444	325	435	497	493	543	516	*443	533		
Castings, malleable iron:																
Shipments, total.....do	320	318	29	31	23	26	31	30	42	34	32	34	*21	27		
For sale.....do	154	168	16	16	11	14	18	17	23	19	17	18	*10	15		

See footnotes at end of tables.

Unless otherwise stated in footnotes below, data through 1986 and methodological notes are as shown in BUSINESS STATISTICS: 1986

Units	Annual		1987				1988									
	1986	1987	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
<b>METALS AND MANUFACTURES—Continued</b>																
<b>Steel, Raw and Semifinished</b>																
Steel (raw):																
Production.....thous. sh. tons..	81,606	'89,151	7,694	8,073	7,882	7,916	8,380	7,984	8,763	8,398	8,892	8,031	8,313	8,181	8,237	8,332
Rate of capability utilization.....percent..	63.8	79.5	83.9	84.4	85.2	82.8	88.1	89.7	92.2	91.4	98.1	87.4	88.0	86.6	90.1	87.7
Steel castings:																
Shipments, total.....thous. sh. tons..	829	830	76	74	75	77	62	72	86	77	85	82	'77	93		
For sale, total.....do.....	799	797	73	72	73	75	61	71	84	75	83	81	'76	90		
<b>Steel Mill Products</b>																
Steel products, net shipments:																
Total (all grades).....thous. sh. tons..	'70,263	76,654	6,726	7,077	6,606	6,977	6,608	6,848	7,693	7,082	7,187	7,422	6,325	'7,035	6,922	
By product:																
Semifinished products.....do.....	4,954	'5,456	574	545	550	525	569	515	512	497	502	497	441	'521	486	
Structural shapes (heavy),																
steel piling.....do.....	'4,528	5,120	469	487	444	446	445	470	486	448	475	433	381	'432	453	
Plates.....do.....	3,565	4,048	382	415	398	429	593	608	689	620	632	686	600	625	627	
Rails and accessories.....do.....	640	515	39	54	40	40	38	42	43	45	45	43	41	47	45	
Bars and tool steel, total.....do.....	12,171	'13,575	1,189	1,176	1,114	1,082	1,030	1,187	1,246	1,183	1,235	1,248	1,143	1,304	1,167	
Bars: Hot rolled (including																
light shapes).....do.....	6,559	7,238	676	671	607	582	581	742	714	650	691	711	616	745	637	
Bars: Reinforcing.....do.....	4,299	'4,918	390	371	388	385	323	329	390	395	418	410	418	432	411	
Bars: Cold finished.....do.....	1,257	1,361	118	128	114	110	121	111	136	133	120	121	104	122	113	
Pipe and tubing.....do.....	2,836	3,570	340	370	349	359	363	365	457	439	411	417	350	336	319	
Wire and wire products.....do.....	1,080	1,105	90	95	84	75	88	94	103	106	93	109	94	92	87	
Tin mill products.....do.....	3,802	3,988	339	317	297	435	260	274	334	353	342	376	321	355	322	
Sheets and strip (including electrical),																
total.....do.....	36,686	39,279	3,303	3,617	3,335	3,586	3,220	3,295	3,823	3,395	3,452	3,614	2,955	3,322	3,416	
Sheets: Hot rolled.....do.....	'12,167	13,048	1,041	1,163	1,110	1,238	1,009	1,033	1,234	1,056	1,065	1,110	947	983	1,044	
Sheets: Cold rolled.....do.....	'13,250	13,859	1,163	1,297	1,142	1,245	1,127	1,141	1,306	1,181	1,190	1,243	1,013	1,117	1,149	
By market (quarterly):																
Service centers and distributors.....do.....	'15,251	'13,629	4,925			5,291			5,185			5,080	'2,466	'1,559	'2,523	
Construction, incl. maintenance.....do.....	'5,141	5,619	1,474			1,470			1,493			1,559	'2,457	'2,519	'2,517	
Contractors' products.....do.....	'2,559	2,701	700			807			740			714	'2,224	'2,231	'2,234	
Automotive.....do.....	'9,871	'11,135	2,467			2,765			2,910			3,193	'2,798	'2,046	'2,068	
Rail transportation.....do.....	'674	734	176			218			287			346	'107	'10	'79	
Machinery, industrial equip., tools.....do.....	'1,323	2,096	521			563			656			648	'188	'214	'215	
Containers, packaging, ship.																
materials.....do.....	4,075	4,371	1,146			1,158			990			1,146	'2,357	'2,400	'2,366	
Other.....do.....	'23,367	'31,337	7,981			8,392			8,745			9,003	'2,729	'3,077	'2,920	
Producing steel mills, inventory, end of period:																
Total.....mil. sh. tons.....	13.2	11.3	11.1	11.0	10.7	11.3	11.9	12.1	11.8	12.0	12.5	11.9	'12.9	12.5		
Steel in process.....do.....	7.3	6.7	6.4	6.4	6.3	6.7	7.1	7.1	6.9	7.0	7.4	7.1	'7.7	7.5		
Finished steel.....do.....	5.9	4.6	4.7	4.6	4.4	4.6	4.8	5.0	4.9	5.0	5.1	4.8	'5.2	5.0		
Service centers (warehouses), inventory, end																
of period.....mil. sh. tons.....	5.7	6.4	5.7	5.8	6.0	6.4	6.4	6.7	6.8	6.9	7.0	7.1	7.1	7.2		
<b>NONFERROUS METALS AND PRODUCTS</b>																
<b>Aluminum:</b>																
Production, primary (dom. and foreign ores)																
thous. met. tons.....do.....	3,036	3,343	286	301	301	316	320	304	330	324	336	323	334	333		
Recovery from scrap.....do.....	1,739	1,847	160	155	152	145	149	155	175	166	157	158	160	170		
Imports (general):																
Metal and alloys, crude.....do.....	1,468.4	1,378.0	105.3	124.2	103.6	101.6	111.6	101.4	115.6	98.1	101.5	88.8	87.7	88.2	101.8	
Plates, sheets, bars, etc.....do.....	495.3	452.3	33.0	42.1	38.2	37.2	36.0	36.4	49.7	34.4	32.9	35.9	44.8	31.4	32.9	
Exports:																
Metal and alloys, crude.....do.....	228.6	309.9	30.7	22.7	32.1	39.1	20.3	15.1	21.8	23.0	38.0	47.8	45.9	48.8	49.0	
Plates, sheets, bars, etc.....do.....	203.3	284.5	20.6	22.9	25.6	26.8	25.8	25.5	35.1	28.9	36.7	32.0	27.2	35.6	35.3	
Price, U.S. market, 99.7% purity,																
monthly average.....\$ per lb.....	.5587	.7230	.8069	.8439	.8016	.8339	.8971	.9628	1.0709	1.0712	1.1448	1.2627	1.2225	1.2439	1.1138	1.0472
<b>Aluminum products:</b>																
Shipments:																
Ingot and mill prod. (net ship.).....mil. lb.....	14,386	15,584	1,334	1,307	1,219	1,353	1,165	1,163	1,398	1,246	1,313	1,425	'1,271	1,378		
Mill products, total.....do.....	11,416	12,234	1,033	1,033	944	1,055	919	964	1,138	1,033	1,056	1,123	'1,003	1,087		
Sheet and plate.....do.....	6,629	7,379	621	613	566	696	537	564	685	608	637	679	'633	636		
Castings.....do.....	'2,205	'2,232	'183	'207	'190	'166	'178	'195	'229	'206	'221	'225	'146	193		
Inventories, total (ingot, mill products, and																
scrap), end of period.....mil. lb.....	4,928	4,175	4,152	4,211	4,245	4,175	4,344	4,401	4,388	4,423	4,388	4,258	'4,272	4,206		
<b>Copper:</b>																
Production:																
Mine, recoverable copper.....thous. met. tons..	1,147.3	1,255.9	106.4	105.9	109.7	111.4	114.1	'105.4	123.5	113.7	'112.2	116.3	'116.5	127.3		
Refined from primary materials.....do.....	'1,073.2	1,146.1	102.8	109.8	111.8	115.6	110.4	109.0	121.6	119.8	118.1	117.7	'118.8	120.3		
Electrolytically refined:																
From domestic ores @.....do.....	'947.9	988.1	89.0	95.4	95.9	98.5	'93.4	'93.7	'103.3	'102.3	99.6	99.3	'100.4	101.3		
From foreign ores.....do.....	40.2															
Electrowon.....do.....	125.4	158.0	13.8	14.4	15.9	17.1	17.0	15.3	18.3	17.5	18.6	18.3	'18.4	19.0		
Refined from scrap.....do.....	'406.2	414.7	34.5	35.8	30.8	37.1	34.5	35.6	43.2	36.9	37.2	36.9	29.7	35.4		
Imports, unmanufactured (general):																
Refined, unrefined,																
scrap (copper cont.).....do.....	667.5	657.3	42.4	50.5	56.3	48.6	68.4	64.1	63.6	51.0	48.0	43.4	33.4	46.4	42.4	
Refined.....do.....	503.1	'515.6	28.6	35.9	40.8	31.1	49.4	38.0	39.0	33.7	25.9	25.1	22.3	27.7	25.7	
Exports:																
Refined and scrap.....do.....	497.1	'454.8	36.5	36.1	38.5	50.5	35.5	50.2	56.6	51.4	67.1	77.6	44.7	54.1	111.3	
Refined.....do.....	14.9	17.9	.8	.7	2.3	3.2	4.9	2.0	3.8	5.7	7.7	9.5	3.5	4.4	14.3	
Consumption, refined																
(reported by mills, etc.).....do.....	'2,102	2,152	186	179	180	181	177	183	210	'179	'192	'191	'150	195		
Stocks, refined, end of period.....do.....	'225	173	178	148	115	113	122	135	137	135	117	92	'103	100		
Price, avg. U.S. producer cathode, delivered \$																
per lb.....	.6605	.8249	.8561	.8885	1.0853	1.3332	1.3250	1.0752	1.0972	1.0364	1.0437	1.1428	'1.1485	1.0145		

See footnotes at end of tables.

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Units	Annual		1987				1988									
	1986	1987	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
<b>METALS AND MANUFACTURES—Continued</b>																
<b>NONFERROUS METALS AND PRODUCTS—Continued</b>																
Copper-base mill and foundry products, shipments (quarterly total):																
Brass mill products.....mil. lb.	2,318	2,624	598			617										
Copper wire mill products (copper content).....do	1,792	1,922	485			481										
Brass and bronze foundry products.....do	478	528	131			135										
Lead:																
Production:																
Mine, recoverable lead.....thous. met. tons	339.8	'811.3	28.1	28.4	23.1	25.4	27.9	28.2	36.0	32.7	30.3	32.5	30.4	36.3		
Recovered from scrap (lead cont.).....do	'614.9	'710.2	53.3	67.3	55.9	55.1	52.2	57.5	60.1	55.9	52.2	59.4	55.3	56.3		
Imports (general), ore (lead content), metal.....do	103.4	240.3	28.4	19.2	21.8	27.1	21.2	21.9	26.4	22.2	20.8	8.7	25.3	21.7	23.3	
Consumption, total.....do	1,124.8	'1,230.4	108.2	115.1	102.8	97.2	96.0	96.4	115.4	98.8	104.3	103.1	91.6	100.9		
Stocks, end of period:																
Producers', ore, base bullion, and in process (lead content), ABMS.....thous. met. tons	74.0	59.2	67.0	69.7	62.8	59.2	57.0	59.9	53.9	59.0	57.8	60.8	58.9	73.0	79.9	70.8
Refiners' (primary), refined and antimonial (lead content).....thous. met. tons	20.0	21.6	11.5	14.9	18.1	21.6	21.8	26.6	25.8	26.7	24.1	15.0	14.7	6.0		
Consumers' (lead content).....do	83.8	88.6	65.4	65.5	68.2	67.7	70.2	60.7	58.9	59.3	55.6	59.4	63.3	58.6		
Scrap (lead-base, purchased), all smelters (gross weight).....thous. met. tons	19.4	24.0	27.3	27.1	24.4	24.0	22.6	17.0	17.7	17.3	16.2	16.3	16.4	19.9		
Price, common grade, delivered @ @.....\$ per lb.	.2205	.3594	.4200	.4200	.4200	.4200	.3800	.3485	.3400	.3400	.3457	.3630	.3650	.3652		
Tin:																
Imports (for consumption):																
Ore (tin content).....metric tons	4,030	2,967		56		294	400	128	121	335						1,105
Metal, unwrought, unalloyed.....do	35,768	41,151	3,369	4,168	3,403	1,779	2,761	2,582	3,153	3,011	3,419	4,042	4,379	4,602	3,249	
Recovery from scrap, total (tin cont.).....do	7,243	11,984	905	888	881	838	846	932	941	793	919	984	771	898		
As metal.....do	'714	1,457	102	94	94	111	88	119	92	88	96	98	113	130		
Consumption, total.....do	50,100	'53,100	4,400	4,300	4,600	4,400	4,600	4,700	4,800	4,700	5,300	5,600	5,300	5,300		
Primary.....do	37,400	39,800	3,500	3,300	3,600	3,400	3,600	3,700	3,800	3,700	4,200	4,500	4,200	4,200		
Exports, incl. reexports (metal).....do	3,022	1,701	74	77	84	179	87	185	171	96	108	126	89	204	171	
Stocks, pig (industrial), end of period.....do	4,802	4,428	5,533	6,402	5,460	4,428	4,490	5,989	5,631	5,868	6,128	6,456	5,657	4,792		
Price, Straits quality (delivered).....\$ per lb.	'3.6991	4.1878	4.2073	4.2480	4.3328	4.2777	4.2659	4.1950	4.2407	4.2295	4.2500	4.3984	4.4611	4.5770		
Zinc:																
Mine prod., recoverable zinc.....thous. met. tons																
203.0	'217.0	18.2	18.2	15.8	18.1	16.8	18.2	22.3	21.9	22.0	22.4	18.8	21.5			
Imports (general):																
Ores (zinc content).....do	197.7	425.5	32.7	54.8	32.8	31.1	34.4	27.2	32.6	38.9	37.9	24.6	48.9	35.2	35.1	
Metal (slab, blocks).....do	667.1	705.9	61.3	67.0	56.5	63.4	53.2	48.6	71.7	66.4	84.5	57.3	55.8	4.6	61.2	
Consumption (recoverable zinc content):																
Ores.....do	21.9	6.0	.5	.5	.5	.5	.2	.2	.2	.2	.2	.2	.2	.2		
Scrap, all types.....do	273.8	'285.6	23.1	25.0	25.0	27.4	26.1	23.1	22.5	22.8	22.0	22.0	22.0	22.0		
Slab zinc: @																
Production, total.....thous. met. tons	269.9	220.5	15.5	16.3	14.6	16.4	14.9	16.4	17.5	16.4	16.3	16.3	16.8	16.6	15.1	15.9
Consumption, fabricators.....do	'706.0	'1,052.0	59.1	60.1	59.0	84.4	79.5	76.4	110.3	97.9	110.7	84.6	'73.9	91.0		
Exports.....do	1.9	1.1	.3			.1	( <sup>2</sup> )	.1			( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	.1	.2	
Stocks, end of period:																
Producers', at smelter (ABMS).....do	15.5	7.0	6.4	6.9	5.5	7.0	6.6	4.4	4.5	3.4	4.3	4.5	6.0	7.5	9.4	6.3
Consumers'.....do	'54.2	'57.1	42.3	41.8	40.1	45.5	44.3	46.0	45.0	41.5	41.8	46.3	53.2	50.2		
Price, high grade.....\$ per lb.	.3800	.4192	.4259	.4175	.4238	.4331	.4444	.4544	.4790	.5150	.5604	.6255	.6564	.6646	.6826	
<b>MACHINERY AND EQUIPMENT</b>																
Heating, combustion, atmosphere equipment, new orders (domestic), net, qtrly #.....mil. \$																
148.2	'226.0	101.0			49.4				43.8			50.5				
Electric processing heating equipment.....do	65.5	54.9	15.3			10.8			18.2			15.7				
Fuel-fired processing heating equip.....do	82.6	'171.1	85.7			38.6			25.7			34.8				
Materials handling equipment, dollar value bookings index.....1982=100																
175.5	207.1	171.4	196.6	383.4	222.1	149.5	213.1	172.0	244.2	256.0	311.1					
Industrial supplies, machinery and equipment: New orders index, seas. adjusted.....1977=100																
119.1	128.7	131.2	134.7	138.2	140.1	142.5	140.4	135.5	134.5	138.2	133.4	133.5	135.4	134.9		
Industrial suppliers distribution: Sales index, seas. adjusted.....1977=100																
145.0	149.1	151.3	155.8	153.8	147.8	153.5	155.0	162.0	161.3	155.5	159.1	162.4	176.1	179.5		
Inflation index, not seas. adj. (tools, material handling equip., valves, fittings, abrasives, fasteners, metal products, etc.).....1977=100																
164.7	166.6	166.9	167.1	167.4	169.0	168.9	168.0	170.2	171.3	171.9	172.1	172.3	173.0	173.4		
Fluid power products shipments indexes:																
Hydraulic products \$.....1985=100	98	107	105	113	103	101	119	126	137	134	127	137	116	'134	132	134
Pneumatic products \$.....do	98	105	109	112	107	108	108	120	136	118	117	122	112	125	'124	125
Machine tools:																
Metal cutting type tools:																
Orders, new (net), total.....mil. \$	1,544.25	1,451.45	126.10	198.15	89.10	175.25	223.95	250.40	191.90	195.30	242.85	238.35	187.00	261.50	266.50	'217.30
Domestic.....do	1,376.55	1,294.45	116.75	187.15	65.75	154.80	205.75	217.95	174.15	146.45	205.65	210.65	167.55	179.30	'252.95	'201.15
Shipments, total.....do	1,890.30	1,676.50	143.10	134.85	125.95	226.20	71.20	108.90	137.75	95.30	111.25	132.80	137.70	105.40	'151.20	'147.05
Domestic.....do	1,684.70	1,498.85	126.65	117.95	110.20	208.90	61.60	97.00	123.95	82.20	100.25	116.00	126.15	93.00	'133.50	'124.50
Order backlog, end of period.....do	897.2	672.2	697.7	761.0	724.2	672.2	825.0	966.4	1,020.6	1,120.6	1,252.2	1,357.8	1,410.0	1,566.2	'1,681.4	'1,751.7
Metal forming type tools:																
Orders, new (net), total.....do	581.05	667.35	56.75	69.25	48.20	67.15	73.55	47.65	62.55	57.70	81.85	144.45	67.95	78.00	'61.70	'46.85
Domestic.....do	506.80	536.05	40.35	59.55	36.35	54.65	60.30	40.90	47.90	47.00	73.25	134.60	53.80	73.50	51.65	'40.00
Shipments, total.....do	688.20	647.15	57.35	74.80	52.10	62.20	72.15	57.55	68.95	62.10	68.45	81.25	53.00	48.55	'76.35	'66.25
Domestic.....do	621.35	537.90	48.00	63.25	38.40	44.05	64.05	48.10	61.80	51.70	57.35	69.25	43.75	40.75	65.70	'55.30
Order backlog, end of period.....do	307.1	327.3	331.8	326.2	322.4	327.3	328.7	318.8	312.4	308.0	321.4	384.6	399.6	429.0	414.4	'395.0

See footnotes at end of tables.

Units	Annual		1987				1988									
	1986	1987	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
	Unless otherwise stated in footnotes below, data through 1986 and methodological notes are as shown in BUSINESS STATISTICS: 1986															

METALS AND MANUFACTURES—Continued

<b>MACHINERY AND EQUIPMENT—Continued</b>																
Tractors used in construction, shipments, qtrly:																
Tracklaying (ex. shovel loaders).....units.....	8,440	9,668	2,706			2,332				2,809				3,150		
mil. \$ .....	821.2	973.8	270.2			264.0				283.6				323.1		
Wheel (contractors' off-highway).....units.....	5,999	5,482	1,437			1,265			1,242					1,320		
mil. \$ .....	421.9	415.5	112.7			103.5			98.9					106.5		
Shovel loaders †.....units.....	53,723	62,825	16,809			16,620			15,390					17,060		
mil. \$ .....	1,679.0	1,819.5	473.0			499.6			508.9					554.3		
<b>ELECTRICAL EQUIPMENT</b>																
Batteries (auto-type replacement), shipments.....thous.....	60,306	59,878	6,542	6,889	5,387	5,418	5,524	4,194	4,606	4,081	4,122	4,988	4,733	5,783	6,757	
Radio sets, production, total market ††.....thous.....	*25,364	26,775	3,152	2,944	2,609	1,473	1,329	1,567	1,528	1,518	1,736	2,284	2,202	2,099	2,353	
Television sets (incl. combination models), production, total market ††.....thous.....	23,351	23,497	2,373	2,217	2,199	2,232	1,544	1,810	1,909	1,710	1,582	1,931	1,485	1,853	2,567	1,953
<b>Household major appliances (electrical), factory shipments (domestic and export) #.....thous.....</b>																
Air conditioners (room).....do.....	45,072	47,838	4,226	*4,064	3,676	3,626	3,557	3,724	3,955	3,895	3,949	4,463	3,824	3,150	3,963	3,975
Dishwashers.....do.....	2,816	3,798	93	84	62	170	200	324	702	686	647	835	405	198	111	129
Disposers (food waste).....do.....	3,918	4,032	342	355	336	331	307	298	308	334	326	330	312	349	335	336
Microwave ovens/ranges @.....do.....	4,269	4,438	412	*437	325	325	361	360	361	306	324	336	345	364	369	387
Ranges.....do.....	12,444	12,610	1,294	*1,334	1,210	1,149	957	950	761	778	697	789	746	770	1,031	1,123
Refrigerators.....do.....	3,318	3,346	289	307	285	255	235	244	251	253	244	260	252	287	270	302
Freezers.....do.....	6,510	6,972	619	552	499	470	444	477	512	533	616	753	778	781	686	625
Washers.....do.....	1,222	1,260	109	87	83	86	91	89	82	108	112	126	156	152	128	110
Dryers (incl. gas).....do.....	5,765	5,398	596	497	470	454	531	519	498	471	515	546	460	589	584	533
Vacuum cleaners (qtrly).....do.....	4,245	4,637	450	403	391	370	413	393	359	328	353	383	328	429	437	413
mil. \$ .....	9,660	10,417	2,860			2,733			2,733			2,487		2,882		
<b>GAS EQUIPMENT (RESIDENTIAL)</b>																
Furnaces, warm air, shipments.....thous.....	2,105	2,073	234	241	194	179	157	134	148	125	118	138	164	201	254	
Ranges, total, shipments.....do.....	1,940	2,143	200	210	188	197	159	169	171	163	168	176	162	193	182	
Water heaters (storage), automatic, shipments.....do.....	3,729	3,951	312	361	310	369	355	320	334	329	317	333	287	290	321	

PETROLEUM, COAL, AND PRODUCTS

<b>COAL</b>																
Anthracite:																
Production †.....thous. sh. tons.....	4,292	3,560	359	362	323	303	215	268	279	*265	*296	*282	309	451	395	368
Exports.....do.....	1,460	1,181	191	180	165	21	42	27	43	58	54	52	78	97	195	
Producer Price Index.....1982=100.....	99.7	100.1	100.1	100.3	101.0	101.1	*101.9	101.9	101.9	100.2	100.2	100.1	100.3	100.3	100.8	100.8
Bituminous:																
Production †.....thous. sh. tons.....	886,023	915,202	82,118	85,630	78,919	79,246	*75,325	*76,757	*83,943	*75,324	*73,981	*76,443	71,863	90,565	85,380	80,216
Consumption, total †.....do.....	801,780	834,337	68,768	67,089	66,421	74,187	78,413	71,529	68,994	63,811	66,131	74,714				
Electric power utilities.....do.....	684,227	716,922	59,187	57,051	55,901	62,466	67,702	61,162	58,518	53,928	56,256	65,094	71,190	75,006		
Industrial, total.....do.....	111,120	111,696	9,059	9,492	9,943	10,988	9,990	9,793	10,080	9,352	9,561	9,235				
Coke plants (oven and beehive).....do.....	35,973	36,920	3,190	3,295	3,323	3,449	3,216	3,059	3,396	3,515	3,692	3,859				
Residential and commercial.....do.....	6,433	5,719	522	546	577	739	721	573	396	532	313	385				
Stocks, end of period, total †.....do.....	168,072	178,485	158,487	167,811	175,594	178,485	169,495	165,548	166,825	170,632	171,298	166,504				
Electric power utilities.....do.....	154,707	163,857	144,893	153,872	161,311	163,857	155,613	152,406	154,428	158,342	159,114	154,427	141,613	134,664		
Industrial, total.....do.....	13,365	14,628	13,594	13,938	14,283	14,623	13,882	13,142	12,397	12,291	12,184	12,073				
Oven-coke plants.....do.....	2,985	3,879	3,334	3,515	3,697	3,879	3,875	3,872	3,868	3,831	3,794	3,757				
Exports.....do.....	84,017	77,645	6,474	6,448	7,037	8,009	4,390	4,451	7,099	8,885	7,816	7,998	8,224	9,223	9,864	
Producer Price Index.....1982=100.....	100.8	97.1	95.7	96.0	96.3	95.9	*95.6	96.2	95.8	95.4	95.1	95.1	95.2	95.4	95.6	95.6
<b>COKE</b>																
Production:																
Beehive and oven (byproduct).....thous. sh. tons.....	25,540	28,037	7,438			7,589			7,347			8,311				
Petroleum coke §.....do.....	36,903	37,380	3,047	3,060	3,158	3,384	3,464	3,164	3,414	3,159	3,357	3,274	3,326	3,343		
Stocks, end of period:																
Oven-coke plants, total.....do.....	2,066	1,064	1,436			1,064			902			1,140				
At furnace plants.....do.....	1,778	846	1,177			846			714			942				
At merchant plants.....do.....	288	218	259			218			188			198				
Petroleum coke ††.....do.....	1,206	1,350	1,128	1,009	1,072	1,350	1,463	1,437	1,441	1,490	1,497	1,636	1,694	1,512		
Exports.....do.....	1,063	650	35	29	38	110	58	92	30	24	239	76	62	66	93	
<b>PETROLEUM AND PRODUCTS</b>																
Crude petroleum:																
Producer Price Index.....1982=100.....	46.9	55.5	57.8	56.9	56.6	54.1	*50.1	49.7	47.2	49.1	51.5	*50.6	46.0	45.2	42.7	39.4
Gross input to crude oil distillation units †.....mil. bbl.....	4,681.4	4,746.1	399.8	399.8	392.2	414.9	408.3	374.3	410.5	399.9	422.5	411.1	427.9	432.2		
Refinery operating ratio ††.....% of capacity.....	83	83	86	83	82	84	83	81	84	84	86	86	86	87		
All oils, supply, demand, and stocks: ††																
New supply, total ◊.....mil. bbl.....	6,026.1	6,089.6	510.8	530.2	515.3	521.8	519.9	493.3	519.8	509.5	530.0	501.0	518.3	524.8		
Production:																
Crude petroleum.....do.....	3,168.3	3,047.4	246.2	259.3	251.9	257.8	255.6	242.9	258.8	248.0	254.3	244.7	249.8	250.0		
Natural gas plant liquids.....do.....	587.1	605.6	49.4	51.9	51.4	52.2	50.5	47.6	52.6	50.0	52.0	49.7	51.8	52.5		
Imports:																
Crude and unfinished oils.....do.....	1,642.7	1,837.3	162.9	172.2	160.6	156.2	156.0	146.1	158.8	167.4	177.2	165.5	169.9	168.0		
Refined products.....do.....	628.0	599.4	52.4	46.9	51.3	55.5	57.9	56.7	49.6	44.0	46.5	41.0	46.9	54.3		
Change in stocks, all oils.....do.....	73.7	14.9	13.7	4.3	25.0	-27.5	-10.2	-22.2	-16.6	19.3	33.8	-1.0	16.1	-5.9		
Product demand, total.....do.....	6,227.9	6,360.8	523.9	545.2	512.3	573.5	561.5	535.0	569.4	513.5	524.9	539.8	563.6	563.9		
Exports:																
Crude petroleum.....do.....	56.2	55.0	3.5	2.6	4.9	6.8	6.6	4.3	6.7	3.5	4.4	4.2	5.9	4.8		
Refined products.....do.....	229.3	223.0	20.3	17.4	17.1	25.9	21.0	20.8	19.2	16.8	20.9	23.9	19.8	20.4		

See footnotes at end of tables.

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Units	Annual		1987				1988									
	1986	1987	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
<b>PETROLEUM, COAL, AND PRODUCTS—Continued</b>																
<b>PETROLEUM AND PRODUCTS —Continued</b>																
All oils, supply, demand, and stocks—Continued																
Domestic product demand, total #.....mil. bbl.	5,942.4	6,082.7	500.1	525.2	490.3	540.8	534.0	509.9	543.4	493.2	499.6	511.6	537.9	538.6		
Gasoline.....do	2,579.1	2,639.1	216.9	227.2	215.1	225.3	207.8	203.8	226.0	222.2	226.4	236.1	232.7	233.7		
Kerosene.....do	35.9	34.5	2.2	3.9	3.3	4.7	5.5	4.1	3.1	2.1	1.9	1.5	1.8	1.8		
Distillate fuel oil.....do	1,063.7	1,086.4	85.1	97.7	88.0	102.9	109.0	101.8	109.9	86.1	85.5	84.6	82.1	88.6		
Residual fuel oil.....do	517.7	461.5	38.9	33.1	36.1	44.5	48.9	46.4	44.4	38.2	29.3	33.0	36.5	39.0		
Jet fuel.....do	477.2	505.5	40.8	45.5	40.8	45.3	47.5	43.7	43.3	41.6	42.2	43.0	43.4	44.6		
Lubricants.....do	51.9	58.7	4.7	4.7	3.9	5.0	4.2	5.0	5.5	4.5	5.5	4.6	4.7	5.0		
Asphalt.....do	163.6	170.3	21.2	17.6	12.6	7.1	3.8	5.4	8.6	10.7	17.0	21.6	21.0	25.0		
Liquefied petroleum gases.....do	552.1	588.3	48.6	53.0	52.1	58.5	64.1	57.5	53.0	40.2	41.9	40.3	43.9	47.0		
Stocks, end of period, total.....do	1,592.5	1,607.5	1,605.7	1,610.0	1,634.9	1,607.5	1,597.3	1,575.1	1,553.5	1,577.8	1,611.6	1,610.6	1,626.7	1,620.7		
Crude petroleum.....do	842.3	859.6	871.1	891.5	902.2	889.6	888.2	892.0	896.6	904.4	905.7	909.1	900.7	885.3		
Strategic petroleum reserve.....do	511.6	540.6	533.9	535.7	538.5	540.6	542.7	544.1	544.9	547.3	547.9	550.1	551.3	552.1		
Unfinished oils, natural gaso- line, etc.....do	140.4	138.3	150.4	149.6	147.4	138.3	142.7	143.7	147.8	148.7	158.6	160.1	159.8	157.7		
Refined products.....do	609.4	579.5	584.3	568.8	585.4	579.5	566.3	539.4	512.1	524.8	547.4	541.4	566.2	577.7		
Refined petroleum products: Gasoline (incl. aviation):																
Production.....do	2,476.3	2,506.2	208.6	207.5	207.7	218.1	209.1	195.8	208.2	207.9	213.2	210.3	222.9	224.3		
Stocks, end of period.....do	196.4	191.1	193.4	184.1	190.2	191.1	202.3	204.4	195.9	191.5	190.4	175.6	179.7	184.3		
Prices, regular grade (excl. aviation):																
Producer Price Index.....1982=100	54.4	59.5	61.9	61.1	61.9	57.5	*53.7	53.9	53.9	58.2	60.9	60.7	63.2	64.4	58.1	56.6
Retail, U.S. city average (BLS):																
Leaded.....\$ per gal.	.857	.897	.940	.931	.923	.912	.881	.859	.850	.883	.911	.910	.923	.945	.933	.910
Unleaded.....do	.927	.948	.990	.976	.976	.961	.933	.913	.904	.930	.955	.955	.967	.987	.974	.956
Aviation gasoline:																
Production.....mil. bbl.	11.7	9.1	1.0	.8	.5	.7	.6	.5	.7	.7	.9	.8	1.0	1.0		
Stocks, end of period.....do	2.2	2.3	2.2	2.2	2.2	2.3	2.3	2.1	2.0	2.0	2.0	1.8	1.9	1.9		
Kerosene:																
Production.....do	32.6	28.7	2.7	3.7	3.5	3.3	3.2	3.4	2.1	1.5	1.5	1.6	2.0	2.5		
Stocks, end of period.....do	8.4	8.4	8.0	8.7	9.3	8.4	7.2	6.9	6.4	6.0	5.6	6.0	6.2	7.1		
Producer Price Index (light distillate).....1982=100	53.6	54.1	58.1	60.0	60.8	58.3	*55.2	55.1	53.7	52.4	53.7	53.0	51.1	50.0	49.1	46.9
Distillate fuel oil:																
Production.....mil. bbl.	1,021.2	996.6	82.4	86.2	91.1	100.5	93.2	77.8	84.3	86.1	90.9	86.8	88.3	88.2		
Imports.....do	90.3	93.2	6.6	7.3	5.6	11.7	11.0	9.6	7.5	6.3	7.1	6.3	6.4	8.4		
Stocks, end of period.....do	155.1	134.5	126.8	121.0	128.0	134.5	127.2	109.6	89.3	94.3	104.5	110.7	119.4	125.2		
Producer Price Index (middle distillate).....1982=100	49.4	55.5	56.8	59.3	61.2	58.1	*54.8	51.5	49.7	53.3	54.3	50.6	46.9	46.8	45.9	42.3
Residual fuel oil:																
Production.....mil. bbl.	324.3	323.2	27.1	27.5	27.8	31.0	31.3	28.9	29.3	28.5	26.8	26.4	28.3	26.8		
Imports.....do	244.2	206.1	15.8	12.8	17.0	20.2	22.8	23.0	18.9	13.9	13.1	10.5	13.5	16.0		
Stocks, end of period.....do	47.4	47.4	44.4	45.6	50.0	47.4	46.6	45.5	44.1	43.2	45.7	42.1	41.1	37.8		
Producer Price Index.....1982=100	44.5	53.1	54.7	51.8	52.8	49.5	*45.4	43.5	41.9	40.5	42.6	43.7	39.2	39.6	40.4	38.8
Jet fuel:																
Production.....mil. bbl.	472.0	490.1	41.8	43.6	41.6	44.6	43.9	40.1	45.0	38.7	39.9	40.2	42.3	41.7		
Stocks, end of period.....do	49.7	49.9	50.2	49.8	51.0	49.9	46.3	43.6	46.7	46.0	46.8	45.7	47.0	46.8		
Lubricants:																
Production.....do	58.2	60.9	5.1	5.4	5.2	4.8	5.2	5.1	5.8	5.3	5.6	5.5	5.2	5.3		
Stocks, end of period.....do	14.2	13.3	12.2	12.6	13.6	13.3	14.1	13.9	13.9	14.1	13.8	13.9	14.0	13.6		
Asphalt:																
Production.....do	149.7	158.4	18.2	16.3	10.6	8.5	7.2	7.9	10.6	11.8	15.3	17.5	18.6	20.1		
Stocks, end of period.....do	17.7	18.8	18.3	18.0	16.9	18.8	22.7	25.7	28.6	30.6	30.1	27.0	25.6	21.9		
Liquefied petroleum gases:																
Production, total.....do	618.5	638.2	52.1	53.8	52.9	54.3	53.4	51.0	55.9	53.9	56.1	54.1	56.7	57.3		
At gas processing plants (L.P.G.).....do	466.2	474.5	38.4	40.1	39.8	40.9	39.4	37.5	40.9	39.2	40.9	38.9	40.2	40.4		
At refineries (L.R.G.).....do	152.3	163.7	13.7	13.7	13.1	13.4	14.0	13.4	14.9	14.6	15.2	15.2	16.6	16.9		
Stocks (at plants and refineries).....do	102.7	97.1	114.3	112.5	108.6	97.1	80.7	70.2	68.8	79.7	90.0	100.0	111.9	120.6		

**PULP, PAPER, AND PAPER PRODUCTS**

<b>PULPWOOD</b>																
Receipts.....thous. cords (128 cu ft.)	'90,943	'94,312	8,061	8,436	7,227	8,003	7,737	7,924	8,345	7,911	7,611	7,766	7,652	8,007		
Consumption.....do	'91,434	'93,946	7,856	7,984	7,401	8,162	8,223	7,743	8,249	8,137	7,650	7,689	7,901	7,951		
Inventories, end of period.....do	4,794	5,096	5,044	5,301	5,211	5,096	4,629	4,777	4,942	4,642	4,420	4,507	4,232	4,325		
<b>WASTE PAPER</b>																
Consumption.....thous. sh. tons	'17,285	'18,296	1,544	1,619	1,553	1,489	1,555	1,529	1,660	1,541	1,611	1,563	'1,526	1,615		
Inventories, end of period.....do	838	920	810	838	817	887	847	871	926	937	897	904	'896	959		
<b>WOODPULP</b>																
Production:																
Total.....thous. sh. tons	'57,005	'59,552	4,925	5,066	4,812	5,160	5,276	4,917	5,222	5,004	*5,004	4,949	'5,219	5,269		
Dissolving pulp.....do	1,258	1,312	112	88	137	109	98	116	109	105	'113	117	117	119		
Paper grades chemical pulp.....do	46,081	48,293	3,947	4,110	3,851	4,227	4,285	3,981	4,259	4,037	4,011	4,008	*4,241	4,276		
Groundwood and thermo- mechanical.....do	5,476	5,702	506	501	472	484	517	471	495	509	507	480	497	504		
Semi-chemical.....do	4,191	4,246	359	367	352	339	376	350	360	354	373	349	363	371		
Inventories, end of period:																
At pulp mills:																
Own use woodpulp.....do	174	170	167	161	162	170	162	165	169	169	160	175	194	199		
Market pulp.....do	284	224	273	267	290	224	292	265	237	256	243	193	236	248		
Market pulp at paper and board mills.....do	496	529	561	531	499	529	508	503	532	532	513	534	548	634		
Exports, all grades, total.....do	'4,308	'5,047	442	333	365	523	391	444	491	453	433	497	392	497	518	
Dissolving and special alpha.....do	711	691	65	53	61	72	67	41	79	81	61	101	56	63	81	
All other.....do	'3,599	'4,520	377	280	304	450	324	403	569	372	372	396	336	435	437	
Imports, all grades, total.....do	'4,340	'4,974	546	386	411	415	390	429	432	428	415	415	416	460	379	
Dissolving and special alpha.....do	148	96	13	11	3	2	10	14	14	12	7	13	2	16	11	
All other.....do	'4,193	'4,899	533	375	408	412	380	415	446	415	408	402	415	444	367	

See footnotes at end of tables.

Units	Annual		1987				1988									
	1986	1987	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
<b>PULP, PAPER, AND PAPER PRODUCTS—Continued</b>																
<b>PAPER AND PAPER PRODUCTS</b>																
<b>Paper and board:</b>																
<b>Production (API):</b>																
Total.....thous. sh. tons..	'70,889	'74,433	6,254	6,390	6,135	6,347	6,466	6,215	6,724	6,313	6,440	'6,317	'6,272	'6,597	6,294	.....
Paper.....do.....	35,510	'36,994	3,125	3,211	3,066	3,163	3,216	3,119	3,382	3,197	3,176	'3,165	'3,091	'3,312	3,167	.....
Paperboard.....do.....	35,379	37,439	3,129	3,177	3,069	3,184	3,251	3,097	3,342	3,116	3,264	3,152	3,181	'3,284	3,127	.....
<b>Producer Price Indexes:</b>																
Paperboard.....1982=100..	106.6	118.1	121.3	122.1	122.5	123.1	<sup>2</sup> 126.6	127.1	130.5	132.6	133.4	134.0	134.3	134.5	136.3	136.5
Building paper and board.....do.....	108.8	111.2	113.2	113.8	113.4	113.7	<sup>2</sup> 113.7	114.0	113.1	113.3	113.4	114.2	113.9	112.7	112.3	112.4
<b>Selected types of paper (API):</b>																
<b>Groundwood paper, uncoated:</b>																
Orders, new.....thous. sh. tons..	'1,553	'1,542	130	121	113	130	132	137	131	121	152	122	131	'136	138	.....
Orders, unfilled, end of period...do.....	124	164	153	150	153	181	187	197	196	167	179	188	177	'171	171	.....
Shipments.....do.....	'1,540	'1,485	126	124	112	111	128	129	139	127	135	120	134	'147	136	.....
<b>Coated paper:</b>																
Orders, new.....do.....	'6,334	'7,066	570	610	563	611	627	583	646	631	620	612	662	'637	573	.....
Orders, unfilled, end of period...do.....	469	708	666	729	693	734	693	692	704	678	678	688	746	'755	721	.....
Shipments.....do.....	6,263	6,860	591	603	587	588	638	593	653	609	601	617	594	'645	595	.....
<b>Uncoated free sheet papers:</b>																
Orders, new.....do.....	'10,485	'11,184	946	1,029	919	978	944	917	1,032	990	921	'965	'909	'951	899	.....
Shipments.....do.....	'10,681	'11,228	949	988	927	982	963	943	1,039	967	941	'953	'920	'999	949	.....
<b>Unbleached kraft packaging and industrial converting papers:</b>																
Shipments.....thous. sh. tons..	'3,303	'3,079	258	259	243	261	262	255	262	255	236	'244	'239	'251	260	.....
Tissue paper, production.....do.....	'5,095	'5,301	447	455	442	449	446	437	474	445	461	454	'452	'471	455	.....
<b>Newsprint:</b>																
<b>Canada:</b>																
Production.....thous. metric tons..	9,289	9,673	797	827	812	783	822	815	874	826	860	799	827	846	790	.....
Shipments from mills.....do.....	9,302	9,761	852	811	801	892	716	782	881	789	856	851	794	847	830	.....
Inventory, end of period.....do.....	277	193	271	286	298	193	295	328	321	359	363	311	343	342	301	.....
<b>United States:</b>																
Production.....do.....	5,107	5,300	448	461	437	453	452	434	463	451	466	445	436	461	446	.....
Shipments from mills.....do.....	5,115	5,310	451	456	439	461	437	435	458	446	463	449	431	459	447	.....
Inventory, end of period.....do.....	49	36	43	48	46	36	51	51	55	60	63	59	65	67	67	.....
Estimated consumption, all users.....do.....	11,937	12,322	1,050	1,129	1,134	1,050	958	964	1,059	1,023	1,058	997	'968	'1,000	1,022	.....
Publishers' stocks, end of period #.....thous. metric tons..	849	900	929	897	866	900	905	931	962	972	952	990	973	'1,007	1,006	.....
Imports.....thous. sh. tons..	8,589	8,975	780	746	777	710	727	697	811	725	766	715	728	731	742	.....
Producer Price Index, standard newsprint.....1982=100..	103.3	112.3	116.9	116.9	117.1	117.0	<sup>2</sup> 127.1	127.9	127.9	127.7	127.9	'127.9	127.4	127.3	127.3	127.3
<b>Paper products:</b>																
Shipping containers, corrugated and solid fiber shipments.....mil. sq. ft. surf. area..	283,921	297,430	25,898	'27,755	23,281	23,141	24,782	24,679	27,222	26,053	24,986	25,830	24,470	26,878	26,059	27,797

**RUBBER AND RUBBER PRODUCTS**

<b>RUBBER</b>																
<b>Natural rubber:</b>																
Consumption.....thous. metric tons..	743.56	775.38	61.85	57.39	60.63	69.38	79.07	65.16	88.10	58.68	65.73	60.46	49.11	76.77	.....	.....
Stocks, end of period.....do.....	38.51	72.46	70.56	65.85	65.47	72.46	74.87	75.32	70.69	74.64	72.94	71.56	68.74	71.00	.....	.....
Imports, incl. latex and guayule.....thous. long tons..	752.99	745.67	58.47	56.76	62.85	77.67	81.89	68.49	85.65	67.51	66.18	63.83	48.71	81.94	58.19	.....
U.S. Import Price Index †.....1985=100..	101.9	115.7	119.1	.....	.....	180.6	.....	.....	132.4	.....	.....	175.8	.....	149.9	.....	.....
<b>Synthetic rubber:</b>																
Production.....thous. metric tons..	2,012.77	2,184.12	176.04	191.00	182.94	194.82	186.95	179.13	201.20	193.72	205.40	197.36	'187.36	200.36	.....	.....
Consumption.....do.....	1,895.23	2,017.31	172.21	185.08	167.56	174.09	158.52	166.82	186.80	163.05	172.08	166.30	'160.91	171.43	.....	.....
Stocks, end of period.....do.....	235.61	229.72	222.80	213.60	213.82	229.72	237.84	235.11	229.64	237.50	246.18	249.56	'261.01	259.55	.....	.....
Exports (Bu. of Census).....thous. lg. tons..	393.85	422.64	38.23	32.93	36.94	36.53	39.07	36.76	41.11	41.02	39.79	40.47	29.29	43.34	38.01	.....
<b>TIRES AND TUBES</b>																
<b>Pneumatic casings:</b>																
Production.....thous.....	'190,289	'202,978	17,204	18,956	16,455	16,428	17,345	18,027	19,305	17,642	17,403	17,941	15,022	18,058	18,115	.....
Shipments, total.....do.....	243,244	255,220	23,218	24,926	21,298	20,326	18,795	19,472	22,808	21,200	22,539	24,764	20,101	24,002	23,738	.....
Original equipment.....do.....	61,251	60,758	4,969	5,778	4,966	4,177	4,713	5,065	5,759	5,606	6,010	5,718	3,526	4,844	5,556	.....
Replacement equipment.....do.....	176,659	186,406	17,517	18,367	15,584	15,341	13,061	13,243	15,740	14,501	15,559	18,055	15,789	18,042	17,118	.....
Exports.....do.....	5,334	8,056	731	781	748	809	1,021	1,163	1,309	1,093	970	992	793	1,116	1,064	.....
Stocks, end of period.....do.....	34,286	34,338	36,234	34,539	33,702	34,338	37,047	39,904	40,737	41,149	40,159	37,976	37,355	36,064	34,771	.....
Exports (Bu. of Census).....do.....	5,202	9,580	1,155	849	1,277	1,259	1,328	1,410	1,477	1,598	1,380	1,157	995	1,348	1,420	.....
<b>Inner tubes:</b>																
Exports (Bu. of Census).....do.....	809	1,518	141	76	96	114	95	138	165	141	161	113	162	130	149	.....

See footnotes at end of tables.

Unless otherwise stated in footnotes below, data through 1986 and methodological notes are as shown in BUSINESS STATISTICS: 1986

Units	Annual		1987				1988									
	1986	1987	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
<b>STONE, CLAY, AND GLASS PRODUCTS</b>																
<b>PORTLAND CEMENT</b>																
Shipments, finished cement.....thous. bbl.	'470,500	'480,410	47,638	50,011	38,298	30,840	20,979	26,293	36,404	39,926	45,356	50,117	43,803	49,564	47,580	
<b>CLAY CONSTRUCTION PRODUCTS</b>																
<b>Shipments:</b>																
Brick, unglazed (common and face) mil. standard brick ..	7,401.9	7,313.2	692.0	704.4	557.4	497.3	398.8	486.7	709.7	685.4	716.8	777.1	682.1	751.0	714.3	
Structural tile, except facing.....thous. sh. tons.	108.4	'96.1	15.9	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	4.7	4.7	4.7	4.7	5.1	5.3	5.3	4.7	4.7	
Sewer pipe and fittings, vitrified.....do	323.6	324.6	32.5	36.4	22.7	18.5	18.1	21.1	31.4	24.7	27.5	34.1	31.2	'36.6	27.7	
Floor and wall tile and accessories, glazed and unglazed.....mi. sq. ft.	505.0	462.0	39.3	40.1	37.7	39.6	35.9	38.4	44.7	40.7	41.3	44.3	36.8	'42.2	41.7	
Producer Price Index, brick and structural clay tile.....12/84=100	105.2	108.2	108.6	108.6	108.7	108.7	109.9	110.5	110.4	110.7	110.9	'111.1	111.2	111.2	111.1	111.0
<b>GLASS AND GLASS PRODUCTS</b>																
Flat glass, mfrs.' shipments.....thous. \$.	1,259,746	1,457,587	392,126			378,798			353,737			372,286				
<b>Glass containers:</b>																
Production.....thous. gross.	289,253	285,030	22,590	25,269	20,023	18,693	21,588	22,497	24,506	24,950	25,027	24,789	25,475	25,225	22,584	
Shipments, total.....do	283,057	281,636	23,378	23,446	19,047	20,271	21,875	20,864	22,522	24,327	24,834	25,764	24,387	25,598	23,192	
<b>Narrow-neck containers:</b>																
Food.....do	25,266	27,252	2,494	1,981	1,579	1,690	1,837	1,815	2,211	2,445	2,532	2,367	2,167	2,828	2,348	
Beverage.....do	59,885	62,434	5,203	4,896	4,085	4,183	3,855	4,260	5,178	5,753	5,617	6,342	5,896	5,963	5,129	
Beer.....do	86,922	85,357	6,694	7,513	6,117	6,517	7,928	6,645	6,032	7,503	8,142	7,546	7,741	7,482	6,943	
Liquor and wine.....do	27,856	28,882	2,056	2,280	1,787	2,115	2,153	2,068	2,423	2,523	2,518	2,718	2,533	2,338	1,845	
<b>Wide-mouth containers:</b>																
Food and dairy products.....do	62,795	62,873	5,891	5,599	4,460	4,766	5,198	5,256	5,508	5,225	5,091	5,874	5,324	6,121	6,015	
<b>Narrow-neck and wide-mouth containers:</b>																
Medicinal and toilet.....do	18,843	14,167	949	1,098	916	897	788	737	1,050	787	879	850	674	786	814	
Chemical, household, and in- dustrial.....do	1,490	1,371	91	79	103	103	86	83	120	91	55	67	52	75	98	
Stocks, end of period.....do	39,912	41,926	41,343	42,881	43,836	41,926	40,948	42,680	44,569	44,953	44,970	43,614	44,466	43,544	42,471	
<b>GYPSUM AND PRODUCTS</b>																
<b>Production:</b>																
Crude gypsum (exc. byproduct).....thous. sh. tons.	'15,403	'15,612	1,161	1,432	1,442	1,218	1,031	1,075	1,297	1,272	1,231	1,291	1,203	1,059		
Calcined.....do	'17,061	'17,592	1,396	1,566	1,441	1,274	1,255	1,361	1,402	1,524	1,327	1,277	1,340	1,458		
Imports, crude gypsum.....do	9,559	9,717	879	952	817	635	837	801	512	986	685	878	804			
<b>Sales of gypsum products:</b>																
Uncalcined.....do	'5,331	'6,324	317	311	654	591	342	306	378	359	415	632	444	417		
<b>Calcined:</b>																
Industrial plasters.....do	'476	'496	10	14	10	9	10	20	11	13	11	11	12	10		
Building plasters, total (incl. Keene's cement).....do	'278	'280	22	23	25	19	18	21	23	21	20	19	19	22		
<b>Board products, total.....mil. sq. ft.</b>																
Lath.....do	'20,216	'20,507	1,775	1,916	1,675	1,501	1,468	1,595	1,896	1,687	1,667	1,683	1,698	1,914		
Veneer base.....do	'454	'479	43	46	41	36	36	36	44	41	40	39	37	44		
Gypsum sheathing.....do	'338	'313	25	28	27	22	19	19	27	24	25	26	23	26		
Regular gypsum board.....do	'13,317	'13,920	1,090	1,171	1,021	914	884	975	1,154	1,003	998	992	1,027	1,143		
Type X gypsum board.....do	'4,358	'4,489	480	519	451	425	420	451	528	473	462	474	479	549		
Predecorated wallboard.....do	'132	'128	10	10	9	10	9	9	10	9	9	11	10	11		
1/8 mobile home board.....do	'571	'598	74	81	62	42	49	51	72	80	77	74	69	79		
Water/moisture resistant board.....do	'522	'557	52	58	62	51	48	52	59	55	53	66	53	60		

**TEXTILE PRODUCTS**

<b>FABRIC</b>																
<b>Woven fabric, finishing plants:</b>																
Production (finished fabric).....mil. linear yd.	6,796															
Cotton.....do	2,522															
Manmade fiber and silk fabrics.....do	4,271															
<b>Inventories held at end of period.....do</b>																
Cotton.....do	504															
Manmade fiber and silk fabrics.....do	211															
<b>Backlog of finishing orders.....do</b>																
Cotton.....do	293															
Manmade fiber and silk fabrics.....do																
<b>COTTON AND MANUFACTURES</b>																
<b>Cotton (excluding linters):</b>																
<b>Production:</b>																
Ginnings.....thous. running bales	9,438	14,359	3,197	'7,531	11,082	13,278							136	804	2,277	6,888
Crop estimate.....thous. net weight bales \$.	9,731	14,760	13,336	13,336	13,936	14,281							14,934	14,709	14,714	14,837
Consumption.....thous. running bales	6,566	7,446	'753	621	606	'610	568	590	'738	556	551	'662	433	563	'676	545
<b>Stocks in the United States, total, end of period #.....thous. running bales</b>																
Domestic cotton, total.....do	13,416	13,722	16,242	15,581	14,823	13,722	12,394	11,245	9,711	8,607	7,707	6,567	5,723	18,973	18,122	
On farms and in transit.....do	13,416	13,722	16,242	15,581	14,823	13,722	12,394	11,245	9,711	8,607	7,707	6,567	5,723	18,973	18,122	
Public storage and compresses.....do	2,540	2,525	10,799	7,652	4,825	2,525	1,470	1,312	953	791	968	761	300	13,974	12,487	
Consuming establishments.....do	10,252	10,555	4,864	7,398	9,456	10,555	10,197	9,151	7,972	7,028	5,987	5,073	4,714	4,348	5,027	
	624	642	579	531	542	642	727	782	786	788	752	733	709	651	608	

See footnotes at end of tables.

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Units	Annual		1987				1988									
	1986	1987	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
<b>TEXTILE PRODUCTS—Continued</b>																
<b>COTTON AND MANUFACTURES—Cont.</b>																
Cotton (excluding linters)—Continued																
Exports.....thous. running bales	5,666	5,683	295	346	580	681	626	698	735	541	488	523	303	249	249	
Imports.....thous. net-weight bales \$.	7	2				1	(1)	(1)								
Price(farm), American upland.....cents per lb.	\$51.5	\$64.6	64.9	64.4	64.9	64.2	60.6	56.8	57.7	59.4	58.9	61.2	58.6	52.6	51.8	\$50.0
Price, Strict Low Middling, Grade 41, staple 34 (1 1/16"), average 10 markets.....cents per lb.	\$60.0	\$53.2	71.4	64.3	64.7	62.3	59.7	57.8	59.6	60.1	61.6	62.9	57.4	55.2	51.3	52.2
<b>Spindle activity (cotton system spindles):</b>																
Active spindles, last working																
day, total.....mil.	11.8	11.6	11.8	11.8	11.6	11.6	11.6	11.5	11.7	11.7	11.7	11.7	11.7	11.6	11.6	
Consuming 100 percent cotton.....do.	4.6	4.6	4.8	4.7	4.6	4.6	4.6	4.6	4.7	4.7	4.6	4.6	4.6	4.6	4.4	
Spindle hours operated, all																
fibers, total.....bil.	81.5	82.9	79.9	6.7	6.6	6.8	6.2	6.4	8.0	6.7	6.5	7.8	5.0	6.0	7.5	
Average per working day.....do.	309	319	318	335	328	272	308	319	321	334	324	313	252	312	299	
Consuming 100 percent cotton.....do.	29.2	32.3	33.3	2.7	2.6	2.6	2.3	2.5	3.1	2.5	2.4	2.9	1.8	2.2	2.7	
<b>Cotton cloth:</b>																
Cotton broadwoven goods over 12" in width:																
Production (qtrly.).....mil. sq. yd.	4,364	4,772	1,199			1,195										
Orders, unfilled, end of period, compared with average weekly production																
no. weeks' prod.																
Inventories, end of period, compared with avg. weekly production.....no. weeks' prod.																
Ratio of stocks to unfilled orders (at cotton mills), end of period.....do.																
Exports, raw cotton equivalent																
thous. net-weight bales \$.	293.6	260.0	19.9	20.6	20.5	19.9	18.5	18.1	23.9	20.4	19.3	20.4				
Imports, raw cotton equivalent.....do.	1,322.2	1,617.2	130.1	146.6	143.8	135.3	98.7	102.6	107.6	98.6	90.4	87.3				
Producer Price Index, gray cotton broadwovens.....1982=100	101.1	105.2	107.1	109.5	110.6	111.5	112.7	114.3	114.5	115.9	116.2	116.1	115.8	115.5	115.7	112.2
<b>MANMADE FIBERS AND MANUFACTURES</b>																
<b>Fiber production, qtrly:</b>																
Acetate filament yarn.....mil. lb.	214.8	191.1	45.2			53.0			49.1			54.4				
Rayon staple, including tow.....do.	403.7	413.8	103.6			108.4			106.6			101.2				
Noncellulosic, except textile glass:																
Yarn and monofilaments.....do.	3,836.7	4,009.7	1,014.2			1,023.2			1,015.5			1,062.9				
Staple, incl. tow.....do.	3,991.8	4,306.2	1,058.6			1,069.5			1,066.6			1,100.7				
Textile glass fiber.....do.																
Fiber stocks, producers', end of period:																
Acetate filament yarn.....mil. lb.	14.8	14.2	12.9			14.2			13.2			12.4				
Rayon staple, including tow.....do.	22.4	20.7	18.2			20.7			20.3			13.4				
Noncellulosic fiber, except textile glass:																
Yarn and monofilaments.....do.	306.6	298.4	279.1			298.4			299.4			310.6				
Staple, incl. tow.....do.	326.4	319.6	329.8			319.6			305.7			342.9				
Textile glass fiber.....do.																
<b>Manmade fiber and silk broadwoven fabrics:</b>																
Production (qtrly.), total.....mil. sq. yd.																
Filament yarn (100%) fabrics.....do.																
Chiefly rayon and/or acetate fabrics.....do.																
Chiefly nylon fabrics.....do.																
Spun yarn (100%) fabrics.....do.																
Rayon and/or acetate fabrics, blends.....do.																
Polyester blends with cotton.....do.																
Acetate filament and spun yarn fabrics.....do.																
Producer Price Index, gray synthetic broadwovens.....1982=100	101.9	105.6	107.9	108.6	109.0	109.2	110.0	111.1	111.6	111.8	112.2	113.0	113.4	113.7	113.2	113.7
<b>Manmade fiber textile trade:</b>																
Exports, manmade fiber equivalent.....mil. lbs.	519.31	591.87	52.37	51.24	52.66	51.09	45.90	52.83	64.84	59.83	64.49	56.85				
Yarn, tops, thread, cloth.....do.	228.77	260.31	23.60	22.60	22.62	23.22	20.07	23.02	27.87	24.36	22.09	23.10				
Cloth, woven.....do.	134.58	152.65	13.79	12.80	13.86	13.27	12.54	12.81	16.56	14.97	13.48	12.89				
Manufactured prods., apparel, furnishings.....do.	290.53	331.56	28.77	28.64	30.04	27.88	25.83	29.81	36.97	35.47	39.40	33.75				
Imports, manmade fiber equivalent.....do.	1,702.95	1,805.44	145.57	147.60	114.00	120.66	141.98	135.01	125.48	123.22	148.77	171.32				
Yarn, tops, thread, cloth.....do.	306.15	280.00	20.32	23.08	20.16	21.21	22.22	18.86	21.23	22.11	23.40	24.73				
Cloth, woven.....do.	207.18	182.52	12.26	14.48	13.31	14.62	14.63	12.49	14.93	15.87	16.54	17.95				
Manufactured products, apparel, furnishings.....do.	1,396.81	1,525.44	125.25	124.53	93.84	99.45	119.76	116.15	104.25	101.11	125.36	146.58				
Apparel, total.....do.	929.36	1,033.22	85.41	82.65	59.53	64.24	82.40	76.04	64.60	63.34	83.24	103.25				
Knit apparel.....do.	431.18	485.36	45.89	40.60	24.70	23.02	28.54	26.86	23.63	25.71	38.50	50.58				
<b>WOOL AND MANUFACTURES</b>																
<b>Wool consumption, mill (clean basis):</b>																
Apparel class.....mil. lb.	126.8	129.7	11.7	10.9	9.6	11.2	10.1	10.1	13.5	10.1	9.6	13.6	9.8	9.7	10.6	
Carpet class.....do.	10.0	13.1	1.2	1.4	1.1	1	1.3	1.4	1.8	1.3	1.3	1.2	1.1	1.7	1.7	
Wool imports, clean yield.....do.	97.0	105.1	6.7	7.0	8.2	9.0	12.0	12.7	8.8	9.1	8.6	7.4	7.7	5.0	3.3	
Duty-free.....do.	30.9	31.1	2.8	2.0	2.7	1.7	2.7	1.9	2.1	1.7	1.9	2.4	2.3	1.9	1.9	
<b>Wool prices, raw, shorn, clean basis, delivered to U.S. mills:</b>																
Domestic—Graded territory, 64's, staple 2 3/4" and up.....dollars per lb.	1.91	2.65	2.95	3.00	3.00	3.00	3.15	3.97	4.35	4.53	4.63	4.60	4.50	4.50	4.50	4.63
Australian, 64's, Type 62, duty-paid.....do.	2.36	3.24	3.41	3.48	3.47	3.56	3.91	4.68	4.96	5.64	5.64	5.13	4.89	4.67	4.61	4.88
Wool broadwoven goods, exc. felts:																
Production (qtrly.).....mil. sq. yd.	134.1	168.9	36.0			40.9										
<b>FLOOR COVERINGS</b>																
Carpet, rugs, carpeting (woven, tufted, other), shipments, quarterly #.....mil. sq. yds.	1,254.2	1,303.8	335.6			315.5			310.5			350.0				
<b>APPAREL</b>																
<b>Women's, misses', juniors' apparel cuttings: †</b>																
Coats.....thous. units	8,959	23,982	6,232			5,237			3,600							
Dresses.....do.	131,924	174,982	40,096			38,108			42,184							
Suits (incl. pant suits, jumpsuits).....do.		7,458	1,445			1,636			1,962							
Skirts.....do.	89,769	111,162	28,822			27,526			26,942							
Slacks, jeans, dungarees, and jean-cut casual slacks.....do.	219,716	294,791	78,495			70,094			64,710							
Blouses.....thous. dozen	29,575	30,595	9,614			11,068			9,294							

See footnotes at end of tables.

Units	Annual		1987				1988									
	1986	1987	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
<b>TEXTILE PRODUCTS—Continued</b>																
<b>APPAREL—Continued</b>																
Men's apparel cuttings: ††																
Suits.....thous. units...	10,552	12,167	2,925			3,096				3,216						
Coats (separate), dress and sport.....do...	19,794	18,236	4,578			4,041				4,779						
Trousers, slacks, jeans, pants, etc.....do...	112,612	480,350	125,823			110,885				111,242						
Shirts, dress and sport.....thous. doz...	48,928	86,649	21,140			17,137				22,059						
Hosiery, shipments.....thous. doz. pairs...	313,244	308,982	25,018	28,393	26,545	22,875	24,013	25,729	26,184	24,718	24,886	27,084	29,404	27,557	27,006	
<b>TRANSPORTATION EQUIPMENT</b>																
<b>AEROSPACE VEHICLES</b>																
Orders, new (net), qtrly, total.....mil. \$...	\$110,836	\$119,098														
U.S. Government.....do...	\$68,001	\$64,892														
Prime contract.....do...	\$106,686	\$115,298														
Sales (net), receipts, or billings, quarterly, total.....do...	\$105,577	\$109,053														
U.S. Government.....do...	\$65,326	\$67,680														
Backlog of orders, end of period #.....do...	\$148,212	\$157,250														
U.S. Government.....do...	\$95,009	\$91,436														
Aircraft (complete) and parts.....do...	\$62,032	\$64,494														
Engines (aircraft) and parts.....do...	\$14,359	\$15,521														
Missiles, space vehicle systems, engines, propulsion units, and parts.....mil. \$...	\$24,320	\$30,259														
Other related operations (conversions, modifications), products, services.....mil. \$...	\$17,422	\$16,527														
Aircraft (complete):																
Shipments.....do...	12,518.0	12,295.0	1,081.5	878.9	885.2	1,767.7	737.4	1,235.3	1,447.5	1,363.1	1,573.1	1,360.2	1,126.5	976.3	1,244.5	
Exports, commercial.....do...	7,207	7,380	730	335	781	903	504	744	1,056	1,003	1,063	956	725	811	517	
<b>MOTOR VEHICLES (NEW)</b>																
<b>Passenger cars:</b>																
Factory sales (from U.S. plants):																
Total.....thous.	7,516	\$7,085	582	670	583	500	472	563	665	613	690	726	386	484	618	(?)
Domestic.....do...	6,869	\$6,487	529	610	533	458	435	504	592	552	626	668	347	442	556	
Retail sales, total, not seas. adj.....do...	11,450	10,278	905	802	737	843	765	888	1,006	901	974	1,010	863	886	830	*838
Domestics \$.....do...	8,215	7,081	613	524	486	551	531	649	734	652	702	722	605	603	579	592
Imports \$.....do...	3,235	3,197	292	278	251	293	234	238	272	250	272	287	258	283	251	*246
Total, seas. adj. at annual rate.....mil.			11.7	9.2	9.6	10.8	10.7	11.1	10.6	10.5	10.4	*11.0	10.7	10.6	10.6	*9.8
Domestics \$.....do...			8.2	5.9	6.4	7.4	7.5	7.9	7.5	7.2	7.3	*7.8	7.8	7.4	7.6	6.8
Imports \$.....do...			3.6	3.3	3.2	3.4	3.1	3.2	3.1	3.3	3.0	*3.1	3.0	3.2	3.1	*3.0
Retail inventories, domestics, end of period: \$																
Not seasonally adjusted.....thous.	1,499	1,680	1,396	1,559	1,692	1,680	1,677	1,608	1,572	1,571	1,595	1,663	1,406	1,451	1,385	1,488
Seasonally adjusted.....do...	1,515	1,702	1,487	1,655	1,745	1,702	1,626	1,518	1,485	1,503	1,563	*1,588	1,440	*1,454	*1,511	1,602
Inventory-retail sales ratio, domestics \$.....do...	2.2	2.9	2.2	3.4	3.3	2.8	2.6	2.3	2.4	2.5	2.6	*2.4	2.2	2.3	2.4	2.8
Exports (BuCensus), total.....do...	669.46	627.65	49.22	51.14	69.70	48.55	43.80	68.14	83.71	68.78	74.91	67.33	43.93	46.11	76.56	
To Canada.....do...	639.67	561.88	47.20	44.07	58.71	41.72	33.94	60.17	70.40	57.38	64.12	52.51	32.61	39.44	65.92	
Imports (ITC), complete units.....do...	4,691.3	4,569.0	297.8	423.6	427.8	437.5	379.8	369.2	394.7	378.9	357.9	304.7	836.0	348.8	348.8	
From Canada, total.....do...	1,162.2	926.9	57.4	81.5	103.1	92.7	91.0	107.3	114.0	117.8	114.9	121.3	58.9	74.2	100.5	
Registrations ◊, total new vehicles.....do...	11,140	10,122	*965	819	718	840	774	810	919	852	874	981	883	901	937	
Imports, including domestically sponsored.....do...	3,444	3,625	*370	318	286	318	285	281	306	284	290	333	303	329	360	
<b>Trucks and buses:</b>																
Factory sales (from U.S. plants):																
Total.....do...	3,393	\$3,821	325	364	303	294	317	344	402	340	366	372	240	337	349	(?)
Domestic.....do...	3,130	\$3,509	299	333	276	268	295	318	364	311	333	343	223	318	324	
Retail sales, domestics:																
Total, not seasonally adjusted.....do...	\$3,947.2	4,088.4	328.7	331.4	323.9	350.4	306.6	374.8	439.7	382.4	426.0	426.9	385.5	371.1	346.4	371.0
0-10,000 lbs. GVW.....do...	3,671.3	3,786.1	302.7	305.4	299.9	323.0	284.3	343.1	407.4	350.2	395.8	395.8	356.5	343.7	317.3	339.7
10,001 lbs. GVW and over.....do...	*275.8	302.3	26.0	26.1	24.0	27.3	22.3	26.7	32.3	30.2	30.2	31.1	29.1	27.4	29.0	31.4
Total, seasonally adjusted.....do...			338.7	344.7	346.3	342.6	*362.6	384.6	374.5	377.2	386.4	365.3	396.5	381.7	361.3	386.1
0-10,000 lbs. GVW.....do...			313.5	319.9	317.6	316.8	*336.3	353.8	344.6	348.2	357.0	337.5	367.9	354.7	333.3	355.6
10,001 lbs. GVW and over.....do...			25.3	24.8	28.7	25.8	*26.3	30.9	29.9	29.0	29.4	27.8	28.6	27.0	28.0	30.5
Retail inventories, domestics, end of period: †																
Not seasonally adjusted.....thous.	815.7	967.9	898.4	967.3	990.4	967.9	1,024.0	*1,034.8	1,022.7	1,020.4	992.9	987.6	851.6	854.6	838.4	945.0
Seasonally adjusted.....do...	854.5	1,015.4	945.1	987.4	991.8	1,015.4	1,007.0	*986.3	972.1	968.4	943.8	953.4	928.9	932.2	883.5	965.7
Exports (BuCensus).....do...	209.06	229.27	21.20	19.19	24.14	21.16	18.65	22.57	28.01	23.32	24.18	22.14	14.38	17.20	21.53	
Imports (BuCensus), including separate chassis and bodies.....do...	1,572.35	1,378.19	93.15	94.25	112.94	105.54	96.25	94.04	120.94	109.40	90.81	102.25	78.99	75.16	72.90	
Registrations ◊, new vehicles, excluding buses not produced on truck chassis.....thous.	4,801	4,939	*464	403	367	417	384	379	443	432	432	487	442	444	470	
Truck trailers and chassis, complete (excludes detachables), shipments.....number	167,312	180,142	16,394	16,379	13,894	14,233	12,661	14,601	16,111	13,779	14,619	15,980	12,694	*15,347	15,957	
Van type.....do...	120,647	135,380	12,281	12,157	10,467	10,579	8,946	10,791	11,325	9,553	10,226	11,622	8,714	*11,412	12,084	
Trailer bodies (detachable), sold separately.....do...	417	438	54	42	20	19	37	39	76	114	462	619	673	670	922	
Trailer chassis (detachable), sold separately.....do...	15,360	23,014	2,323	1,794	1,481	1,805	1,711	2,497	2,356	2,785	2,163	2,620	2,668	*3,478	4,197	
<b>RAILROAD EQUIPMENT</b>																
<b>Freight cars (new), for domestic use; all railroads and private car lines (excludes rebuilt cars and cars for export):</b>																
Shipments.....number	11,508	*13,236	3,848			3,552			4,457		4,598				5,605	
Equipment manufacturers.....thous.	11,508	*13,236	3,848			3,552			4,457		4,598				5,605	
New orders.....do...	12,426	*17,368	3,951			5,077			7,244		9,131				4,487	
Equipment manufacturers.....do...	12,426	*17,368	3,951			5,077			7,209		9,131				4,487	
Unfilled orders, end of period.....do...	2,677	6,736	5,535			6,736			12,727		17,225				16,107	
Equipment manufacturers.....do...	2,677	6,736	5,535			6,736			12,692		17,225				16,107	
Freight cars (revenue), class I railroads(AAR): †																
Number owned, end of period.....thous.	799	749	759	755	748	749	744	742	743	740	738	735	733	728		
Capacity (carrying), total, end of month.....mil. tons.	67.20	63.63	64.33	64.02	63.49	63.63	63.37	63.52	63.38	63.21	63.10	62.87	62.71	62.36		
Average per car.....tons.	84.14	85.01	84.80	84.83	84.89	85.01	85.13	85.58	85.29	85.39	85.48	85.55	85.60	85.69		

See footnotes at end of tables.

## FOOTNOTES FOR PAGES S-1 THROUGH S-32

## General Notes for all Pages:

- r Revised.
- p Preliminary.
- e Estimated.
- c Corrected.

## Address requests for data to:

Statistical Series Branch  
Current Business Analysis Division  
Bureau of Economic Analysis  
U.S. Department of Commerce  
Washington, D.C. 20230

## Page S-1

- † Revised series. See Tables 2.6 - 2.9 in the July 1988 SURVEY for revised estimates for 1985-87.
- ‡ Includes inventory valuation and capital consumption adjustments.
- § Monthly estimates equal the centered three-month average of personal saving as a percentage of the centered three-month moving average of disposable personal income.
- ◇ See note "◇" for p. S-2.

## Page S-2

- 1. Based on data not seasonally adjusted.
- ◇ Effective Oct. 1987 SURVEY, the industrial production index has been revised back to Jan. 1985. These revisions are available upon request.
- # Includes data not shown separately.
- ‡ Effective Sept. 1988 SURVEY, data have been revised back to January 1982. Revised data appear in the report "Manufacturing and Trade Inventories and Sales" CB-88-146, available from the Bureau of the Census, Washington, DC 20233.
- § Revised series. Data have been revised back to 1985. Revisions are available upon request.

## Page S-3

- # Includes data for items not shown separately.
- † Revised series. Data have been revised back to 1982. A detailed description of the changes appear in the report "Manufacturers' Shipments, Inventories, and Orders: 1982-88" M3-1(88), available from the Bureau of the Census, Washington, DC 20233.
- ‡ See note "‡" for p. S-2.
- § See note "§" for p. S-2.

## Page S-4

- 1. Based on data not seasonally adjusted.
- # Includes data for items not shown separately.
- ‡ Includes textile mill products, leather and products, paper and allied products, and printing and publishing industries; unfilled orders for other nondurable goods industries are zero.
- ◇ For these industries (food and kindred products, tobacco, apparel and other textile products, petroleum and coal, chemicals and allied products, and rubber and plastics products) sales are considered equal to new orders.
- † See note "†" for p. S-3.

## Page S-5

- @ Compiled by Dun & Bradstreet, Inc.
- # Includes data for items not shown separately.
- § Ratio of prices received to prices paid (parity index).
- ‡ See note "‡" for p. S-4.
- † Effective with the Feb. 1988 SURVEY, data (back to 1984, for some commodities) have been revised. Effective with July 1988 SURVEY, data (back to 1982, for some commodities) have been revised. These revisions are available upon request.
- ◇ See note "◇" for p. S-6.
- †† See note "††" for p. S-3.

## Page S-6

- § Effective with the release of the January 1988 index, all producer price indexes previously expressed on a base of 1967=100, or any other base through December 1981, have been rebased to 1982=100. Only indexes with a base later than December 1981 remain unchanged. Selection of the 1982 period was made to coincide with the reference year of the shipment weights, which have been taken primarily from the 1982 Census of Manufactures. The last rebasing of these indexes occurred in February 1971, when the 1967 base was substituted for the 1957-59 base. Historical data on the new base are available upon request. For producer price indexes of individual commodities, see respective commodities in the Industry section beginning p. S-19. All indexes subject to revision four months after original publication.
- # Includes data for items not shown separately.
- † Effective with the release of the January 1988 index, all consumer price indexes previously expressed on a base of 1967=100, or any other base through December 1981, have been rebased to 1982-84=100. Only indexes with a base later than December 1981 remain unchanged. Selection of the 1982-84 period was made to coincide with the updated expenditure weights, which are based upon data tabulated from the Consumer Expenditure Surveys for 1982, 1983, and 1984. The last rebasing of these indexes occurred in February 1971, when the 1967 base was substituted for the 1957-59 base. Historical data on the new base are available upon request. Beginning with January 1987, data are calculated using 1982-84 expenditure patterns and updated population weights. Additional information regarding these changes is available from the Bureau of Labor Statistics, Washington, DC 20212.

## Page S-7

- 1. Computed from cumulative valuation total.
- 2. Index as of Oct. 1, 1988: building, 386.6; construction, 424.1.
- # Includes data for items not shown separately.
- § Data for Oct. and Dec. 1987, and Mar. and June 1988 are for five weeks; other months four weeks.
- ◇ Effective Feb. 1988 SURVEY, data for seasonally adjusted housing starts have been revised back to 1985. These revisions are available upon request.
- † Effective May 1988 SURVEY, data for seasonally adjusted building permits have been revised back to Jan. 1986. These revisions are available upon request.
- @ Effective July 1988 SURVEY, data have been revised back to Jan. 1985. In addition to the normal revisions to the unadjusted and seasonally adjusted data, the "Improvements" component of private residential buildings has been revised back to 1982 to adjust for a change in estimation of the monthly data. Revised data are available from the Construction Statistics Division at the Bureau of the Census, Washington, DC 20233.
- ‡ Effective July 1988 SURVEY, data have been revised back to 1985 and are available upon request.

## Page S-8

- 1. Advance estimate.
- ◇ Home mortgage rates (conventional first mortgages) are under money and interest rates on p. S-14.
- § Data include guaranteed direct loans sold.
- # Includes data for items not shown separately.
- @ Effective Oct. 1987 SURVEY, data are for mortgage loans closed as FSLIC-insured institutions. Historical data back to 1976 are available upon request.
- † Effective April 1988 SURVEY, wholesale trade data have been revised back to Jan. 1983. Revised data and a summary of changes appear in the report *Revised Monthly Wholesale Trade Sales and Inventories BW-13-87S*, available from the Bureau of the Census, Washington, DC 20233.
- ‡ Effective April 1988 SURVEY, retail trade data have been revised. Estimates of retail sales and inventories have been revised back to January 1983. Some series have been revised back to 1978. Revised data and a summary of changes appear in the report *Revised Monthly Retail Sales and Inventories BR-13-87S*, available from the Bureau of the Census, Washington, DC 20233.

## Page S-9

- 1. Advance estimate.
- # Includes data for items not shown separately.
- ◇ Effective with the January 1988 SURVEY, the seasonally adjusted labor force series have been revised back to January 1983. The January 1988 issue of *Employment and Earnings* contains the new seasonal adjustment factors, a description of the current methodology, and revised data for the most recent 13 months or calendar quarters. Revised monthly data for the entire 1983-87 revision period are in the February 1988 issue of *Employment and Earnings*.
- † The participation rate is the percent of the civilian noninstitutional population in the civilian labor force. The employment-population ratio is civilian employment as a percent of the civilian noninstitutional population, 16 years and over.
- @ Data include resident armed forces.
- ‡ See note "‡" for p. S-8.

## Page S-10

- ◇ See note "◇" for p. S-9.
- § Effective June 1988 SURVEY, data have been revised back to April 1986 (not seasonally adjusted) and January 1983 (seasonally adjusted) to reflect new benchmarks and seasonal adjustment factors. The June 1988 issue of *Employment and Earnings* will contain a detailed discussion of the effects of the revisions.

## Page S-11

- ‡ This series is not seasonally adjusted because the seasonal component is small relative to the trend-cycle and/or irregular components and consequently cannot be separated with sufficient precision.
- ◇ Production and nonsupervisory workers.
- § See note "§" for p. S-10.

**Page S-12**

1. This series is not seasonally adjusted because the seasonal component is small relative to the trend-cycle and/or irregular components and consequently cannot be separated with sufficient precision. Use the corresponding unadjusted series.

§ See note "§" for p. S-10.

◇ Production and nonsupervisory workers.

‡ Earnings in 1977 dollars reflect changes in purchasing power since 1977 by dividing by Consumer Price Index. Effective Feb. 1988 SURVEY, this series has been revised back to 1983 to reflect new seasonal factors for the CPI-W. Revised data are available upon request.

§§ Wages as of Nov. 1, 1988: Common, \$17.50; Skilled, \$22.94.

† Excludes farm, household, and Federal workers.

‡‡ See note "‡" for p. S-11.

**Page S-13**

1. Beginning with Jan. 1988 data, the number of respondents in the bankers acceptance survey was reduced from 155 to 111 institutions—those with \$100 million or more in total acceptances. The new reporting group accounts for over 90 percent of total acceptances activity.

2. Effective December 31, 1987, eight brokers and dealers in commercial paper were added to the reporting panel resulting in a series break. End of month figures on the old basis are as follows: All issuers, 352,915; financial companies, 275,907; dealer placed, 103,667; directly placed, 172,240; and nonfinancial companies, 77,008.

3. Average for Dec.

† Effective Aug. 1988, SURVEY, free reserves have been restated to correspond with the Federal Reserve's computation, which is as follows: excess reserves, minus borrowings, plus extended credit. Historical data back to 1961 are available upon request.

‡ Effective Jan. 1988, series revised due to changes in the panel of reporting banks. The new reporting panel of 168 banks accounts for about 52 percent of total assets in U.S. offices of domestically-chartered banks. Back data have been estimated for the years 1984-87.

# Includes data for items not shown separately.

\* "Transaction balances other than demand deposits" consists of ATS, NOW, super NOW, and telephone transfer accounts.

§ Excludes loans and federal funds transactions with domestic commercial banks and includes valuation reserves (individual loan items are shown gross; i.e., before deduction of valuation reserves).

@ Insured unemployment (all programs) data include claims filed under extended duration provisions of regular State laws; amounts paid under these programs are excluded from state benefits paid data.

@@ Insured unemployment as a percent of average covered employment in a 12-month period.

\*\* Effective Aug. 1987 SURVEY, data are provided by the Farm Credit Corporation of America on a quarterly basis. Quarterly data are available back to first quarter 1985, with annual data available back to 1961.

**Page S-14**

1. Data are for fiscal years ending Sept. 30 and include revisions not distributed to the months.

2. Weighted by number of loans.

3. Beginning Feb. 1988, data temporarily suspended by the Farm Credit Administration, which is revising the information it collects and amending the reports it distributes.

§ Effective Mar. 1988 SURVEY, data have been revised to reflect new benchmark and seasonal adjustments. These revisions are available upon request.

† Effective Apr. 1988 SURVEY, the consumer installment credit series have been revised back to Jan. 1980 to reflect newly available historical information and to incorporate new seasonal factors. These revisions are available upon request.

# Includes data for items not shown separately.

◇ Adjusted to exclude domestic commercial interbank loans and federal funds sold to domestic commercial banks.

‡ Rates on the commercial paper placed for firms whose bond rating is Aa or the equivalent.

§§ Effective Sept. 1988 SURVEY, the outlays by month for fiscal year (FY) 1987 have been increased by a net of \$582 million to reflect reclassification of the Thrift Savings Fund receipts of \$736 million and Federal Retirement Thrift Investment Board (FRTIB) administrative expenses of \$154 million to a non-budgetary status. The FRTIB outlays by month for 1988 have been adjusted by a net of \$1,084 million. Data for fiscal years 1987 and 1988 previously reported by Treasury for Federal Savings and Loan Insurance Corporation (FSLIC) and FRTIB have been reclassified in consultation with the Office of Management and Budget resulting in revised totals back to April 1987. Effective Apr. 1988 SURVEY, a total adjustment of \$920 million for FY 1987 and \$1,565 million thru Feb. 1988 has been distributed by month for notes issued by the FSLIC in lieu of cash and not reported as outlays. The previous adjustment, in the Feb. 1988 SURVEY, has been reversed prior to these corrections. Effective Sept. 1987 SURVEY, the outlays for the Federal Deposit Insurance Corporation (FDIC) have been adjusted by \$442 million for 1986 and \$158 million for 1987 to reflect FDIC debentures issued in lieu of cash and not reported previously as outlays.

‡‡ Courtesy of *Metals Week*.

@@ Average effective rate

@ Revised for periods between October 1986 and February 1987. During this interval, outstanding gold certificates were inadvertently in excess of the gold stock.

**Page S-15**

1. Beginning in the first quarter 1987, the universe of manufacturing corporations was redefined to exclude corporations with less than \$250,000 in assets at the time of sample selection.

† Effective Feb. 1988 SURVEY, the money stock measures and components have been revised and are available from the Banking Section of the Division of Research and Statistics at the Federal Reserve Board, Washington, D.C. 20551.

‡ Composition of the money stock measures is as follows:

M1.—This measure is currency plus demand deposits at commercial banks and interest-earning checkable deposits at all depository institutions—namely NOW accounts, automatic transfer from savings (ATS) accounts, and credit union share draft balances—as well

as a small amount of demand deposits at thrift institutions that cannot, using present data sources, be separated from interest-earning checkable deposits.

M2.—This measure adds to M1 overnight repurchase agreements (RP's) issued by commercial banks and certain overnight Eurodollars (those issued by Caribbean branches of member banks) held by U.S. nonbank residents, money market mutual fund shares, and savings and small-denomination time deposits (those issued in denominations of less than \$100,000) at all depository institutions. Depository institutions are commercial banks (including U.S. agencies and branches of foreign banks, Edge Act corporations, and foreign investment companies), mutual savings banks, savings and loan associations, and credit unions.

M3.—This measure equals M2 plus large-denomination time deposits (those issued in denominations of \$100,000 or more) at all depository institutions (including negotiable CD's) plus term RP's issued by commercial banks and savings and loan associations.

L.—This broad measure of liquid assets equals M3 plus other liquid assets consisting of other Eurodollar holdings of U.S. nonbank residents, bankers acceptances, commercial paper, savings bonds, and marketable liquid Treasury obligations.

‡‡ Includes ATS and NOW balances at all depository institutions, credit union share draft balances, and demand deposits at thrift institutions.

◇ Overnight (and continuing contract) RP's are those issued by commercial banks to the nonbank public, and overnight Eurodollars are those issued by Caribbean branches of member banks to U.S. nonbank customers.

@ Small time deposits are those issued in amounts of less than \$100,000. Large time deposits are those issued in amounts of \$100,000 or more and are net of the holdings of domestic banks, thrift institutions, the U.S. Government, money market mutual funds, and foreign banks and official institutions.

# Includes data for items not shown separately.

§ Effective Apr. 1988 SURVEY, 1987 data have been revised. Revisions for Jan. 1987: long-term, 7,486; short-term, 372.

**Page S-16**

@ Effective with the June 1988 SURVEY, total exports and imports have been revised back to Jan. 1986. These revisions are available upon request. Data may not equal the sum of the geographic regions, or commodity groups and principal commodities, because the revisions to the totals are not reflected in the component items.

† Effective with the June 1988 SURVEY, seasonal adjustment of exports and imports was reintroduced. The monthly data were last adjusted for December 1985. Historical data from Jan. 1986 forward are available upon request.

§ Number of issues represents number currently used; the change in number does not affect the continuity of the series.

‡ For bonds due or callable in 10 years or more.

# Includes data for items not shown separately.

**Page S-17**

1. Effective Sept. 1988 SURVEY, data have been revised for Jan.-June 1988, due to revised undocumented exports to Canada, which are based on official Canadian import totals.

@ See note "@" for p. S-16.

† See note "†" for p. S-16.

# Includes data not shown separately.

**Page S-18**

1. Annual total; quarterly or monthly revisions are not available.

2. Restaurant sales index data represent hotels and motor hotels only.

3. For month shown.

# Includes data for items not shown separately.

§ Total revenues, expenses, and income for all groups of carriers also reflect nonscheduled service.

\* Data have been revised back to 1981. They now include commuter railroads and small transit systems. Revised data are available upon request.

‡ The threshold for Class I railroad status is adjusted annually by the Interstate Commerce Commission to compensate for inflation.

◇ Average daily rent per room occupied, not scheduled rates.

## Data represent entries to a national park for recreational use of the park, its services, conveniences, and/or facilities.

† Before extraordinary and prior period items.

@ Changes in these unit value indexes may reflect changes in quality or product mix as well as price changes.

**Page S-19**

1. Reported annual total; monthly revisions are not available.

2. Less than 500 short tons.

# Includes data for items not shown separately.

§ Data are reported on the basis of 100 percent content of the specified material unless otherwise indicated.

‡ Data for 1985-86 (and 1984, for inorganic chemical production items) have been revised and are available upon request.

◇ Beginning January, 1986, data are not directly comparable to earlier periods because the data represent only companies that have annual revenues over \$100 million.

**Page S-20**

1. Reported annual total; monthly or quarterly revisions are not available.

2. Data are no longer available.

§ Data are not wholly comparable from year to year because of changes from one classification to another.

◇ Data for 1985-87 have been revised and are available upon request.

@ Includes less than 500 electric generation customers not shown separately.

† Effective with the May 1988 SURVEY, data have been revised back to 1985 and are available upon request.

**Page S-21**

1. Previous year's crop. New crop is not reported until Sept. (crop year: Sept. 1-Aug. 31).
  2. Crop estimate for the year.
  3. Stocks as of June 1.
  4. Stocks as of June 1 and represents previous year's crop; new crop not reported until June (beginning of new crop year).
  5. Less than 50,000 bushels.
  6. Stock estimates are available once a year as June 1 stocks and shown here in the May column and (as previous year's crop) in the annual column.
  7. Stocks as of Dec. 1.
  8. See note "\$" for p. S-6 regarding a change to a new reference base in 1988.
  9. Prices are no longer available.
  10. Based on quotations for fewer than 12 months.
  11. Nov. 1 estimate of the 1988 crop.
  12. Beginning with Sept. 1, 1988 data, quarterly stock estimates have been reinstated.
  13. Crop estimate for 1988.
- # Excludes pearl barley.  
 # Bags of 100 lbs.  
 @ Quarterly data represent the 3-month periods Dec.-Feb., Mar.-May, June-Aug., and Sept.-Nov. Annual data represent Dec.-Nov.  
 † Coverage for 21 selected States, representing approximately 85 percent of U.S. production.

**Page S-22**

1. Monthly quotation not available.
2. See note "\$" for p. S-6 regarding a change to a new reference base in 1988.
3. See note "†" for this page.
4. See note "‡" for this page.
- ‡ Beginning with Sept. 1988 data, price represents dollars per head and is not comparable with earlier prices, which represent dollars per 100 pounds.
- § Cases of 30 dozen.
- ◇ Bags of 60 kilograms.
- † Effective with the release of 1st Qtr. 1988 data, the import price index for coffee has been discontinued by BLS and replaced in the SURVEY with the import price index for coffee and coffee substitutes. The weighting structure used for the import price index reflects U.S. foreign trade flows based on 1985 data. Indexes, beginning with 2nd Qtr. 1975, are available upon request.

**Page S-23**

1. Crop estimate for the year.
2. Reported annual total; revisions not distributed to the months.
3. Data suppressed because they did not meet publication standards of the Bureau of the Census.
4. See note "\$" for p. S-6 regarding a change to a new reference base in 1988.
5. Nov. 1 estimate of the 1988 crop.
- # Totals include data for items not shown separately.
- ◇ Effective Oct. 1988 SURVEY, the footwear production series have been revised for 1986 and 1987. These revisions are available upon request.

**Page S-24**

1. Annual data; monthly revisions not available.
2. See note "\$" for p. S-6 regarding a change to a new reference base in 1988.
- \* New series from the American Metal Market. The composite scrap price represents the average of consumers' buying prices, delivered, at the following markets: Chicago, Pittsburgh, and Philadelphia. Annual and monthly composite price data are available back to January 1982.

**Page S-25**

1. Annual data; monthly revisions are not available.
2. For month shown.
- @ Beginning 1987, includes foreign ores.
- † Beginning January 1982, data represent metallic (mostly aluminum) content. Data for 1981 and prior years represent aluminum content only.
- ◇ The source for these series is now the Bureau of Mines.
- § Source: *Metals Week*.

**Page S-26**

1. Annual data; monthly revisions are not available.
2. Less than 50 tons.
3. Total for 5 months; data for May, June, Sept., Nov., and Dec.
4. Total for 10 months; no data for Jan. and Feb.
- ◇ Includes secondary smelters' lead stocks in refinery shapes and in copper-base scrap.
- @ All data (except annual production figures) reflect GSA remelted zinc and zinc purchased for direct shipment.
- ‡ Source for monthly data: American Bureau of Metal Statistics. Source for annual data: Bureau of Mines.
- # Includes data not shown separately.
- § Beginning with the Aug. 1985 SURVEY, unadjusted fluid power shipments indexes are shown. Seasonally adjusted indexes are no longer available.
- \* New series from The Material Handling Institute, Inc. and Cahners Economics. Includes bookings (new orders) for automatic guided vehicles, automated storage and retrieval systems, below hook lifters, cranes, hoists, monorails, racks, shelving, casters and floor trucks, and conveyors. Annual and quarterly historical data back to 1972 are available upon request.
- @@ Beginning Oct. 1986, the Lead price represents North American Mean.

**Page S-27**

1. See note "\$" for p. S-6 regarding a change to a new reference base in 1988.
2. Beginning January 1986, data have been restated because a new methodology has been adopted.
- # Includes data for items not shown separately.
- § Includes nonmarketable catalyst coke. See also note "††" for this page.

- ◇ Includes small amounts of "other hydrocarbons and alcohol new supply (field production)," not shown separately.
- † Effective with the Oct. 1987 SURVEY, coal production data for 1986 have been revised. Effective with the May 1988 SURVEY, coal consumption and stocks back through 1986 have been revised. Effective with the Oct. 1988 SURVEY, coal production data for 1987 have been revised. These revisions are available upon request.
- @ Includes U.S. produced and imported microwave ovens and combination microwave oven/ranges.
- ‡ "Tractor shovel loaders" includes some front engine mount wheel tractors that had previously been included in "Tractors, wheel, farm, and nonfarm."
- †† Effective with the June 1988 SURVEY, data for 1987 have been revised and are available upon request.
- ‡‡ March, June, September and December are five-week months. All others consist of four weeks.

**Page S-28**

1. Reported annual totals; revisions not allocated to the months.
2. See note "\$" for p. S-6 regarding a change to a new reference base in 1988.
- # Includes data for items not shown separately.
- † Except for price data, see note "††" for p. S-27.

**Page S-29**

1. Reported annual totals; revisions not allocated to the months.
2. See note "\$" for p. S-6 regarding a change to a new reference base in 1988.
- ◇ Source: American Paper Institute. Total U.S. estimated consumption by all newspaper users.
- # Compiled by the American Newspaper Publishers Association.
- † Effective with the April 1988 SURVEY, the import price index for natural rubber has been revised. The index is now expressed on a base of 1985=100. Also new weights based on 1985 trade flows have been applied to all data from 1985 onward. Revised data are available back to 4th qtr. 1983.

**Page S-30**

1. Reported annual total; revisions not allocated to the months.
2. Monthly data are being withheld to avoid disclosing data from individual firms. Annual total covers 9 months.
3. Data cover five weeks; other months, four weeks.
- # Includes data for items not shown separately.
- ◇ Cumulative ginnings to the end of month indicated.
- § Bales of 480 lbs.
- † Data for 1987 have been revised and are available upon request.

**Page S-31**

1. Less than 500 bales.
2. Annual total includes revisions not distributed to the months.
3. Average for crop year; Aug. 1-Jul. 31.
4. For five weeks; other months four weeks.
5. See note "\$" for p. S-6 regarding a change to a new reference base in 1988.
- ◇ Based on 480-lb. bales, preliminary price reflects sales as of the 15th; revised price reflects total quantity purchased and dollars paid for the entire month (revised price includes discounts and premiums).
- # Beginning 1st Qtr. 1986; quarterly data are estimated by the American Textile Manufacturers Institute based on annual data collected by the Bureau of Census.
- § Bales of 480 lbs..
- † Beginning 1st Qtr. 1987, data are not comparable with earlier periods. Girls apparel are now included with women's, misses' and juniors' and boys' apparel are now included with men's. Also, some classification changes were made.

**Page S-32**

1. Annual total includes revisions not distributed to the months.
2. Production of new vehicles (thous. of units) for Oct. 1988: *passenger cars, 666; trucks and buses, 351.*
3. Data are reported on an annual basis only.
4. Effective with the Feb. 1988 SURVEY, data have been revised back to 1985 and are available upon request.
5. Beginning with January 1987, data include Honda, Nissan, and Toyota passenger cars produced in U.S. plants.
6. Beginning with January 1987, data include Nissan trucks produced in U.S. plants.
7. Beginning with 1st qtr. 1987, jeans, jean-cut casual and dungarees are included with trousers.
8. See note "†" for this page.
9. Effective with July 1988 SURVEY, data have been revised back to 1985 and are available upon request.
10. Data for jumpers are included with dresses to avoid disclosing information for individual companies.
- # Total includes backlog for nonrelated products and services and basic research.
- § Domestic comprise all cars assembled in the U.S. and cars assembled in Canada and imported to the U.S. under the provisions of the Automotive Products Trade Act of 1965. Imports comprise all other cars.
- ◇ Courtesy of R.L. Polk & Co.; republication prohibited. Because data for some states are not available, month-to-month comparisons are not strictly valid.
- ‡ Excludes railroad-owned private refrigerator cars and private line cars.
- † Effective with the Mar. 1988 SURVEY, retail inventories for trucks and buses have been restated to exclude captive imports (vehicles manufactured overseas by U.S. affiliates). These data are available back through 1966.
- ‡‡ See note "†" for page S-31.

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Subject	Release Date*	Subject	Release Date*
State Personal Income, 3d quarter 1987 .....	Jan. 21	State Personal Income, 1st quarter 1988 .....	July 20
Gross National Product, 4th quarter 1987 (advance).....	Jan. 27	Gross National Product, 2d quarter 1988 (advance) .....	July 27
Personal Income and Outlays, December 1987 .....	Jan. 28	Personal Income and Outlays, June 1988.....	July 28
Composite Indexes of Leading, Coincident, and Lagging Indicators, December 1987.	Feb. 2	Composite Indexes of Leading, Coincident, and Lagging Indicators, June 1988.	Aug. 2
Merchandise Trade (balance of payments basis), 4th quarter 1987.....	Feb. 24	State Per Capita Personal Income, 1987 (revised).....	Aug. 18
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Composite Indexes of Leading, Coincident, and Lagging Indicators, January 1988.	Mar. 1	Corporate Profits, 2d quarter 1988.....	Aug. 25
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Composite Indexes of Leading, Coincident, and Lagging Indicators, May 1988.	June 29	Composite Indexes of Leading, Coincident, and Lagging Indicators, November 1988.	Dec. 30

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† The Plant and Equipment Expenditures survey has been transferred to the Census Bureau. The Census Bureau plans to issue this release on the date indicated.

\* These are target dates and are subject to revision.