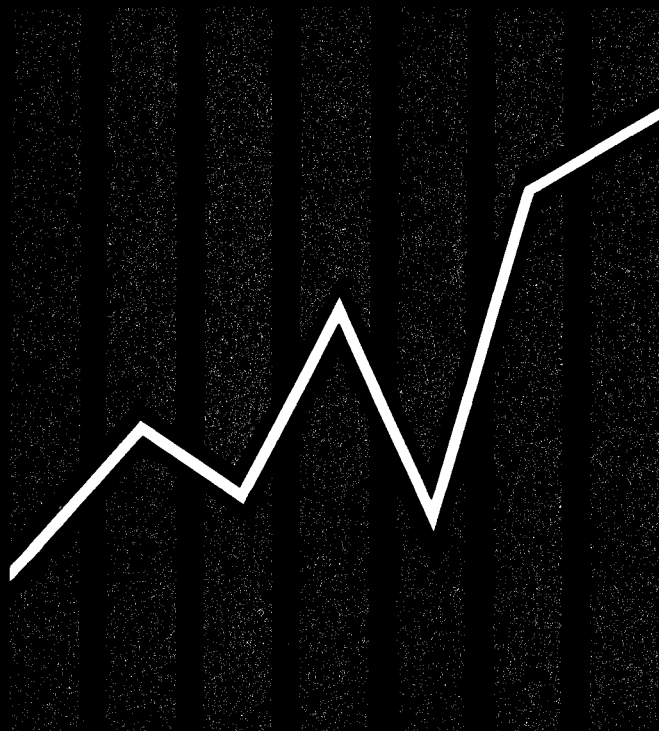


SURVEY OF CURRENT BUSINESS



SURVEY OF CURRENT BUSINESS

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the BUSINESS SITUATION

REVISED (45-day) estimates show that real GNP increased 9 percent at an annual rate in the first quarter of 1984. Preliminary (15-day) estimates had shown an 8½-percent increase. Inflation, as measured by the increase in the GNP fixed-weighted price index, was revised up slightly to an annual rate of 4.8 percent from 4.7 percent.¹

The \$1½ billion upward revision in real GNP resulted from partly offsetting revisions in the major components (table 1). The largest upward revision—\$3½ billion—was in change in business inventories. Book values of manufacturing inventories, both durable and nondurable, were revised up sharply. Personal consumption expenditures were revised up \$3 billion. Estimates of new and used car purchases were raised, as were estimates of expenditures on electricity and gas services. The \$1 billion upward revision in nonresidential fixed investment was more than accounted for by revisions in producers' durable equipment, principally computers and communications equipment. The largest downward revision—\$4 billion—was in net exports. Most of the revision was accounted for by merchandise imports, largely capital goods. A \$1 billion downward revision in government purchases was mainly in Federal defense purchases. Residential investment was revised down \$½ billion.

For the most part, the revisions in GNP do not alter the picture of robust economic expansion described in the April "Business Situation." The 9-percent increase in real GNP fol-

lowed increases of 5 percent in the fourth quarter and 7½ percent in the third.

About two-thirds of the increase in real production in the first quarter took the form of an increase in inventory investment. Inventories accumulated at a rapid pace, following moderate accumulation in the third and fourth quarters. The first-quarter step-up was largely in farm, manufacturing, and retail inventories. A sharp accumulation in farm inventories, after little change, reflected the trans-

fer of crops from the Commodity Credit Corporation (CCC) to farmers under the payment-in-kind (PIK) program, and a step-up in production. In manufacturing, inventories of both durables and nondurables increased after little change in the fourth quarter. An increase in the pace of inventory accumulation in retail trade was more than accounted for by nondurables. The large inventory accumulations led to the first increases in the ratios of constant-dollar inventories to final sales since mid-1982.

Table 1.—Revisions in Selected Component Series of the NIPA's, First Quarter of 1984

	Seasonally adjusted at annual rates			Percent change from preceding quarter at annual rates	
	15-day estimate	45-day estimate	Revision	15-day estimate	45-day estimate
Billions of current dollars					
GNP.....	3,541.2	3,541.6	0.4	12.8	12.8
Personal consumption expenditures.....	2,280.5	2,287.8	7.3	9.2	10.6
Nonresidential fixed investment.....	384.2	384.4	.2	11.4	11.5
Residential investment.....	148.9	147.3	-1.6	32.6	26.7
Change in business inventories.....	62.2	69.3	7.1		
Net exports.....	-45.2	-54.6	-9.4		
Government purchases.....	710.6	707.5	-3.1	6.8	4.9
National income.....		2,878.4			16.2
Compensation of employees.....	2,113.0	2,113.4	.4	11.4	11.5
Corporate profits with inventory valuation and capital consumption adjustments.....		277.5			14.7
Other.....	487.9	487.5	-.4	41.2	40.7
Personal income.....	2,924.6	2,925.4	.8	13.2	13.3
Billions of constant (1972) dollars					
GNP.....	1,604.3	1,606.0	1.7	8.3	8.8
Personal consumption expenditures.....	1,046.8	1,049.6	2.8	5.8	6.9
Nonresidential fixed investment.....	185.9	187.0	1.1	12.1	14.6
Residential investment.....	59.7	59.1	-.6	31.3	25.7
Change in business inventories.....	26.6	30.1	3.5		
Net exports.....	-6.5	-10.3	-3.8		
Government purchases.....	291.7	290.7	-1.0	-8	-2.2
Index numbers, 1972=100 ¹					
GNP implicit price deflator.....	220.73	220.52	-.21	4.1	3.7
GNP fixed-weighted price index.....	230.4	230.4	0	4.7	4.8
GNP chain price index.....				4.5	4.6

1. Not at annual rates.

NOTE.—For the first quarter of 1984, the following revised or additional major source data became available: For *personal consumption expenditures*, revised retail sales for February and March; for *nonresidential fixed investment*, manufacturers' shipments of equipment for February (revised) and March, construction put in place for February (revised) and March, and a partial tabulation of business expenditures for plant and equipment for the quarter; for *residential investment*, construction put in place for February (revised) and March; for *change in business inventories*, book values for manufacturing and trade for February (revised) and March; for *net exports of goods and services*, merchandise trade for January and February (revised) and March; for *government purchases of goods and services*, Federal unified budget outlays for March, and State and local construction put in place for February (revised) and March; for *wages and salaries*, revised employment, average hourly earnings, and average weekly hours for February and March; for *corporate profits*, domestic book profits for the quarter; for *GNP prices*, the Consumer Price Index and the Producer Price Index for March, unit value indexes and export and import price indexes for March, and residential housing prices for the quarter.

1. 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 annualized.

Among the components of final sales, personal consumption expenditures again increased strongly. About one-half of the first-quarter increase was accounted for by spending on durables; sales of new domestic cars were up sharply. Nonresidential fixed investment registered another substantial increase. Residential investment bounced back with a strong increase after a pause in the fourth quarter. Net exports declined even more sharply than in the fourth quarter. Exports increased moderately, but imports increased much more. Government purchases declined in the first quarter, as they had in the fourth. The declines were due to operations of the CCC, principally under the PIK program.

Highlights of corporate profits

Corporate profits from current production—profits with inventory valuation adjustment (IVA) and capital consumption adjustment (CCAdj)—increased \$9½ billion to \$277½ billion, in the first quarter of 1984, following a \$20 billion increase in the fourth quarter. Profits have continued to decelerate since a sharp increase of \$36½ billion in the second quarter of 1983. Such a slowing is typical as the business cycle progresses.

First-quarter profits were 52½ percent above their year-earlier level. Most of the increase was in profits of domestic nonfinancial corporations. The increase in these profits reflected both a strong recovery in economic activity and increases in unit profits. The latter stemmed from decreases in unit costs and increases in unit prices.

In the first quarter, profits of domestic nonfinancial corporations more than accounted for the increase in profits; durable manufacturing industries contributed substantially. Widespread increases in profits of durable goods manufacturers more than offset widespread declines in profits of nondurable goods manufacturers. Within durables, motor vehicles profits were up substantially, as output increased. Primary metals profits also increased. Within nondurables, petroleum accounted for most of the decline in profits, as prices for refined products fell.

Adjustments to profits.—Profits before tax—profits without IVA and

CCAdj—increased \$12½ billion in the first quarter, to \$240½ billion. This increase exceeded the increase in profits from current production, which includes the IVA and CCAdj. These adjustments convert inventories and depreciation reported by business to those used in the national income and product accounts. The IVA decreased \$6½ billion, to -\$13 billion, reflecting larger increases in inventory prices in the first quarter than in the fourth. An increase of \$3½ billion, to \$50 billion, in the CCAdj was largely due to provisions of the Economic Recovery Tax Act of 1981 that allowed the use of shorter service lives for the depreciation of capital.

Government sector

The fiscal position of the government sector in the national income and product accounts improved considerably in the first quarter as the combined deficit of the Federal Government and of State and local governments declined \$22 billion. This improvement was accounted for by a 10-percent decline in the Federal deficit and a 5-percent increase in the State and local surplus. Moreover, the combined deficit, at \$110 billion, was also considerably smaller than the \$143 billion deficit of a year earlier. Over the past year, the Federal Government deficit declined \$12½ billion and the State and local government surplus increased \$20½ billion.

The Federal Sector.—The Federal Government deficit declined \$19 billion in the first quarter, as receipts increased significantly more than expenditures.

Receipts increased \$30 billion, compared with \$12 billion in the fourth quarter. Over one-half of the increase—\$16½ billion—was in social insurance contributions; a number of legislated changes, primarily under provisions of the Social Security Amendments of 1983 and effective January 1, 1984, contributed to the large increase. Those changes were:

- An increase in the combined social security tax rate, to 13.7 percent from 13.4 percent, contributed \$4½ billion. The increase was for employers only; the rate for employees remained at 6.7 percent.

- An increase in the maximum social security taxable wage base, to \$37,800 from \$35,700, contributed almost \$2 billion.
- An increase in the social security tax rate for the self-employed, to 11.30 percent from 9.35 percent, coupled with the base increase and final payments for 1983, contributed \$1½ billion.
- An increase in the premium for supplemental medical insurance—the voluntary program for the aged and disabled medicare beneficiaries—to \$14.60 from \$12.20 contributed \$1 billion.
- An extension of mandatory social security coverage to new Federal Government civilian employees and to employees of nonprofit institutions contributed almost \$2 billion.
- An increase in the Federal and State unemployment insurance tax rate contributed \$2½ billion.

Among the other categories of receipts, personal tax and nontax receipts increased \$7½ billion and corporate profits tax accruals increased \$5½ billion. Indirect business tax and nontax accruals were unchanged; an increase in customs duties was offset by a decline in windfall profit taxes.

Expenditures increased \$11 billion, compared with \$15 billion in the fourth quarter. Subsidies less the current surplus of government enterprises increased \$8½ billion; a \$12½ billion increase in payment-in-kind (PIK) subsidies was partly offset by a \$3 billion decline in the Commodity Credit Corporation (CCC) deficit and a \$1 billion decline in regular Government payments to farmers. National defense purchases of goods and services increased \$7 billion, including \$2½ billion for the 4-percent civilian and military pay raise effective January 1, 1984 (including the 0.5 percent retroactive pay raise enacted in mid-April). Grants-in-aid to State and local governments increased \$4 billion, the largest increase since the first quarter of 1978. Among the grant programs, the largest increases were for public assistance (\$2½ billion) and for community development (\$½ billion). Net interest paid increased \$3½ billion and transfer payments to persons increased \$2½ billion. The increase in transfer payments was the net result of increases

in social security benefits (\$3 billion), medicare (\$1½ billion), and a variety of other programs (\$1 billion), and a decline in unemployment benefits (\$3 billion). Within social security benefits, a 3½-percent cost-of-living increase—over \$5½ billion—was partly offset by a \$3 billion decline in retroactive benefit payments.

Nondefense purchases and transfer payments to foreigners declined in the first quarter. The decline in nondefense purchases—\$8½ billion—was more than accounted for by a \$10 billion decline in agricultural purchases by the CCC; a \$12½ billion decline due to PIK transfers was partly offset by a \$2½ billion increase in regular CCC purchases. Spending also declined over \$½ billion each for the National Aeronautics and Space Administration and for purchases for the strategic petroleum reserve. Increases in a variety of other purchases (\$2 billion) and the January pay raise (\$1 billion) partly offset these declines. The decline in foreign transfer payments—\$5 billion—was due to a large fourth-quarter payment to Israel; the

payment was the full amount earmarked for Israel in the fiscal year 1984 appropriation.

Cyclically adjusted surplus or deficit.—When measured using cyclical adjustments based on middle-expansion trend GNP, the Federal fiscal position was essentially unchanged in the first quarter. The cyclically adjusted deficit was \$160 billion, or 4.5 percent of middle-expansion trend GNP (see table 3 on page 10).

The State and local sector.—The State and local government surplus increased \$3 billion, to \$61 billion, as receipts increased more than expenditures. Most of the increase—\$2 billion—was in the surplus of “other” funds, that is, other than social insurance funds. This other funds measure showed a deficit throughout 1982, when it averaged \$2 billion. It swung to surplus in the first quarter of 1983 and since then has increased substantially, from \$5½ billion to \$23 billion. (See “The State and Local Government Fiscal Position: An Alternative

Measure” in the March 1984 SURVEY OF CURRENT BUSINESS for discussions of how this surplus came about and of an alternative measure of this sector’s fiscal position.)

Receipts increased \$13½ billion, compared with \$11½ billion in the fourth quarter. Indirect business tax and nontax accruals increased \$5 billion; sales taxes accounted for three-fifths of the increase, reflecting strong retail sales. Federal grants-in-aid accounted for \$4 billion of the increase. Rising incomes resulted in a \$2½ billion increase in personal tax and nontax receipts and a \$1½ billion increase in corporate profits tax accruals. Contributions for social insurance increased \$½ billion.

Expenditures increased \$10½ billion, slightly less than in the fourth quarter. Purchases of goods and services accounted for most of the increase; all other expenditures, on balance, increased \$½ billion. Within purchases, compensation increased \$5 billion, construction increased \$2 billion, and all other purchases increased \$3 billion.

Selected National Income and Product Accounts Tables

New estimates in this issue: First quarter 1984, revised, except for corporate profits and related items, which are preliminary.
 The abbreviations used in the tables are: CCAAdj Capital consumption adjustment
 IVA Inventory valuation adjustment
 NIPA's National income and product accounts
 p Preliminary
 r Revised

The NIPA estimates for 1929-76 are in *The National Income and Product Accounts of the United States, 1929-76: Statistical Tables* (Stock No. 003-010-00101-1, price \$10.00). Estimates for 1977-79 and corrections for earlier years are in the July 1982 SURVEY; estimates for 1980-82 and corrections for earlier years are in the July 1983 SURVEY. Summary NIPA Series, 1950-82, are in the October 1983 SURVEY. These publications are available from the Superintendent of Documents and Commerce Department District Offices; see addresses inside front cover.

Table 1.1-1.2.—Gross National Product in Current and Constant Dollars

	Billions of dollars								Billions of 1972 dollars								
	1982	1983	Seasonally adjusted at annual rates						1982	1983	Seasonally adjusted at annual rates						
			1982	1983				1984			1982	1983	1983				1984
				IV	I	II	III						IV	I ^r	IV	I		II	III	IV	I^{r}
Gross national product	3,073.0	3,310.5	3,109.6	3,171.5	3,272.0	3,362.2	3,436.2	3,541.6	1,485.4	1,535.3	1,480.7	1,490.1	1,525.1	1,553.4	1,572.5	1,606.0	
Personal consumption expenditures	1,991.9	2,158.0	2,046.9	2,073.0	2,147.0	2,181.1	2,230.9	2,287.8	970.2	1,011.4	979.6	986.7	1,010.6	1,016.0	1,032.2	1,049.6	
Durable goods.....	244.5	279.4	252.1	258.5	277.7	282.8	298.6	314.9	139.8	156.3	143.2	145.8	156.5	157.9	165.2	173.9	
Nondurable goods.....	761.0	804.1	773.0	777.1	799.6	814.8	825.0	843.3	364.2	376.1	366.0	368.9	374.7	378.1	382.5	387.4	
Services.....	986.4	1,074.5	1,021.8	1,037.4	1,069.7	1,083.5	1,107.3	1,129.6	466.2	479.0	470.4	472.0	479.4	480.1	484.4	488.3	
Gross private domestic investment	414.5	471.9	377.4	404.1	450.1	501.1	532.5	600.9	194.5	219.0	178.4	190.0	210.0	230.7	245.2	276.1	
Fixed investment.....	439.1	478.4	433.8	443.5	464.6	492.5	512.8	531.6	203.9	221.1	201.1	205.4	216.6	227.0	236.5	246.1	
Nonresidential.....	348.3	348.4	337.0	332.1	336.3	351.0	374.0	384.4	166.1	168.4	160.5	159.9	163.0	170.1	180.7	187.0	
Structures.....	141.9	131.1	138.6	132.9	127.4	130.9	133.3	139.5	53.4	49.7	52.2	50.3	48.3	49.6	50.4	53.0	
Producers' durable equipment.....	206.4	217.2	198.4	199.3	208.8	220.2	240.7	244.9	112.7	118.8	108.3	109.6	114.7	120.5	130.3	134.0	
Residential.....	90.8	130.0	96.3	111.3	128.4	141.5	138.8	147.3	37.8	52.7	40.6	45.5	52.6	56.8	55.8	59.1	
Nonfarm structures.....	86.0	124.9	91.2	106.7	123.3	136.3	133.5	142.1	35.2	50.0	37.8	43.0	50.0	54.1	53.1	56.4	
Farm structures.....	1.5	1.5	2.3	1.3	1.5	1.6	1.6	1.3	.6	.6	.9	.5	.6	.6	.5	.5	
Producers' durable equipment.....	3.2	3.6	3.3	3.4	3.5	3.6	3.7	3.8	1.9	2.1	1.9	2.0	2.1	2.1	2.2	2.2	
Change in business inventories.....	-24.5	-6.4	-56.4	-39.4	-14.5	8.5	19.6	69.3	-9.4	-2.1	-22.7	-15.4	-5.4	3.8	8.7	30.1	
Nonfarm.....	-23.1	-2.8	-53.7	-39.0	-10.3	18.4	19.7	48.2	-8.6	-2.1	-21.1	-15.1	-3.3	8.8	8.8	21.5	
Farm.....	-1.4	-3.7	-2.7	-4.4	-4.2	-9.9	-1.1	21.1	-8.8	-1.9	-1.6	-3.3	-2.1	-5.0	-1.1	8.6	
Net exports of goods and services	17.4	-9.0	5.6	17.0	-8.5	-18.3	-26.1	-54.6	28.9	11.8	23.0	20.5	12.3	11.4	2.8	-10.3	
Exports.....	347.6	395.4	321.6	326.9	327.1	341.1	346.5	355.8	147.3	138.7	136.5	137.3	136.2	140.7	140.6	143.1	
Imports.....	330.2	344.4	316.1	309.9	335.6	359.4	372.6	410.4	118.4	126.9	113.5	116.8	123.9	129.2	137.8	153.5	
Government purchases of goods and services	649.2	689.5	679.7	677.4	683.4	698.3	699.0	707.5	291.8	293.1	299.7	292.9	292.1	295.2	292.3	290.7	
Federal.....	258.7	274.8	279.2	273.5	273.7	278.1	274.1	272.4	116.6	117.8	124.4	118.4	117.6	118.9	116.4	113.6	
National defense.....	179.4	200.3	190.8	194.4	199.4	201.2	206.3	213.2	78.8	84.3	81.4	82.7	84.2	84.2	85.8	87.0	
Nondefense.....	79.3	74.5	88.5	79.1	74.3	76.9	67.8	59.2	37.8	33.6	43.0	35.7	33.4	34.7	30.5	26.6	
State and local.....	390.5	414.7	400.5	404.0	409.7	420.2	424.9	435.1	175.2	175.3	175.2	174.5	174.5	176.3	175.9	177.0	

Table 1.3-1.4.—Gross National Product by Major Type of Product in Current and Constant Dollars

Gross national product	3,073.0	3,310.5	3,109.6	3,171.5	3,272.0	3,362.2	3,436.2	3,541.6	1,485.4	1,535.3	1,480.7	1,490.1	1,525.1	1,553.4	1,572.5	1,606.0
Final sales.....	3,097.5	3,316.9	3,165.9	3,210.9	3,286.6	3,353.7	3,416.6	3,472.3	1,494.8	1,537.4	1,503.4	1,505.5	1,530.5	1,549.7	1,563.7	1,575.9
Change in business inventories.....	-24.5	-6.4	-56.4	-39.4	-14.5	8.5	19.6	69.3	-9.4	-2.1	-22.7	-15.4	-5.4	3.8	8.7	30.1
Goods	1,208.9	1,366.5	1,264.8	1,292.2	1,346.8	1,388.9	1,438.1	1,496.3	661.6	688.6	652.1	656.9	681.8	699.0	716.8	741.7
Final sales.....	1,305.4	1,373.0	1,321.2	1,331.6	1,361.3	1,380.4	1,418.5	1,427.0	671.0	674.8	672.3	687.2	695.3	708.0	711.7	717.7
Change in business inventories.....	-24.5	-6.4	-56.4	-39.4	-14.5	8.5	19.6	69.3	-9.4	-2.1	-22.7	-15.4	-5.4	3.8	8.7	30.1
Durable goods.....	500.8	548.7	474.0	482.7	536.8	568.9	606.4	612.9	269.6	291.4	256.4	261.3	287.4	299.9	316.9	321.5
Final sales.....	516.3	552.6	519.0	520.9	545.7	555.9	588.1	593.3	276.1	292.7	275.3	277.0	291.1	294.1	308.4	313.1
Change in business inventories.....	-15.5	-3.9	-45.0	-38.2	-8.9	13.1	18.3	19.6	-6.5	-1.3	-18.9	-15.7	-3.7	5.8	8.5	8.4
Nondurable goods.....	780.1	817.8	790.8	809.5	810.0	820.0	831.8	883.3	392.0	397.3	395.6	395.6	394.5	399.2	399.9	420.2
Final sales.....	789.1	820.3	802.2	810.6	815.7	824.5	830.4	833.7	394.9	398.0	399.4	395.2	396.1	401.2	399.6	398.6
Change in business inventories.....	-9.1	-2.5	-11.4	-1.2	-5.7	-4.5	1.4	49.7	-2.9	-8.8	.3	.3	-1.7	-2.0	.3	21.7
Services	1,511.1	1,635.6	1,560.5	1,588.4	1,623.4	1,651.0	1,679.6	1,710.7	712.2	724.5	715.0	717.8	723.0	727.0	730.0	732.4
Structures	281.0	308.4	284.3	290.9	301.9	322.3	318.5	334.6	111.6	122.2	113.6	115.4	120.3	127.3	125.7	131.8
Addenda:																
Gross domestic purchases ¹	3,055.6	3,319.5	3,104.0	3,154.6	3,280.5	3,380.5	3,462.3	3,596.2	1,456.5	1,523.5	1,457.7	1,469.6	1,512.8	1,542.0	1,569.7	1,616.4
Final sales to domestic purchasers ¹	3,080.1	3,325.9	3,160.4	3,193.9	3,295.0	3,371.9	3,442.7	3,526.9	1,465.9	1,525.6	1,480.4	1,485.0	1,518.3	1,538.2	1,561.0	1,586.3

1. Gross domestic purchases equals GNP less exports plus imports; final sales to domestic purchasers equals final sales less exports plus imports.

Table 1.5-1.6.—Gross National Product by Sector in Current and Constant Dollars

Gross national product	3,073.0	3,310.5	3,109.6	3,171.5	3,272.0	3,362.2	3,436.2	3,541.6	1,485.4	1,535.3	1,480.7	1,490.1	1,525.1	1,553.4	1,572.5	1,606.0
Gross domestic product	3,025.7	3,264.8	3,063.5	3,127.2	3,227.9	3,314.1	3,389.9	3,496.9	1,462.3	1,514.0	1,458.6	1,469.2	1,504.4	1,531.1	1,551.2	1,585.7
Business.....	2,594.6	2,808.3	2,619.1	2,675.5	2,769.8	2,849.8	2,918.3	3,015.7	1,259.6	1,310.4	1,255.9	1,266.1	1,301.2	1,327.5	1,346.9	1,381.4
Nonfarm.....	2,520.0	2,734.7	2,539.1	2,601.8	2,700.5	2,779.0	2,857.5	2,945.8	1,220.4	1,274.7	1,213.2	1,227.5	1,265.1	1,290.9	1,315.2	1,343.3
Nonfarm less housing.....	2,252.6	2,441.9	2,261.0	2,317.9	2,411.0	2,483.3	2,555.4	2,637.7	1,073.3	1,127.0	1,068.9	1,081.9	1,118.2	1,142.6	1,165.4	1,197.0
Housing.....	267.4	292.8	278.1	284.0	289.6	296.7	302.1	308.1	142.1	147.7	144.3	145.6	146.9	148.3	149.3	151.4
Farm.....	74.1	70.8	75.8	74.9	72.7	68.3	67.4	60.3	39.0	36.8	40.6	39.2	37.7	35.5	34.9	37.8
Statistical discrepancy.....	.5	-2.3	4.2	-1.2	-3.5	2.5	-6.8	-10.4	.2	-1.1	2.0	-6.6	-1.6	1.1	-3.2	-4.7
Households and institutions.....	107.0	114.9	110.8	112.2	114.1	115.6	117.8	118.4	46.7	47.5	46.9	47.1	47.3	47.6	48.0	48.0
Private households.....	7.6	8.2	7.8	8.0	8.1	8.2	8.4	8.5	3.3	3.5	3.3	3.4	3.4	3.5	3.5	3.6
Nonprofit institutions.....	99.4	106.7	102.9	104.2	106.0	107.4	109.4	109.8	43.4	44.0	43.5	43.7	43.9	44.1	44.4	44.4
Government.....	324.1	346.6	333.7	339.5	344.1	348.8	353.9	362.8	156.1	156.1	155.8	155.9	156.0	156.0	156.3	156.3
Federal.....	101.1	106.1	104.2	105.6	106.0	106.2	106.6	110.4	50.5	50.8	50.7	50.8	50.8	50.8	50.8	50.9
State and local.....	223.0	240.5	229.5	233.8	238.1	242.6	247.2	252.3	105.6	105.2	105.1	105.1	105.2	105.2	105.4	105.5
Rest of the world.....	47.3	45.7	46.0	44.3	44.1	48.1	46.3	44.7	23.1	21.3	22.1	21.0	20.7	22.3	21.3	20.3
Addendum:																
Gross domestic business product less housing.....	2,318.4								1,116.2							

Table 1.13.—Gross Domestic Product of Corporate Business in Current Dollars and Gross Domestic Product of Nonfinancial Corporate Business in Current and Constant Dollars

	Billions of dollars								Billions of dollars										
	1982	1983	Seasonally adjusted at annual rates						1982	1983	Seasonally adjusted at annual rates								
			1982	1983							1982	1983	1982	1983					1984
				IV	I	II	III	IV						I'	IV	I	II	III		IV	I'
Gross domestic product of corporate business	1,897.1	2,064.5	1,903.2	1,954.2	2,036.5	2,102.5	2,164.7	2,225.8	Net domestic product	1,566.8	1,708.5	1,559.8	1,602.3	1,675.7	1,738.2	1,797.7	1,851.6		
Capital consumption allowances with CCAdj.....	222.0	231.6	227.7	228.3	229.8	233.1	235.2	238.5	Indirect business tax and nontax liability plus business transfer payments less subsidies.....	179.0	197.2	182.4	186.4	197.6	201.1	203.7	206.1		
Net domestic product	1,675.1	1,832.9	1,675.4	1,725.9	1,806.7	1,869.4	1,929.5	1,987.3	Domestic income	1,387.8	1,506.3	1,377.4	1,415.9	1,478.1	1,537.1	1,594.1	1,645.5		
Indirect business tax and nontax liability plus business transfer payments less subsidies.....	187.6	206.9	191.4	195.6	207.3	211.0	213.7	216.4	Compensation of employees.....	1,198.6	1,269.1	1,201.2	1,222.4	1,253.9	1,283.7	1,316.4	1,355.2		
Domestic income	1,487.5	1,626.0	1,484.0	1,530.3	1,599.4	1,658.4	1,715.8	1,770.9	Wages and salaries.....	997.3	1,048.9	998.2	1,012.0	1,037.2	1,060.4	1,086.2	1,111.9		
Compensation of employees.....	1,282.2	1,363.5	1,289.2	1,313.6	1,347.6	1,379.1	1,413.5	1,455.1	Supplements to wages and salaries.....	201.3	220.1	203.0	210.4	216.7	223.3	230.2	243.2		
Wages and salaries.....	1,065.8	1,126.3	1,070.3	1,086.9	1,114.1	1,138.5	1,165.7	1,193.3	Corporate profits with IVA and CCAdj.....	124.0	177.8	114.3	133.9	165.7	194.5	217.2	227.4		
Supplements to wages and salaries.....	216.4	237.1	218.9	226.7	233.5	240.5	247.9	261.8	Profits before tax.....	181.5	154.6	117.9	119.7	149.0	173.8	176.9	189.0		
Corporate profits with IVA and CCAdj.....	143.0	207.7	137.8	161.6	197.7	225.0	246.5	257.7	Profits tax liability.....	41.2	56.2	33.6	41.8	55.0	63.9	64.2	70.7		
Profits before tax.....	152.4	186.1	143.4	149.5	182.8	205.7	206.5	220.8	Profits after tax.....	90.3	98.4	84.4	77.9	94.0	109.8	111.7	118.4		
Profits tax liability.....	59.2	76.9	54.0	61.5	76.0	84.9	85.3	92.1	Dividends.....	57.2	64.5	59.2	63.3	65.6	65.1	64.0	68.0		
Profits after tax.....	93.2	109.2	89.4	88.0	106.7	120.7	121.2	128.7	Undistributed profits.....	33.1	33.9	25.1	14.5	28.4	44.8	47.7	50.3		
Dividends.....	54.4	61.8	56.7	60.6	62.9	62.3	61.3	65.4	IVA.....	-8.4	-9.2	-10.3	-1.7	-10.6	-18.3	-6.3	-12.9		
Undistributed profits.....	38.8	47.4	32.6	27.4	43.9	58.4	59.9	63.2	CCAdj.....	-1.1	30.8	4.7	13.9	25.6	37.6	46.2	49.8		
IVA.....	-8.4	-9.2	-10.3	-1.7	-10.6	-13.3	-6.3	-12.9	Net interest.....	62.3	54.8	57.1	55.1	54.0	54.3	55.8	58.1		
CCAdj.....	-1.1	30.8	4.7	13.9	25.6	37.6	46.2	49.8	Gross domestic product of nonfinancial corporate business	857.7	895.2	846.4	856.0	885.8	909.4	929.7	951.3		
Net interest.....	62.3	54.8	57.1	55.1	54.0	54.3	55.8	58.1	Capital consumption allowances with CCAdj.....	96.8	100.4	98.2	98.9	99.8	101.1	101.9	103.1		
Gross domestic product of financial corporate business	120.4	142.8	128.2	136.5	144.1	144.7	145.7	150.1	Net domestic product	760.9	794.8	748.2	757.2	786.0	808.3	827.8	848.2		
Gross domestic product of nonfinancial corporate business	1,776.7	1,921.7	1,775.0	1,817.6	1,892.4	1,957.8	2,019.0	2,075.8	Indirect business tax and nontax liability plus business transfer payments less subsidies.....	94.2	98.7	93.9	96.4	97.5	99.1	101.7	104.2		
Capital consumption allowances with CCAdj.....	210.0	218.2	215.1	215.3	216.7	219.6	221.3	224.1	Domestic income	666.6	696.1	654.3	660.8	688.4	709.2	726.1	744.1		

Table 1.11.—National Income by Type of Income

	2,450.4	2,650.2	2,474.0	2,528.5	2,612.8	2,686.9	2,772.4	2,878.4
National income	2,450.4	2,650.2	2,474.0	2,528.5	2,612.8	2,686.9	2,772.4	2,878.4
Compensation of employees	1,865.7	1,990.2	1,889.0	1,923.7	1,968.7	2,011.8	2,056.6	2,113.4
Wages and salaries.....	1,568.1	1,664.1	1,586.0	1,610.6	1,647.1	1,681.5	1,717.3	1,756.6
Government and government enterprises.....	306.0	325.7	314.5	319.2	323.3	328.4	332.1	339.4
Other.....	1,262.1	1,338.4	1,271.5	1,291.5	1,323.8	1,353.1	1,385.2	1,417.1
Supplements to wages and salaries.....	297.6	326.1	302.9	313.1	321.6	330.3	339.4	356.8
Employer contributions for social insurance.....	140.9	152.7	142.5	148.8	151.5	153.9	156.7	167.9
Other labor income.....	156.6	173.4	160.4	164.3	170.1	176.4	182.7	189.0
Proprietors' income with IVA and CCAdj	109.0	123.5	116.2	120.6	127.2	126.7	139.4	169.0
Farm.....	21.5	20.9	26.0	22.2	21.0	15.5	25.0	47.9
Proprietors' income with IVA.....	29.9	29.3	34.6	30.6	29.4	23.9	33.2	56.1
CCAdj.....	-8.4	-8.4	-8.6	-8.4	-8.4	-8.3	-8.3	-8.2
Nonfarm.....	87.4	107.6	90.2	95.4	106.2	111.2	114.5	121.2
Proprietors' income with IVA.....	84.2	97.3	86.0	91.0	96.8	100.6	100.9	106.8
IVA.....	-6	-8	-8	-2	-1.1	-1.5	-6	-1.2
CCAdj.....	3.9	11.1	4.9	7.6	10.5	12.2	14.1	15.6
Rental income of persons with CCAdj	49.9	54.8	52.3	54.1	54.8	53.9	56.2	57.0
Rental income of persons.....	86.3	93.2	87.4	91.6	92.2	94.0	95.1	96.2
CCAdj.....	-36.5	-38.5	-35.2	-37.5	-37.4	-40.0	-38.8	-39.3
Corporate profits with IVA and CCAdj	164.8	229.1	161.9	181.8	218.2	248.4	268.2	277.5
Corporate profits with IVA.....	165.9	198.3	157.2	168.0	192.7	210.8	222.0	227.7
Profits before tax.....	174.2	207.5	167.5	169.7	203.3	229.1	228.2	240.6
Profits tax liability.....	59.2	76.9	54.0	61.5	76.0	84.9	85.3	92.1
Profits after tax.....	115.1	130.6	113.5	108.2	127.2	144.1	142.9	148.5
Dividends.....	68.7	73.3	70.4	71.4	72.0	73.7	75.9	78.3
Undistributed profits.....	46.4	57.3	43.1	36.7	55.2	70.4	67.0	70.2
IVA.....	-8.4	-9.2	-10.3	-1.7	-10.6	-13.3	-6.3	-12.9
CCAdj.....	-1.1	30.8	4.7	13.9	25.6	37.6	46.2	49.8
Net interest	261.1	247.5	254.7	248.3	243.8	246.1	251.9	261.5
Addenda:								
Corporate profits after tax with IVA and CCAdj.....	105.6	152.2	107.9	120.3	142.2	163.4	182.9	185.4
Dividends.....	68.7	73.3	70.4	71.4	72.0	73.7	75.9	78.3
Undistributed profits with IVA and CCAdj.....	37.0	78.9	37.5	48.9	70.1	89.7	107.0	107.1

Table 1.7.—Relation of Gross National Product, Net National Product, National Income, and Personal Income

	Billions of dollars								
	1982	1983	Seasonally adjusted at annual rates						1984
			1982	1983					
				IV	I	II	III	IV		I'
Gross national product	3,073.0	3,310.5	3,109.6	3,171.5	3,272.0	3,362.2	3,436.2	3,541.6	
Less:									
Capital consumption allowances with CCAdj.....	359.2	377.3	368.3	370.8	373.3	381.7	383.2	388.8	
Capital consumption allowances.....	312.6	367.8	329.5	341.8	359.0	378.5	391.8	402.0	
Less: CCAdj.....	-46.6	-9.5	-38.8	-29.1	-14.3	-3.2	8.6	13.3	
Equals: Net national product	2,713.8	2,933.2	2,741.3	2,800.7	2,898.7	2,980.5	3,053.0	3,152.8	
Less:									
Indirect business tax and nontax liability.....	258.3	285.9	264.8	270.6	285.8	291.1	296.0	301.3	
Business transfer payments.....	14.1	15.5	14.7	15.0	15.3	15.7	16.1	16.6	
Statistical discrepancy.....	.5	-2.3	4.2	-1.2	-3.5	2.5	-6.7	-10.4	
Plus: Subsidies less current surplus of government enterprises.....	9.5	16.1	16.6	12.3	11.8	15.8	24.6	33.1	
Equals: National income	2,450.4	2,650.2	2,474.0	2,528.5	2,612.8	2,686.9	2,772.4	2,878.4	
Less:									
Corporate profits with IVA and CCAdj.....	164.8	229.1	161.9	181.8	218.2	248.4	268.2	277.5	
Net interest.....	261.1	247.5	254.7	248.3	243.8	246.1	251.9	261.5	
Contributions for social insurance.....	253.0	272.3	255.4	265.4	270.1	274.4	279.2	296.6	
Wage accruals less disbursements.....	0	-4	0	0	-1.3	-4	0	.2	
Plus:									
Government transfer payments to persons.....	260.4	388.1	384.3	383.6	390.0	386.8	392.0	395.3	
Personal interest income.....	366.2	366.3	363.1	357.2	357.1	369.9	381.1	395.8	
Personal dividend income.....	66.4	70.5	67.9	68.8	69.3	70.9	72.9	75.1	
Business transfer payments.....	14.1	15.5	14.7	15.0	15.3	15.7	16.1	16.6	
Equals: Personal income	2,578.6	2,742.1	2,632.0	2,657.7	2,713.6	2,761.9	2,835.2	2,925.4	

Table 2.1.—Personal Income and Its Disposition

	Billions of dollars							
	1982	1983	Seasonally adjusted at annual rates					1984
			1983					
			IV	I	II	III	IV		I'
Personal income.....	2,578.6	2,742.1	2,632.0	2,657.7	2,713.6	2,761.9	2,835.2	2,925.4
Wage and salary disbursements.....	1,568.1	1,664.6	1,586.0	1,610.7	1,648.4	1,681.9	1,717.3	1,756.4
Commodity-producing industries.....	509.2	529.7	499.5	508.6	522.2	537.8	550.0	567.4
Manufacturing.....	383.8	402.8	377.4	385.4	397.4	409.2	419.0	432.9
Distributive industries.....	378.8	397.2	383.5	386.4	394.3	398.9	409.3	415.1
Service industries.....	374.1	411.5	388.5	396.4	407.3	416.4	425.8	434.7
Government and government enterprises.....	306.0	326.2	314.5	319.2	324.6	328.8	332.1	339.3
Other labor income.....	156.6	173.4	160.4	164.3	170.1	176.4	182.7	189.0
Proprietors' income with IVA and CCAdj.....	109.0	128.5	116.2	120.6	127.2	126.7	139.4	169.0
Farm.....	21.5	20.9	26.0	22.2	21.0	15.5	25.0	47.9
Nonfarm.....	87.4	107.6	90.2	98.4	106.2	111.2	114.5	121.2
Rental income of persons with CCAdj.....	49.9	54.8	52.3	54.1	54.8	53.9	56.2	57.0
Personal dividend income.....	66.4	70.5	67.9	68.8	69.3	70.9	72.9	75.1
Personal interest income.....	366.2	366.3	363.1	357.2	357.1	369.9	381.1	395.8
Transfer payments.....	374.5	403.6	399.0	398.5	405.3	402.5	408.1	411.8
Old-age, survivors, disability, and health insurance benefits.....	204.5	222.8	216.5	217.4	221.1	223.8	228.8	233.5
Government unemployment insurance benefits.....	24.8	25.6	32.2	29.0	30.0	22.6	20.7	17.5
Veterans benefits.....	16.4	16.7	16.6	16.9	16.6	16.6	16.5	16.6
Government employees retirement benefits.....	54.2	58.6	55.8	56.6	58.3	59.3	60.1	61.3
Other transfer payments.....	74.6	80.0	77.9	78.7	79.3	80.2	82.0	83.0
Aid to families with dependent children.....	13.4	14.3	13.5	14.1	14.4	14.3	14.5	15.1
Other.....	61.2	65.7	64.3	64.5	64.9	66.0	67.5	67.9
Less: Personal contributions for social insurance.....	112.0	119.5	112.9	116.5	118.6	120.5	122.5	128.7
Less: Personal tax and nontax payments.....	402.1	406.5	404.1	401.8	412.6	400.1	411.4	421.4
Equals: Disposable personal income.....	2,176.5	2,335.6	2,227.8	2,255.9	2,301.0	2,361.7	2,423.9	2,504.0
Less: Personal outlays.....	2,051.1	2,222.0	2,107.0	2,134.2	2,209.5	2,245.9	2,298.3	2,357.7
Personal consumption expenditures.....	1,991.9	2,158.0	2,046.9	2,073.0	2,147.0	2,181.1	2,230.9	2,287.8
Interest paid by consumers to business.....	58.1	62.8	59.1	60.2	61.4	63.6	66.0	68.7
Personal transfer payments to foreigners (net).....	1.1	1.2	1.0	1.0	1.1	1.2	1.4	1.2
Equals: Personal saving.....	125.4	113.6	120.8	121.7	91.5	115.8	125.6	146.3
Addenda:								
Disposable personal income:								
Total, billions of 1972 dollars.....	1,060.2	1,094.6	1,066.1	1,073.8	1,083.0	1,100.1	1,121.5	1,148.8
Per capita:								
Current dollars.....	9,377	9,969	9,562	9,661	9,834	10,069	10,308	10,627
1972 dollars.....	4,567	4,672	4,576	4,599	4,629	4,690	4,769	4,875
Population (millions).....	232.1	234.3	233.0	233.5	234.0	234.6	235.1	235.6
Personal saving as percentage of disposable personal income.....	5.8	4.9	5.4	5.4	4.0	4.9	5.2	5.8

Table 7.7.—Current-Dollar Cost and Profit Per Unit of Constant-Dollar Gross Domestic Product of Nonfinancial Corporate Business

	Dollars							
	1982	1983	Seasonally adjusted					1984
			1983					
			IV	I	II	III	IV		I'
Current-dollar cost and profit per unit of constant-dollar gross domestic product ¹	2.072	2.147	2.097	2.123	2.136	2.153	2.172	2.182
Capital consumption allowances with CCAdj.....	.245	.244	.254	.252	.245	.241	.238	.236
Net domestic product.....	1.827	1.903	1.843	1.872	1.892	1.911	1.934	1.946
Indirect business tax and nontax liability plus business transfer payments less subsidies.....	.209	.220	.215	.218	.223	.221	.219	.217
Domestic income.....	1.618	1.683	1.627	1.654	1.669	1.690	1.715	1.730
Compensation of employees.....	1.397	1.418	1.419	1.428	1.416	1.412	1.416	1.425
Corporate profits with IVA and CCAdj.....	.145	.199	.135	.156	.187	.214	.234	.239
Profits tax liability.....	.048	.063	.040	.049	.062	.070	.069	.074
Profits after tax with IVA and CCAdj.....	.097	.136	.095	.108	.125	.144	.165	.165
Net interest.....	.076	.066	.073	.070	.066	.065	.065	.066

Table 2.2-2.3.—Personal Consumption Expenditures by Major Type of Product in Current and Constant Dollars

	Billions of dollars							
	1982	1983	Seasonally adjusted at annual rates					1984
			1983					
			IV	I	II	III	IV		I'
Personal consumption expenditures.....	1,991.9	2,158.0	2,046.9	2,073.0	2,147.0	2,181.1	2,230.9	2,287.8
Durable goods.....	244.5	279.4	252.1	258.5	277.7	282.8	298.6	314.9
Motor vehicles and parts.....	109.9	133.4	116.1	118.4	133.9	135.6	145.6	155.9
Furniture and household equipment.....	93.5	102.2	94.9	97.3	100.8	102.9	107.7	111.6
Other.....	41.1	43.9	41.0	42.9	43.1	44.3	45.4	47.4
Nondurable goods.....	761.0	804.1	773.0	777.1	799.6	814.8	825.0	843.3
Food.....	396.9	422.1	404.5	411.7	419.6	426.4	430.6	440.1
Clothing and shoes.....	119.0	125.6	119.6	120.0	126.4	125.1	130.7	134.1
Gasoline and oil.....	91.5	90.8	91.1	87.3	90.3	93.1	92.7	92.2
Other nondurable goods.....	153.5	165.7	157.9	158.1	163.3	170.2	171.1	176.9
Fuel oil and coal.....	20.0	21.1	20.2	17.7	21.2	23.0	22.3	22.1
Other.....	133.5	144.6	137.7	140.4	142.1	147.2	148.8	154.8
Services.....	986.4	1,074.5	1,021.8	1,037.4	1,069.7	1,083.5	1,107.3	1,129.6
Housing.....	334.1	363.6	345.2	352.6	359.5	367.2	375.1	382.6
Household operation.....	144.3	153.8	147.1	145.9	155.4	155.8	157.9	160.8
Electricity and gas.....	76.3	81.1	76.8	74.1	82.8	83.3	84.0	84.0
Other.....	68.0	72.7	70.3	71.8	72.6	72.5	73.9	76.8
Transportation.....	68.4	72.8	69.2	70.1	70.9	74.0	76.1	76.9
Other.....	439.6	484.3	460.3	468.8	483.9	486.6	498.1	509.3
Billions of 1972 dollars								
Personal consumption expenditures.....	970.2	1,011.4	979.6	986.7	1,010.6	1,016.0	1,032.2	1,049.6
Durable goods.....	139.8	156.3	143.2	145.8	156.5	157.9	165.2	173.9
Motor vehicles and parts.....	57.4	68.0	60.5	60.9	69.1	69.1	73.0	77.9
Furniture and household equipment.....	59.7	64.7	60.2	61.7	63.9	65.2	67.9	70.7
Other.....	22.7	23.7	22.5	23.3	23.4	23.6	24.3	25.3
Nondurable goods.....	364.2	376.1	366.0	368.9	374.7	378.1	382.5	387.4
Food.....	184.0	191.0	186.4	188.2	189.4	193.1	193.5	192.6
Clothing and shoes.....	84.4	87.3	84.5	84.7	88.4	86.1	90.0	92.8
Gasoline and oil.....	25.6	26.3	25.2	26.3	26.3	26.2	27.1	27.1
Other nondurable goods.....	70.2	71.5	70.0	69.7	70.7	72.6	72.8	74.9
Fuel oil and coal.....	3.5	4.0	3.4	3.3	4.1	4.3	4.1	4.0
Other.....	66.6	67.5	66.6	66.4	66.6	68.3	68.7	70.9
Services.....	466.2	479.0	470.4	472.0	479.4	480.1	484.4	488.3
Housing.....	171.3	176.3	172.4	174.0	175.5	177.1	178.8	180.6
Household operation.....	63.5	63.7	63.0	61.9	64.2	64.3	64.5	64.8
Electricity and gas.....	24.9	24.6	23.9	23.0	25.1	25.4	25.1	25.1
Other.....	38.6	39.1	39.1	39.0	39.1	38.9	39.4	39.6
Transportation.....	31.7	31.6	31.4	31.2	31.4	31.7	32.0	32.2
Other.....	199.6	207.3	203.5	204.8	208.2	207.0	209.1	210.7

Table 5.1.—Gross Saving and Investment

	Billions of dollars							
	1982	1983	Seasonally adjusted at annual rates					1984
			1983					
			IV	I	II	III	IV		I'
Gross saving.....	405.8	439.6	351.3	398.5	420.6	455.4	484.0	532.2
Gross private saving.....	521.6	569.9	526.6	541.5	535.0	587.5	615.7	642.2
Personal saving.....	125.4	113.6	120.8	121.7	91.5	115.8	125.6	146.3
Undistributed corporate profits with IVA and CCAdj.....	37.0	78.9	37.5	48.9	70.1	89.7	107.0	107.1
Undistributed profits.....	46.4	57.3	43.1	36.7	55.2	70.4	67.0	70.2
IVA.....	-8.4	-9.2	-10.3	-1.7	-10.6	-18.3	-6.3	-12.9
CCAdj.....	-1.1	30.8	4.7	13.9	25.6	37.6	46.2	49.8
Capital consumption allowances with CCAdj:								
Corporate.....	222.0	231.6	227.7	228.3	229.8	233.1	235.2	238.5
Noncorporate.....	137.2	145.7	140.5	142.6	143.5	148.6	148.0	150.2
Wage accruals less disbursements.....	0	0	0	0	0	0	0	0
Government surplus or deficit (-), NIPA's.....	-115.8	-130.2	-175.3	-142.9	-114.4	-131.8	-131.8	-110.0
Federal.....	-147.1	-181.6	-203.2	-183.3	-166.1	-187.3	-189.3	-170.9
State and local.....	31.3	51.4	32.9	40.4	51.7	55.5	58.1	60.9
Capital grants received by the United States (net).....	0	0	0	0	0	0	0	0
Gross investment.....	406.2	437.4	355.5	397.4	417.1	457.9	477.1	521.9
Gross private domestic investment.....	414.5	471.9	377.4	404.1	450.1	501.1	532.5	600.9
Net foreign investment.....	-8.3	-34.6	-21.9	-6.7	-33.0	-43.2	-55.3	-79.1
Statistical discrepancy.....	.5	-2.3	4.2	-1.2	-3.5	2.5	-6.8	-10.4

Table 3.2.—Federal Government Receipts and Expenditures

	Billions of dollars							
	1982	1983	Seasonally adjusted at annual rates					1984
			1982	1983				
			IV	I	II	III	IV		I^{1}
Receipts.....	617.4	644.7	612.6	623.3	652.6	645.2	657.5	687.4
Personal tax and nontax receipts.....	304.7	295.9	303.0	297.7	304.2	286.9	295.0	302.5
Income taxes.....	296.7	289.7	296.7	291.7	297.8	280.2	289.1	295.7
Estate and gift taxes.....	7.6	5.9	6.0	5.7	6.1	6.3	5.5	6.4
Nontaxes.....	.3	.3	.3	.3	.3	.4	.4	.4
Corporate profits tax accruals.....	46.5	60.3	42.1	48.6	59.8	66.6	66.4	72.0
Indirect business tax and nontax accruals.....	48.3	54.0	48.3	48.6	56.0	55.5	55.8	56.0
Excise taxes.....	32.4	36.4	32.4	33.3	38.6	37.0	36.8	36.6
Customs duties.....	8.6	9.1	8.3	7.5	8.9	9.8	10.0	10.8
Nontaxes.....	7.3	8.5	7.6	7.7	8.4	8.8	9.0	8.6
Contributions for social insurance.....	217.9	234.4	219.3	228.5	232.6	236.2	240.3	256.9
Expenditures.....	764.4	826.3	820.9	806.6	818.7	832.5	847.3	858.3
Purchases of goods and services.....	258.7	274.8	279.2	273.5	273.7	278.1	274.1	272.4
National defense.....	179.4	200.3	190.8	194.4	199.4	201.2	206.3	213.2
Nondefense.....	79.3	74.5	88.5	79.1	74.3	76.9	67.8	59.2
Transfer payments.....	321.1	345.4	344.8	340.3	347.0	343.5	350.9	348.0
To persons.....	314.8	338.7	337.2	335.3	341.0	337.5	341.1	343.5
To foreigners.....	6.3	6.7	7.6	5.0	6.0	6.0	9.7	4.5
Grants-in-aid to State and local governments.....	83.9	86.5	85.0	85.8	86.7	87.2	86.4	90.4
Net interest paid.....	84.9	96.5	89.1	88.4	91.8	101.0	104.6	108.0
Interest paid.....	107.7	121.1	112.6	113.0	116.0	125.8	129.6	133.4
To persons and business.....	89.5	103.4	93.8	95.4	98.6	108.1	111.5	114.7
To foreigners.....	18.2	17.7	18.8	17.6	17.4	17.7	18.1	18.7
Less: Interest received.....	22.8	24.7	23.5	24.6	24.2	24.8	25.0	25.4
Subsidies less current surplus of government enterprises.....	15.8	22.6	22.8	18.6	18.2	22.3	31.3	39.9
Subsidies.....	14.9	19.9	17.9	16.4	17.7	17.8	27.8	39.6
Less: Current surplus of government enterprises.....	-.8	-2.7	-4.9	-2.3	-.5	-4.5	-3.5	-.3
Less: Wage accruals less disbursements.....	0	-.4	0	0	-1.3	-.4	0	.2
Surplus or deficit (-), NIPA's.....	-147.1	-181.6	-208.2	-183.3	-166.1	-187.3	-189.8	-170.9
Social insurance funds.....	-29.0	-28.7	-43.9	-32.0	-31.4	-25.9	-25.6	-12.4
Other.....	-118.0	-152.9	-164.3	-151.4	-134.7	-161.4	-164.3	-158.5

Table 3.3.—State and Local Government Receipts and Expenditures

	1982	1983	1984	1985	1986	1987	1988	1989
Receipts.....	439.1	483.5	450.7	461.7	478.7	492.7	500.7	514.3
Personal tax and nontax receipts.....	97.4	110.5	101.2	104.1	108.4	113.3	116.4	118.9
Income taxes.....	51.8	59.4	53.5	55.1	58.0	61.5	63.1	64.1
Nontaxes.....	36.4	41.1	38.1	39.3	40.4	41.7	43.0	44.3
Other.....	9.2	10.0	9.5	9.6	9.9	10.1	10.3	10.4
Corporate profits tax accruals.....	12.7	16.6	11.9	12.9	16.2	18.4	18.9	20.1
Indirect business tax and nontax accruals.....	210.0	231.9	216.6	222.0	229.9	235.6	240.1	245.3
Sales taxes.....	95.5	105.9	98.0	100.4	105.0	110.3	113.4	118.4
Property taxes.....	85.1	94.4	88.8	91.2	93.5	95.5	97.3	98.7
Other.....	29.3	31.6	29.8	30.5	31.3	32.1	32.6	33.2
Contributions for social insurance.....	35.1	37.9	36.1	36.9	37.5	38.2	38.9	39.6
Federal grants-in-aid.....	83.9	86.5	85.0	85.8	86.7	87.2	86.4	90.4
Expenditures.....	407.8	432.0	417.8	421.3	427.0	437.1	442.7	453.4
Purchases of goods and services.....	390.5	414.7	400.5	404.0	409.7	420.2	424.9	435.1
Compensation of employees.....	223.0	240.5	229.5	233.8	238.1	242.6	247.2	252.3
Other.....	167.5	174.2	171.0	170.1	171.5	177.6	177.7	182.8
Transfer payments to persons.....	45.6	49.4	47.1	48.3	49.0	49.4	50.8	51.8
Net interest paid.....	-19.8	-22.7	-21.1	-22.4	-22.5	-23.0	-23.4	-23.6
Interest paid.....	29.9	33.8	31.5	32.3	33.3	34.3	35.4	36.6
Less: Interest received.....	49.7	56.6	52.6	54.3	55.8	57.3	58.8	60.2
Less: Dividends received.....	2.3	2.8	2.5	2.6	2.7	2.8	3.0	3.1
Subsidies less current surplus of government enterprises.....	-6.3	-6.5	-6.2	-6.3	-6.4	-6.5	-6.7	-6.8
Subsidies.....	.5	.5	.5	.5	.5	.5	.5	.6
Less: Current surplus of government enterprises.....	6.7	7.0	6.7	6.8	6.9	7.1	7.2	7.3
Less: Wage accruals less disbursements.....	0	0	0	0	0	0	0	0
Surplus or deficit (-), NIPA's.....	31.3	51.4	32.9	40.4	51.7	55.5	58.1	60.9
Social insurance funds.....	33.2	36.1	34.2	34.9	35.6	36.6	37.3	38.0
Other.....	-1.9	15.3	-1.2	5.5	16.1	18.9	20.8	22.9

Table 7.1.—Implicit Price Deflators for Gross National Product

	Index numbers, 1972=100							
	1982	1983	Seasonally adjusted					1984
			1982	1983				
			IV	I	II	III	IV		I^{1}
Gross national product.....	206.88	215.63	210.00	212.83	214.55	216.44	218.53	220.52
Personal consumption expenditures.....	205.3	213.4	209.0	210.1	212.5	214.7	216.1	218.0
Durable goods.....	174.8	178.7	176.1	177.3	177.5	179.1	180.7	181.1
Nondurable goods.....	209.0	213.8	211.2	210.6	213.4	215.5	215.7	217.7
Services.....	211.6	224.3	217.2	219.8	223.1	225.7	228.6	231.4
Gross private domestic investment.....	215.3	216.3	215.7	215.9	215.5	217.0	216.8	216.1
Fixed investment.....	209.7	206.8	209.9	207.7	206.3	206.3	207.0	205.6
Nonresidential.....	265.8	263.9	264.3	265.4	264.0	263.7	263.7	263.3
Structures.....	183.1	182.9	183.2	181.8	182.1	182.7	184.8	182.8
Producers' durable equipment.....	240.2	246.8	238.4	244.9	243.9	249.0	248.7	249.2
Residential.....	244.0	249.8	241.5	248.2	246.8	251.9	251.7	252.0
Nonfarm structures.....	245.9	251.2	249.9	248.2	249.8	251.5	254.7	260.7
Farm structures.....	168.7	172.5	171.1	171.7	171.5	172.4	174.2	173.9
Producers' durable equipment.....								
Change in business inventories.....								
Net exports of goods and services.....	236.0	241.8	235.6	238.0	240.2	242.5	246.4	248.6
Exports.....	278.9	271.3	278.5	265.4	270.7	278.1	270.3	267.4
Imports.....								
Government purchases of goods and services.....	222.5	235.2	226.8	231.3	234.0	236.5	239.1	243.4
Federal.....	222.0	233.3	224.4	230.9	232.7	233.8	235.6	239.6
National defense.....	227.7	237.7	234.3	234.9	236.7	238.8	240.3	244.9
Nondefense.....	210.0	222.0	205.7	221.7	222.6	221.7	222.2	222.4
State and local.....	222.9	236.6	228.5	231.6	234.8	238.3	241.5	245.8

Table 7.2.—Fixed-Weighted Price Indexes for Gross National Product, 1972 Weights

	Index numbers, 1972=100							
	1982	1983	Seasonally adjusted					1984
			1982	1983				
			IV	I	II	III	IV		I^{1}
Gross national product.....	214.7	223.9	218.7	220.6	222.9	225.5	227.8	230.4
Personal consumption expenditures.....	213.2	221.9	217.4	218.3	220.9	223.3	225.6	228.1
Durable goods.....	181.2	185.9	182.9	183.9	184.8	186.6	188.4	189.1
Nondurable goods.....	219.0	223.3	221.7	220.0	222.7	224.4	226.0	228.4
Services.....	218.9	233.0	225.3	228.5	231.6	234.8	238.0	241.1
Gross private domestic investment.....	231.5	234.9	232.5	235.6	235.2	237.4	237.9	238.8
Fixed investment.....	225.7	230.3	228.6	229.9	230.1	230.9	231.8	233.0
Nonresidential.....	246.2	248.5	248.2	248.1	247.5	248.4	249.9	251.3
Structures.....	214.0	219.9	217.4	219.4	220.1	220.8	221.4	222.5
Producers' durable equipment.....	242.4	243.6	240.0	246.5	244.9	249.7	249.5	249.8
Residential.....								
Change in business inventories.....								
Net exports of goods and services.....	244.1	249.1	243.9	245.8	247.4	249.8	253.5	254.9
Exports.....	309.4	298.8	306.1	303.2	298.2	299.4	298.5	299.7
Imports.....								
Government purchases of goods and services.....	226.4	236.9	231.4	233.7	235.2	238.3	240.5	244.9
Federal.....	230.6	238.1	235.6	237.0	236.2	238.7	240.2	245.2
National defense.....	236.7	244.0	241.9	242.9	241.8	244.7	246.3	251.4
Nondefense.....	215.0	222.9	219.7	221.7	221.9	223.3	224.7	229.4
State and local.....	223.6	236.1	228.6	231.5	234.5	238.0	240.6	244.7
Addenda:								
Gross domestic purchases ¹	218.9	227.1	222.7	224.3	226.1	228.7	230.7	233.3
Final sales.....	214.7	224.0	218.8	220.6	222.9	225.5	227.8	230.5
Final sales to domestic purchasers ¹	218.9	227.2	222.8	224.3	226.2	228.7	230.8	233.4
Personal consumption expenditures, food.....	217.3	221.8	218.4	219.5	222.3	221.6	223.7	229.9
Personal consumption expenditures, energy.....	363.7	365.6	374.9	357.0	362.9	370.4	372.2	366.5
Other personal consumption expenditures.....	198.1	208.7	202.6	205.1	207.4	210.2	212.6	214.8
Gross domestic product.....	214.							

Reconciliation and Other Special Tables

Table 1.—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

	1983			1984
	II	III	IV	I
1. Compensation per hour of all persons in the business economy other than farm and housing (percent change at annual rate)¹	4.5	4.1	3.7	*6.4
2. Less: Contribution of supplements.....	.3	.4	.5	2.0
3. Plus: Contribution of housing and nonprofit institutions.....	-.3	-.2	0	-.2
4. Less: Contribution of employees of government enterprises and self-employed and unpaid family workers.....	.1	.2	-.5	1.0
5. Equals: Wages and salaries per hour of employees in the private nonfarm economy (percent change at annual rate)	3.7	3.4	3.7	3.2
6. Less: Contribution of nonproduction workers in manufacturing.....	-.5	-.4	-.1	0
7. Less: Contribution of non-BLS data, detailed weighting, and seasonal adjustment.....	.5	.9	-1.7	-1.6
8. Equals: Average hourly earnings, production and nonsupervisory workers in the private nonfarm economy (percent change at annual rate)	3.7	2.9	5.6	4.9

¹ Revised.

² Preliminary.

1. BLS estimates of changes in hourly compensation in the nonfarm business sector for the four quarters are 4.4, 3.8, 4.3 and 6.0 percent.

Table 2.—National Defense Purchases of Goods and Services

	Seasonally adjusted at annual rates										Percent change from preceding period at annual rates									
	Billions of dollars					Billions of 1972 dollars					Implicit price deflator					Fixed-weighted price index				
	1983		1984			1983		1984			1983		1984			1983		1984		
	I	II	III	IV	I	I	II	III	IV	I	I	II	III	IV	I	I	II	III	IV	I
National defense purchases	194.4	199.4	201.2	206.3	213.2	82.7	84.2	84.2	85.8	87.0	1.2	3.1	3.6	2.5	7.9	2.4	1.6	1.7	5.1	7.6
Durable goods.....	55.3	60.1	58.5	62.9	67.2	23.5	25.2	23.7	24.9	26.5	-5	5.9	15.3	9.0	2.7	4.4	3.1	6.6	13.0	2.6
Military equipment.....	45.5	49.8	48.4	53.4	56.1	18.9	20.4	19.0	20.5	21.4	-2.4	6.0	18.6	8.8	3.0	4.2	3.3	8.4	16.3	1.9
Aircraft.....	18.0	21.1	19.6	22.0	22.6	6.5	7.9	6.4	7.0	6.9	25.9	-15.5	74.0	11.5	15.6	7.6	2.1	16.7	38.5	1.3
Missiles.....	7.8	6.7	7.4	9.1	8.6	3.6	2.8	3.2	3.8	3.6	-45.7	46.3	-11.7	13.5	2.5	-6.1	13.2	1.1	-1.0	4.9
Ships.....	5.8	7.3	6.9	7.5	7.6	2.3	2.9	2.7	3.0	3.0	1.7	3.4	5.6	-1.8	-8	5.4	7	1.1	-5	1.5
Vehicles.....	3.7	4.3	4.2	4.5	5.1	1.3	1.5	1.4	1.5	1.7	11.3	-8	1.2	3	-4.8	1.0	3.0	9.3	-1.0	-2.4
Electronics equipment.....	3.4	3.5	3.6	3.8	4.7	1.8	1.9	1.9	2.0	2.4	2.8	2.7	-1.3	6.7	7.7	3.7	1.4	.5	6.6	2.1
Other.....	6.9	6.9	6.7	6.5	7.5	3.5	3.4	3.3	3.3	3.7	1.2	5.2	1	-4	3.2	2.2	3.0	.7	-4.4	3.9
Other durable goods.....	9.7	10.2	10.0	9.5	11.1	4.6	4.8	4.7	4.4	5.1	.7	4.1	2.7	1.2	7.4	5.2	2.7	.6	1.7	5.1
Nondurable goods.....	14.8	14.0	13.7	12.8	12.4	3.1	3.1	3.1	3.0	3.0	-21.9	-14.3	-8.6	-14.7	-17.3	-16.0	-14.6	-8.8	15.7	-7.2
Bulk petroleum products.....	10.1	9.5	8.8	7.6	6.6	1.2	1.2	1.1	1.0	.8	-21.0	-25.5	3.8	-2.5	1.0	-23.9	-21.2	-13.1	20.1	-15.3
Ammunition.....	2.6	2.3	2.9	3.0	3.6	.9	.9	1.0	1.0	1.2	-1.7	-8.8	15.1	19.5	.1	10.5	1.4	1.7	12.6	17.7
Clothing and textiles.....	.9	1.0	.9	.9	.8	.5	.5	.5	.5	.4	2.4	.8	0	4.2	3.8	0	1.3	0	4.6	4.6
Other nondurable goods.....	1.2	1.1	1.2	1.2	1.4	.5	.5	.5	.5	.6	-5.2	3.6	6.1	3.7	6.3	4.3	3.5	.3	1.4	8.5
Services.....	120.3	120.7	124.2	126.0	129.3	54.3	53.9	55.4	55.9	55.7	4.1	4.3	.5	1.9	12.6	3.7	2.5	.7	1.6	11.5
Compensation of employees.....	71.5	71.7	71.8	72.1	74.8	34.2	34.2	34.2	34.2	34.3	3.6	.9	1.2	1.2	14.8	3.5	.9	1.2	1.1	14.8
Military.....	42.4	42.5	42.6	42.7	44.4	20.0	20.0	20.0	20.0	20.1	.7	.7	1.1	.6	15.1	.7	.7	1.1	.6	15.1
Civilian.....	29.1	29.2	29.3	29.4	30.4	14.2	14.2	14.2	14.2	14.2	8.0	1.2	1.2	2.0	14.3	8.0	1.2	1.3	2.0	14.3
Other services.....	48.8	49.0	52.4	53.9	54.5	20.1	19.7	21.2	21.7	21.4	4.4	10.3	-3.3	2.2	10.3	4.1	5.7	-4	2.5	5.2
Contractual research and development.....	16.2	15.9	16.2	17.5	18.9	6.6	6.3	6.5	6.9	7.4	3.6	9.6	-8	3.4	5.4	2.5	6.1	-3	7.8	4.2
Travel.....	2.4	2.6	2.6	2.6	2.6	1.0	1.1	1.1	1.1	1.1	-6.4	8.0	-3.6	-4.3	1.2	-4.5	4.3	-5.2	-1.1	1.3
Transportation.....	3.1	3.4	3.7	3.6	3.6	1.3	1.4	1.6	1.6	1.6	-2.5	5.1	-19.7	-4.2	3.2	1.3	8.6	-14.4	-6.9	4.0
Communications.....	1.0	1.1	1.2	1.1	1.1	.6	.6	.7	.6	.6	25.8	-5.9	.9	-3.6	22.9	2.9	.5	.9	.5	7.7
Depot maintenance.....	7.6	8.0	8.4	9.0	9.5	2.5	2.5	2.7	3.0	3.1	14.6	21.1	-2.3	-9.5	5.5	8.5	5.4	-4	-4.0	8.2
Other.....	18.4	18.1	20.3	20.1	18.8	8.0	7.7	8.7	8.5	7.7	2.8	9.1	-8	3.9	15.2	6.9	5.4	5.1	3.7	6.0
Structures.....	3.9	4.6	4.7	4.6	4.3	1.7	2.0	2.0	2.0	1.8	4.3	4.5	7.0	2.4	5.5	7.9	10.3	11.2	-3.0	.1
Military facilities.....	2.3	2.9	3.0	2.9	2.6	1.1	1.3	1.3	1.3	1.1	1.3	7.0	8.8	1.9	5.2	9.2	13.4	13.7	-5.6	-5
Other.....	1.6	1.7	1.7	1.7	1.8	.7	.7	.7	.7	.7	7.3	3.5	5.0	3.2	2.4	5.4	4.3	6.2	2.5	1.3
Addenda:																				
Total purchases less compensation.....	122.9	127.7	129.3	134.1	138.4	48.5	50.0	50.0	51.6	52.7	-8	3.5	4.9	2.4	3.8	1.6	2.1	2.1	8.3	2.3
Total purchases less compensation and bulk petroleum.....	112.8	118.1	120.5	126.5	131.7	47.3	48.8	48.9	50.6	51.9	1.6	6.7	7.1	5.9	6.5	4.5	4.5	3.5	7.4	3.9

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

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

	1982	1983	1982				1983				1984
			I	II	III	IV	I	II	III	IV	
Based on middle-expansion trend GNP:											
Receipts:											
Level.....	660.7	686.7	653.4	660.4	661.2	667.6	682.0	698.7	679.5	686.4	702.4
Percentage of trend GNP.....	20.5	19.9	20.8	20.6	20.3	20.2	20.2	20.4	19.6	19.5	19.6
Change from preceding period.....	27.7	26.0	7.2	7.0	.8	6.4	14.4	16.7	-19.2	6.9	16.0
Due to automatic inflation effects.....	37.2	25.8	5.9	8.4	4.8	4.9	9.2	5.3	5.6	6.4	6.4
Due to discretionary policy and other factors.....	-9.5	.3	1.3	-1.4	-4.0	1.5	5.2	11.4	-24.8	.5	9.6
Expenditures:											
Level.....	757.2	822.0	723.9	729.5	765.5	809.8	798.1	812.8	829.2	848.0	862.6
Percentage of trend GNP.....	23.5	23.9	23.0	22.8	23.5	24.5	23.7	23.8	23.9	24.1	24.1
Change from preceding period.....	67.9	64.8	1.4	5.6	36.0	44.3	-11.7	14.7	16.4	18.8	14.6
Due to automatic inflation effects.....	29.5	14.7	2.1	3.2	14.1	4.3	.5	2.7	1.2	1.8	11.7
Due to discretionary policy and other factors.....	38.4	50.2	-.7	2.4	21.9	40.0	-12.2	12.0	15.2	17.0	2.9
Surplus or deficit (-):											
Level.....	-96.6	-135.4	-70.5	-69.1	-104.3	-142.3	-116.2	-114.2	-149.7	-161.6	-160.2
Percentage of trend GNP.....	-3.0	-3.9	-2.2	-2.2	-3.2	-4.3	-3.4	-3.3	-4.3	-4.6	-4.5
Change from preceding period.....	-40.3	-38.8	5.8	1.4	-35.2	-38.0	26.1	2.0	-35.5	-11.9	1.4
Due to automatic inflation effects.....	7.5	11.0	3.7	5.2	-9.4	.5	8.7	2.6	4.4	4.6	-5.3
Due to discretionary policy and other factors.....	-47.8	-49.9	2.1	-3.8	-25.8	-38.5	17.4	-.6	-39.9	-16.5	6.7
Debt:											
At par value, end of period:											
Level.....	957.2	1,095.8	866.5	886.4	926.3	957.2	990.3	1,052.0	1,085.3	1,095.8	1,136.2
Percentage of trend GNP.....	29.7	31.8	27.6	27.7	28.5	29.0	29.4	30.8	31.3	31.1	31.8
At market value, end of period:											
Level.....	978.1	1,068.2									
Percentage of trend GNP.....	30.3	31.0									
Based on 6-percent unemployment rate trend GNP:											
Receipts:											
Level.....	690.9	724.8	681.4	690.2	692.1	700.0	716.9	736.6	718.2	727.7	746.8
Percentage of trend GNP.....	20.7	20.2	21.0	20.8	20.5	20.4	20.5	20.7	19.8	19.8	19.9
Expenditures:											
Level.....	752.3	818.8	718.8	724.5	760.7	805.4	794.1	809.7	826.3	845.3	860.3
Percentage of trend GNP.....	22.5	22.8	22.1	21.8	22.5	23.5	22.7	22.7	22.8	22.9	23.0
Surplus or deficit (-):											
Level.....	-61.5	-94.0	-37.4	-34.3	-68.7	-105.4	-77.2	-73.1	-108.1	-117.6	-113.5
Percentage of trend GNP.....	-1.8	-2.6	-1.2	-1.0	-2.0	-3.1	-2.2	-2.1	-3.0	-3.2	-3.0

International Travel and Passenger Fares, 1983

THE U.S. travel and passenger fare deficit reached a record \$5.6 billion in 1983, more than double that of 1982. Expenditures of U.S. travelers in foreign countries and their payments to foreign transoceanic carriers totaled \$19.5 billion, an increase of 14 percent. Receipts from foreign visitors in the United States and the fares they paid to U.S. transoceanic carriers totaled \$13.9 billion, a decrease of 8 percent (table 1).

Expenditures of U.S. travelers in foreign countries totaled \$14.0 billion, up 13 percent, compared with an 8-percent decrease, to \$11.4 billion, in receipts from foreign visitors for travel in the United States. Stimulated by strong economic expansion in the United States and a strong dollar in foreign exchange markets, the number of U.S. travelers overseas and their total expenditures abroad increased substantially. Limited economic recovery abroad and weakness of foreign currencies against the dollar led to fewer foreign visitors from overseas and a decrease in total receipts of the United States. Lower inflation both in the United States and industrial countries abroad held down average expenditures per traveler. A decline in receipts from, and an increase in U.S. payments to, Mexico reflected substantial peso depreciation in 1982 and 1983.

The increased value of the dollar in exchange markets in 1982 and 1983, combined with declining inflation, led to lower costs for U.S. travelers to most overseas countries and to an increase in travel expenditures in constant (1972) dollars. In contrast, for most of the 1970's, a declining dollar and rising inflation held down constant-dollar expenditures (chart 1).

U.S. travelers' payments to foreign carriers for transportation from and to the United States totaled \$5.5 billion in 1983, up 16 percent. Foreign

This article reviews expenditures of U.S. residents traveling abroad and expenditures of foreign residents visiting the United States. These expenditures consist of the travel accounts and part of the passenger fare accounts that appear in the U.S. international transactions accounts. They do not cover U.S. carriers' receipts for transporting foreign residents between foreign points, because these receipts do not involve travel to and from the United States. These receipts are included, however, in the passenger fare account in line 5 of tables 1, 2, and 10 of the quarterly presentations of U.S. international transactions.

Travel account payments include expenditures in foreign countries by U.S. travelers for food, lodging, entertainment, transportation purchased abroad, and other expenses incidental to a foreign visit. Excluded are expenditures by U.S. military and other Government personnel stationed abroad, by their dependents, and by U.S. citizens residing abroad. Payments to foreign transoceanic carriers and shipboard expenditures are included in the passenger fare account. Shore expenditures of cruise passengers are included in travel payments.

Travel account receipts include expenditures in the United States by foreigners on business, pleasure, and study trips, and by those in transit for services similar to those indicated for payments. Receipts of U.S. transoceanic carriers from foreigners are included in the passenger fare account.

New surveys of foreign visitors to the United States and of U.S. travelers abroad, conducted by the U.S. Travel and Tourism Administration (USTTA), suggest different results than estimates based on BEA's travel surveys. After the USTTA surveys have been conducted over a sufficient time period, a thorough comparison of estimates from the two sources will be prepared and evaluated. Until that time, BEA's travel estimates should be interpreted cautiously.

visitors' payments to U.S. carriers for transportation to and from the United States were \$2.5 billion, down 6 percent. Increased numbers of U.S. travelers overseas and fewer foreign visitors were the major contributing factors. Because jet fuel prices were lower and charter traffic continued strong, air fares rose only moderately. For the first 9 months of the year, 9 percent of all U.S. travelers' departures were on charter carriers, up

from 8 percent in 1982. Most of the growth in charter traffic was to Europe, especially to the United Kingdom, France, and West Germany. When Peoples' Express introduced a \$149 flight from Newark to London, other transatlantic carriers also introduced competing discount fares. However, some carriers simultaneously raised economy and first-class fares. Near yearend, fares began to increase as increased traffic permitted the

Table 1.—International Travel and Passenger Fare Transactions

(Millions of dollars)

	1979	1980 ¹	1981 ¹	1982 ¹	1983 ¹
Total travel and passenger fare payments	12,597	14,004	15,966	17,166	19,509
Travel: Payments of U.S. travelers in foreign countries (line 20).....	9,413	10,397	11,479	12,394	13,977
Passenger fares: U.S. payments to foreign carriers (line 21).....	3,184	3,607	4,487	4,772	5,532
Total travel and passenger fare receipts	10,118	12,650	15,488	15,085	13,932
Travel: Receipts from foreign visitors in the United States (line 4).....	8,441	10,588	12,913	12,393	11,408
Passenger fares: Receipts of U.S. carriers for transportation of foreign visitors to and from the United States (part of line 5) ¹	1,677	2,062	2,575	2,692	2,524
Net travel and passenger fare payments	2,479	1,354	478	2,081	5,577

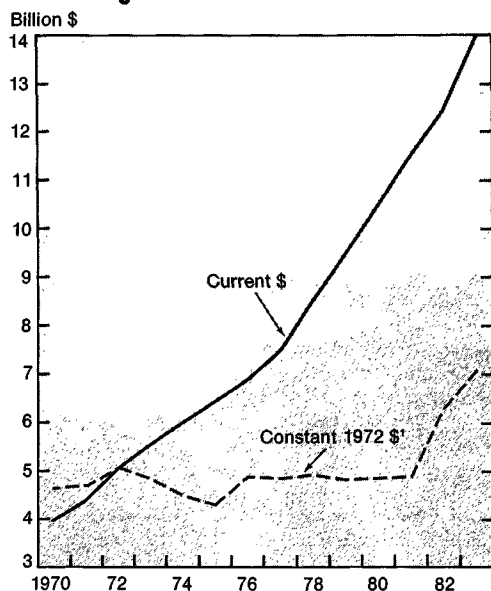
¹ Revised.

1. Excludes fares paid by foreigners to U.S. carriers for transportation between two foreign points.

NOTE.—References in parentheses are to lines in tables 1, 2, and 10 of the quarterly presentation of the U.S. international transactions in the March, June, September, and December issues of the SURVEY OF CURRENT BUSINESS.

U.S. Travelers' Expenditures in Foreign Countries

CHART 1



1. Adjusted for changes in foreign consumer prices and changes in dollar exchange rates; country data are weighted by travel expenditures and summed to total.

U.S. Department of Commerce, Bureau of Economic Analysis

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withdrawal of many of the heavy discount-fare promotions introduced during the 1981-82 recession.

U.S. travel abroad

Overseas.—U.S. travel expenditures overseas increased 16 percent to \$8.2 billion in 1983 (table 2). Expenditures overseas accounted for 59 percent of all travel expenditures, up from 57 percent (chart 2). A 19-percent increase in the number of U.S. travelers overseas more than compensated for a 3-percent drop in travelers' average expenditures (tables 3 and 4). The strength of the U.S. dollar against most major currencies and strong economic expansion in the United States encouraged U.S. travel to most areas. The increased buying power of the dollar and lower inflation in most foreign countries held down average spending by U.S. travelers.

The regional distribution of overseas travelers' destinations and their expenditures changed little from 1982 to 1983. Forty-nine percent of overseas travelers went to Europe and the Mediterranean in both years. Travel expenditures in that area accounted for 54 percent of all overseas expenditures, up from 53 percent in 1982. The Caribbean and Central America accounted for 31 percent of U.S. travelers in both years and 18 percent of expenditures in 1983, down from 19 percent. In both years, South America accounted for 6 percent of U.S. travelers and 5 percent of expenditures, while the "Other areas," primarily the Far East, accounted for 14 percent of travelers and 23 percent of expenditures.

U.S. travel expenditures in Europe and the Mediterranean were up 17 percent in 1983. A decline in average expenditures of 4 percent was more than offset by a 21-percent increase in the number of U.S. travelers. Expenditures increased in France, Switzerland, Denmark, Spain, and Israel, as both the number of travelers and average expenditures increased. Expenditures also were up in the United Kingdom, Germany, Austria, Sweden, Norway, the Netherlands, Belgium-Luxembourg, and Greece; increases in the number of travelers more than offset lower average spending. Expenditures in Italy fell slightly from the high level of 1982, as the increase in travelers only partly offset lower average expenditures. Expenditures in Ireland and Portugal fell sharply, reflecting drops in both the number of travelers and average expenditures.

The United Kingdom was the major European destination of U.S. travelers, accounting for 38 percent of all travelers to Europe and 24 percent of total European travel expenditures. France was the second most popular destination, receiving 25 percent of U.S. travelers and 14 percent of expenditures. Germany was third in its share of U.S. travelers (22 percent), but fourth in expenditures (9 percent). Italy was fourth in travelers (17 percent), but third in expenditures (11 percent). Switzerland ranked as the fifth most popular European destination, with 16 percent of U.S. travelers and 7 percent of expenditures.

Travel spending in the Caribbean and Central America increased 13

Table 2.—Travel Payments of U.S. Travelers in Foreign Countries, by Area

[Millions of dollars]

	1979	1980	1981	1982	1983
Total travel payments	9,413	10,397	11,479	12,394	13,977
Canada.....	1,599	1,817	2,070	1,936	2,160
Mexico.....	2,460	2,564	2,862	3,324	3,576
Mexico border area.....	1,291	1,416	1,648	2,089	1,996
Overseas	5,354	6,016	6,547	7,134	8,241
Europe and Mediterranean ¹	3,185	3,412	3,587	3,787	4,412
Western Europe	2,842	3,021	3,123	3,413	3,991
United Kingdom.....	826	903	952	895	1,061
France.....	355	383	375	464	596
Italy.....	300	360	301	490	435
Switzerland.....	153	150	127	206	294
Germany.....	283	322	361	411	416
Austria.....	84	104	74	145	150
Denmark.....	54	49	65	48	73
Sweden.....	38	42	65	45	71
Norway.....	47	51	89	55	60
Netherlands.....	71	95	75	97	128
Belgium-Luxembourg.....	50	44	45	57	65
Spain.....	200	173	208	153	208
Portugal.....	58	69	41	45	27
Ireland.....	115	103	84	104	84
Greece.....	163	139	171	145	225
Other Western Europe.....	40	34	90	53	48
Other Europe and Mediterranean	343	391	464	374	421
Israel.....	157	179	192	166	168
Other.....	186	212	272	208	253
Caribbean and Central America	1,019	1,134	1,277	1,349	1,519
Bermuda.....	164	191	192	230	220
Bahamas.....	224	262	243	340	402
Jamaica.....	122	118	127	153	183
Other British West Indies.....	190	189	252	188	225
Netherlands West Indies.....	138	157	249	155	200
Other West Indies and Central America.....	181	217	214	283	289
South America	288	392	383	380	422
Other areas	862	1,078	1,300	1,618	1,888
Japan.....	142	185	214	272	302
Hong Kong.....	137	145	151	197	212
Australia and New Zealand.....	153	234	343	367	492
Other.....	430	514	592	782	882

1. Includes all European countries, Algeria, Cyprus, Egypt, Israel, Lebanon, Libya, Malta, Morocco, Syria, Tunisia, and Turkey.

NOTE.—Includes shore expenditures of cruise travelers.

percent, reflecting an 18-percent increase in the number of travelers and a 4-percent drop in average expenditures. Bermuda was the only country in the area to experience a drop in travel spending.

South American travel expenditures increased 11 percent; the number of U.S. travelers was up 9 percent and average expenditures were up 2 percent. Substantial currency devaluations in Argentina, Brazil, Peru, and other countries were largely offset by large increases in consumer prices.

Travel expenditures in "Other areas," primarily the Far East, were

up 17 percent. The number of travelers increased 20 percent and average expenditures were down 3 percent.

Canada.—U.S. travel expenditures in Canada totaled \$2.2 billion, up 12 percent. Canada accounted for 15 percent of U.S. worldwide travel expenditures, about the same as 1982. The number of U.S. travelers was unchanged at 32.5 million, but there was a shift toward long-term travel. Travelers returning the same day they entered Canada declined 1 percent to 20.6 million; travelers staying in

Canada overnight or longer increased 3 percent to 11.9 million. Because overnight travelers spend more on average than same-day travelers, the average expenditure of U.S. travelers in Canada increased 11 percent, from \$60 to \$67. Although the rates of increase in both Canadian and U.S. consumer prices were almost halved from 1982 to 1983, the rate of increase in Canada remained higher than in the United States. This difference in consumer price increases may also have contributed to the higher average ex-

Table 3.—Average Expenditures of U.S. Travelers Overseas, by Area

[Dollars]

	1979	1980	1981	1982	1983 ^r
Total	672	726	802	827	802
Europe and Mediterranean	783	867	912	914	878
United Kingdom.....	511	572	743	601	553
France.....	376	431	435	462	469
Italy.....	418	481	415	559	553
Switzerland.....	295	284	253	317	372
Germany.....	328	409	433	387	372
Austria.....	200	248	242	272	272
Denmark.....	262	271	313	233	275
Sweden.....	279	311	376	338	285
Norway.....	343	432	533	455	343
Netherlands.....	187	241	227	253	246
Belgium-Luxembourg.....	195	181	179	204	172
Spain.....	451	470	524	528	540
Portugal.....	297	373	297	385	276
Ireland.....	414	431	503	498	472
Greece.....	528	489	489	599	586
Israel.....	609	619	623	719	724
Caribbean and Central America	367	398	488	476	459
South America	664	658	674	715	728
Other areas	1,078	1,064	1,191	1,346	1,307

NOTE.—Excludes shore expenditures of cruise travelers.

Table 4.—U.S. Travelers Overseas

[Thousands]

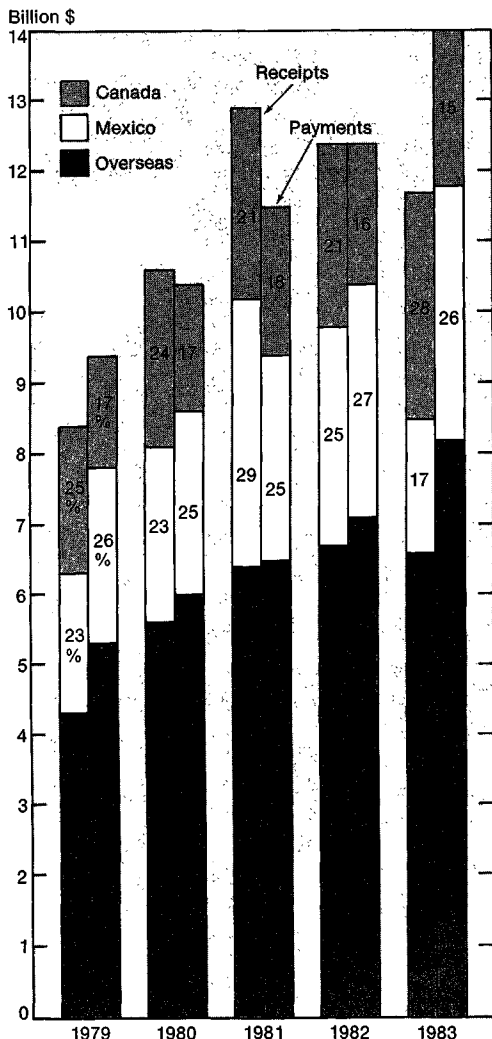
	1979	1980	1981	1982	1983 ^r
Total	7,835	8,163	8,040	8,510	10,154
Europe and Mediterranean	4,068	3,934	3,931	4,144	5,026
United Kingdom.....	1,617	1,580	1,281	1,489	1,918
France.....	943	888	863	1,005	1,270
Italy.....	718	749	726	876	877
Switzerland.....	535	529	502	655	791
Germany.....	864	787	834	1,061	1,118
Austria.....	419	420	306	533	551
Denmark.....	206	181	208	206	265
Sweden.....	136	135	173	133	249
Norway.....	197	118	167	121	175
Netherlands.....	379	395	330	383	521
Belgium-Luxembourg.....	257	243	252	280	378
Spain.....	443	368	397	290	385
Portugal.....	195	185	138	117	98
Ireland.....	278	239	167	209	178
Greece.....	309	284	350	242	384
Israel.....	258	289	308	231	232
Caribbean and Central America	2,533	2,624	2,453	2,637	3,107
South America	434	594	567	529	578
Other areas	800	1,011	1,089	1,200	1,443

NOTE.—Excludes cruise travelers.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, based on data of U.S. Department of Justice, Immigration and Naturalization Service.

CHART 2

U.S. Travel Payments and Receipts by Area



NOTE.—Percentages are shares of total payments and receipts.

U.S. Department of Commerce, Bureau of Economic Analysis

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penditures. The U.S.-Canadian dollar exchange rate was virtually unchanged.

	U.S. travelers to Canada (Thousands)	Average expenditures of U.S. travelers (Dollars)
1979.....	31,192	51
1980.....	38,501	47
1981.....	39,809	52
1982.....	32,432	60
1983.....	32,480	67

Sources: Statistics Canada-International Travel Section, and Bureau of Economic Analysis.

Mexico.—Travel payments to Mexico totaled \$3.6 billion, up 8 percent. Mexico accounted for 26 percent of total U.S. travel expenditures, compared with 27 percent in 1982. A 28-percent increase in expenditures in the interior of Mexico more than offset a 4-percent drop in expenditures in Mexico's border area.

An increase in the number of travelers to the interior of Mexico was the major factor contributing to increased expenditures. The pickup in travel largely reflected the substantial appreciation of the U.S. dollar against the Mexican peso during 1982 and 1983. In addition, uncertainties about currency conversion during Mexico's economic crisis in 1982 lessened in 1983. Also, to prevent rapid price increases from discouraging travel to Mexico, the Mexican Government set upper limits for hotel rates early in 1983.

The number of U.S. travelers crossing into Mexico's border area was un-

changed, but average expenditures fell 5 percent. A large portion of Mexican border area travel expenditures consists of individuals' purchases of goods and personal services. The 45-percent increase in the value of the U.S. dollar against the Mexican peso was more than offset by Mexican consumer price increases of over 100 percent.

Foreign travel in the United States

Overseas.—Visitors from overseas spent \$6.3 billion for travel in the United States in 1983, a 6-percent decrease (table 5).¹ Overseas travel receipts accounted for 55 percent of total travel receipts, up from 54 percent in 1982. Average expenditures of foreign visitors in the United States increased 5 percent (table 6). This increase was more than offset by a 10-percent drop in the number of foreign visitors, resulting from the continued weakness of most foreign currencies against the dollar and limited economic recovery (table 7).

The regional distribution of overseas visitors and their expenditures in

Table 6.—Average Expenditures of Overseas Visitors in the United States, by Area

	[Dollars]				
	1979	1980 ^r	1981 ^r	1982 ^r	1983 ^r
Total.....	605	679	713	761	799
Europe.....	532	592	611	655	714
Caribbean and Central America.....	439	498	550	579	562
South America.....	797	886	921	993	1,034
Other areas.....	686	770	816	858	914

^r Revised.

the United States shifted from 1982 to 1983. Western Europe accounted for 34 percent of travel receipts and 38 percent of overseas visitors in 1983, down from 37 percent and 43 percent, respectively. The Caribbean and Central America accounted for 11 percent of receipts and 16 percent of visitors, up from 8 percent and 10 percent. Seventeen percent of receipts came from South America, down from 19 percent. Thirteen percent of visitors were South American, down from 15 percent. "Other areas," primarily the Far East, accounted for 38 percent of receipts, up from 36 percent, and 33 percent of visitors, up from 32 percent.

Travel receipts from Western Europe declined 13 percent to \$2.2 billion. A 20-percent decline in the number of foreign visitors was only partly offset by a 9-percent increase in average expenditures. The French Government's imposition of foreign exchange restrictions, which limited nonbusiness French travelers to one trip abroad and \$415 in expenditures, probably contributed to the decline.

The Caribbean and Central America was the only region with an increase; receipts were up 30 percent to \$0.7 billion. The number of visitors was up 34 percent, and average expenditures were down 3 percent.

Travel receipts from South America decreased 14 percent to \$1.1 billion. Average expenditures in the United States were up 4 percent, but the number of visitors fell 17 percent.

Travel receipts from "Other areas," primarily the Far East, decreased 2 percent to \$2.4 billion. The number of foreign visitors fell 8 percent, and average expenditures were up 7 percent.

Canada.—Canadian visitors spent \$3.2 billion for travel in the United States, 21 percent more than 1982.

Table 5.—U.S. Receipts From Foreign Visitors in the United States

[Millions of dollars]

	1979	1980 ^r	1981 ^r	1982 ^r	1983 ^r
Total U.S. travel receipts.....	8,441	10,588	12,913	12,393	11,408
Canada.....	2,092	2,501	2,672	2,624	3,168
Mexico.....	1,975	2,522	3,775	3,098	1,951
U.S. border area.....	1,266	1,614	2,547	2,308	1,457
Overseas.....	4,374	5,565	6,466	6,671	6,289
Western Europe.....	1,667	2,192	2,549	2,476	2,157
United Kingdom.....	375	530	634	547	466
France.....	180	244	279	287	254
Germany.....	440	564	659	687	542
Italy.....	84	108	114	113	111
Netherlands.....	97	122	139	137	133
Caribbean and Central America.....	375	423	469	525	684
South America.....	793	1,063	1,273	1,269	1,091
Other areas.....	1,539	1,887	2,175	2,401	2,357
Japan.....	699	824	949	1,084	1,128

^r Revised.

Table 7.—Foreign Visitors to the United States From Overseas, by Area

[Thousands]

	1979	1980 ^r	1981 ^r	1982 ^r	1983 ^r
Total.....	7,230	8,200	9,069	8,761	7,873
Europe.....	3,135	3,700	4,170	3,778	3,020
Caribbean and Central America.....	855	850	853	907	1,218
South America.....	995	1,200	1,382	1,278	1,055
Other areas.....	2,245	2,450	2,664	2,798	2,580

^r Revised.

NOTE.—Data are not adjusted for multiple entries on a single trip.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, based on data of U.S. Department of Justice, Immigration and Naturalization Service.

Their expenditures accounted for 28 percent of total U.S. travel receipts, up from 21 percent. The average expenditures of Canadian Visitors increased 3 percent to \$81, and the number of Canadian visitors increased 17 percent to a record 39.0 million. Both long- and short-term travel increased. Visitors who returned to Canada the same day that they entered the United States totaled 26.5 million, up 18 percent. Visitors staying one or more nights increased 15 percent to 12.5 million. General improvement of Canadian economic conditions, along with extremely cold weather in Canada and

lower U.S. prices for gasoline and other goods, encouraged travel to the United States.

	Canadian visitors to the United States (Thousands)	Average expenditures of Canadian visitors (Dollars)
1979.....	34,382	61
1980.....	34,743	72
1981.....	33,584	80
1982.....	33,332	79
1983.....	38,979	81

Sources: Statistics Canada-International Travel Section, and Bureau of Economic Analysis.

Mexico.—Travel receipts from Mexico were \$2.0 billion, down 37 per-

cent from 1982.² Mexico accounted for 17 percent of all travel receipts, down from 25 percent. The substantial depreciation of the Mexican peso against the dollar during 1982 and 1983 was the major reason for the decrease in travel receipts in both the U.S. interior and border areas. Receipts in the interior were down 37 percent due to a drop in the number of Mexican visitors. U.S. border area receipts also fell 37 percent. A large portion of border receipts are for personal purchases of goods and services by Mexicans who reside near the U.S. border area and who may also be employed in the United States. These purchases cost over five times as much in Mexican pesos at the end of 1983 as they had at the beginning of 1982.

2. Prior to 1982, BEA used the Bank of Mexico's data on sales and purchases of U.S. dollars through Mexican border area banks as a basis for estimates of border area receipts from Mexico. During the period of peso depreciation in 1982 and 1983, when the Mexican Government set official exchange rates offered by banks well below market rates, much of the currency exchange took place outside the banking system. In response, the Bank of Mexico began conducting personal expenditure interviews with Mexicans in the border area as they returned from the United States. This expenditure survey is the basis for the revisions to 1982-83 border area receipts.

U.S. Business Enterprises Acquired or Established by Foreign Direct Investors in 1983

IN 1983, for the second consecutive year, foreign direct investors reduced outlays to acquire or establish U.S. business enterprises. Outlays by foreign investors, either directly or through their U.S. affiliates, were \$7.0 billion, down from \$10.8 billion in 1982 and a record \$23.2 billion in 1981 (table 1). The number of investments fell to 629 from 1,108 in 1982, and the total assets of the U.S. businesses acquired or established fell to \$19.9 billion from \$31.9 billion in 1982.¹

Because the data for 1983 are preliminary and will be revised up to include late reports, the slowdown in new investment activity from 1982 to 1983 was less dramatic than is reflected by these data. For 1982, preliminary data were revised up 26 percent for outlays (the cost to investors of the ownership interests acquired or established), 41 percent for the number of investments, and 21 percent for total assets of the acquired or established enterprises. If 1983 revisions

are of the same proportion (they are expected to be smaller), investment activity will still show a decline, though a much smaller one, from 1982. Revised data for 1983 and preliminary data for 1984 will be published at this time next year.

Many of the factors that slowed new foreign investment so dramatically in 1982 from its 1981 peak—the worldwide recession, weak corporate earnings, soft petroleum markets, high borrowing costs, and a strong U.S. dollar—continued to have dampening effects in 1983. Demand remained slack in a number of foreign industrialized economies last year, particularly in Europe, and the earnings of many foreign multinational companies remained weak. In particular, weak petroleum demand and prices in 1983, as in 1982, limited the earnings of the major oil companies and of oil producing countries; many of the largest foreign acquisitions in 1981 had been funded by petroleum-related earnings. Although, in retrospect, the U.S. recovery was quite strong, there was uncertainty about its strength and duration throughout much of last year. Also, borrowing costs in the United States, although on average lower than in 1982, remained high. The uncertain earnings outlook, coupled with the high cost of funds, probably led foreign investors

and their U.S. affiliates to defer major new investments, despite U.S. economic expansion.

After some temporary weakening at the end of 1982 and in early 1983, the dollar continued to appreciate against most major foreign currencies during the remainder of the year. Dollar appreciation raises the cost in foreign currency of a given dollar amount of U.S. assets. A strong surge in U.S. stock prices that began in the second half of 1982 also substantially raised the cost of acquisitions.

The next section of this article discusses investment transactions by industry and by country; the last section presents selected data on the operations of the U.S. business enterprises acquired or established. Information from outside sources, mainly press reports, is used to supplement BEA's survey data.

Because of space limitations, only summary data are published in this article. A set of 15 supplementary tables containing additional detail for 1982 and 1983 on the number of investments and investors, investment outlays, and selected operating data for the U.S. business enterprises acquired or established is available for \$10.00 from the Bureau of Economic Analysis (BE-50 Research), U.S. Department of Commerce, Washington, D.C. 20230. Make check payable to BEA, U.S. Department of Commerce.

NOTE.—James L. Bomkamp, Chief, Direct Investment in the United States Branch, International Investment Division, supervised the survey from which these data are drawn. Joseph F. Cherry was project leader for editing and processing the forms. Richard Maury designed the computer programs for data retrieval and analysis.

1. These data are from a BEA survey that covered (1) existing U.S. business enterprises in which foreign investors acquired, directly or through their U.S. affiliates, at least a 10-percent ownership interest in 1983, and (2) new U.S. business enterprises established in 1983 by foreign investors or their U.S. affiliates. The data cover those acquired or established U.S. business enterprises that had total assets of over \$1 million or that owned at least 200 acres of U.S. land. Although partial reports, primarily for identification purposes, were required to be filed for investments not meeting these criteria, the data from them are not included in the accompanying tables. For 1983, 901 partial reports were filed; total assets of the U.S. business enterprises acquired or established were \$0.2 billion.

Table 1.—Investments, Investors, and Investment Outlays

	Number					Investment outlays (millions of dollars)				
	1979	1980	1981	1982 ^a	1983 ^a	1979	1980	1981	1982 ^a	1983 ^a
Investments, total.....	1,568	1,659	1,332	1,108	629	15,317	12,172	23,219	10,817	6,962
Acquisitions.....	666	721	462	395	242	13,159	8,974	18,151	6,563	4,473
Establishments.....	902	938	870	713	387	2,158	3,198	5,067	4,254	2,489
Investors, total.....	1,770	1,833	1,521	1,218	682	15,317	12,172	23,219	10,817	6,962
Foreign direct investors.....	1,072	1,188	979	720	365	3,440	4,129	6,158	3,954	2,113
U.S. affiliates.....	698	645	542	498	317	11,876	8,043	17,060	6,863	4,849

^a Revised.
^b Preliminary.

Investment Transactions

By type of investment, most outlays in 1983, as in past years, were for acquiring existing U.S. businesses (\$4.5 billion), rather than for establishing new U.S. businesses (\$2.5 billion). By type of investor, \$4.9 billion of total outlays were by U.S. affiliates, rather than by the foreign direct investors themselves.

Industry

Despite the year-to-year overall reduction in outlays, outlays to acquire or establish U.S. manufacturing businesses increased in 1983, to \$2.9 billion (table 2). In part, the increase reflected foreign investors' participation in the restructuring of corporate assets that often occurs after a recession. Several of the largest acquisitions in manufacturing were of operating units or subsidiaries of large multi-industry U.S. firms that wanted to streamline or refocus their operations by shedding operations that were tangential to their main line of business and that may have performed poorly during the recession.

Typically, the foreign investor or U.S. affiliate making the acquisition specialized in, and had a long-term commitment to, the industry of the acquired business. They sought expanded market presence in a familiar industry, confident that their expertise would, in the long run, improve the earnings potential of the acquired business.

Within manufacturing, outlays were concentrated in food, chemicals, and "other". The two largest acquisitions were of U.S. businesses in the food products industry; together, they accounted for more than two-thirds of total outlays of \$0.7 billion in that industry. One was the purchase of the wine operations of a U.S. soft-drink manufacturer by the U.S. affiliate of a Canadian distiller; the other was the purchase of a snack foods subsidiary of a U.S. food and consumer products manufacturer by the U.S. affiliate of a British manufacturer.² In

both cases, the U.S. sellers of the subsidiaries were shedding businesses that did not fit well with their revised long-term corporate strategy. Two other major acquisitions in the food industry were both by the U.S. affiliate of a Finnish corporation; one was of a confectionery manufacturing subsidiary of a U.S. food manufacturer that was restructuring its operations.

Total outlays in chemical manufacturing were \$0.6 billion. By far the largest single investment was the acquisition by an Italian chemical company of a 50-percent interest in certain plastics manufacturing operations of a U.S. chemical company. The acquisition was part of a larger plan of the Italian and U.S. companies to set up a worldwide joint venture that would utilize a cost-saving process developed by the Italian company to produce polypropylene, a widely used plastic. The U.S. affiliate of a Swiss chemical company acquired two chemical manufacturing subsidiaries from U.S. companies. Both U.S. companies that sold the subsidiaries needed cash to reduce debt, one because it had recently acquired an-

2. Detail in this section is by country of ultimate beneficial owner rather than by country of foreign parent. See following discussion by country for definitions.

Table 2.—Investment Outlays by Industry of U.S. Business Enterprise

(Millions of dollars)

	1982 ^r					1983 ^p				
	Total	By type of investment		By type of investor		Total	By type of investment		By type of investor	
		Acquisitions	Establishments	Foreign direct investors	U.S. affiliates		Acquisitions	Establishments	Foreign direct investors	U.S. affiliates
All industries	10,817	6,563	4,254	3,954	6,863	6,962	4,473	2,489	2,113	4,849
Agriculture and forestry.....	250	71	179	138	112	166	(^o)	(^o)	80	87
Mining.....	342	(^o)	(^o)	(^o)	(^o)	(^o)	(^o)	(^o)	0	(^o)
Petroleum.....	819	554	265	125	694	316	225	91	51	265
Manufacturing.....	2,379	2,141	239	552	1,828	2,868	2,754	115	678	2,190
Food and kindred products.....	376	(^o)	(^o)	(^o)	(^o)	683	682	1	3	680
Paper and allied products.....	173	(^o)	(^o)	(^o)	(^o)	56	(^o)	(^o)	(^o)	(^o)
Chemicals and allied products.....	363	(^o)	(^o)	61	301	647	646	1	(^o)	(^o)
Industrial.....	114	(^o)	(^o)	(^o)	(^o)	325	325	0	(^o)	(^o)
Drugs.....	(^o)	(^o)	0	0	(^o)	0	0	0	0	0
Other.....	(^o)	(^o)	0	(^o)	127	322	321	1	(^o)	(^o)
Primary metal industries.....	82	(^o)	(^o)	22	60	(^o)	(^o)	0	0	(^o)
Fabricated metal products.....	22	17	5	8	14	(^o)	(^o)	(^o)	18	(^o)
Machinery, except electrical.....	808	761	42	72	731	81	79	2	46	34
Electric and electronic equipment.....	177	175	2	48	129	342	323	19	33	308
Other.....	385	360	25	162	222	891	823	68	315	577
Wholesale trade.....	462	376	87	198	264	169	132	37	42	127
Motor vehicles and equipment.....	64	(^o)	(^o)	10	54	45	(^o)	(^o)	(^o)	(^o)
Metals and minerals.....	3	0	3	3	0	1	1	(*)	1	0
Farm product raw materials.....	32	(^o)	(^o)	31	1	4	0	4	(^o)	(^o)
Other.....	364	312	52	154	209	119	(^o)	(^o)	12	107
Retail trade.....	684	670	14	94	590	80	72	8	19	61
Banking.....	427	364	62	277	149	156	(^o)	(^o)	152	4
Finance, except banking.....	499	350	149	325	175	445	352	93	253	192
Insurance.....	759	(^o)	(^o)	401	358	121	(^o)	(^o)	(^o)	(^o)
Real estate and combined offices.....	3,289	274	3,015	1,498	1,791	2,066	249	1,817	634	1,432
Other.....	907	786	121	(^o)	(^o)	(^o)	480	(^o)	(^o)	426

^r Revised.

^p Preliminary.

^o Suppressed to avoid disclosure of data of individual companies.

* Less than \$500,000.

other U.S. company, and the other because it had recently fought off a takeover attempt.

Outlays in "other" manufacturing, at \$0.9 billion, were mainly in printing and publishing (\$0.4 billion) and stone, clay, and glass products (\$0.3 billion). In printing and publishing, the largest single acquisition was of a major Southwest daily newspaper by a Canadian publisher. Another Canadian publishing and communications company acquired several businesses, including two financial news periodicals, through its U.S. affiliates. Also, German investors acquired a 50-percent interest in a large Midwest printing plant of a U.S. printing and publishing company; the U.S. and German companies had joint ventures in two other printing plants in the Southeast. In stone, clay, and glass, over one-half of the outlays reflected two separate acquisitions of cement plants from a U.S. company; one ac-

quisition was by the U.S. affiliate of a British company, the other by a German company. (The U.S. firm selling the plants was the one mentioned above that fought off a takeover attempt.)

Outlays in real estate were \$2.1 billion. As in past years, the largest investments in terms of outlays were for commercial and office buildings in major U.S. cities. In 1983, these included the purchase of a downtown office building in New York City by a major Canadian real estate development company, the purchase of several buildings in San Francisco by British pension funds, and the purchase of a building in Philadelphia by Middle East interests.

As shown in the accompanying tabulation, the number of new foreign investments in real estate fell, and outlays per investment rose, in both 1982 and 1983. (Both preliminary and revised data are shown because the

number of investments and investment outlays in real estate are usually subject to large revisions.) The increase in outlays per investment indicates that the decline in real estate investment in the past 2 years was concentrated among smaller investments.

	Number of real estate investments	Millions of dollars	
		Outlays	Outlays per investment
Preliminary:			
1981.....	439	2,088	4.8
1982.....	347	2,325	6.7
1983.....	248	2,066	8.3
Revised:			
1981.....	680	3,787	5.5
1982.....	485	3,289	6.8
1983.....	n.a.	n.a.	n.a.

n.a. Not available.

The overall decline in real estate investment mainly reflected the worldwide recession, the strong U.S. dollar, and sluggish appreciation of

Table 3.—Investment Outlays by Country of Each Foreign Parent and by Country of Each Ultimate Beneficial Owner ¹

[Millions of dollars]

	1982 ^r			1983 ^p		
	By country of foreign parent	By country of ultimate beneficial owner	Difference	By country of foreign parent	By country of ultimate beneficial owner	Difference
All countries.....	10,817	10,817	0	6,962	6,962	0
Developed countries.....	8,292	8,358	66	5,553	5,777	224
Canada.....	1,054	1,196	142	702	952	250
Europe.....	6,603	6,418	-185	4,496	4,411	-85
European Communities (10).....	5,635	4,984	-650	3,979	3,786	-193
Belgium and Luxembourg.....	247	186	-61	(^p)	(^p)	85
France.....	430	455	25	252	259	7
Germany.....	506	601	95	480	483	3
Italy.....	(^p)	(^p)	114	(^p)	(^p)	3
Netherlands.....	1,487	330	-1,157	1,287	433	-855
Denmark, Ireland, and Greece.....	(^p)	(^p)	32	(^p)	(^p)	77
United Kingdom.....	2,826	3,128	302	1,633	2,120	487
Other Europe.....	969	1,434	465	516	625	108
Sweden.....	113	113	0	62	62	0
Switzerland.....	768	1,164	396	287	387	101
Other.....	87	157	69	168	175	7
Japan.....	585	587	2	290	290	0
Australia, New Zealand, and South Africa.....	50	157	107	65	124	59
Developing countries.....	2,526	(^p)	(^p)	1,409	1,171	-238
Latin America.....	1,953	965	-988	1,033	252	-786
Panama.....	35	181	146	108	12	-96
Bahamas.....	3	4	1	2	3	1
Bermuda and British Islands, Caribbean.....	184	156	-28	108	104	-4
Netherlands Antilles.....	1,583	371	-1,211	786	24	-762
Other.....	148	253	104	34	108	74
Other developing.....	572	(^p)	(^p)	372	919	548
Israel.....	1	1	0	(^p)	(^p)	0
Other Middle East.....	335	863	528	270	550	280
Other Africa, Asia, and Pacific.....	237	(^p)	(^p)	(^p)	(^p)	268
United States.....	0	(^p)	(^p)	0	14	14
Addendum:						
OPEC.....	378	775	397	279	561	282

^r Revised.

^p Preliminary.

^o Suppressed to avoid disclosure of data of individual companies.

1. The foreign parent is the first foreign person in the ownership chain of the acquired or established U.S. business enterprise. The ultimate beneficial owner is that person in the ownership

chain of the acquired or established U.S. business enterprise, beginning with the foreign parent, that is not owned more than 50 percent by another person. Where more than one investor participated in a given investment, each investor, and each investor's outlays, are classified by the country of each individual foreign parent or of each individual ultimate beneficial owner.

Table 4A.—Total Assets, Sales, Net Income, Employment, and Acres of Land Owned by U.S. Business Enterprises Acquired or Established in 1982, by Industry of U.S. Business Enterprise¹

[Millions of dollars or number]

	Total assets of all U.S. business enterprises acquired or established	U.S. business enterprises acquired					U.S. business enterprises established				
		Total assets	Sales ²	Net income	Number of employees	Number of acres of land owned	Total assets	Sales ²	Net income	Number of employees	Number of acres of land owned
All industries.....	31,852	24,603	20,682	373	225,673	1,012,480	7,249	1,397	-61	8,169	587,442
Agriculture and forestry.....	442	234	(^p)	-5	(^p)	(^p)	207	5	-5	77	494,502
Mining.....	1,387	(^p)	1,040	58	9,245	(^p)	(^p)	(*)	(*)	(^p)	(^p)
Petroleum.....	1,650	1,296	4,031	65	3,717	(^p)	353	106	-47	78	1,374
Manufacturing.....	5,318	4,618	6,904	-32	83,786	(^p)	700	450	-13	2,989	8,180
Food and kindred products.....	474	(^p)	1,179	32	7,293	1,790	(^p)	3	-1	(^p)	(^p)
Paper and allied products.....	487	(^p)	(^p)	3	(^p)	(^p)	(^p)	(^p)	(^p)	(^p)	(^p)
Chemicals and allied products.....	712	(^p)	632	-64	5,743	(^p)	(^p)	(^p)	-2	(^p)	(^p)
Industrial.....	585	(^p)	457	(^p)	(^p)	(^p)	(^p)	(^p)	-2	(^p)	(^p)
Drugs.....	(^p)	(^p)	(^p)	(^p)	(^p)	(^p)	0	0	0	0	0
Other.....	(^p)	(^p)	(^p)	(^p)	1,647	(^p)	0	0	0	0	0
Primary metal industries.....	199	(^p)	(^p)	5	(^p)	(^p)	(^p)	(^p)	(*)	(^p)	(^p)
Fabricated metal products.....	67	62	165	2	1,122	18	5	(^p)	(^p)	(^p)	0
Machinery, except electrical.....	1,016	(^p)	1,321	58	16,356	915	(^p)	(^p)	(^p)	(^p)	(^p)
Electric and electronic equipment.....	461	(^p)	560	-16	10,107	171	(^p)	(^p)	4	(^p)	(^p)
Other.....	1,901	1,839	2,734	-51	40,124	(^p)	63	32	1	273	(^p)
Wholesale trade.....	1,227	986	1,491	(*)	10,942	2,493	240	292	-15	1,600	367
Motor vehicles and equipment.....	118	(^p)	(^p)	-1	(^p)	147	(^p)	(^p)	1	(^p)	(^p)
Metals and minerals.....	(^p)	0	0	0	0	0	(^p)	(^p)	(^p)	(^p)	0
Farm product raw materials.....	(^p)	(^p)	(^p)	2	(^p)	0	14	5	(*)	(^p)	0
Other.....	965	859	1,192	-1	10,227	2,346	106	195	(^p)	962	(^p)
Retail trade.....	1,626	1,610	2,831	32	60,544	1,054	16	2	(*)	(^p)	24
Banking.....	7,238	5,822	633	17	6,577	(^p)	1,416	49	-5	268	(^p)
Finance, except banking.....	4,524	(^p)	847	43	(^p)	(^p)	(^p)	44	4	221	(^p)
Insurance.....	1,541	1,342	706	69	2,925	(^p)	199	14	5	42	0
Real estate and combined offices.....	4,122	635	(^p)	7	861	11,301	3,487	282	18	506	71,429
Other.....	2,777	2,492	1,986	119	38,662	55,591	285	153	-2	2,241	(^p)

^p Suppressed to avoid disclosure of data of individual companies.

* Less than \$500,000 (±).

1. Data for 1982 are revised. For acquired businesses, data are for, or as of the end of, the fiscal

year preceding the year of acquisition; for newly established businesses, data are projections for, or as of the end of, the first full year of operation.

2. Sales or gross operating revenue, excluding sales taxes.

Table 4B.—Total Assets, Sales, Net Income, Employment, and Acres of Land Owned by U.S. Business Enterprises Acquired or Established in 1983, by Industry of U.S. Business Enterprise¹

[Millions of dollars or number]

	Total assets of all U.S. business enterprises acquired or established	U.S. business enterprises acquired					U.S. business enterprises established				
		Total assets	Sales ²	Net income	Number of employees	Number of acres of land owned	Total assets	Sales ²	Net income	Number of employees	Number of acres of land owned
All industries.....	19,866	13,837	13,069	308	92,172	130,761	6,029	1,017	(*)	4,309	226,835
Agriculture and forestry.....	203	(^p)	(^p)	-1	(^p)	(^p)	(^p)	14	-1	103	198,375
Mining.....	27	(^p)	(^p)	1	(^p)	(^p)	(^p)	0	0	0	(^p)
Petroleum.....	743	569	(^p)	3	1,303	2,812	173	(^p)	21	34	(^p)
Manufacturing.....	3,502	3,312	4,534	128	45,385	51,729	191	218	-8	2,359	(^p)
Food and kindred products.....	523	521	937	41	7,355	4,774	2	0	0	(^p)	(^p)
Paper and allied products.....	(^p)	(^p)	(^p)	5	(^p)	(^p)	(^p)	(^p)	(*)	(^p)	(^p)
Chemicals and allied products.....	1,117	1,113	1,203	42	6,839	4,640	4	(^p)	(*)	(^p)	0
Industrial.....	561	561	541	26	2,221	(^p)	0	0	0	0	0
Drugs.....	0	0	0	0	0	0	0	0	0	0	0
Other.....	556	552	661	16	4,618	(^p)	4	(^p)	(*)	(^p)	0
Primary metal industries.....	(^p)	(^p)	(^p)	(^p)	(^p)	(^p)	0	0	0	0	0
Fabricated metal products.....	118	116	251	(^p)	2,569	(^p)	2	1	(*)	(^p)	0
Machinery, except electrical.....	203	202	295	(*)	3,420	391	1	3	-4	(^p)	0
Electric and electronic equipment.....	447	428	614	12	10,152	(^p)	19	(^p)	-1	(^p)	(^p)
Other.....	940	(^p)	1,029	47	14,144	7,507	(^p)	125	-3	(^p)	(^p)
Wholesale trade.....	319	241	637	1	2,765	377	78	108	-2	58	(^p)
Motor vehicles and equipment.....	85	(^p)	83	(*)	(^p)	(^p)	(^p)	0	0	0	0
Metals and minerals.....	(^p)	(^p)	5	(*)	(^p)	0	4	(^p)	(*)	(^p)	0
Farm product raw materials.....	(^p)	0	0	0	0	0	(^p)	(^p)	(*)	(^p)	0
Other.....	222	175	550	(*)	2,389	(^p)	47	51	-2	43	(^p)
Retail trade.....	309	276	899	12	10,679	(^p)	33	9	1	(^p)	(^p)
Banking.....	6,355	(^p)	(^p)	(^p)	(^p)	(^p)	(^p)	35	-24	415	0
Finance, except banking.....	4,751	4,631	(^p)	70	2,507	(^p)	120	5	1	24	(^p)
Insurance.....	331	(^p)	87	(^p)	652	(^p)	(^p)	1	1	(^p)	0
Real estate and combined offices.....	2,739	546	104	3	(^p)	(^p)	2,192	126	10	134	23,437
Other.....	588	495	637	20	24,170	3,097	93	(^p)	(*)	748	(^p)

^p Suppressed to avoid disclosure of data of individual companies.

* Less than \$500,000 (±).

1. Data for 1983 are preliminary. For acquired businesses, data are for, or as of the end of, the

fiscal year preceding the year of acquisition; for newly established businesses, data are projections for, or as of the end of, the first full year of operation.

2. Sales or gross operating revenue, excluding sales taxes.

U.S. real estate values. Other factors may have particularly affected smaller investments, which tend to be made by individuals and other small investors, many of whom are located in developing countries. The bullish U.S. stock market may have attracted funds from smaller foreign investors who otherwise might have invested in U.S. real estate. Tighter currency controls in some developing countries may also have slowed investment. Finally, a few investors may have been deterred by ongoing discussions in the United States about tightening U.S. tax and disclosure regulations on foreign ownership of U.S. real estate; such regulations, if implemented, would primarily affect smaller investors.

Country

In table 3, investment outlays are classified both by country of foreign parent and by country of ultimate beneficial owner (UBO). The foreign parent is the first foreign person in the ownership chain of the acquired or established U.S. business; the UBO is the person in the ownership chain, beginning with the foreign parent, that is not owned more than 50 percent by another person. The country of the UBO may be the same as that of the foreign parent, a different foreign country, or the United States.³

Investments with UBO's in developed countries accounted for 83 percent of total investment outlays in 1983. As in 1982, outlays for invest-

ments with British UBO's were by far the largest, at \$2.1 billion, accounting for 30 percent of all 1983 outlays. (The year-to-year decline in outlays was also largest—\$1.0 billion—for investments with British UBO's.) Among other developed countries, outlays were highest for investments with UBO's in Canada (\$1.0 billion), Germany (\$0.5 billion), and the Netherlands and Switzerland (\$0.4 billion each).

In developing areas, outlays were highest, at \$0.6 billion, for investments with UBO's in "other Middle East"; two-thirds of the total was for investments with UBO's in Kuwait. Investments with UBO's in Hong Kong accounted for about \$0.2 billion of total outlays in "other Africa, Asia, and Pacific."

Investments for which the UBO and foreign parent differed accounted for \$1.9 billion of total outlays. Because many UBO's in other countries hold their U.S. investments through companies in the Netherlands and the Netherlands Antilles, primarily to take advantage of favorable tax treaties, outlays for those two countries were much lower—by \$0.9 billion and \$0.8 billion, respectively—when classified by country of UBO than by country of foreign parent.

Selected Operating Data

Total assets of U.S. business enterprises acquired or established in 1983 were \$19.9 billion, about two-thirds of the comparable 1982 total (tables 4A and 4B). By industry of the U.S. business acquired or established, assets were concentrated in banking (\$6.4 billion), finance, except banking (\$4.8 billion), manufacturing (\$3.5 billion), and real estate (\$2.7 billion). In the

last two industries, the investments discussed earlier that accounted for the largest investment outlays also accounted for a large share of the assets acquired or established.

More than one-half of all the assets in banking were accounted for by a single investment, the acquisition of a majority interest in a bank holding company by an Irish commercial bank. Other large asset totals were associated with establishment of new U.S. branches by major banks in Britain, Switzerland, Italy, and Saudi Arabia.

In finance, except banking, three acquisitions accounted for most of the assets. A U.S. bank owned by Hong Kong interests and a U.S. investment company owned by Canadian interests each acquired companies dealing in U.S. Government securities. The third acquisition was of a partial interest in an investment banking firm by a British investment company.

U.S. businesses acquired in 1983 had total assets of \$13.8 billion. The assets were concentrated in manufacturing and finance, except banking. Acquired businesses employed 92,000 workers, of which one-half were in manufacturing. Outside of manufacturing, employment was highest in retail trade, mainly reflecting the acquisition of a supermarket chain, and in "other" industries, mainly reflecting two acquisitions of service industry firms. Nearly one-half of the 131,000 acres of land owned by acquired businesses was held by a land development company acquired by the U.S. affiliate of a Canadian company.

U.S. businesses established in 1983 had assets of \$6.0 billion and sales of \$1.0 billion. They employed 4,000 workers and owned 227,000 acres of U.S. land, mainly timberland.

3. A UBO and its country could not be identified for a few investments in both 1982 and 1983; total outlays for these investments were \$0.2 billion in 1982 and near zero in 1983. For purposes of classification, where the UBO could not be identified, the country of the UBO was assumed to be the same as that of the foreign parent.

The Underground Economy: An Introduction

RECENT discussion of the underground economy has raised important questions: How large is it? Is it growing faster than the rest of the economy? How much tax revenue is lost because of it? Are government policies miscued because it distorts major economic statistics?

The press has explored the underground economy extensively—in the United States, particularly just before the deadline for filing Federal individual income tax returns. Professional groups—including the Federal Statistics Users' Conference, the American Bar Association's Section on Taxation, and the American Institute of Certified Public Accountants—have held conferences or prepared reports relating to the underground economy. Business groups have focused on it as a consideration in forecasting and planning. Interest has not been confined to the United States. International organizations, particularly the Organization for Economic Cooperation and Development, have sought to clarify issues relating to it. Several international conferences of academic and government researchers have been devoted to it, as was a 1983 conference session of the International Association for Research in Income and Wealth.

This article draws on the variety of materials that is the product of this widespread interest. It has four parts:

- A sorting out of the activities covered by the term "underground economy," a review of incentives to engage in these activities, and a discussion of some definitional issues;
- A synopsis of the various methods that have been used to measure the underground economy or parts of it, and a roundup of results for the United States;
- A survey of the implications of

the underground economy, emphasizing its implications for major economic statistics;

- A discussion of the treatment of the underground economy in the U.S. national income and product accounts.

The order of discussion was dictated by several considerations. First, as will become obvious, it is necessary to clarify what is meant by the term "underground economy." The synopsis of measurement methods is useful as background for the roundup of the estimates of the size and growth of the U.S. underground economy. This roundup, in turn, is useful as background for the discussion of implications. The emphasis on implications of the underground economy for major economic statistics leads to the discussion of its treatment in the national income and product accounts.

The first three parts of this article appear in this issue of the *SURVEY OF CURRENT BUSINESS*. The fourth part will appear in a later issue in order to allow presentation in June of an article that presents material necessary for the evaluation included in the fourth part. The June article will describe the improved adjustments introduced by BEA for 1977 to correct for the misreporting in tax return information used to estimate the national income and product accounts. These two articles have a common purpose: to provide users of BEA's accounts with information needed to judge the strengths and weaknesses of the accounts as they are affected by the underground economy. Further, an article to appear in the fall will present a new indirect method of measuring the growth of the underground economy.

Full citations for the sources mentioned in the text and in the tables of the article in this issue are provided in the bibliography.

I. Underground Activities

The economic activities variously discussed under such catchy titles as "underground," "unobserved," and "hidden" economy are numerous.¹ Some of them are:

- working "off the books" or "moonlighting" (second-jobbing) for cash so that the wages are not reported to tax and social security authorities,
- smuggling,
- illegal gambling,
- working without a necessary permit, as in the case of illegal aliens,
- illegal trade in drugs, tobacco, and alcohol,
- bartering of goods and services,
- do-it-yourself repair,
- padding expense accounts and using office equipment for private purposes (concealing income-in-kind),
- illegal prostitution,
- working while collecting disability or unemployment insurance benefits,
- growing own fruits, vegetables, and other foods,

NOTE.—Tracy R. Tapscott assisted in the preparation of this article.

1. A partial list of names used in the United States and abroad would include, in addition to the three cited: cash, black, unofficial, informal, irregular, unrecorded, moonlight, twilight, gray, shadow, subterranean, marginal, dual, second, parallel, and illegal. The choice of name sometimes reflects an author's point of view: for employment, moonlight; for tax administration, unreported; and for law enforcement, illegal. Some authors have drawn distinctions among the names according to the activities they intended to cover. Others, although they have used different names, do not appear to have intended different coverage. In summary, a generally accepted taxonomy has not yet emerged. For example, "informal" has been used by Gershuny to refer to a collection of activities that include household activities, communal activities, and theft and tax evasion, but has been used by the Internal Revenue Service to refer to vendors carrying out their business "on the side."

- loan sharking,
- selling homegrown produce, or homemade items, or personal services that provide income that is not, or is only partially, reported to tax authorities,
- “skimming,” that is, pocketing some part of cash-register receipts,
- dealing in land and other assets that yields income not reported to tax authorities,
- working for tips that are not, or are only partially, reported to authorities,
- theft, including theft from business by shoplifters and employees,
- covert rentals.

It is immediately apparent that these activities are quite diverse. Their diversity has several dimensions. First, they include the activities of wage earners, proprietors, investors in real and financial assets, and households—a wide range of economic transactors. Second, most involve production of some good or service. Others, such as theft from households, involve only redistributions of income or property from one person to another.

Third, some take place in the market economy, others outside it. This point is brought out in table 1, which shows, for a selection of the activities just listed, incomes classified as income from market production, on the one hand, and from nonmarket production, on the other. Such broad coverage is in line with that outlined by a number of authors—both those developing a conceptual framework and those with a more empirical interest. (See, for example, Feige 1980 and Gershuny, who develop frameworks, and Skolka.) Also, a 1983 international conference on the “shadow” economy included papers that ranged from household production to smuggling. However, work—largely by private researchers—has been underway on the measurement and analysis of the nonmarket economy for a number of years (see especially Eisner and Kendrick). Accordingly, the new interest has focused on the market underground. Thus, for this article, the coverage of what will be called the underground economy will be limited to what are generally thought of as market activities; most nonmarket activities are set aside. Of the activities listed earlier as sometimes classified as underground, two will be set aside for this article: do-it-yourself repair

and growing own food; barter is a borderline case.²

The fourth, and final, dimension of the diversity is also apparent in table 1 for the now narrowed list of activities—that is, those that will be referred to as part of the underground. These include activities that are illegal in themselves, as illustrated by income from trade in drugs, and activities that are legal except that the activities or income from them are not reported, as required, to tax, immigration, licensing, or other authorities. This contrast is the basis for the terminology that will be used in this article in referring to income from the underground economy. Incomes from illegal activities are referred to as “illegal-source” incomes. Incomes from activities that are legal—even though tainted with illegality, be-

2. The boundaries between market and nonmarket, whether drawn in reference to underground or other activities, are not always precise. For example, it is difficult to know where to draw the boundary with regard to barter: Some barter transactions, such as occasional exchanges between neighbors, seem to belong in the nonmarket economy and others, such as when one party advertises through an exchange to find the other, seem to belong in the market economy, but in between there is a gray area. Thus, because judgments are involved and these may vary according to the purpose, the word “most” was used in the sentence about setting aside nonmarket activities.

Table 1.—Classifications of Income, Illustrative Underground Incomes, and the Relationship of Underground Incomes to Two Major Income Aggregates in the United States

Classifications of income		Illustrative underground incomes ³	Relationship of illustrative underground incomes to:			
Market or nonmarket ¹	Legal- or illegal-source ²		Income as defined for Federal individual income tax		Income as defined for GNP	
			In scope	Note	In scope	Note
Market	Illegal-source	Income from drug trafficking.	Yes	Illegality of activity does not affect liability; some is reported in “laundered” form.	No	By definition, GNP excludes illegal activities, but no adjustment is made to remove “laundered” income.
		Off-the-books wages.	Yes	.....	Yes	Adjustments are made to include legal-source income missing from basic source data (which are not, however, individual income tax returns in this case).
	Legal-source, but a reporting requirement not met	Income of unlicensed, work-at-home beautician who is below income tax filing threshold.	No	Legislation defines levels of gross income below which filing of a tax return is not required.	Yes	Adjustments are made to include legal-source income missing from basic source data.
		Capital gains not reported to tax authorities	Yes	.....	No	Capital gains are out of scope because they are not income from production.
		Covert rent of a room in owner's house.	Yes	.....	Yes	Method of estimating does not rely on rent recipient's report.
		Illegal alien's wages.	Yes	Immigration status does not affect liability.	Yes	Immigration status does not affect intent to measure wages.
Nonmarket	Legal-source	Value of auto repair done by neighbor (in exchange for babysitting services) not reported to tax authorities	Yes	Fair market value of bartered goods and services is to be reported as income.	No	Transactions between households are not in scope.
		Do-it-yourself TV repair.	No	.....	No	.....
	Illegal-source	Food grown on farms for own use.	No	.....	Yes	Food grown and consumed on farms is one of a few imputations for nonmarket production.
		Marihuana grown for own use.	No	.....	No	.....

1. See footnote 2 in text.

2. See text for definitions.

3. Drawn from the comprehensive list of activities sometimes classified as underground.

cause they are misreported—are referred to as “legal-source” incomes. These are illustrated in table 1 by off-the-books wages, unreported capital gains, and several others. A few profiles will further identify the kind of situations in which legal-source underground incomes occur.³

- A waitress works part-time in a restaurant catering to the breakfast trade; on weekends she helps in an uncle’s dry cleaning business. Neither employer withholds income taxes or contributes toward social security or unemployment insurance. She reports neither the wages they pay, nor the tips she earns, to the tax authorities; she does not file a Federal income tax return. By working completely off the books, she saves both herself and her employers the payment of employment and income taxes.

- A carpenter works weekends for cash, doing home repairs and building porches and other small additions. He counsels prospective employers not to bother with building permits. The carpenter does not report his weekend earnings to tax authorities. He saves the payment of taxes; his employers save the trouble and fee of the building permit and avoid alerting property-tax assessors to the enhanced value of their property.

- An unemployed writer does freelance editing, but reports that she is unemployed in order to collect unemployment benefits.

- A dentist and a housepainter trade services: The dentist provides braces for the painter’s teenage daughters and the painter provides a new interior paint job for the dentist’s house. Neither reports as income the value of the services received, and thus both save taxes. They came to this arrangement at a taxpayers’ protest meeting, where they agreed that the best way to bring big government under control was to withdraw tax support.

- A semi-retired couple places a “Rooms” sign outside their home in a beach community on summer weekends. They do not report the rents collected to tax authorities.

3. Profiles are included in Ferman, Berndt, and Selo (which is an ethnographic study of the Detroit area), and in a number of popular accounts of the underground economy. For the latter, see, for example, “The Underground Economy” in *U.S. News and World Report* and “The Underground Economy’s Hidden Force” in *Business Week*.

- The two partners in a prosperous law firm take turns handling the smaller cases—usually wills and divorce proceedings. Neither reports all his income from these cases on his income tax return.

Incentives for underground activity

Diverse as underground activities are, they can usually be traced to one or more of several, sometimes interrelated incentives: the desire to evade taxes, the desire to circumvent regulations or prohibitions, the desire to circumvent eligibility and means tests for income support programs; and, perhaps least tangible and separable from the others, the desire to express disaffection with the means and goals of government.⁴

These incentives, which will be explored next, are a necessary but not sufficient condition for participation in the underground economy. The opportunity to participate must also exist, and factors related to opportunity help to explain when and where underground activities occur. Some of these factors are available time (for example, a short enough workweek in the regular economy to permit moonlighting); access to transactions where receipts can escape notice or not leave an “audit trail”; and willingness of the other party in a transaction—for example, one’s employee or employer, or buyer or seller—to go along with the evasion or circumvention.

Tax evasion is usually thought to be the most important incentive.⁵ In the United States, interest related to the underground economy has centered on Federal individual income taxes. However, other Federal income taxes, unemployment insurance and social security contributions (often referred to as employment taxes), and State and local taxes—such as sales taxes and cigarette excise taxes—are also evaded to various degrees. In other countries, more attention has been paid to evasion of value-added

taxes and employment-related taxes (which, in some European countries, amount to about one-half of basic pay). For employment-related taxes, benefits of evasion flow to both employer and employee: The employee’s wage is free of his share of the tax, and the wage bill of the employer is lower by not paying his share.

In turn, tax evasion can be related to a number of incentives. (For a survey, see Witte and Woodbury.) In general, high rates are an incentive to evade taxes. Further, a person’s likelihood of attempting to evade taxes is probably related to his or her perception of the probability of being caught and, if caught, the probability and severity of the penalty. The likelihood of attempting to evade taxes may also be related to the perception of the fairness of the tax system and of whether others—friends and associates, or “everybody”—attempt to evade taxes. In the United States, rising marginal tax rates have increased incentives to hold down tax liability, either by overstating deduction items, understating income, or both.

Further, tax evasion may occur even when it is not the prime motive. A person may, for example, work off the books in order to conceal an illegal immigration status. Another factor that contributes to pervasiveness of tax evasion as a feature of the underground economy is that the attempt to evade one kind of tax may necessitate the evasion of others. For example, an employee who tries to evade the income tax may have to evade the social security tax, because employers must report withholding for both income and social security taxes on the same Internal Revenue Service form.

The regulations that motivate underground activities impose a wide range of limitations on the conditions under which income can be earned (or from the employer’s point of view, the conditions under which workers can be employed). The benefits from circumventing these regulations are added income (or reduced costs) and greater convenience. Two important groups of regulations relate to working conditions and to eligibility for work. In the first group are regulations that stipulate a minimum wage, maximum hours and overtime, safety conditions, and environment protec-

4. Other factors that may be important, particularly in countries other than the United States, are the desire to offset the effect of adverse economic conditions and the desire for flexibility in employment arrangements (for example, work at home).

5. Tax evasion is to be distinguished from tax avoidance, although the line between them is sometimes hard to draw. Avoidance involves handling affairs in such a way as to take advantage of an alternate tax rate, deductions and credits, or an alternative method of assessment. Evasion is an illegal escape from taxes.

tion. In the second are those that stipulate a minimum age or a work permit for aliens. Also, in many jurisdictions, certification is required for the practice of a number of professions—for example, electrician, plumber, doctor and other medical personnel, and beautician. Similarly, licenses are often required for the operation of personal care facilities, such as those that provide child care or nursing. (See especially Tanzi 1983a for mention of additional kinds of regulations in goods, financial, and foreign exchange markets.)

Some potentially income-earning activities are prohibited as inherently contrary to the public interest, and it is the income from these activities that is identified as illegal-source income. Of these, trading in drugs, gambling operations (sports and horse betting, numbers games, casino games, etc.), and prostitution are the most widely prohibited. In the United States, trafficking (that is, unauthorized manufacture, distribution, or possession with intent to distribute) in drugs is a Federal offense, and prostitution is illegal in 38 States; in general, these activities, and also gambling, are more widely prohibited in the United States than in other countries. Other widely prohibited activities are loansharking (making loans at exorbitant rates), arson for purposes of fraud, and fencing (trading in stolen goods). In some jurisdictions, the production, distribution, or both, of alcoholic beverages, cigarettes, firearms, and pornographic material are prohibited.

Income support programs may require as a condition for eligibility that a person (or other persons in a household) not have a job, or they may graduate downward a person's benefits as other income rises. An obvious example is unemployment insurance, under which a person must, in some defined sense, be unemployed in order to collect benefits. At present, under the Old-Age, Survivors, and Disability Insurance program, persons who are otherwise eligible for retirement benefits lose \$1 of benefits for every \$2 they earn over a set amount—\$5,160 if they are 65 years old or under, and \$6,960 if they are over 65. In cases such as these, the circumvention of eligibility and means tests is a way of securing or maintaining the income support.

Finally, disaffection with the means and goals of government may be expressed in part by refusing to comply with tax codes or reporting requirements of government. The source of the disaffection may be general, for example, the feeling that government has gone too far in replacing individual activity, or that taxes are not being well spent to meet expressed public needs. In other cases, the source may be opposition to a particular policy or project. Increased awareness of the underground economy—even if it is not growing relative to the regular economy—may add to the perception that government is unable to deal effectively with noncompliance of various kinds. Hence, increased awareness may compound the disaffection.

Definitional issues

The discussion of activities and incentives to participate in the underground economy points to a broad, general characterization of the underground economy: economic activities—or income from those activities—that elude, wholly or partly, a tax or other reporting requirement.⁶

As the focus moves to measurement, such a characterization is not specific enough to be useful. For example, as the Internal Revenue Service has emphasized in explaining the concept of noncompliance, in *Income Tax Compliance Research: Estimates for 1973-1981*, there is no category labeled "underground economy." "This is because the amounts of unreported income which enter the estimates do not necessarily correspond to any concepts commonly associated with this metaphorical term. . . . The term 'underground economy' . . . has little meaning for tax administration purposes."

Instead, several different definitions are required, specific to the purpose or orientation. This point is brought out in table 1 by the contrast between the illustrative incomes that are in scope for income as defined for Federal individual income tax and those that are in scope for income as de-

finied in the national income and product accounts (for which GNP is a shorthand). The table shows that many of the items in scope for income tax are also in scope for GNP, and vice versa. However, income below the filing threshold, illustrated by the income of an unlicensed beautician who works out of her home, is not in scope for income tax, but is in scope for GNP. Income from illegal activities is in scope for income tax, but not for GNP; the illegality of the activity does not affect liability to pay taxes, but does affect its coverage for GNP because, by definition, GNP excludes them.⁷ Orientations other than tax compliance and GNP could be illustrated. For fiscal administration, for example, in-scope underground activities would include, in addition to tax evasion, activities related to circumventing eligibility or means tests in order to claim unemployment or other benefits (see especially van Eck).

The "notes" columns of the table make a further point that income that is not reported on tax returns does not necessarily escape GNP. This point is particularly important because it was often missed in early work on the underground economy; it was mistakenly assumed that, because income tax return information is one of the sources used to estimate GNP, unreported income on income tax returns was unmeasured income in GNP.⁸ One reason that unreported income does not escape GNP is that, to the extent that income tax return information is used in preparing the U.S. accounts, adjustments are made by BEA to cope with the misreported income. The table illustrates this reason with the income of the beautician referred to earlier. The second reason is that income tax return in-

6. As a rule, it is impossible to separate misreporting due to ignorance of the reporting requirement and due to unintentional reporting errors, on the one hand, from intentional—that is, underground—misreporting, on the other.

7. The exclusion of illegal activity from the U.S. GNP suggests that a definition of the underground economy in terms of income or production that escapes the national economic accounts must be viewed with caution—for example, in international comparisons. Not all countries exclude illegal activities from coverage in their accounts. Thus, if the same percent of all income were illegal-source incomes in two countries, but one set of accounts were designed to include illegal activities and the other were not, one country would have an underground economy under such a definition and the other would not.

8. Gutmann 1979, for example, rather clearly implies this. He purports to measure essentially tax evasion, but draws conclusions in terms of understatement of income and product.

formation is not the only kind of information used in estimating GNP—nor the incomes associated with it. The table illustrates this reason with covert rent. The estimating method uses information on the size of the dwelling, from a housing survey, and average rent of rented dwellings; neither item depends on a person's reporting his covert income from renting a room in an owner-occupied dwelling.⁹

II. Measurement: Methods and Results

Underground activities are not new, but concerted attempts to measure them are. It is already commonplace, however, to say that to measure underground activities is difficult because generally they are meant by those engaged in them to be undetected. Thus, measurement will require, at the least, more ingenuity and, in some cases, different specific data sources than those used to measure other aspects of the economy.

Measurement methods

A variety of methods has been used in the United States and other countries to measure the underground economy. The methods can be classified in several ways, including:

- Micro- versus macro-economic,
- Yielding information on compositional detail versus yielding only a single aggregate,
- Yielding information for one or a few points in time versus yielding a time series,
- Direct versus indirect.

The most commonly used classification is direct versus indirect. As used in this article, direct measures are those that depend on contact with, or observation of, persons possibly involved in an underground activity. Indirect measures resort to some kind of indicator of underground activity.¹⁰ Once the methods are classified in

this way, the other possible classifications often are characteristics of the direct and indirect methods, respectively. Direct measures often are micro in their approach and yield information on composition and for points of time; in addition, they are often lower bounds on the size of the underground economy. Indirect measures, in contrast, often are macro in approach and yield a single aggregate and a time series.

Methods of measuring the underground economy are sampled in table 2, where they are classified as direct and indirect. The direct methods shown include both surveys and tax compliance studies. Indirect methods are shown in an number of variant classified according to the kind of information used: monetary variables, demographic variables, income-consumption relationships, casual factors, and national accounting source data.¹¹

As indicated under "coverage" in table 2, the methods sampled include those that measure specific parts of the underground as well as those that measure the underground economy as a whole. One method applies to an illegal activity—heroin distribution; its inclusion highlights the kind of information available for illegal activities. Another applies to the construction industry, which is suspected of being an industry in which underground activity is widespread. Of the methods that measure the entire underground, several arrive at the estimate by measuring first a significant aspect—for example, the hidden labor market—and then evaluating in a more informal way the size of the entire underground. The monetary methods, whose introduction in the late 1970's aroused interest in the underground economy, provide one comprehensive measure. Several variants have been developed; synopses of two are provided.

The methods are drawn from those applied in the United States and in seven other countries.¹² Methods for

the United States are over-sampled in order to provide the background for the two following tables, which assemble the measures of size and growth of the U.S. underground. Recently developed or recently extended methods are also over-sampled, because the early methods—particularly the monetary methods—have been widely discussed elsewhere, and also to suggest the directions in which research on the underground economy is going.

The table shows "method" and "results" for each study. Each method has its strengths and limitations. The limitations, as a rule, are severe and—especially for the methods introduced in the late 1970's—have been extensively discussed. For example, the inability of several monetary measures to separate changes in an indicator variable due to the underground from other sources of change is well recognized, as is the likely downward bias in surveys that depend on self-reporting of underground activities. Strengths and weaknesses are highlighted in the "comments" (which do not, however, attempt to provide full critiques). (For general discussion of the various methods, see especially Frey and Pommerehne 1982 and 1984, Havrylyshyn and Woroby, and Henry 1983.)

Results: size and growth

Table 3 assembles estimates of the size of the underground economy in the United States in years ranging from 1974 to 1981. The estimates differ in the coverage of the underground they purport to measure and were prepared using a variety of methodologies (all of which were summarized, at least in part, in table 2). The estimates are shown in billions of dollars and as a percent of GNP. (The use of GNP in the percentage calculations is convenient but arbitrary; other aggregates could have served equally well.) Several show separately income earned in legal and in illegal underground activities. As a percent of GNP, legal-source income ranged from 4 to 8 percent. Illegal-source income generally was estimated to be smaller, 1 to 7 percent of GNP. For income earned in the underground economy as a whole, the estimates that are sums of legal- plus illegal-source incomes and another estimate of 8 percent of GNP are clustered in a rather narrow range. Well above

9. Off-the-book wages illustrates the combination of these two reasons. Wages are estimated in large part from information on employment tax returns (rather than income tax returns), but adjustments are made to include legal-source income that is missing from employment tax returns.

10. The direct versus indirect classification is used by, among others, Henry 1983, Stein and Wenig, Kirchgässner, and Havrylyshyn and Woroby, although their definitions of direct and indirect differ. The definitions used here are probably closest to those of Havrylyshyn and Woroby.

11. Work on another indirect method is underway at BEA. This method uses variables, by industry, that could be expected to differ depending on whether the industry is characterized by sizable underground activity or not. The results will be presented in a forthcoming SURVEY article.

12. There is evidence that underground economies exist in developed and developing countries and in countries with centrally planned and market economies. In this article, for greater comparability with the United States, references will be limited to Canada, developed countries in Europe, Japan, and Australia.

them are the estimates of 14–15 percent of GNP and then 20 plus percent ranging up to 33 percent, which are the results of monetary methods.

A range roughly as wide as that for the United States is also apparent in estimates for other countries. The estimates shown in chart 3 also vary in methodology used, coverage of the underground they purport to measure, and time period covered. The 33 percent of GNP that was the high estimate for the United States is equaled only in Italy, for which the estimates

range down to 10 percent. Anecdotal evidence suggests that the underground economy in Italy is likely to be at the high end of the range for industrial countries. For Germany, the estimates range from 2 to 12 percent of GNP, and for Sweden, from insignificant to 17 percent. Sweden is of particular interest because taxes and social security contributions take an especially large share of income and because regulation is extensive, but, on the other hand, the social fabric is tightly knit. Outside Europe, the esti-

mates for Canada range from 5 to 22 percent, those for Australia range from 3 to 13 percent, and those for Japan from 4 to 15 percent.

The rate of growth of the underground economy, particularly in comparison to that of the measured economy, is perhaps of even more interest than its absolute size. Table 4 assembles various estimates of the average annual rate of growth of the underground economy over various periods from 1974 to 1981 and, in the addendum, the rate of growth of measured

Table 2.—Synopses of Methods Used to Estimate the Underground Economy

Study:	Internal Revenue Service (IRS), Appendix B of Income Tax Compliance Research: Estimates for 1973–1981	Internal Revenue Service (IRS), Appendix C of Income Tax Compliance Research: Estimates for 1973–1981
Approach:	A direct approach, based on results of audits under the Taxpayer Compliance Measurement Program (TCMP), which are available for selected years since 1963, and results of the Information Returns Program (IRP)	A direct approach, based on demographic and income data from the Current Population Survey (CPS) and corresponding records of the Social Security Administration (SSA) and IRS
Coverage.— Activity/ persons: Country: Year(s):	Misreporting of legal-source income by persons who filed individual income tax returns United States 1976 (with projections for 1979 and 1981)	Income of persons who did not file Federal individual income tax returns (nonfilers) United States 1972 and 1977 (providing estimates for 1973, 1976, 1979, and 1981)
Method:	<i>Intensive audits of a probability sample of 50,000 taxpayers who filed individual income tax return Form 1040.</i> The samples were stratified by business/nonbusiness and by level of reported income. Every item on the return (e.g., “wages, salaries, tips, etc.,” “dividends,” and “moving expenses”) was examined. The results were blown up to a national total for all returns filed. For a subsample of 11,000 returns, all relevant information returns (reports by the payers of income, e.g., W-2 forms on wages and salaries) were compared with the audit files (before taxpayer appeal). The comparison study showed that TCMP audits detected about 23 percent of unreported income covered by information reports. This percentage was used to develop a single multiplier with which to scale up the TCMP results.	<i>Comparison of reports and returns in an exact-match file.</i> For the 1972 CPS–IRS–SSA exact-match file, the starting point was the March 1973 CPS, a household survey involving a sample of 50,000 households containing about 100,000 persons 14 years or older. Interview data—income and demographic data, and social security numbers for income earners—were matched by the Census Bureau (under tight confidentiality procedures) on a record-by-record basis with earnings and benefit data from SSA records. Then the matched survey–SSA records were matched with a limited set of items from 1972 income tax returns (if any) in the IRS Individual Master File (IMF). Records were matched primarily on the basis of social security numbers. The exact-match file was used to tabulate records for which there was no IMF record of filing a return. The income of the nonfilers was constructed from income reported in the survey, and the results blown up to a national total. The 1977 exact-match study was a short-cut version of the 1972 study.
Results:	Underreported legal-source income of filers was \$78.3 billion in 1976. This amount is 6 percent of total (underreported and reported correctly) legal-source income. Of the total, \$28.9 billion was in nonfarm proprietors’ income and \$10.8 billion in wages and salaries. In addition, deductible items were overstated \$20.8 billion, so that total misreported income was \$99.0 billion.	For 1976, almost 5 million nonfilers were estimated. The associated income was estimated to be \$53.2 billion. Wage income accounted for about 65 percent of the total and business income (mainly nonfarm proprietors) for about 16 percent. Of the total number of nonfilers, 4.2 million should have filed returns but did not. The associated income was \$46.3 billion.
Comments:	The IRS noted that the TCMP does not adequately measure misreporting associated with illegal or “off-the-book” activities, even though—in principle—incomes from these activities are covered by the sample when earned by individuals who file tax returns. The TCMP is recognized as biased in that it detects overstated deductible items more completely than understated income. The use of a multiplier to scale up TCMP results, which was partly to offset this bias, was new; its validity will be tested further.	The estimation of nonfiler incomes by source of income is more difficult than estimation of the number of nonfilers. For several reasons, the income reported by a nonfiler on a household survey is an imperfect indicator of income that should be reported to IRS. A major reason is that a person who has not filed may be reluctant to report all income to survey interviewers.
Addenda:	The IRS publication also provided estimates of nonfilers’ income (see the synopsis of Appendix C of the IRS publication), of income in parts of the illegal sector, and of noncompliance for corporations, fiduciaries, and tax-exempt organizations.	The IRS publication also provided estimates of other income not reported to IRS; see the synopsis of Appendix B of the IRS publication. See Kilss and Scheuren, “The 1973 CPS–IRS–SSA Exact Match Study,” for a summary description of the File.

GNP.¹³ For both 1974-80 and 1976-80, measured GNP grew at an annual rate of 11 percent. Estimates of the growth of the underground range from slightly less than that of GNP to more than that of GNP—14 percent (two estimates)—and substantially

more—19-20 percent. A well-publicized estimate by Feige for 1976 and 1978 implied an annual rate of growth between those years of 38-55 percent. (Later work by Feige included a time series, but only in chart form.) For perspective on the Feige estimates, the growth of the underground over this shorter period was calculated for the two time-series estimates by Gutmann and Tanzi; the rates shown were much lower, 10 percent and 19 percent.

Results: an eclectic sketch

Various studies of the underground economy or parts of it—those summarized in table 2 supplemented by others—can be pieced together to provide an eclectic sketch of the dominant features of the part of the U.S. underground economy that yields legal-source income. These activities account for the bulk—at least one-half and up to as much as three-fourths—of the U.S. underground

13. Denison did not estimate the growth per se of the underground economy and therefore it is not included in the table. He did, however, evaluate whether the growth of measured GNP was increasingly understated because of the underground economy, and concluded that it was not.

Table 2—Synopsis of Methods Used to Estimate the Underground Economy—Continued

Study:	James D. Smith, Terry E. Moyer, and Eileen Trzcinski, "The Measurement of Selected Income Flows in Informal Markets"	Hannelore Weck-Hannemann and Bruno S. Frey, "Measuring the Shadow Economy: The Case of Switzerland"
Approach:	A direct approach in that a survey of participants was used, but the responses related to consumer purchases, rather than sales made "on the side"	A direct approach in that a survey was used, but the responses were by experts on the shadow economy, rather than participants in it
Coverage.— Activity/ persons:	Activities involving "cash-related informal arrangements that are at the core of the 'underground economy'"	The part of the economy that should be in GNP according to accepted standards of national accounting, but is not because of shortcomings of the measurement apparatus
Country: Year(s):	United States 1981	Switzerland 1983
Method:	<i>Consumer expenditure survey that included questions about purchases in the informal economy.</i> About 2,100 households in a stratified random sample were interviewed by telephone. Questions about purchases from informal suppliers were included within a set of questions (broadly economic in nature) that are asked in the monthly Survey of Consumer Attitudes. In addition to having the survey done by a private (rather than government) organization, purchasers (rather than suppliers) were surveyed in order to minimize concerns of respondents; the suppliers work at the margin of conformity with licensing, permit filing, and performance code requirements, and were deemed less willing to talk than purchasers. Focused discussion groups and pretests had indicated that the term "on the side" was a well-established part of the national vocabulary used in referring to informal vending arrangements.	<i>A questionnaire about the shadow economy mailed to experts.</i> The experts chosen were people who through their professional capacity had information about those working in the shadow economy, but they were asked for their personal evaluation (rather than the official position of the public and private institutions with which they were associated). The questions asked related to: the extent of the shadow economy by sector and occupation, the share of full- and part-time workers, hours per week, and participation of foreigners. Responses were received from 26 experts from 13 institutions; 21 experts answered all questions. The answers were aggregated to the level of the 13 institutions, and then each institution was given equal weight in the averages computed.
Results:	About \$42 billion—1.5 percent of GNP—were purchased from informal suppliers in 1981; this amount is viewed as an upper limit. The goods and services supplied ranged widely, although home repairs plus food accounted for about one-half. Although "significant," this amount does "not appear to be as large as implied in discussions which refer to an 'underground economy' (McCrohan and Smith)." Gross purchases were converted to net income of about \$25 billion by multiplying by 59 percent (based on business income shown on schedule C of tax returns).	Shadow production was largest (5-10 percent of measured) in farming, construction, gastronomy, and repair and household services; 2-5 percent in textile/clothing, timber/furniture, retail trade, education/culture/leisure, and health/body care; and insignificant in other sectors. By occupation, shadow activities were most common (10-20 percent) for gardeners, masons and painters/plasterers, waiters, cleaning personnel, and domestic servants; 5-10 percent for farmers, carpenters, mechanics, attorneys, physicians, and hairdressers; and less for other occupations.
Comments:	The study was conducted by the Survey Research Center of the University of Michigan for the Internal Revenue Service, which did not receive any data that allowed for identification of individual respondents. Disadvantages of surveying purchasers include: Purchasers may not be able to recognize informal suppliers; purchasers can supply only a limited amount of information on suppliers' characteristics; and the survey could only pick up consumer (rather than business) purchases.	The authors rejected a random sample of the population because a substantial part of shadow activities are thought to be by clandestine foreign workers who would not be on a list from which a sample would be drawn. They thought expert opinion was useful because Switzerland is a small, open economy for which there is prior knowledge about the distribution of the shadow economy. They cited two disadvantages: the conscientiousness with which the responses were prepared was difficult to check (although the experts appeared to have little or no incentive to bias them) and the sample size was small.
Addenda:	The study was summarized in <i>Income Tax Compliance Research: Estimates for 1973-1981</i> and in papers by the study's authors. See, e.g., McCrohan and Smith, "Informal Suppliers in the Underground Economy."	

economy, although it is not clear whether they are the faster growing part of it or not. (Of the estimates in table 4 that show legal- and illegal-source income separately, one shows legal-source income growing faster and the other shows it growing slower.)

The opportunity to engage in these activities is greatest when the transaction is visible only to two parties. More specifically, opportunity is greatest when cash (or other goods and services, as in barter), rather than check or credit card, is used in payment and when there is little

other evidence of the transaction.¹⁴

14. Early work on the underground economy focused on the use of cash; see especially Henry 1976 and Gutmann 1977. More recently, the extent to which cash transactions are an essential ingredient has been debated. On the one hand, Louis Harris, based on a poll conducted by his organization, said, "To a large degree, the underground is fueled by cash." Further, he noted that use of extra income to pay bills in cash

Table 2.—Synopses of Methods Used to Estimate the Underground Economy—Continued

Study:	Arne Jon Isachsen, Jan Tore Klovland, and Steinar Strøm, "The Hidden Economy in Norway"	Jiri Skolka, "The Economics of the Shadow Economy"
Approach:	A direct approach, based on survey responses, stratified by age, sex, and education	A direct approach, based on data from several surveys
Coverage.— Activity/ persons:	Unreported income from work and other aspects of the hidden labor market	Parallel economy (see "Method," below) in residential construction
Country: Year(s):	Norway 1980 (updated as described in "Addenda," below)	Austria 1969, 1980, and 1982
Method:	<p><i>Mail-back questionnaire about participation in hidden labor market.</i> Of almost 1,200 respondents interviewed in a regular survey conducted by a private polling organization, 70 percent returned the questionnaire. Respondents were asked: if they bought or sold labor services in the hidden labor market during the past 12 months, the price of services bought or sold, the number hours worked in the hidden labor market, and if participation in the hidden labor market is common in the respondent's profession.</p> <p>To calculate hidden labor income as a percent of GNP, reported hours worked in the hidden labor market were valued at regular market prices (instead of prices actually charged). (Prices in the hidden labor market were less than 40 percent of prices in the regular market, perhaps because they represented work for friends or family or work outside one's regular profession.) An alternative calculation was designed to counter downward bias: A respondent who said that hidden work was common in his profession, but denied doing such work himself, was assigned his estimate of average hours worked by others in the hidden labor market.</p>	<p><i>Surveys related to selected aspects of residential construction.</i> The parallel economy in construction includes off-the-books business by construction firms, moonlighting, and do-it-yourself (DIY) (see "Comments," below); surveys were able to capture only moonlighting and DIY activities. The surveys included: (1) all single-family houses built in two areas of Austria and one-third of those built in another, conducted by the Research Institute of the Construction Industry in 1969; (2) a sample of 1,500 houses, conducted by the construction materials industry in 1980; and (3) and (4), unidentified small special surveys.</p>
Results:	<p>Over one-third (38 percent) of respondents reported being either buyers, or sellers, or both in the hidden labor market: 18 percent being sellers, 26 percent being buyers. Hidden work amounted to 2.3 percent of the 1979 GNP. The alternative calculation yielded 5.7 percent of GNP.</p> <p>Other aspects of services in the hidden labor market were: hours worked in supplying them declined with age; supply first increased and then decreased with education; and demand for them increased with education. About 80 percent was paid for in cash.</p>	<p>Keyed to survey as numbered above: (1) Combined share of moonlighters and DIY differed according to the construction phase: from over 60 percent, for the basement, to 13 percent for others. (2) Their share in total costs (including materials) was 30-40 percent. (3) In 1981, 10.8 billion square meters of tiles were imported, and all tile used in Austria is imported. Tile-laying firms laid 4.8-5.1 billion square meters (3,000 employees times average productivity of 1,600-1,700 square meters per man-year), so roughly one-half was laid by moonlighters or DIY. (4) Moonlighters accounted for 26 percent of the gross output of new residential plumbing.</p>
Comments:	<p>The authors were concerned about downward bias in survey results due to reluctance to acknowledge participation in the hidden labor market. A mail-back questionnaire, rather than an interview, was used to help overcome this reluctance. The alternative calculation of hidden income had a similar purpose. One hypothesis to explain the decline from 1980 to 1983, described below in "Addenda," was increased reluctance following attention given the hidden labor market as a result of the first survey.</p>	<p>Austria follows the United Nations System of National Accounts, in which the production boundary for gross domestic product is defined to include own-account fixed capital formation, including the value added in building, enlarging, or improving of one's own house. Thus, DIY residential construction is included in the national accounts.</p> <p>Not all of the output of the parallel activities is missing in estimating the Austrian national accounts because they are based on information on finished houses (size in square meters) and average rent.</p>
Addenda:	<p>Updated in Isachsen and Strøm, "The Size and Growth of the Hidden Economy in Norway": A 1983 survey showed a modest but "not significant" decline in hidden labor income, to 2 percent of GNP. The 1983 survey asked about total hidden income; if hidden labor income accounted for 2 percent of GNP, total hidden income accounted for 3 percent. An "educated guess" was that the hidden economy was between 4 and 6 percent of GNP and has not grown relative to GNP in the last several years.</p>	<p>This study also describes other efforts to measure the parallel economy in Austria.</p>

This situation arises most commonly in small operations—small especially with regard to the number of people (for example, a proprietor working

alone or with one or two assistants), but sometimes also with regard to the amount of time (temporary or seasonal work), capital investment, and transaction value. The industries in which these conditions are widespread include trade, services, construction (especially residential), and farming. (See Feffer et al. for a case study examining the construction industry to see in what kind of transactions the opportunity to engage in underground activity arises.)

A wide range of goods—often consumable goods and specialty products—and services are involved in what the Internal Revenue Service has called the “core” of the underground—a variety of informal, often cash-related, arrangements. These goods and services include home repair and additions (carpentry, painting, etc.), food and catering, child care, lawn maintenance, domestic service, and auto and appliance maintenance (see Smith,

“is the tip-off on underground income.” (“Answers that Unveil the Underground Economy,” *Business Week*.) On the other hand, James D. Smith 1983 reported that the results of the survey he conducted “cast some doubt upon the role of cash in the informal economy.” In early work, it was presumed that cash transactions were used in lieu of check transactions to avoid leaving an audit trail. In Smith’s study, it appeared that the use of check or currency was determined by the same factors as in the regular economy.

Table 2.—Synopses of Methods Used to Estimate the Underground Economy—Continued

Study:	Carl P. Simon and Ann D. Witte, Chapter 6, “Heroin,” in <i>Beating the System</i>	Edgar L. Feige, “A New Perspective on Macroeconomic Phenomena—The Theory and Measurement of the Unobserved Sector of the United States Economy . . .”
Approach:	A direct approach, based on four descriptions of the heroin distribution industry in New York City in the early 1970’s and law enforcement reports	An indirect approach, based on monetary variables and GNP
Coverage.— Activity/ person:	Income originating in the distribution of heroin	Market portion of the sector that is unobserved (i.e., not captured in the national income and product accounts either by convention or non- or under-reporting)
Country: Year(s):	United States 1974	United States 1939-79 (presented in a chart)
Method:	Two estimating methods were used: (a) <i>Blowup of detailed study of the heroin distribution industry in New York City.</i> National income originating in distribution of heroin for the United States was assumed to be 10 times that estimated for New York City. The assumption was based on the ratio of the number of New York City heroin users to the number of U.S. heroin users. (b) <i>National income=supply X price X ratio of value added to total cost:</i> 6.16 metric tons x “less than \$1.43 per milligram” x (324/470). The ratio of value added to total cost was from the study of New York City noted above. Assuming the number of addicts and the supply were constant from 1974 to 1976, only price had to be adjusted to provide estimates for 1974; a price ratio of (100/130) was used.	<i>Transactions-income relationship.</i> It was assumed that: (a) the ratio of net transactions to total (observed plus unobserved) income is constant; (b) GNP, adjusted to exclude Federal expenditures and imputed income, equaled total income in 1939 (the benchmark year). Monetary transactions were calculated as: (the level of demand deposits x turnover rate) + (level of currency outstanding x turnover rate), adjusted to exclude several categories of major financial transactions, direct transfers, Federal personal and corporate income taxes, and personal contributions to social security. To obtain unobserved income for a given year: (1) multiply adjusted GNP by the benchmark transactions-income ratio to obtain the value of transactions associated with measured GNP; (2) subtract the result of step (1) from total transactions to obtain transactions associated with unobserved income; (3) divide the result from step (2) by the benchmark transactions-income ratio to obtain unobserved income.
Results:	National income originating in heroin distribution in 1974 was estimated to be \$3.2 billion according to method (a) and \$5.0 billion according to method (b).	The monetary unobserved sector was found to be over \$600 billion in 1979, or 27 percent of measured GNP. From 1968 to 1979, the sector displayed “marked growth,” interrupted only in 1972 and 1976-77. Porter and Bayer (see “Comments,” below) prepared a time series intended to replicate Feige’s method of measuring the unobserved monetary sector. It showed about the same percent of measured GNP in 1979 as Feige did (26 percent) and 60 percent of measured GNP in 1981.
Comments:	Heroin is the most thoroughly documented part of the underground economy, because of research interest in it and Federal law enforcement efforts.	A recent comprehensive critique of this and other monetary methods is by Porter and Bayer. They point out: (1) several of the major movements in the transactions-income ratio may be explained by factors unrelated to the underground economy; (2) choice of a benchmark year is arbitrary; (3) the method implies an unlikely increase in the total income velocity of money; and (4) implementation of the method is severely hampered by data problems. They conclude that problems such as these call into question the basic reliability of the monetary approach.
Addenda:	The Internal Revenue Service report <i>Income Tax Compliance Research: Estimates for 1973-1981</i> summarized a consumption-based approach that used information from the National Narcotics Intelligence Consumers Committee. The estimate of income not reported on tax returns that originated in the distribution of heroin was \$3.94 billion in 1976.	The method described is a modification of the method presented earlier by the author. It has been applied in several countries other than the United States despite strong criticism.

Moyer, and Trzcinski, and Ferman and Berndt).

If estimates of noncompliance with Federal income tax laws are taken as indicative of the underground economy, one-third of the underground's legal-source income is in wages and salaries and another one-third in income of the self-employed, that is, professionals like doctors and lawyers, other nonfarm proprietors, and farmers (table 5). For wages and salaries, where there are both withholding and information returns (W-2 forms), income not reported represents only about 6 percent of the wages and salaries that should have been reported;

about 94 percent of wages and salaries were voluntarily reported on tax returns. For self-employment income, where there is no withholding and where limited requirements for information returns were put in place only recently, about 41 percent was voluntarily reported.

Who participates in the underground? If estimates of noncompliance with tax laws are again taken as indicative, participation is rather widespread: Surveys show that 20 to 25 percent of the people interviewed admit to some kind of noncompliance. Persons who are younger, in higher and lower (rather than middle)

income groups, are self-employed, and have more education reported lower compliance levels than others (see Witte and Woodbury). Other survey evidence indicates that one of five households has at least one member engaged in some informal—that is, “on the side”—way of earning income (see Smith, Moyer, and Trzcinski).

Work in the underground may be either full- or part-time, and may be either a person's only work or may be in addition to work in the regular economy. Of informal suppliers to consumers, about one-quarter had regular jobs, so that their underground income supplemented regular

Table 2.—Synopses of Methods Used to Estimate the Underground Economy—Continued

Study:	Vito Tanzi, "The Underground Economy in the United States: Annual Estimates, 1930-80"	Bruno Contini, "Dropping Out: Notes on the Italian Economy"
Approach:	An indirect approach, based on annual data on currency, money (M2), share of wages and salaries in national income, interest rate on time deposits, real per capita income, and taxes defined in two ways	An indirect approach, based on demographic data (labor force participation rates and various sources about irregular employment by sector)
Coverage.— Activity/ persons: Country: Year(s):	Legal-source underground income induced by income taxes and presumably not reported to tax authorities United States 1930-80	Irregular employment, defined as jobs outside the social security system Italy 1977
Method:	<i>An econometric demand-for-currency equation that links the size of the underground to incentives to evade taxes. The demand for currency relative to M2 is expected to be negatively related to real per capita income and to the rate of interest on time deposits, and positively related to the share of wages and salaries in national income and to taxes, where taxes are defined as (a) a weighted average tax rate on interest income and (b) the ratio of total income tax payments (after credits) to adjusted gross income. The equations are used to calculate the level of currency, first, with all dependent variables at actual values and, second, with taxes assumed to be zero rather than actual values. The difference is currency holding that is tax induced, i.e., the amount of "excessive currency." If it is assumed that the income velocities of money in the underground and regular economies are the same, excessive currency times income velocity yields estimates of underground income. (If it is assumed that average tax liability is the same for underground income as regular income, the amount of tax evasion can be calculated.)</i>	Two estimating methods were used: (a) <i>Irregular work force as the difference between the official participation rate and that found in two ad hoc surveys. The official participation rate had declined rapidly from a high in 1959 and was well below that in other countries. The ad hoc surveys in 1971 and 1977 were assumed to be correct. For 1977, a conservative estimate was that 17 percent of the total working population was engaged in irregular employment.</i> (b) <i>Irregular work force on the basis of various indicators. In manufacturing, the irregular work force was estimated by at-home work; in construction, mostly by multiple job holders and those who officially were unemployed; and in services and trade, by multiple job holders (many of whom worked in the public sector). The sum of these estimates amounted to about 20 percent of the total working population.</i>
Results:	Underground income was 4.5 and 6.1 percent of GNP in 1980 (the range reflecting the alternative tax variables). A clear upward trend from 2.5-3.8 percent of GNP in the mid-1960's was apparent; the trend seems to have accelerated in recent years.	The 17-20 percent of total working population as irregular workers translated, after accounting for second jobs that may be excluded from both methods, to 14-20 percent of GNP.
Comments:	This method was designed to take account of influences other than underground activity on the demand for currency. The study recognized that the estimates were not directly translatable into income missing from the economic accounts. A recent comprehensive critique of this and other monetary methods is by Porter and Bayer. Among the points they make about this method are: (1) the relationship between currency and taxes breaks down after 1945 and (2) the estimates would be smaller if it were assumed that the threshold tax level that induces underground activity were more than zero.	Method (a), as a residual method, assumed that there were no factors other than those related to irregular work that influenced the participation rate. The translation—in effect, based on an assumption about the productivity of irregular workers—of the percentage of irregular workers to the percentage of GNP was noted as being very difficult but was not explained.
Addenda:	This study is an extension of the author's earlier work. The method has been applied to several countries other than the United States.	The author's work underlying method (a) is detailed in "Labor Market Segmentation and the Development of the Parallel Economy—The Italian Experience."

income (see Smith, Moyer, and Trzcinski). Workers include not only those employed in the regular economy, but also persons currently unemployed in the regular economy and persons—such as children and retirees—not officially in the labor force. Work in the underground cuts across racial, ethnic, social, and occupational groups (see Ferman and Berndt).

Underground participants have sev-

eral kinds of buyer-seller relationships with the regular economy. Underground producers buy and consume the variety of raw materials and services produced in the regular economy. For example, an artist who sells a painting (but does not report the income) buys his canvas, paint, and brushes in the regular economy. Underground participants also repair (and redistribute) and repair

the products of the regular economy. Some of the goods produced, furthermore, are sold in the regular economy; the painting just mentioned might be sold to a gallery that resells it in a wholly regular way (see Ferman and Berndt).

The sketch that emerges of the part of the underground engaged in the production of legal goods and services—of the kinds of transactions, of

Table 2.—Synopsis of Methods Used to Estimate the Underground Economy—Continued

Study:	Andrew Dilnot and C. N. Morris, "What Do We Know About the Black Economy in the United Kingdom?"	Bruno S. Frey, Hannelore Weck, and Werner W. Pommerehne, "Has the Shadow Economy Grown in Germany? An Exploratory Study"
Approach:	An indirect approach, based on income data and expenditure data (diary book entries and hire purchase information for two-week periods) from the Family Expenditure Survey (FES)	An indirect approach, based on indicators, as described below, of costs and benefits of becoming active or stepping up activity in the shadow economy
Coverage.— Activity/ persons:	Households whose reported expenditures appeared inconsistent with reported income	Economic activity that should be included in national income according to national accounting conventions, but is presently not registered by societal measurement agencies
Country: Year(s):	United Kingdom 1977	Germany 1960-78
Method:	<p><i>Examination of behavior and characteristics of households whose reported expenditures appeared inconsistent with reported income.</i> The underlying assumption is that income earned in the black economy is underreported more than are expenditures. A detailed examination of income-expenditure relationships for 1,000 households was used to develop the identification technique applied to the sample (7,200 households). Rough adjustments were made to exclude "lumpy" expenditures; to subtract recorded tax and National Insurance contributions to derive net income; and to scale up out-of-date self-employment income. Using all available information in the FES (about 680 income and expenditure variables and household characteristics), the study examined a sample of households for which the ratio of expenditures to reported income exceeded, first, 1.5, and then decreasing amounts, down to 1.15. Several "traps" excluded (or put only in the upper-bound estimate) certain households,—e.g., pensioners—for which the explanation of the expenditure-income relationship did not appear to be the black economy.</p> <p>The percentage of households in the sample that were in the upper and lower bounds was applied to the total population and multiplied by the average amounts of difference between income and expenditures to obtain an estimate of the black economy.</p>	<p><i>Sensitivity analysis based on incentives contributing to existence of a shadow economy.</i> It was assumed that the shadow economy will be larger: (1) the higher the costs of working in the nonshadow sector, (2) the lower the costs of working in the shadow sector, and (3) the lower the psychological barriers of switching to the shadow sector. Costs in (1) were implemented as taxes (share of direct and indirect taxes and social security contributions in GDP) and as regulations relating, e.g., to health, safety, and environmental standards for a job or a production process (share of number of full-time, general-administration federal officials in total employment); costs in (2) were implemented as effective workweek (for males) and participation rate (for males), and barriers to switching in (3) were implemented as an index of decline in tax morality. In addition, account was taken of a structural effect: the share of foreign workers, who have a particularly strong inclination to work in the shadow economy.</p> <p>The usual econometric procedure was "reversed:" assumptions were made about the weight of the six explanatory variables in order to infer the dependent variable (the shadow sector's size). Soft modeling, which uses rankings as weights, was one of the techniques used.</p>
Results:	<p>"Results are consistent with the position that although a substantial portion of the population may participate in the black economy, it accounts for no more than 2 to 3 percent of national income."</p> <p>Self-employed persons of all types were the most likely to participate, and others were more likely to if their work was part-time.</p>	<p>Except in one subperiod, all factors contributed to an increase in the shadow economy from 1960 to 1978. Thus, "with some confidence," it was concluded that "the shadow economy has been of increasing importance in recent decades in Germany, relative to measured GNP."</p>
Comments:	<p>In the study it was noted that the FES may not be representative if the 30 percent who declined to participate were more actively engaged in the black economy than those who did participate. In addition to the key assumption already noted, the study assumed, in making the calculation of the size of the black economy, that all income earned in the black economy was already spent. Further, the study was limited to those who spent more than 115 percent of income, although no rationale for that particular percentage was provided.</p>	<p>The authors noted that the method is limited to indicating growth of the shadow economy over time, but that it has the advantage of working with several factors (not just tax burden, as had been done earlier) that may determine the shadow economy. The method depends critically on having a good list of these factors and data with which to quantify them.</p>
Addenda:		<p>The authors have developed this approach for other countries, including the United States. See Frey and Pommerehne, "The Hidden Economy: State and Prospects for Measurement" and Weck, Pommerehne, and Frey, <i>Schattenwirtschaft</i>.</p>

the number and variety of participants, and of the kinds of work and buyer-seller relationships maintained with the regular economy—confirms the diversity first noted with regard to the list of underground activities at the beginning of the article. It suggests that, even for this part of the underground, reference to it as an “economy” should not be taken to imply more unity within itself and

separateness from the regular economy than is actually the case.

The information on which this sketch is based is incomplete in many ways and further research will probably show that it is flawed as well. The information on the part of the U.S. underground that yields illegal-source income is even more limited. Until the last few years, quantification had centered on drug trafficking,

prostitution, and gambling (which are mentioned in descending order of size).¹⁵ (For surveys of illegal activities, see Simon and Witte, and Abt Associates, Inc.) Trafficking in drugs

15. Very little information is available about illegal activities in most countries. Blades 1983 suggests that the size of the illegal underground in the United States is probably the upper limit for most other industrialized countries.

Table 2.—Synopses of Methods Used to Estimate the Underground Economy—Continued

Study:	Kerrick Macafee, “A Glimpse of the Hidden Economy in the National Accounts of the United Kingdom”	G.A.A.M. Broesterhuizen, “The Unobserved Economy and the National Accounts in the Netherlands: A Sensitivity Analysis”
Approach:	An indirect approach, based on income and expenditure estimates of gross domestic product (GDP)	An indirect approach, based on sources and methods used to estimate components of gross domestic product (GDP)
Coverage.— Activity/ persons:	Factor incomes not reported to tax authorities	Income that should be included in national accounts but is not because of underreporting of income or product, or overreporting of intermediate inputs
Country: Year(s):	United Kingdom 1960–78 (updated as described in “Addenda,” below)	Netherlands 1979
Method:	<i>Difference between the independently estimated expenditure and income measures of GDP.</i> The income measure is estimated mainly on the basis of tax revenue information, and is known to be biased by underreporting. The expenditure measure is estimated mainly from a wide range of business and household surveys designed for statistical purposes and from government accounting records, and it is thought that there is little reason to suppose that it is biased downward except for sensitive expenditures (for example, on illegal activities) and hidden income-in-kind. The difference between the two measures is called the initial residual difference (IRD). The IRD results from (a) underreporting of factor incomes, (b) timing errors, and (c) sampling and other errors. The trend line of the IRD is an estimate of unreported factor income; the trend value, called the “evasion adjustment,” is added to the income—mainly self-employment incomes, with smaller adjustments to wages and salaries and to profits—to get an adjusted income measure.	<i>Evaluation of GDP components for susceptibility to underreporting of income or product or overreporting of intermediate input (called “fraud”).</i> Each component of GDP is assigned to one of six categories based on the method used to estimate it or on the part of the economy to which the data relate. E.g., categories 1 and 2 contain data based on indirect estimation methods and data on government, respectively; these categories are assumed to be virtually free of fraudulent production. Categories 5 and 6 cover very small firms and data based on tax files, respectively; these categories are assumed to be susceptible to large bias due to fraud. For each of the six categories, an upper limit of “fraudulent” production, as a percent of measured production, is assumed. The measured production is multiplied by this assumed percentage: E.g., 0 percent for categories 1 and 2, 30 percent for category 5, and 40 percent for category 6. When summed, and the allowance for fraud included in the statistics on measured production subtracted, the result is an upper bound on the level of all fraudulent production. A similar method is used to find an upper bound for the bias that the growth of fraudulent production imparts to the measured growth rate.
Results:	Unreported factor income (as indicated by the trend of IRD) increased over the period to 2½ percent of GDP in 1978. The IRD itself, which provides “some indication of the size of the hidden economy and its growth,” was 3½ percent of GDP that year. The hidden economy appeared to have grown, but not substantially so.	Upper bound for level of fraudulent production in 1979 was 4.8 percent of GDP. Upper bound for bias in the officially measured growth rate is about 0.5 percentage points.
Comments:	The author notes that the evasion adjustment is not a measure either of the total size of the hidden economy (it omits the part that is concealed from both income and expenditure measures) or of total income on which taxes are evaded (it omits nonfactor incomes). The measure is not applicable to all countries, in part depending on the extent to which and how tax return information is used in estimating national accounts. As a “residual” method, a difficulty is that factors other than the hidden economy may affect the result.	The GDP of the Netherlands is primarily a production measure—i.e., gross value added generated by producers, with measurement directed at the producers—that is tied to the annual input-output table. This orientation is reflected in the definition of “fraud” in terms of understatement of income or product and overstatement of intermediate inputs. The authors noted that national accountants often face tradeoffs between bias due to fraud and bias due to statistical errors (e.g., sampling bias and undercoverage).
Addenda:	Updated in <i>Economic Trends</i> (October 1983): As a percent of the expenditure measure of GDP, the IRD trend rises from 1½ percent in the 1960’s to 2¼ percent in 1975–76, and then falls to 1¼ percent in 1980–82. The IRD itself was highest (about 4½ percent) in 1976, fell steadily to 0 in 1980, and rose to 1¼ percent in 1982.	A similar approach was used by Fisher, in “An Expenditure Approach to Estimation of the Hidden Economy and Informal Labour Market,” for Australia.

was best documented, in part reflecting concern from a law enforcement point of view with its rapid growth. Research is now extending into other illegal areas. An important part of research—for the legal part, as well—will be to develop further the methods summarized in table 2 that provide information on the composition of underground activities: who, where, how, and under what circumstances.

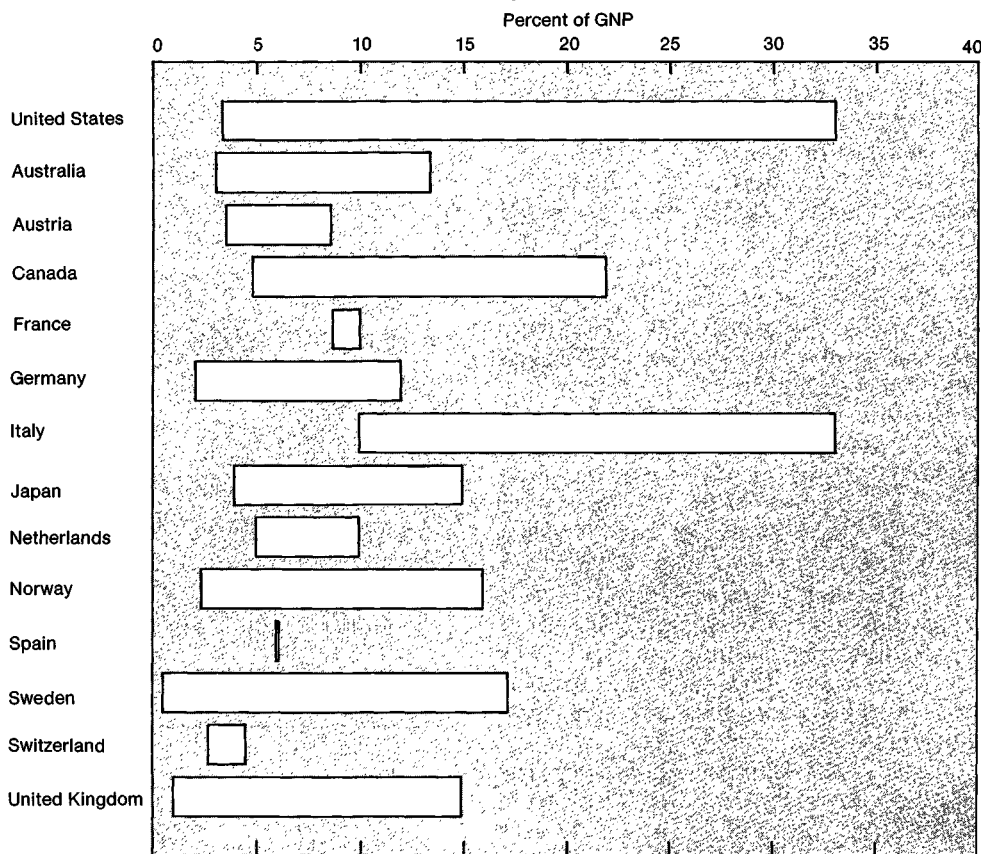
III. Implications

The existence of a “sizable” underground economy and one that may be growing relative to the regular economy has several implications. The implications for major economic statistics and policy based on them will be explored following brief mention of three other areas.

First, because a major part of the activities in the underground economy involves tax evasion, loss of public revenue is clearly an important implication. The revenue loss associated with the \$132 billion (mentioned in table 3) in unreported legal-source income on Federal individual income tax returns in 1976 was \$35 billion—about one-quarter of collections from

CHART 3

Estimates of the Size of Underground Economy in Selected Countries



NOTE.—The estimates are from many sources; when a range is shown, the high and low estimates for a country may bracket one or more estimates. Both among countries and for a particular country, the estimates vary in the scope of the underground economy measured, the methodology used, and the time period covered.

U.S. Department of Commerce, Bureau of Economic Analysis

Table 3.—Estimates of the Size of the Underground Economy in the United States, 1974-81

Estimator	Estimate				
	Coverage	Year	Billions of dollars	Percent of GNP ¹	Percent of alternative aggregate used by the estimator
Gutmann	1977	1976	176	10	
	1983	1981	420	14-15	
Feige	1979	1976	226-369	*13-21	Economy (GNP + unobserved): 12-18* 20-25.*
		1978	542-704	*25-33	
	1980	1979	600+	27	
Tanzi	1983	1974	71	5	
		1977	100	5	
		1979	130	5	
Internal Revenue Service (IRS)	1979	1976	75-100 25-35 100-135	*4-6 *1-2 *6-8	Income reportable on tax return: Legal-source—6-8.
	1983	1976	132 13 145	*8 *1 *8	Income reportable on tax return: Legal-source—10.
Simon and Witte	1982	1974	63-84 37-93 100-177	*4-6 *3-7 *7-12	Domestic income: 6-7.* 3-8.* 9-16.
Frey and Pommerehne	1984	1978	.....	8	

*Calculated by BEA (not supplied by estimator) using GNP as shown in the October 1983 SURVEY

1. GNP as defined by BEA.

2. Defined as activity that “wholly escapes the ministrations of the tax collector and very largely that of the statistician.”

3. Defined as activity that escapes “society’s current techniques of monitoring economic activity” or the “current societal measurement apparatus.”

4. Weighted tax rate variant.

5. Does not include legal-source income of corporations or fiduciaries or legal-source unrelated business income of tax-exempt organizations.

6. Includes incomes from activity primarily aimed at evading taxes plus income of illegal aliens.

NOTE.—Estimates are rounded to nearest billion dollar or nearest percent.

the individual income tax.¹⁶ The revenue loss projected for 1981 was \$75 billion. This loss raises issues of equity and efficiency, and losses on other Federal taxes and on State and local taxes have the same effect. For a given level of taxes, the rate on reported income will have to be higher; that is, the burden of providing revenue to support the services provided by government to all—including the underground—is carried by those who do not evade taxes. The higher taxes on reported income further distort the allocation of resources between taxed and untaxed activities.

Second, to the extent that the underground economy may be growing relative to the rest of the economy, there is an implication that laws and government regulations are increasingly being flouted. Especially in a country, such as the United States, that depends to a substantial extent on voluntary compliance with tax laws, this implication may point to the need to reexamine tax laws and enforcement strategies.¹⁷

Third, and closely related to the second, are implications that stem from the existence and relative growth of a part of the economy that operates in a way different from the regular economy in some important respects. On the one hand, underground activities tend to rely on less efficient information systems—word of mouth, for example—than the regular economy and may use less up-to-date, or a narrower range of, technologies. On the other hand, the underground may introduce flexibilities—part-time and at-home work, for example—not generally available in the

16. These dollar figures are what are called legal-source "individual tax gaps" in *Income Tax Compliance Research: Estimates for 1973-1981*.

Reference is only to the tax loss associated with unreported legal-source income because it would be unrealistic to hope to recover taxes on more than a small portion of illegal-source income. Further, if the goal of law enforcement is to discourage these activities, to the extent that enforcement succeeds, unreported illegal-source income would decline but without an increase in taxes collected. A similar qualification applies to legal-source income: If underground activities that yield legal-source income were to be detected by tax authorities, many would be curtailed (see especially Henry 1983).

17. The Internal Revenue Service has a research program underway. Several studies, done both within the agency and by private researchers under contract, are summarized in *Income Tax Compliance Research: Estimates for 1973-1981*. In addition, the agency sponsored a Conference on Tax Administration Research Strategies held November 8-10, 1983.

Table 4.—Estimates of the Growth of the Underground Economy in the United States

Estimator	Year	Estimate		
		Coverage	Years	Average annual percentage growth rate
Gutmann	1977	Unreported ¹ and untaxed cash transactions.	1974-80 ² 1976-78 1976-80	20* 19* 19*
Feige	1979	Monetary unobserved ³ sector.	1976-78	38-55*
Tanzi	1983	Legal-source income induced by income taxes and presumably not reported to tax authorities. ⁴	1974-80 1976-78 1976-80	14* 10* 14*
Internal Revenue Service (IRS)	1983	Income unreported to IRS: legal source, individuals illegal source (3 kinds) total. ⁵	1976-81	14* 21* 14*
Simon and Witte	1982	National income: legal goods not properly reported ⁶ illegal goods and services total.	1974-80	10* 7-8* 9* or 10
Addendum: GNP (as measured by BEA) ⁷			1974-80 1976-78 1976-80	11 12 11

*Calculated by BEA (not supplied by estimator).

1. Defined as activity that "wholly escapes the ministrations of the tax collector and very largely that of the statistician."

2. Time series prepared by the Congressional Research Service using Gutmann's methodology. See Molefsky.

3. Defined as activity that escapes the "current societal measurement apparatus."

4. Weighted tax rate variant.

5. Does not include legal-source income of corporations and fiduciaries and legal-source unrelated business income of tax-exempt organizations.

6. Includes incomes from activity primarily aimed at evading taxes plus income of illegal aliens.

7. As shown in the October 1983 Survey.

Note.—Estimates rounded to nearest percent.

Table 5.—Legal-Source Income on Federal Individual Income Tax Returns, by Type of Income, 1981

	Unreported income		Voluntary reporting percentage
	Billions of dollars	Percent of unreported total	
Wages and salaries	94.6	35.6	93.9
Dividends.....	8.7	3.3	83.7
Interest.....	20.5	7.7	86.3
Estate and trust income ¹	1.3	.5	74.2
Self-employment income ¹	99.9	37.6	41.5
Nonfarm proprietor (including informal suppliers).....	70.0	26.3	45.3
Farm proprietor.....	13.1	4.9	(?)
Partnership and small business corporation.....	16.7	6.3	47.0
Rents ¹	4.3	1.6	37.2
Royalties.....	2.8	1.0	61.2
Pensions and annuities.....	8.8	3.3	86.9
Capital gains.....	17.7	6.7	59.4
State income tax refunds, alimony, and other income.....	7.2	2.7	62.0
Total.....	265.9	100.0	87.2

1. Net income, that is, gross income less expenses.

2. Not calculated because the reported amount was a negative number.

Note.—Percentages computed from unrounded data.

Source: Table IV-2, Internal Revenue Service, *Income Tax Compliance Research: Estimates for 1973-1981*.

regular economy. In turn, these differences can be viewed in several ways. Viewed as an advantage, the underground provides a social "safety valve" for unemployed or underemployed workers, or, from the point of view of the individual, it may be a place to get the experience to break into a job in the regular economy. Viewed as a disadvantage, growth of the underground may reduce social cohesion, for it represents a part of society that—at least to some extent—chooses to set itself apart (see especially Ferman, Berndt, and Selo; Contini; and Hansson).

Implications for economic statistics

The underground economy has possible implications for a wide range of macroeconomic statistics. To the extent that income and production in the underground economy are missed, the Nation's production as measured by GNP and national income would be understated. To the extent that jobs in the underground economy are missed, employment and labor force statistics would be understated. Statistics on saving and on productivity are also cited as being understated;

those on unemployment and the unemployment rate are cited as being overstated. Price series are said to be affected, but those who claim mismeasurement of the rate of inflation disagree about the direction: Some believe that the rate of inflation is overstated, and others that it is understated. Further, statistics on income distribution and on the international balance of payments are cited as being mismeasured. (See, for example, Gutmann 1983, Simon and Witte, Reuter 1982, and Feige 1979.)

The implication for policy based on these measures is clear: The policies—fiscal, employment, industrial, and international, among others—may be responding to, and may be designed in the light of, statistics that give distorted pictures of the economy. It is alleged by some that the economic situation in 1978-79 may have been such a case. Consumer debt burden was one of the indicators that suggested the imminent onset of a recession; debt was so large relative to income that further expansion of consumer spending seemed unlikely. The recession came, but it came later, and did not last as long as expected. It is alleged that debt burden misled forecasters. According to this view, counterrecessionary monetary and fiscal policy would have been based on a distorted picture of economic developments. Had measured income included income from underground activities, debt burden would not have flashed a danger signal (see, for example, Molefsky).

Although the underground economy clearly has implications for economic statistics, it is not correct to imply—as has often been done—that the size of the underground is a useful guide to the extent of the possible under- or over-statement of economic statistics. For example, the likely overstatement of the unemployment rate is probably not as large as some indicators of the size of the underground economy might suggest. The measured unemployment rate prepared by the Bureau of Labor Statistics and a “true” rate that takes the underground into account could differ; the possible difference depends on whether underground workers respond to

questions asked in the survey used to determine the unemployment rate, how they respond (truthfully or not), and how they are employed (part-time or full-time, and only in the underground economy or also in the regular economy). If underground workers respond, but rather than reporting their only and full-time job in the underground, they report that they were unemployed, the measured unemployment rate would be overstated. However, this combination is not the only possible one. If they responded that they were employed, as they might if they found it easier to use work in the regular economy as a cover for work in the underground, the measured unemployment rate would not be overstated; it would be the same as the “true” rate.¹⁸ In addition, information about unemployment as measured by claims for benefits, where there is additional incentive to report as unemployed, is not directly transferable to the measure of unemployment just referred to. Unemployment is defined differently for the two series and tabulated as parts of two separate operations. (See McDonald for an examination of the effect of the U.S. underground economy on the Bureau of Labor Statistics measures of the labor force, the Consumer Price Index, and productivity.)

Further, for many policy-oriented uses of economic statistics, change over time is more critical than level. Use of GNP is an example: A low or high percentage rate of growth is

more likely to be a factor in policy determination than is the billions-of-dollars level. Thus, not only the size of the underground economy, but also its rate of growth, are relevant in evaluating the extent to which the underground economy has led to miscuing of policymakers. The estimates of the growth of the underground economy are even more tenuous than are estimates of its size, a fact that suggests that even more caution be used in drawing conclusions about the possibility of miscuing by economic statistics.

Each set of economic statistics—employment and unemployment, prices, national income and product, and so on—must be evaluated separately, because differences in scope and in the sources and methods used to prepare them mean that the underground economy affects them differently. In the next part, the scope of GNP, national income, and other major measures in the U.S. national income and product accounts will be reviewed and the sources and methods used to prepare them evaluated in light of the underground economy. A situation mentioned earlier highlights the usefulness of this approach. In several countries, including the United States, tax return information is one of the sources used to prepare the income estimates in the national accounts. Its bias due to tax evasion has long been recognized; other things equal, it is used only when other source information thought to be less biased is not available. Further, when it is used, adjustments are usually made to take a likely degree of misreporting into account.¹⁹ (These adjustments to the U.S. estimates have been improved for the year 1977, and will be discussed in the June issue of the Survey.)

NOTE.—Part IV of this article will appear in a later issue of the *Survey of Current Business*.

18. The U.S. official unemployment rate is prepared using data from the Current Population Survey, in which about 60,000 households are interviewed each month. Responses to questions about major activities of each person in the household 16 years of age and older during the previous week are used to place persons in one of three categories: employed, unemployed, or not in the labor force. Persons are counted as employed if they worked at least 1 hour as paid employees or in their own business, profession, or farm, or for at least 15 hours as unpaid workers in a family-operated enterprise, or if they had jobs or businesses from which they were temporarily absent because of illness, bad weather, vacation, labor-management disputed, or various personal reasons. Each employed person is counted only once, no matter how many jobs they might have worked at during the week. Persons are classified as unemployed only if they did not work at all during the survey week, were looking for work or were on layoff, and were available for work. All civilians 16 years of age and older who are not classified as employed or unemployed are defined as not in the labor force.

19. A survey by the Organization for Economic Cooperation and Development of its members indicated that the economic accounts of six countries included such adjustments because some of their basic data sources are believed to be biased by deliberate underreporting. Three other countries use data sources—namely production and expenditure data—that they believe are not biased in this way (see Blades 1982).

(Selected bibliography follows)

SELECTED BIBLIOGRAPHY

Items thought to be particularly useful to the generalist are marked with an asterisk (*), and items thought to be particularly useful to the national economic accountant are marked with a dagger (†).

- Abt Associates, Inc. "Unreported Taxable Income from Selected Illegal Activities." 2 vols. Vol. 1: "Consensual Crimes," [Ken Carlson]. Vol. 2: "Predatory Crimes," [Herbert Weisberg and Naomi Goldstein]. Prepared for the Internal Revenue Service, March 1984.
- American Institute of Certified Public Accountants. *Underreported Taxable Income: The Problem and Possible Solutions*. New York: American Institute of Certified Public Accountants, 1983.
- "Answers that Unveil the Underground Economy" (Harris Poll). *Business Week*, October 11, 1982, p. 14.
- † Blades, Derek. "Crime: What Should be Included in the National Accounts and What Difference Would It Make?" Presented at the International Conference on "The Economics of the Shadow Economy," University of Bielefeld, October 10-14, 1983.
- † ———. "The Hidden Economy and the National Accounts." *Occasional Studies*, Organization for Economic Cooperation and Development, June 1982, pp. 28-45.
- Bove, Richard X., and Klingenstein, Thomas D. "The Underground Economy: How Is It Measured?" *Wertheim Industry Commentary*, vol. 2, no. 1 (February 23, 1981). (a)
- Bove, Richard X., and Klingenstein, Thomas D. *Wertheim's Underground Economy Conference*. New York: Wertheim & Co., Inc., July 1981. (b)
- † Broesterhuizen, G.A.A.M. "The Unobserved Economy and the National Accounts in the Netherlands: A Sensitivity Analysis." August 1983.
- *† Carter, Michael. *The Hidden Economy: What are the Issues?* Discussion Paper No. 84. Centre for Economic Policy Research, The Australian National University, Canberra, December 1983.
- Clotfelter, Charles T. "Tax Evasion and Tax Rates: An Analysis of Individual Returns." *The Review of Economics and Statistics* 65 (August 1983): 363-73.
- Contini, Bruno. "Dropping Out: Notes on the Italian Economy." *Journal of Contemporary Studies* 4 (Summer 1981): 79-89. (Chap. 12, Tanzi book) (a)
- . "Labor Market Segmentation and the Development of the Parallel Economy—The Italian Experience." *Oxford Economic Papers* 33 (November 1981): 401-12. (b)
- † Denison, Edward F. "Is U.S. Growth Understated Because of the Underground Economy? Employment Ratios Suggest Not." *The Review of Income and Wealth*, ser. 28, 2 (March 1982): 1-16.
- Dilnot, Andrew, and Morris, C.N. "What Do We Know about the Black Economy in the United Kingdom?" *Fiscal Studies* 2 (March 1981): 163-79. (Chap. 10, Tanzi book)
- † Dowie, J.A. "Illegal Activities—As Measured and as Not." *The Economic Record* 46 (December 1970): 517-32.
- † Eck, R. van. "Secondary Activities and the National Accounts: Aspects of the Dutch Measurement Practice and Its Effects on the Unofficial Economy." Netherlands Central Bureau of Statistics, September 1983.
- Eisner, Robert. "Total Incomes in the United States, 1959 and 1969." *The Review of Income and Wealth*, ser. 24, 1 (March 1978): 41-70.
- Feffer, Gerald A.; Timbie, Richard E.; Weiner, Allan J.; and Ernst, Martin L. "Proposals to Deter and Detect the Underground Cash Economy." In *Income Tax Compliance: A Report of the ABA Section of Taxation Invitational Conference on Income Tax Compliance*, pp. 293-315. n.p.: American Bar Association, 1983.
- Feige, Edgar L. "How Big is the Irregular Economy?" *Challenge*, November/December 1979, pp. 5-13.
- . "A New Perspective on Macroeconomic Phenomena—The Theory and Measurement of the Unobserved Sector of the United States Economy: Causes, Consequences, and Implications." Presented at the 93rd annual meeting of the American Economic Association, September 6, 1980.
- Ferman, Louis A., and Berndt, Louise E. "The Irregular Economy." In *Informal Institutions*, pp. 26-42. Edited by Stuart Henry. New York: St. Martin's Press, 1981.
- Ferman, Louis A.; Berndt, Louise; and Selo, Elaine. "Analysis of the Irregular Economy: Cash Flow in the Informal Sector (A Summary Report)." Michigan Department of Labor, Bureau of Employment and Training, April 1978.
- Ferman, Patricia R., and Ferman, Louis A. "The Structural Underpinnings of the Irregular Economy." *Poverty and Human Resources Abstracts* 8 (March 1973): 3-17.
- † Fisher, Norman W. F. "An Expenditure Approach to Estimation of the Hidden Economy and Informal Labour Market." Working Paper No. 12. Bureau of Labour Market Research, Canberra, February 1983.
- *† Frey, Bruno S., and Pommerehne, Werner W. "The Hidden Economy: State and Prospects for Measurement." *The Review of Income and Wealth*, ser. 30, 1 (March 1984): 1-23.
- Frey, Bruno S., and Pommerehne, Werner W. "Measuring the Hidden Economy: Though This Be Madness, There is Method in It." In *The Underground Economy in the United States and Abroad*, pp. 3-27. Edited by Vito Tanzi. Lexington, Massachusetts: Lexington Books, D.C. Heath and Co., 1982.
- Frey, Bruno S., and Weck, Hannelore. "Estimating the Shadow Economy: A 'Naive' Approach." *Oxford Economic Papers* 35 (March 1983): 23-44. (a)
- Frey, Bruno S., and Weck, Hannelore. "What Produces a Hidden Economy? An International Cross Section Analysis." *Southern Economic Journal* 49 (January 1983): 322-32. (b)
- Frey, B.S.; Weck, H.; and Pommerehne, W.W. "Has the Shadow Economy Grown in Germany? An Exploratory Study." *Weltwirtschaftliches Archiv* [Review of World Economics], vol. 118, no. 3 (1982), pp. 499-524.
- Gershuny, J.I. "The Informal Economy: Its Role in Post-industrial Society." *Futures*, February 1979, pp. 3-15.
- Gutmann, Peter M. "Statistical Illusions, Mistaken Policies." *Challenge*, November/December 1979, pp. 14-17.
- . "The Subterranean Economy." *Financial Analysts Journal*, November/December 1977, pp. 26-27, 34.
- . "The Subterranean Economy, Redux." Paper presented at the International Conference on "The Economics of the Shadow Economy," University of Bielefeld, October 10-14, 1983.
- Hansson, Ingemar. "The Underground Economy in a High Tax Country: The Case of Sweden." In *The Underground Economy in the United States and Abroad*, pp. 233-44. Edited by Vito Tanzi. Lexington, Massachusetts: Lexington Books, D.C. Heath and Co., 1982.
- Havrylyshyn, Oli, and Woroby, Tamara. "The Underground Economy: A Review of the Issues and Approaches to Measurement." Prepared for Annual Meetings of the Southern Economic Association, Atlanta, November 12, 1982.
- Henry, James S. "Calling in the Big Bills." *Washington Monthly*, May 1976, pp. 27-33.

- *———. "Noncompliance with U.S. Tax Law—Evidence on Size, Growth, and Composition." In *Income Tax Compliance: A Report of the ABA Section of Taxation Invitational Conference on Income Tax Compliance*, pp. 15-111. n.p.: American Bar Association, 1983.
- Isachsen, Arne Jon; Klovland, Jan Tore; and Strøm, Steinar. "The Hidden Economy in Norway." In *The Underground Economy in the United States and Abroad*, pp. 209-32. Edited by Vito Tanzi. Lexington, Massachusetts: Lexington Books, D.C. Heath and Co., 1982.
- Isachsen, Arne Jon, and Strøm, Steinar. "The Size and Growth of the Hidden Economy in Norway." *The Review of Income and Wealth*, forthcoming.
- Kendrick, John W. "Expanding Imputed Values in the National Income and Product Accounts." *The Review of Income and Wealth*, ser. 25, 4 (December 1979): 349-63.
- Kilss, Beth, and Scheuren, Frederick J. "The 1973 CPS-IRS-SSA Exact Match Study." *Social Security Bulletin* 41 (October 1978): 14-22.
- Kirchgässner, Gebhard. "Size and Development of the West German Shadow Economy, 1955-1980." *Zeitschrift für die gesamte Staatswissenschaft* [Journal of Institutional and Theoretical Economics] 139 (June 1983): 197-214.
- Macafee, Kerrick. "A Glimpse of the Hidden Economy in the National Accounts." *Economic Trends* (London), no. 316 (February 1980), pp. 81-87. (Chap. 9, Tanzi book) Updated in *Economic Trends*, no. 360 (October 1983), pp. 77-78.
- McCrohan, Kevin F., and Smith, James D. "Informal Suppliers in the Underground Economy." *Statistics of Income Bulletin* 3 (Summer 1983): 27-34.
- McDonald, Richard J. "The 'Underground Economy' and BLS Statistical Data." *Monthly Labor Review*, January 1984, pp. 4-18.
- Mason, Robert, and Calvin, Lyle D. "A Study of Admitted Income Tax Evasion." *Law & Society Review* 13 (Fall 1978): 73-89.
- Molefsky, Barry. "America's Underground Economy." Report No. 81-181E. Congressional Research Service, July 28, 1981. (Condensed version in Chap. 3, Tanzi book)
- O'Higgins, Michael. "Measuring the Hidden Economy: A Review of Evidence and Methodologies." Paper presented at the Outer Circle Policy Unit Seminar on Tax Evasion, Bath, England, March 1980.
- Park, Thae. "Personal Income and Adjusted Gross Income, 1977-81." *SURVEY OF CURRENT BUSINESS* 63 (April 1983): 28-33. Updated in *SURVEY OF CURRENT BUSINESS* 64 (April 1984): 53-55.
- Porter, Richard D., and Bayer, Amanda S. "A Monetary Perspective on Underground Economic Activity in the United States." *Federal Reserve Bulletin* 70 (March 1984): 177-90.
- Reuter, Peter. "The Irregular Economy and the Quality of Macroeconomic Statistics." In *The Underground Economy in the United States and Abroad*, pp. 125-44. Edited by Vito Tanzi. Lexington, Massachusetts: Lexington Books, D.C. Heath and Co., 1982.
- . "A Reading on the Irregular Economy." *A Forum on Taxing and Spending*, Spring 1980, pp. 65-71.
- *Ross, Irwin. "Why the Underground Economy is Booming." *Fortune* 98 (October 9, 1978): 92-99.
- *Simon, Carl P., and Witte, Ann D. *Beating the System: The Underground Economy*. Boston: Auburn House Publishing Co., 1982.
- Skolka, Jiri. "The Parallel Economy in Austria." Paper presented at the International Conference on "The Economics of the Shadow Economy," University of Bielefeld, October 10-14, 1983.
- Smith, Adrian. "The Informal Economy." *Lloyds Bank Review*, No. 141, July 1981, pp. 45-61.
- Smith, James D. "Omitted Product in the U.S. National Accounts: The Gray Economy." Paper presented at the Eighteenth General Conference of the International Association for Research in Income and Wealth, Luxemburg, August 21-27, 1983.
- Smith, James D.; Moyer, Terry E.; and Trzcinski, Eileen. "The Measurement of Selected Income Flows in Informal Markets." Prepared for the Internal Revenue Service, December 1982.
- Stein, Bruno, and Wenig, Alois. "The Economics of the Shadow Economy." *Zeitschrift für die gesamte Staatswissenschaft* [Journal of Institutional and Theoretical Economics] 139 (December 1983): 690-707.
- *Tanzi, Vito. "The Underground Economy: The Causes and Consequences of this Worldwide Phenomenon." *Finance and Development* 20 (December 1983): 10-13. (a)
- . "The Underground Economy in the United States: Annual Estimates, 1930-1980." *International Monetary Fund Staff Papers* 30 (June 1983): 283-305. (b)
- *———, ed. *The Underground Economy in the United States and Abroad*. Lexington, Massachusetts: Lexington Books, D.C. Heath and Co., 1982. (Several of the contributions in this book are included separately in this bibliography.)
- *Tivnan, Edward. "Cashing In." *New York*, March 21, 1983, pp. 26-31.
- **"The Underground Economy." *U.S. News and World Report*, October 22, 1979, pp. 49-52.
- **"The Underground Economy's Hidden Force." *Business Week*, April 5, 1982, pp. 64-70.
- U.S. Department of Treasury. Internal Revenue Service. *Estimates of Income Unreported on Individual Income Tax Returns*. Pubn. 1104. Washington, D.C.: Government Printing Office, 1979.
- *†U.S. Department of Treasury. Internal Revenue Service. *Income Tax Compliance Research: Estimates for 1973-1981*. July 1983.
- Weck-Hannemann, Hannelore, and Frey, Bruno S. "Measuring the Shadow Economy: The Case of Switzerland." Paper presented at the International Conference on "The Economics of the Shadow Economy," University of Bielefeld, October 10-14, 1983.
- Weck, Hannelore; Pommerehne, Werner W.; and Frey, Bruno S. *Schattenwirtschaft*. Munich: Vahlen, 1984.
- Witte, Ann D., and Woodbury, Diane F. "What We Know About the Factors Affecting Compliance with the Tax Laws." In *Income Tax Compliance: A Report of the ABA Section of Taxation Invitational Conference on Income Tax Compliance*, pp. 133-48. n.p.: American Bar Association, 1983.

The National Income and Product Accounts: Preliminary Revised Estimates, 1977

THIS article presents preliminary revised estimates of the national income and product accounts (NIPA's) for 1977. The revised estimates are consistent with BEA's input-output (I-O) tables for 1977, which are shown elsewhere in this issue of the SURVEY OF CURRENT BUSINESS. The estimates are subject to further revision when

NOTE.—Staff of the National Income and Wealth Division assisted in the preparation of this article.

the next comprehensive revision of the NIPA's is completed in late 1985. At that time definitional changes may be introduced; further statistical revisions for 1977 are expected to be small.

The first part of this article provides a brief overview of the revisions in the NIPA aggregates and major components, and the second part describes the new data sources and estimating procedures incorporated into the revised estimates.

Revisions in the NIPA Aggregates and Major Components

The presently published and preliminary revised estimates, and the amount of the revision, are shown in table A for the five NIPA summary accounts.

The revised estimate of GNP is \$58 billion, or 3 percent, higher than the presently published estimate. Person-

TABLE A.—SUMMARY NATIONAL INCOME AND PRODUCT ACCOUNTS, 1977

Account 1.—National Income and Product Account

[Billions of dollars]

Line		Presently published	Preliminary revised	Revision	Line		Presently published	Preliminary revised	Revision
1	Compensation of employees.....	1,152.1	1,165.6	13.5	27	Personal consumption expenditures (2-3).....	1,204.4	1,246.5	42.0
2	Wages and salaries.....	983.2	994.9	11.7	28	Durable goods.....	178.2	184.4	6.1
3	Disbursements (2-7).....	983.2	994.9	11.7	29	Nondurable goods.....	478.8	490.5	11.7
4	Wage accrual less disbursements (3-12) and (5-4).....	0	0	0	30	Services.....	547.4	571.6	24.2
5	Supplements to wages and salaries.....	168.9	170.7	1.8	31	Gross private domestic investment (5-1).....	324.1	336.6	12.6
6	Employer contributions for social insurance (3-20).....	79.5	79.6	.1	32	Fixed investment.....	301.0	314.9	13.9
7	Other labor income (2-8).....	89.4	91.1	1.7	33	Nonresidential.....	205.2	213.5	8.3
8	Proprietors' income with inventory valuation and capital consumption adjustments (2-9).....	103.9	151.4	47.6	34	Structures.....	64.4	66.0	1.6
9	Rental income of persons with capital consumption adjustment (2-10).....	24.8	14.7	-10.1	35	Producers' durable equipment.....	140.8	147.5	6.6
10	Corporate profits with inventory valuation and capital consumption adjustments.....	167.3	166.8	-.4	36	Residential.....	95.8	101.4	5.6
11	Profits before tax.....	194.7	194.3	-.4	37	Change in business inventories.....	23.0	21.7	-1.3
12	Profits tax liability (3-17).....	72.7	73.1	.4	38	Net exports of goods and services.....	-4.0	-2.1	1.9
13	Profits after tax.....	122.0	121.2	-.9	39	Exports (4-1).....	132.7	135.3	2.5
14	Dividends (2-12).....	40.8	40.8	0	40	Imports (4-3).....	136.7	137.4	.7
15	Undistributed profits (5-6).....	81.2	80.3	-.9	41	Government purchases of goods and services (3-1).....	393.8	395.6	1.8
16	Inventory valuation adjustment (5-7).....	-16.2	-16.2	0	42	Federal.....	143.4	143.4	0
17	Capital consumption adjustment (5-8).....	-11.3	-11.3	0	43	National defense.....	92.8	92.8	0
18	Net interest (2-15).....	102.5	107.1	4.6	44	Nondefense.....	50.6	50.5	-.1
19	National income.....	1,550.5	1,605.7	55.1	45	State and local.....	250.4	252.2	1.8
20	Business transfer payments (2-20).....	8.6	8.6	0					
21	Indirect business tax and nontax liability (3-18).....	165.7	166.0	.2					
22	Less: Subsidies less current surplus of government enterprises (3-11).....	3.1	3.0	0					
23	Charges against net national product.....	1,721.8	1,777.2	55.4					
24	Capital consumption allowances with capital consumption adjustment (5-9).....	195.2	195.2	0					
25	Charges against gross national product.....	1,917.0	1,972.4	55.4					
26	Statistical discrepancy (5-12).....	1.4	4.2	2.8					
	GROSS NATIONAL PRODUCT.....	1,918.3	1,976.6	58.2		GROSS NATIONAL PRODUCT.....	1,918.3	1,976.6	58.2

TABLE A.—SUMMARY NATIONAL INCOME AND PRODUCT ACCOUNTS, 1977—Continued

Account 2.—Personal Income and Outlay Account

[Billions of dollars]

Line		Presently published	Preliminary revised	Revision	Line		Presently published	Preliminary revised	Revision
1	Personal tax and nontax payments (3-16).....	226.4	226.0	-0.4	7	Wage and salary disbursements (1-3).....	983.2	994.9	11.7
2	Personal outlays.....	1,236.0	1,277.9	41.8	8	Other labor income (1-7).....	89.4	91.1	1.7
3	Personal consumption expenditures (1-27).....	1,204.4	1,246.5	42.0	9	Proprietors' income with inventory valuation and capital consumption adjustments (1-8).....	103.9	151.4	47.6
4	Interest paid by consumers to business (2-18).....	30.7	30.5	-2	10	Rental income of persons with capital consumption adjustment (1-9).....	24.8	14.7	-10.1
5	Personal transfer payments to foreigners (net) (4-5).....	.9	.9	0	11	Personal dividend income.....	39.6	39.6	0
6	Personal saving (5-3).....	78.0	92.2	14.2	12	Dividends (1-14).....	40.8	40.8	0
					13	Less: Dividends received by government (3-10).....	1.3	1.3	0
					14	Personal interest income.....	152.8	157.2	4.4
					15	Net interest (1-18).....	102.5	107.1	4.6
					16	Interest paid by government to persons and business (3-7).....	43.5	43.5	0
					17	Less: Interest received by government (3-9).....	24.0	24.0	0
					18	Interest paid by consumers to business (2-4).....	30.7	30.5	-2
					19	Transfer payments to persons.....	207.9	208.4	.6
					20	From business (1-20).....	8.6	8.6	0
					21	From government (3-3).....	199.3	199.8	.6
					22	Less: Personal contributions for social insurance (3-21).....	61.1	61.3	.2
	PERSONAL TAXES, OUTLAYS, AND SAVING	1,540.4	1,596.1	55.7		PERSONAL INCOME	1,540.4	1,596.1	55.7

Account 3.—Government Receipts and Expenditures Account

[Billions of dollars]

1	Purchases of goods and services (1-41).....	393.8	395.6	1.8	16	Personal tax and nontax payments (2-1).....	226.4	226.0	-0.4
2	Transfer payments.....	202.5	203.1	.6	17	Corporate profits tax liability (1-12).....	72.7	73.1	.4
3	To persons (2-21).....	199.3	199.8	.6	18	Indirect business tax and nontax liability (1-21).....	165.7	166.0	.2
4	To foreigners (net) (4-6).....	3.3	3.3	0	19	Contributions for social insurance.....	140.6	140.9	.3
5	Net interest paid.....	25.1	25.1	0	20	Employer (1-6).....	79.5	79.6	.1
6	Interest paid.....	49.1	49.1	0	21	Personal (2-22).....	61.1	61.3	.2
7	To persons and business (2-16).....	43.5	43.5	0					
8	To foreigners (4-7).....	5.5	5.5	0					
9	Less: Interest received by government (2-17).....	24.0	24.0	0					
10	Less: Dividends received by government (2-13).....	1.3	1.3	0					
11	Subsidies less current surplus of government enterprises (1-22).....	3.1	3.0	0					
12	Less: wage accruals less disbursements (1-4).....	0	0	0					
13	Surplus or deficit (-), national income and product accounts (5-10).....	-17.8	-19.6	-1.7					
14	Federal.....	-45.9	-45.9	0					
15	State and local.....	28.0	26.3	-1.8					
	GOVERNMENT EXPENDITURES AND SURPLUS	605.4	606.0	.6		GOVERNMENT RECEIPTS	605.4	606.0	.6

Account 4.—Foreign Transactions Account

[Billions of dollars]

1	Exports of goods and services (1-39).....	182.7	185.3	2.5	3	Imports of goods and services (1-40).....	186.7	187.4	0.7
2	Capital grants received by the United States (net) (5-11).....	0	0	0	4	Transfer payments to foreigners (net).....	4.1	4.1	0
					5	From persons (net) (2-5).....	.9	.9	0
					6	From government (net) (3-4).....	3.3	3.3	0
					7	Interest paid by government to foreigners (3-8).....	5.5	5.5	0
					8	Net foreign investment (5-2).....	-13.6	-11.8	1.9
	RECEIPTS FROM FOREIGNERS	182.7	185.3	2.5		PAYMENTS TO FOREIGNERS	182.7	185.3	2.5

Account 5.—Gross Savings and Investment Account

[Billions of dollars]

1	Gross private domestic investment (1-31).....	324.1	336.6	12.6	3	Personal saving (2-6).....	78.0	92.2	14.2
2	Net foreign investment (4-8).....	-13.6	-11.8	1.9	4	Wage accruals less disbursements (1-4).....	0	0	0
					5	Undistributed corporate profits with inventory valuation and capital consumption adjustments.....	53.7	52.9	-.9
					6	Undistributed corporate profits (1-15).....	81.2	80.3	-.9
					7	Inventory valuation adjustment (1-16).....	-16.2	-16.2	0
					8	Capital consumption adjustment (1-17).....	-11.3	-11.3	0
					9	Capital consumption allowances with capital consumption adjustment (1-24).....	195.2	195.2	0
					10	Government surplus or deficit (-), national income and product accounts (3-13).....	-17.8	-19.6	-1.7
					11	Capital grants received by the United States (net) (4-2).....	0	0	0
					12	Statistical discrepancy (1-26).....	1.4	4.2	2.8
	GROSS INVESTMENT	310.4	324.9	14.4		GROSS SAVING AND STATISTICAL DISCREPANCY	310.4	324.9	14.4

NOTE.—Numbers in parentheses indicate accounts and items of counterentry in the accounts. For example, the counterentry for wage and salary disbursements, (2-7), is in account 2, line 7.

Source: Presently published estimates appear in the July 1982 SURVEY OF CURRENT BUSINESS.

al consumption expenditures (PCE) accounts for most of the upward revision; nonresidential producers' durable equipment (PDE) and residential investment also have large upward revisions. Nonresidential structures, net exports of goods and services, and State and local government purchases are revised up moderately. The change in business inventories is revised down moderately, and Federal Government purchases is revised down slightly.

The revised estimate of national income is \$55 billion, or 3½ percent, higher than the presently published estimate. Proprietors' income, wages and salaries, and net interest have large upward revisions; rental income of persons has a large downward revision. As a result, charges against GNP, which is GNP measured as the sum of incomes and nonfactor charges, is revised up \$55½ billion. Reflecting the larger upward revision in GNP than in charges against GNP, the statistical discrepancy—the difference between them—is revised up slightly, from \$1½ billion to \$4 billion.

Most of the revisions in national income components also affect personal income, which is revised up \$55½ billion, or 3½ percent. Disposable personal income—personal income less personal tax and nontax payments—is revised up \$56 billion, and personal outlays up \$42 billion. As a result, personal saving is revised up \$14 billion, and the personal saving rate—personal saving as a percentage of disposable personal income—is revised up from 5.9 percent to 6.7 percent.

New Data Sources and Estimating Procedures

The I-O tables and the preliminary revised NIPA estimates reflect the introduction of improved adjustments for misreporting on tax returns. The improved adjustments incorporate newly available information about the extent of underreporting of income and about the failure to file income and employment tax returns (nonfiling). Tax return information is used directly in estimating several income components (including compensation of employees and proprietors' income) and indirectly—via the Census Bureau's use of tax returns to make esti-

mates for small firms—for two product components (PCE and gross private domestic investment). The sources and procedures used to prepare the adjustments will be described in an article in the June SURVEY.

For the components affected, the total revisions and the revisions in the misreporting adjustments are shown in the accompanying tabulation. The remainder of this article describes the sources and procedures underlying other major revisions in the NIPA components.

(Billions of dollars)

	Total revision (table A, column 3)	Revision due to improved adjustments for misreporting on tax returns
Personal consumption expenditures.....	42.0	21.6
Durable goods.....	6.1	2.0
Nondurable goods.....	11.7	7.5
Services.....	24.2	12.2
Gross private domestic investment.....	12.6	.2
Compensation of employees.....	13.5	11.3
Proprietors' income with inventory valuation and capital consumption adjustments.....	47.6	46.5

GNP

Personal consumption expenditures.—The revisions in goods mostly are from the incorporation of the detailed commodity-flow procedure used to develop the interindustry flows for the I-O tables. The presently published estimates are, for the most part, extrapolated from the 1972 I-O levels using survey data on retail sales.

The new commodity-flow calculations incorporate data on sales from the 1977 economic censuses and trade margins from the 1977 Annual Retail Trade Survey and the 1977 Annual Trade Survey (which covers wholesale trade). In addition, the commodity-flow estimates for 1977 include adjustments for undercoverage in the sales data of the economic censuses in mining, manufacturing, and wholesale trade due to the exclusion of businesses with no paid employees.

Most of the upward revision in goods purchases is in jewelry and watches, food, clothing, and toys. Truck purchases are revised up substantially, and used car purchases are revised down substantially. The

upward revision in PCE trucks, from new information on the consumer-business allocation, is offset in GNP by a downward revision in PDE trucks. Purchases of kitchen and other household appliances and of radios and televisions also are revised down.

A variety of new data sources and estimating procedures are incorporated in the revised services estimates. The largest upward revision is in religious and welfare activities, which is measured as the current account expenditures (including depreciation) of religious, social welfare, and similar organizations.¹ The revision is from the incorporation of data from the 1977 Census of Service Industries, which covered these organizations for the first time.

The expense of handling life insurance, a category that includes the operating expenses of noninsured pension plans, also is revised up substantially. This revision incorporates tabulations for 1977 of newly required reports to the Internal Revenue Service by employee benefit plans. Improved information used to allocate airline revenue between consumers and business leads to an upward revision in PCE purchases of air transportation. Space rent of owner-occupied nonfarm dwellings is revised up due to incorporation of data on the number of housing units and average rental values from the 1980 Census of Housing.

Fixed investment.—Most of the upward revision in nonresidential structures is in petroleum and natural gas well drilling and exploration expenditures. This revision incorporates data from the 1977 Census of Mineral Industries.

The revision in PDE is largely due to the incorporation of the detailed commodity-flow procedure used for the 1977 I-O table. The presently published 1977 PDE estimate is based on an abbreviated commodity-flow procedure using preliminary 1977 Census of Manufactures shipments data and margin rates from the 1972 I-O tables. The revised estimate is based on the final 1977 manufacturers' shipments data, margins from the 1977 I-O table, and the undercoverage ad-

1. Detailed descriptions of the PCE categories are in the footnotes to table 2.4 of the National Income and Product Accounts Tables, July 1983 SURVEY OF CURRENT BUSINESS, page 37.

justments, all of which are discussed under PCE. The largest upward revision is in communication equipment; the largest downward revision is in trucks (also discussed earlier under PCE).

The upward revision in residential investment largely is in single-family housing and in additions and alterations. For single-family housing, BEA increased the average value of new houses for 1977 by 5 percent due to an understatement identified by the Census Bureau in their value-put-in-place series upon which the presently published NIPA estimate is based. (The Census Bureau expects to introduce a similar revision in their series.) For nonfarm additions and alterations, the revised estimate incorporates data from the Consumer Expenditures Survey (CES) of the Bureau of Labor Statistics. BEA has interpolated new estimates using the published 1973 and the preliminary unpublished 1980 CES estimates. Previously, this NIPA component was based on the Census Bureau's quarterly Survey of Residential Alterations and Repairs.

Change in business inventories.—Most of the revision in change in business inventories is due to the incorporation of new data on book value of inventories from the 1977 Census of Wholesale Trade.

Net exports of goods and services.—The upward revision in net exports is largely due to a change in the geographic coverage of merchandise exports and imports.² The change con-

2. Two other changes, which affect exports and imports but not net exports, have been incorporated in the I-O tables but not in the NIPA's. See "The Input-Output Structure of the U.S. Economy, 1977" in this issue of the SURVEY.

forms these estimates to the geographic coverage used elsewhere in the NIPA's—the 50 States and the District of Columbia. Merchandise exports and imports in the presently published NIPA estimates are consistent with the definition used in the balance-of-payments accounts, for which the geographic coverage extends to Puerto Rico and territories of the United States.

Government purchases of goods and services.—The upward revision in government purchases is largely due to State and local highway construction. The presently published series is based on the Census Bureau's series on the value of new construction put in place. BEA has adjusted these data based on an analysis of comparable expenditure data from the Census Bureau's *Governmental Finances* and from the Federal Highway Administration's *Highway Statistics*.

Charges against GNP

Compensation of employees.—The revision in compensation of employees is moderate and largely in other labor income. Most of the revision is in employer contributions for group health insurance, based on revised data from the Health Care Financing Administration.

Rental income of persons.—Most of the downward revision in rental income of persons is in the net income of owner- and tenant-occupied nonfarm dwellings. For these parts, net income is derived as gross rental receipts less expenses. Gross rental receipts is revised up slightly (see ear-

lier discussion of PCE). However, expenses are revised up much more, because the list of expenses has been expanded. (The new list includes all types of expenditures that are considered ordinary and necessary as deductions under income tax regulations.) These revisions lead to a downward revision in rental income of \$7 billion, including \$5 billion to the owner-occupied part. Also contributing to the downward revision are upward revisions in mortgage interest and real estate taxes—two expense items reflected in the presently published expense estimate. These revisions are due to the incorporation of data from the Survey of Residential Finance (a survey associated with the 1980 Census of Population and Housing.)

Net interest.—Most of the upward revision in net interest is due to a larger estimate of imputed interest paid by private noninsured pension plans, based on Internal Revenue Service tabulations of employee benefit plans described earlier. This revision is partly offset by an upward revision in monetary interest received by these plans, which is deducted in calculating net interest. An upward revision in mortgage interest paid, discussed earlier under rental income of persons, also contributes to the upward revision.

Other NIPA components

Other NIPA components are revised slightly or not at all. Revisions in the remaining accounts (accounts 2-5) are largely due to revisions in the national income and product account.

The Input-Output Structure of the U.S. Economy, 1977

THIS article presents the U.S. input-output (I-O) accounts for 1977. With this publication, the number of BEA benchmark I-O tables is increased to six, covering the years 1947, 1958, 1963, 1967, 1972, and 1977.¹

The tables presented in this article are in summary form; i.e., the underlying detail is aggregated to 85 industries and commodities. The 1977 tables are also available in considerably greater detail, as are those for 1963, 1967, and 1972.²

As described in the next section, the benchmark I-O tables and the national income and product accounts (NIPA's) are integrated conceptually. They are also integrated statistically; the benchmark I-O tables provide the basis for the comprehensive revisions of the NIPA's.

The I-O tables for 1977 are based primarily on the detailed industry statistics collected by the Census Bureau in the 1977 economic censuses. They incorporate several improvements in the 1977 economic censuses that were recommended in the Gross National Product Data Improvement Project Report.³ The coverage of the censuses was expanded to include medical, educational, and

social services; new information was collected on purchased services (repairs, rentals, communication, etc.) for other covered industries; and for manufacturing, additional detail on materials consumed was collected. In addition, the I-O tables incorporate the improved adjustments for misreporting on tax returns and other improvements that are described in the article on the revised NIPA estimates for 1977 elsewhere in this issue of the SURVEY.

I-O and the NIPA's

The basic relationship between I-O and the NIPA's are brought out in charts 4 and 5. Features of I-O that are bypassed in the following explanation are discussed in the section on "Definitions and Conventions."

The national income and product account, shown on the left side of

chart 4, measures the production of the Nation, both in terms of final products and in terms of incomes generated in production. Final products consist of sales to consumers (personal consumption expenditures), sales to business on capital account and change in business inventories (gross private domestic investment), net sales to foreigners (net exports), and sales to government (government purchases). The sum of the final products equals GNP. The same total may be derived by summing the incomes generated in production (charges against GNP). These consist of compensation of employees, proprietors' income, rental income of persons, corporate profits, net interest, business transfer payments, indirect business taxes, current surplus of government enterprises less subsidies, and capital consumption allowances.

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Estimates for the agricultural industries were prepared by Gerald Schluter and staff, Economic Research Service, U.S. Department of Agriculture. Tony Opyrchal and staff of the Bureau of Mines, U.S. Department of Interior, assisted in preparing the estimates for the mining industries.

1. For references to the BEA publications in which these I-O tables were presented, as well as references to other BEA publications related to I-O, see appendix A.

2. More detailed tables at two levels—366 industries/commodities and 537 industries/commodities—are available for 1977. Computer tapes are available at all three levels. Tapes containing tables 1 through 5 cost \$200 at the 85-industry/commodity level and \$350 at the 366- or 537-industry-commodity level. Tapes containing only tables 4 and 5 (total requirements) cost \$200 at either the 366- or 537-industry/commodity level. Tapes can be ordered from the Interindustry Economics Division (BE-51), Bureau of Economic Analysis, U.S. Department of Commerce, Washington, D.C. 20230. Make checks payable to the U.S. Department of Commerce/BEA. Hard copy of the 537-industry/commodity tables (tables 1 through 5) will be available in a few months; its availability will be announced in the SURVEY OF CURRENT BUSINESS.

3. U.S. Department of Commerce, Office of Federal Statistical Policy and Standards, October 1977.

CHART 4

Gross National Product

In the National Income and Product Accounts

Compensation of Employees	Personal Consumption Expenditures
Proprietors' Income	Gross Private Domestic Investment
Rental Income of Persons	Net Exports
Corporate Profits	Government Purchases
Net Interest	
Business Transfer Payments	
Indirect Business Taxes	
Less: Subsidies Less Current Surplus of Government Enterprises	
Capital Consumption Allowances	
CHARGES AGAINST GNP	GNP

In an Input-Output Format

		FINAL DEMAND				
		Personal Consumption Expenditures	Gross Private Domestic Investment	Net Exports	Government Purchases	GNP
PRODUCERS	PRODUCERS					
	VALUE ADDED	Compensation of Employees				
		Profit-Type Income *, Net Interest, & Capital Consumption Allowances				
		Indirect Business Taxes				
	Charges Against GNP					

* Consists of proprietors' income, rental income of persons, corporate profits, and business transfer payments, less: subsidies less current surplus of government enterprises.

CHART 5

Input-Output Use Table

		INDUSTRIES									FINAL DEMAND (GNP)				TOTAL COM-MODITY OUTPUT
		Agriculture	Mining	Construction	Manufacturing	Transportation	Trade	Finance	Services	Other	Personal Consumption Expenditures	Gross Private Domestic Investment	Net Exports	Government Purchases	
COMMODITIES	Agricultural Products														
	Minerals														
	Construction														
	Manufactured Commodities														
	Transportation														
	Trade														
	Finance														
	Services														
	Other														
VALUE ADDED (Charges against GNP)	Compensation of Employment														
	Profit-Type Income *, Net Interest, & Capital Consumption Allowances														
	Indirect Business Taxes														
TOTAL INDUSTRY OUTPUT															

* Consists of proprietors' income, rental income of persons, corporate profits, and business transfer payments, less: subsidies less current surplus of government enterprises.

tion to final demand and value added, an expansion of the producers-to-producers box, which was empty in chart 4, into a large shaded area with many boxes. These boxes represent consumption of commodities by industries. For example, the row for manufacturing shows the consumption of manufactured commodities by indus-

tries as well as final demand; the column for manufacturing shows raw materials, semifinished products, and services used by the manufacturing industry to generate its output as well as the value added in industry.

The chart also shows total output of each commodity and the total output of each industry. The former is the

sum of the consumption of the commodity by industries and of the sales of the commodity to final demand (final demand includes the change in the inventory of the commodity, wherever held). The latter is the sum of the consumption of commodities and of value added by the industry. For the economy as a whole, total output of commodities equals total output of industries.

and Purchasers' Prices, 1977 ¹

Federal Government purchases, nondefense				State and local government purchases, education				State and local government purchases, other				Commodity number
Producers' prices	Transportation costs	Wholesale and retail trade margins	Purchasers' prices	Producers' prices	Transportation costs	Wholesale and retail trade margins	Purchasers' prices	Producers' prices	Transportation costs	Wholesale and retail trade margins	Purchasers' prices	
5	(*)	1	6	24	(*)	2	25	24	(*)	2	26	1
3,496	1	1	3,498	191	34	45	270	177	18	41	236	2
-828	0	0	-828	4	0	1	5	-85	(*)	2	-83	3
0	0	0	0	0	0	0	0	0	0	0	0	5
(*)	(*)	(*)	(*)	0	0	0	0	0	0	0	0	6
9	(*)	(*)	10	49	12	3	64	60	12	3	75	7
99	4	0	102	0	0	0	0	0	0	0	0	8
0	0	0	0	0	0	0	0	-39	1	(*)	-38	9
3	2	(*)	5	0	0	0	0	87	89	3	179	10
821	1	3	825	0	0	0	0	45	(*)	7	52	13
443	0	1	444	2,045	41	216	2,302	938	23	107	1,069	14
0	0	0	0	(*)	0	-1	0	0	0	0	0	15
5	(*)	1	6	27	(*)	2	29	32	(*)	2	35	16
14	(*)	2	17	4	0	(*)	4	17	(*)	3	20	17
0	0	0	0	0	0	(*)	7	281	1	17	299	18
20	0	1	21	35	(*)	2	37	152	1	12	165	19
5	(*)	1	6	49	2	7	58	23	(*)	2	25	20
2	0	(*)	2	0	0	0	0	0	0	0	0	21
45	1	3	49	40	1	2	42	16	(*)	1	17	22
82	(*)	12	95	411	5	61	476	253	1	41	295	23
96	2	10	108	525	20	52	596	654	19	69	743	24
17	(*)	1	18	40	1	3	43	52	1	3	55	25
195	7	18	219	2,117	38	140	2,295	1,507	11	85	1,603	26
204	24	31	259	330	20	37	388	576	42	81	699	27
3	0	0	3	2	0	0	2	(*)	0	0	(*)	28
132	2	25	159	239	7	36	282	1,731	28	710	2,469	29
3	(*)	1	4	102	5	17	124	17	1	3	21	30
-169	13	23	-134	1,795	98	163	2,056	2,160	120	213	2,493	31
96	2	11	109	137	2	22	161	453	9	56	519	32
1	0	0	1	0	0	0	0	0	0	0	0	33
7	(*)	1	8	0	0	0	0	28	(*)	3	31	34
9	1	1	11	87	2	9	99	195	6	21	222	35
44	2	6	52	36	(*)	6	42	51	1	11	62	36
38	1	(*)	39	4	1	(*)	5	16	2	1	19	37
90	1	4	95	1	0	0	1	17	(*)	(*)	17	38
0	0	0	0	24	(*)	(*)	24	1	0	0	1	39
256	2	18	276	0	0	0	0	0	0	0	0	40
32	0	2	33	124	1	4	128	38	(*)	2	40	41
120	3	33	156	95	3	28	126	78	2	17	97	42
25	(*)	1	27	0	0	0	0	112	1	9	121	43
4	0	1	5	20	(*)	7	27	60	1	21	81	44
29	1	5	34	0	0	0	0	329	8	83	420	45
36	(*)	7	44	1	0	1	2	1	0	1	2	46
82	1	12	95	39	(*)	6	45	20	(*)	3	23	47
20	(*)	2	22	26	0	4	30	1	0	(*)	1	48
90	(*)	12	102	0	0	0	0	48	(*)	6	54	49
66	2	1	69	17	1	(*)	18	17	1	(*)	18	50
351	2	39	391	235	1	62	298	138	0	35	173	51
36	(*)	9	45	217	2	63	282	59	(*)	21	80	52
242	2	23	267	48	0	4	52	67	(*)	7	74	53
5	0	1	5	32	1	3	36	46	(*)	4	50	54
21	0	4	24	128	1	24	152	43	0	7	51	55
400	1	11	412	183	1	16	200	86	0	5	91	56
261	1	31	293	20	0	3	23	40	0	5	44	57
81	1	24	105	19	(*)	7	27	122	1	43	166	58
291	9	14	314	651	27	54	732	1,399	51	97	1,546	59
629	1	0	630	0	0	0	0	8	0	1	8	60
151	1	2	153	29	3	1	33	218	4	12	234	61
398	1	65	464	60	0	11	71	508	2	97	607	62
404	2	51	456	380	2	45	427	412	1	76	489	63
25	4	14	44	518	21	86	626	318	12	69	399	64
4,387	0	0	4,387	2,324	0	0	2,324	4,019	0	0	4,019	73
33	0	(*)	33	153	4	1	153	541	0	1	542	75
1,030	(*)	(*)	1,031	15	4	2	21	2	1	(*)	3	80
-31	0	0	-31	212	0	0	212	747	0	0	747	81

Uses of I-O

I-O has a variety of uses, ranging from the assessment of the sales potential of an individual firm to the assessment of broad economic programs.

The major contribution of I-O to economic analysis is that it facilitates measurement of both the direct and indirect repercussions of changes in demand. For example, an increase in consumer demand for autos will lead, in the first instance, to an increase in the production of autos. The increase in the production of autos will result in more steel production, which in turn will require more chemicals, more iron ore, more limestone, and more coal. The production of autos will also require more upholstery fabrics, and the increased production of these fabrics will require more natural fibers, more synthetic fibers, and more plastics. There will be even further impacts; for instance, the increased production of synthetic fibers will require more electricity and containers. These repercussions are only a few in the chain resulting from the initial change in consumer demand for autos. Through I-O analysis, it is possible to trace this intricate chain of demand through the economy, measuring the direct and indirect effects on production.

The information derived in this way can be used for estimating related requirements. For example, with the aid of supplementary information, requirements for additional production can be translated into requirements for additional employment, inventories, or fixed capital.

I-O has been used widely to help evaluate the impact of energy shortages and of changes in the patterns of energy use. It has also been used to study the impact on the environment of industrial emissions of pollutants associated with alternative levels and

(Text continued on p. 48)

Table B.—Input-Output Commodity Composition of Personal Consumption Expenditures, in Producers' and Purchasers' Prices, 1977—Continued

[Millions of dollars]

I-O commodity number	Producers' prices	Transportation	Trade	Insurance	Purchasers' prices	I-O commodity number	Producers' prices	Transportation	Trade	Insurance	Purchasers' prices	I-O commodity number	Producers' prices	Transportation	Trade	Insurance	Purchasers' prices
40. Fuel oil and coal (n.d.)						59. Expense of handling life insurance (s.)						75. Taxicab transportation (s.)					
Total.....	7,232	322	3,386	0	11,057	Total.....	14,960	0	0	0	14,960	Total.....	2,397	0	0	0	2,397
07.....	215	44	72	0	330	70.....	14,960	0	0	0	14,960	65.....	2,397	0	0	0	2,397
20.....	106	1	9	0	116	60. Legal services (s.)						76. Railway (commutation) (s.)					
27.....	100	9	18	0	126	Total.....	9,566	0	0	0	9,566	Total.....	232	0	0	0	232
31.....	6,629	269	3,285	0	10,301	73.....	9,566	0	0	0	9,566	65.....	232	0	0	0	232
37.....	5	(*)	1	0	6	61. Funeral and burial expenses (s.)						77. Railway (excluding commutation) (s.)					
68.....	177	0	0	0	177	Total.....	3,384	7	110	0	3,502	Total.....	272	0	0	0	272
41. Telephone and telegraph (s.)						62. Other personal business (s.)						78. Intercity bus transportation (s.)					
Total.....	21,544	0	0	0	21,544	Total.....	5,002	0	0	0	5,002	Total.....	988	0	0	0	988
66.....	21,269	0	0	0	21,269	66.....	50	0	0	0	50	65.....	988	0	0	0	988
72.....	275	0	0	0	275	70.....	37	0	0	0	37	79. Intercity bus transportation (s.)					
42. Domestic service (s.)						63. New autos (d.)						80. Airline transportation (s.)					
Total.....	6,082	0	0	0	6,082	Total.....	35,859	1,032	7,516	0	44,407	Total.....	8,286	0	0	0	8,286
73.....	152	0	0	0	152	59.....	35,859	1,032	7,516	0	44,407	65.....	8,286	0	0	0	8,286
84.....	5,930	0	0	0	5,930	64. Net purchases of used autos (d.)						81. Other intercity transportation (s.)					
43. Other household operation (s.)						65. Other motor vehicles (d.)						82. Books and maps (d.)					
Total.....	9,968	0	0	0	9,968	Total.....	12,167	283	3,405	0	15,855	Total.....	2,909	46	1,119	0	4,074
22.....	4	0	0	0	4	59.....	9,283	273	1,896	0	11,451	26.....	2,909	46	1,095	0	4,050
51.....	3	0	0	0	3	61.....	2,663	10	1,059	0	3,733	81.....	0	0	24	0	24
54.....	7	0	0	0	7	81.....	221	0	450	0	671	83. Magazines, newspapers, and sheet music (n.d.)					
65.....	2,560	0	0	0	2,560	66. Tires, tubes, accessories and other parts (d.)						84. Nondurable toys and sport supplies (n.d.)					
70.....	1,336	0	0	0	1,336	Total.....	6,713	410	5,754	0	12,877	Total.....	5,630	92	5,121	0	10,843
72.....	2,397	0	0	0	2,397	19.....	27	(*)	14	0	42	03.....	168	0	231	0	399
73.....	1,052	0	0	0	1,052	27.....	292	28	220	0	540	13.....	163	2	128	0	293
78.....	2,609	0	0	0	2,609	29.....	59	4	45	0	109	17.....	22	(*)	20	0	42
45. Drug preparations and sundries (n.d.)						67. Automobile repair, greasing, washing, parking, storage and rental (s.)						85. Wheel goods, durable toys, sports equipment, boats and pleasure aircraft (d.)					
Total.....	6,716	103	6,253	0	13,073	Total.....	25,506	0	223	0	25,729	Total.....	8,429	115	5,170	0	13,714
24.....	588	24	494	0	1,106	61.....	2	0	0	0	2	13.....	466	1	404	0	871
27.....	43	4	47	0	94	73.....	14	0	0	0	14	19.....	286	2	191	0	479
29.....	5,598	71	5,317	0	10,986	75.....	25,437	0	223	0	25,660	32.....	27	1	20	0	48
31.....	2	0	1	0	3	76.....	46	0	0	0	46	34.....	149	1	120	0	270
32.....	133	3	101	0	236	77.....	7	0	0	0	7	42.....	134	3	140	0	277
54.....	19	(*)	15	0	34	68. Automobile insurance premiums less claims paid (s.)						86. Radio and television receivers, records and musical instruments (d.)					
55.....	4	0	4	0	8	Total.....	7,820	0	0	0	7,820	Total.....	9,353	77	6,307	0	15,737
62.....	331	1	274	0	606	70.....	7,820	0	0	0	7,820	34.....	7	(*)	5	0	12
46. Ophthalmic products and orthopedic appliances (d.)						69. Gasoline and oil (n.d.)						87. Radio and television repair (s.)					
Total.....	1,252	5	1,974	0	3,231	Total.....	31,963	1,072	14,646	0	48,143	Total.....	2,459	0	0	0	2,459
58.....	75	2	97	0	173	31.....	31,963	1,072	14,646	0	48,143	56.....	2	0	0	0	2
62.....	289	1	328	0	618	70. Bridge, tunnel, ferry, and road tolls (s.)						88. Street and electric railway and local bus transportation (s.)					
63.....	883	2	1,550	0	2,435	Total.....	908	0	0	0	908	Total.....	2,292	0	0	0	2,292
81.....	5	0	0	0	5	79.....	908	0	0	0	908	73.....	165	0	0	0	165
47. Physicians (s.)						71. Street and electric railway and local bus transportation (s.)						89. Radio and television repair (s.)					
Total.....	28,137	0	0	0	28,137	Total.....	2,371	0	0	0	2,371	Total.....	2,459	0	0	0	2,459
77.....	28,137	0	0	0	28,137	72. Automobile insurance premiums less claims paid (s.)						90. Street and electric railway and local bus transportation (s.)					
48. Dentists (s.)						73. Street and electric railway and local bus transportation (s.)						91. Street and electric railway and local bus transportation (s.)					
Total.....	9,849	0	0	0	9,849	Total.....	2,371	0	0	0	2,371	56.....	2	0	0	0	2
77.....	9,849	0	0	0	9,849	74. Street and electric railway and local bus transportation (s.)						92. Street and electric railway and local bus transportation (s.)					
49. Other professional medical services (s.)						75. Street and electric railway and local bus transportation (s.)						93. Street and electric railway and local bus transportation (s.)					
Total.....	7,373	0	0	0	7,373	Total.....	2,371	0	0	0	2,371	72.....	2,292	0	0	0	2,292
73.....	50	0	0	0	50	76. Street and electric railway and local bus transportation (s.)						94. Street and electric railway and local bus transportation (s.)					
77.....	7,323	0	0	0	7,323	Total.....	2,371	0	0	0	2,371	73.....	165	0	0	0	165
50. Privately-controlled hospitals and sanitariums (s.)						77. Street and electric railway and local bus transportation (s.)						95. Street and electric railway and local bus transportation (s.)					
Total.....	41,626	0	0	0	41,626	78. Street and electric railway and local bus transportation (s.)						96. Street and electric railway and local bus transportation (s.)					
77.....	41,626	0	0	0	41,626	79. Street and electric railway and local bus transportation (s.)						97. Street and electric railway and local bus transportation (s.)					
51. Health insurance (s.)						79. Street and electric railway and local bus transportation (s.)						98. Street and electric railway and local bus transportation (s.)					
Total.....	7,983	0	0	0	7,983	80. Street and electric railway and local bus transportation (s.)						99. Street and electric railway and local bus transportation (s.)					
70.....	7,983	0	0	0	7,983	81. Street and electric railway and local bus transportation (s.)						100. Street and electric railway and local bus transportation (s.)					
56. Brokerage charges and investment counseling (s.)						82. Street and electric railway and local bus transportation (s.)						101. Street and electric railway and local bus transportation (s.)					
Total.....	4,053	0	0	0	4,053	83. Street and electric railway and local bus transportation (s.)						102. Street and electric railway and local bus transportation (s.)					
70.....	4,053	0	0	0	4,053	84. Street and electric railway and local bus transportation (s.)						103. Street and electric railway and local bus transportation (s.)					
57. Bank service charges, trust services, and safe deposit box rental (s.)						85. Street and electric railway and local bus transportation (s.)						104. Street and electric railway and local bus transportation (s.)					
Total.....	3,384	0	0	0	3,384	86. Street and electric railway and local bus transportation (s.)						105. Street and electric railway and local bus transportation (s.)					
70.....	3,384	0	0	0	3,384	87. Street and electric railway and local bus transportation (s.)						106. Street and electric railway and local bus transportation (s.)					
58. Services furnished without payment by financial intermediaries except life insurance carriers (s.)						88. Street and electric railway and local bus transportation (s.)						107. Street and electric railway and local bus transportation (s.)					
Total.....	25,955	0	0	0	25,955	89. Street and electric railway and local bus transportation (s.)						108. Street and electric railway and local bus transportation (s.)					
70.....	25,955	0	0	0	25,955	90. Street and electric railway and local bus transportation (s.)						109. Street and electric railway and local bus transportation (s.)					

See footnotes at end of table.

Table B.—Input-Output Commodity Composition of Personal Consumption Expenditures, in Producers' and Purchasers' Prices, 1977—Continued

(Millions of dollars)

I-O commodity number	Producers' prices	Transportation	Trade	Insurance	Purchasers' prices	I-O commodity number	Producers' prices	Transportation	Trade	Insurance	Purchasers' prices	I-O commodity number	Producers' prices	Transportation	Trade	Insurance	Purchasers' prices
89. Flowers, seeds, and potted plants (n.d.)						96. Parimutuel net receipts (s.)						104. Foreign travel by United States residents (s.)					
Total.....	1,457	135	1,279	0	2,871	Total.....	1,883	0	0	0	1,883	Total.....	10,335	0	0	0	10,335
02.....	1,371	134	1,275	0	2,780	76.....	1,883	0	0	0	1,883	65.....	3,952	0	0	0	3,952
04.....	50	0	0	0	50							80.....	6,383	0	0	0	6,383
78.....	31	0	0	0	31	97. Other recreational expenditure (s.)						105. Expenditures abroad by United States Government personnel (military and civilian) (n.d.)					
80.....	5	1	4	0	10	Total.....	11,584	61	660	0	12,305	Total.....	1,198	0	0	0	1,198
91. Motion picture theaters (s.)						01.....	301	18	76	0	395	80.....	1,198	0	0	0	1,198
Total.....	2,368	0	0	0	2,368	03.....	241	(*)	11	0	252	106. Expenditures in the United States by foreigners (s.)					
65.....	19	0	0	0	19	04.....	303	0	0	0	303	Total.....	-6,982	0	0	0	-6,982
76.....	2,326	0	0	0	2,326	66.....	1,075	0	0	0	1,075	83.....	-6,982	0	0	0	-6,982
77.....	23	0	0	0	23	67.....	344	0	0	0	344	107. Personal remittances in kind to foreigners (n.d.)					
92. Legitimate theaters and opera and entertainments of nonprofit institutions (except athletic) (s.)						70.....	3	0	0	0	3	Total.....	-239	0	0	0	-239
Total.....	1,083	0	0	0	1,083	72.....	2,926	0	0	0	2,926	83.....	-239	0	0	0	-239
76.....	1,043	0	0	0	1,043	73.....	1,954	0	88	0	2,043	Total personal consumption expenditures					
77.....	40	0	0	0	40	76.....	2,228	0	0	0	2,228	Total.....	1,013,284	10,066	222,550	2	1,246,481
93. Spectator sports (s.)						77.....	1,130	0	0	0	1,130	Durable commodities (d.)					
Total.....	1,653	0	0	0	1,653	79.....	803	0	0	0	803	Total.....	115,869	2,551	65,943	0	184,362
76.....	747	0	0	0	747	80.....	283	34	112	0	429	Nondurable commodities (n.d.)					
77.....	907	0	0	0	907	81.....	-6	8	372	0	374	Total.....	326,869	7,448	155,614	2	490,513
94. Clubs and fraternal organizations except insurance (s.)						99. Private higher education (s.)						Services (s.)					
Total.....	2,219	0	0	0	2,219	Total.....	7,063	0	0	0	7,063	Total.....	570,546	68	993	0	571,607
76.....	1,422	0	0	0	1,422	77.....	7,063	0	0	0	7,063	Total personal consumption expenditures					
77.....	798	0	0	0	798	100. Private elementary and secondary schools (s.)						Total.....	1,013,284	10,066	222,550	2	1,246,481
95. Commercial participant amusements (s.)						Total.....	6,164	0	0	0	6,164	Durable commodities (d.)					
Total.....	5,946	0	0	0	5,946	77.....	6,164	0	0	0	6,164	Total.....	115,869	2,551	65,943	0	184,362
65.....	803	0	0	0	803	101. Other private education and research (s.)						Nondurable commodities (n.d.)					
76.....	5,133	0	0	0	5,133	Total.....	5,387	0	0	0	5,387	Total.....	326,869	7,448	155,614	2	490,513
77.....	11	0	0	0	11	76.....	199	0	0	0	199	Services (s.)					
95. Commercial participant amusements (s.)						77.....	5,187	0	0	0	5,187	Total.....	570,546	68	993	0	571,607
Total.....	5,946	0	0	0	5,946	102. Religious and welfare activities (s.)						Total personal consumption expenditures					
65.....	803	0	0	0	803	Total.....	24,191	0	0	0	24,191	Total.....	1,013,284	10,066	222,550	2	1,246,481
76.....	5,133	0	0	0	5,133	77.....	24,191	0	0	0	24,191	Durable commodities (d.)					
77.....	11	0	0	0	11	103. Total personal consumption expenditures (s.)						Total.....	115,869	2,551	65,943	0	184,362

*Less than \$500,000.

NOTE.—The identifying numbers for the personal consumption expenditure categories are those used in table 2.4 in the July 1983 SURVEY OF CURRENT BUSINESS.

Personal consumption expenditures of scrap, used, and secondhand goods (I-O 81) from other final demand components are shown net of corresponding sales. (Sales among persons cancel.) However, the trade margin has been measured on all sales of used goods—both among persons

and between personal consumption expenditures and other final demand categories—to the extent that such sales pass through trade channels. The trade margin is usually the largest part of the value of used goods in purchasers' prices.

The margin for insurance (I-O 70) covers only the cost of insuring noncomparable imported commodities as they move from the foreign port to the domestic port. Insurance on domestic products in transit is included in transportation cost.

compositions of final demand. In conjunction with information on the geographic distribution of production, I-O can shed light on the regional implications of changes in the Nation's GNP. It is also useful in cost-price analysis, by providing detailed information on cost-price structures and by permitting measurement of the direct and indirect repercussions of changes in the price of any given commodity or element of value added.

The most important assumption generally made in I-O analysis is that the inputs used in production are proportional to output. Even though this assumption is not in full accord with real-world conditions, it is an adequate approximation for many purposes. Moreover, these relations, or "input coefficients," as they will be referred to later, in general do not change rapidly. Accordingly, the I-O tables that are used to quantify these relations retain their usefulness for

economic analysis over a period of several years.⁴

Description of I-O tables

The results of the 1977 I-O study are presented in five basic tables. The five tables are: (1) use table, (2) make table, (3) commodity-by-industry direct requirements table, (4) commodity-by-commodity total requirements table, and (5) industry-by-commodity total requirements table.⁵

4. BEA produces summary, updated I-O tables for nonbenchmark years based on the tables for the latest benchmark. These tables incorporate for each of the 85 industries/commodities current-year prices and the output proportions at the 537-industry/commodity level for the current year. The first update based on the 1977 benchmark will be for 1980; its availability in a staff paper, planned for later this year, will be announced in the SURVEY.

5. In the designation of I-O tables, the row is referred to first and the column second. Thus, tables in which commodities appear in the rows and industries in the columns are designated "commodity-by-industry" tables, and tables in which industries appear in the rows and commodities in the columns are designated "industry-by-commodity" tables.

This section describes these tables and highlights some of the important I-O relationships for 1977. The next section summarizes the definitions and conventions underlying the tables.

The use table (table 1).—The use table shows the value of each commodity used by each industry. The entries in a row represent the use by each industry of the commodity named at the beginning of the row and the sales of the commodity to final users. The entries in a column represent the value of the commodities—raw materials, semifinished products, and services—used, and the value added generated, in production by the industry named at the head of the column. The row total (total commodity output) is the output of the commodity (no matter which industries contributed to that output) and the column total (total industry

Table C.—Input-Output Commodity Composition of Producers' Durable Equipment Expenditures, in Producers' and Purchasers' Prices, 1977

[Millions of dollars]

I-O commodity number	Producers' prices	Transportation	Trade	Insurance	Purchasers' prices	I-O commodity number	Producers' prices	Transportation	Trade	Insurance	Purchasers' prices	I-O commodity number	Producers' prices	Transportation	Trade	Insurance	Purchasers' prices
3. Furniture and fixtures						11. Special industry machinery, n.e.c.						20. Passenger cars					
Total	4,815	54	727	0	5,596	Total	5,200	59	1,065	0	6,324	Total	9,456	472	2,603	0	12,530
22	642	8	30	0	680	48	5,209	59	1,063	0	6,331	59	16,392	472	2,286	0	19,149
23	4,207	46	687	0	4,940	52	2	0	0	0	2	81	-6,937	0	317	0	-6,620
81	-35	0	11	0	-24	58	9	0	1	0	10	21. Aircraft					
4. Fabricated metal products						12. General industrial, including materials handling equipment						22. Ships and boats					
Total	5,602	81	543	0	6,226	Total	7,884	92	1,358	0	9,334	Total	2,986	10	420	0	3,416
06	374	13	17	0	404	46	2,979	51	741	0	3,771	23	118	2	17	0	137
27	541	0	0	0	541	49	4,971	41	465	0	5,478	60	2,777	6	299	0	3,082
37	5	(*)	0	0	5	81	-66	0	151	0	85	62	401	3	105	0	509
39	29	(*)	1	0	31	13. Office, computing, and accounting machinery						23. Railroad equipment					
40	3,055	19	241	0	3,314	Total	7,440	43	1,298	0	8,781	Total	2,408	6	86	0	2,501
42	1,591	49	283	0	1,924	51	7,432	43	1,215	0	8,689	61	2,443	6	86	0	2,536
46	5	0	0	0	5	57	34	(*)	3	0	37	81	-35	0	0	0	-35
62	2	0	1	0	3	81	-25	0	80	0	55	24. Instruments					
5. Engines and turbines						14. Service industry machinery						25. Other nonresidential equipment					
Total	1,577	14	145	0	1,737	Total	3,024	31	881	0	3,935	Total	3,008	141	1,728	0	4,877
43	1,663	14	145	0	1,823	50	29	1	1	0	31	17	439	8	299	0	746
81	-86	0	0	0	-86	52	2,983	30	849	0	3,862	20	11	(*)	1	0	12
6. Tractors						16. Electrical transmission, distribution, and industrial apparatus						26. Sale of equipment scrap, excluding autos					
Total	3,706	75	1,827	0	5,608	Total	5,854	63	753	0	6,670	Total	-1,527	0	0	0	-1,527
44	2,908	42	1,250	0	4,100	53	5,854	63	741	0	6,657	81	-1,527	0	0	0	-1,527
45	1,171	31	547	0	1,749	81	0	0	12	0	12	27. Residential (landlord durables)					
80	17	3	3	0	23	17. Communication equipment						28. Total PDE					
81	-290	0	27	0	-264	Total	14,074	39	282	0	14,394	Total	124,562	1,964	23,348	0	149,874
7. Agricultural machinery, except tractors						18. Electrical equipment, n.e.c.											
Total	4,708	69	1,751	0	6,528	Total	1,958	18	659	0	2,635						
44	4,451	69	1,618	0	6,138	54	387	4	98	0	489						
81	257	0	133	0	390	55	97	1	29	0	127						
8. Construction machinery, except tractors						19. Trucks, buses, and truck trailers											
Total	4,910	128	1,339	0	6,376	Total	14,247	341	1,621	0	16,209						
45	4,975	128	1,221	0	6,324	59	14,462	341	1,550	0	16,353						
81	-65	0	117	0	52	81	-215	0	71	0	-144						
9. Mining and oilfield machinery																	
Total	2,770	27	760	0	3,557												
08	116	0	0	0	116												
45	2,545	27	657	0	3,229												
49	109	1	17	0	127												
81	0	0	86	0	86												
10. Metalworking machinery																	
Total	7,479	61	1,345	0	8,885												
47	7,507	61	1,292	0	8,861												
81	-29	0	53	0	24												

*Less than \$500,000.

NOTE.—The identifying numbers for the producers' durable equipment expenditures are those used in table 5.6 in the July 1983 SURVEY OF CURRENT BUSINESS.

output) is the output of the industry (no matter what was produced).

An interesting aspect of the U.S. economy shown in the rows is the wide variation in the proportion of commodity output sold directly to final users. Some commodities, such as footwear and other leather products (the primary product of I-O industry 34) and household furniture (I-O 22), were sold almost entirely to final users; therefore, the demand for these commodities is directly affected to a substantial degree by changes in final demand. Other commodities, such as wood containers (I-O 21) and

iron and ferroalloy ores mining (I-O 5), were used almost entirely by industrial users. For such commodities, the connection between production and final demand is remote and can be traced only through the sales to final users made by industrial users of the commodity.

The rows of table 1 also show wide variation in the concentration of the use of a commodity by industries. Primary iron and steel (I-O 37) was used by 69 industries; none of them used more than \$13,116 million, or 20.6 percent, of total production of iron and steel of \$63,623 million. In con-

trast, metal containers (I-O 39) were used by 18 industries; one of them, food and kindred products (I-O 14), used \$5,841 million, or 68.3 percent, of total production of \$8,551 million.

The pattern of the use of a commodity as shown in a row of table 1 may change over time, even if the input coefficients mentioned earlier remain fixed.

The make table (table 2).—The make table shows the value of each commodity produced by each industry. The entries in a row represent the value of the commodities—both primary and secondary—produced by

Table D.—Relation of Exports and Imports in the Input-Output (I-O) Accounts to the National Income and Product Account (NIPA's)

[Millions of dollars]	
	1977
Exports of goods and services, NIPA's	185,275
Less: U.S. merchandise returned	2,140
Reexports	2,210
Fees and royalties from affiliated foreigners.....	3,883
Plus: Fees and royalties received.....	5,001
Equals: Exports of goods and services, I-O.....	182,043
Imports of goods and services, NIPA's	187,386
Less: U.S. merchandise returned	2,140
Reexports	2,210
Fees and royalties to affiliated foreigners.....	243
Plus: Fees and royalties paid.....	1,361
Equals: Imports of goods and services, I-O.....	184,154

the industry named at the beginning of the row.⁶ The value of the primary product is shown in the diagonal cell (the cell where the row with a given number intersects the column with the same number). The secondary products of the industry (products primary to other industries) are shown in the other cells along the row. The entries in a column represent the dollar value of the production by each industry of the commodity named at the head of the column.

The row total is industry output and the column total is commodity output. The row totals of table 1 equal the column totals of table 2; the column totals of table 1 equal the row totals of table 2.

An industry's share of the production of a commodity can be calculated from the values in table 2 by expressing the entries in a given column as a percentage of the column total. For example, column 27 shows that the production of chemicals and selected chemical products (I-O 27) totaled \$63,263 million, the chemical and selected products industry (row 27) produced \$50,675 million, or 80.1 percent of the total.

The commodity-by-industry direct requirements table (table 3).—Each column of table 3 shows the inputs required by the industry named at the head of the column for commodities named at the beginning of each row to produce a dollar of that industry's output. These entries are the input coefficients. They also are referred to as the "direct requirements coefficients." They show that, for example, to produce a dollar of output, the chemicals and selected chemical prod-

ucts industry (I-O 27) required 26.2 cents of chemicals and selected chemical products, 2.5 cents of refined petroleum products (row 31), 1.7 cents of chemical and fertilizer minerals (row 10), etc.

Table 3 shows heavy interdependence among industries. Seventy-six of the industries shown in the table required inputs of at least 40 commodities, and 52 industries required inputs of at least 50 commodities. The motor vehicles and equipment industry (I-O 59), for example, required inputs of 65 commodities.

The information in tables 2 and 3 make it possible to trace the interconnections among final demand for commodities, production of commodities, and production of the industries producing the commodities. For example, assume that \$1 million worth of household furniture is produced for sale to consumers. From table 2, it is seen that the household furniture industry (I-O 22) produced \$9,915 million, or 97.8 percent, of the production of this commodity. Thirty-nine million dollars, or 0.4 percent, was produced by the rubber and miscellaneous plastics products industry (I-O 32), \$36 million, or 0.4 percent, was produced by the miscellaneous manufacturing industry (I-O 64), and the remainder by 24 other industries. Based on these 1977 proportions, I-O 22 would initially supply \$978,000 for sale to consumers, I-O 32 would supply \$4,000, and I-O 64 would supply \$4,000. The commodities required by I-O 22 will be traced first. Column 22 in table 3 shows that the household furniture industry would require \$2,093 (\$978,000 × 0.00214) of household furniture products, of which it would produce \$2,047 (0.978 × \$2,093) itself. Thus, industry 22 initially would have to produce \$980,047 of household furniture; this production would require \$60,782 (\$980,047 × 0.06202) of fabrics (I-O 16), \$120,653 (\$980,047 × 0.12311) of wood products (I-O 20), and so on down column 22.

In turn, the production required by each of the industries producing the commodities required by the household furniture industry to meet the requirements placed upon it may be traced using the information in tables 2 and 3. Thus, to supply the fabrics, I-O industry 16 requires its own products (fabrics) plus agricultural products (I-O 2), chemicals and selected

chemical products (I-O 27), plastics and synthetic materials (I-O 28), etc. I-O industries 17, 18, 19, and 28, which produce fabrics as secondary products, would also require commodities to produce their share of the production of fabrics.

In a similar manner, the repercussions resulting from the production by I-O 32 and I-O 64 of their shares of the \$1 million of household furniture sold to consumers may be traced.

This tracing of the requirements that spread through the economy can be continued, and the total production required of each industry to produce \$1 million of household furniture for consumers can be derived. However, the total production required can be calculated more easily by using tables in which the information shown in tables 2 and 3 has been combined and completely traced and summarized. Such tables are called total requirements tables. Requirements for commodities can be derived from the commodity-by-commodity total requirements table (table 4) and industry requirements from the industry-by-commodity total requirements table (table 5).

The commodity-by-commodity total requirements table (table 4).—Each column of table 4 shows the production required both directly and indirectly of the commodity named at the beginning of each row per dollar of delivery to final demand of the commodity named at the head of the column.⁷ These coefficients are referred to as "commodity-by-commodity total requirements coefficients."

Returning to the household furniture example, the total requirements (direct and indirect) for commodities to provide consumers with \$1 million of household furniture can be calculated simply. Thus, the column for I-O commodity 22 shows that \$1,002,220 (\$1,000,000 × 1.00222) of household furniture products is required (row 22). Similarly, \$103,520 of fabrics (\$1,000,000 × 0.10352) is required (row 16), \$182,440 of lumber and wood products (\$1,000,000 × 0.18244) is required (row 20), etc.

The industry-by-commodity total requirements table (table 5).—Each column of table 5 shows the product

6. The classification of industries and primary and secondary products are discussed in the section on "Definitions and Conventions."

7. The derivation of this table is shown in the "Mathematical Derivation of the Total Requirements Tables for the 1972 Input-Output Study." See item 50 in appendix A.

(primary and secondary) required both directly and indirectly from the industry named at the beginning of each row per dollar of delivery to final demand of the commodity named at the head of the column.⁸ These coefficients are referred to as "industry-by-commodity total requirements coefficients."

Returning again to the household furniture example, calculations similar to those made for commodity-by-commodity total requirements would be made. The column for I-O commodity 22 shows that to provide consumers with \$1 million of household furniture, \$980,950 ($\$1,000,000 \times 0.98095$) is required directly and indirectly from the household furniture industry (row 22), \$105,570 ($\$1,000,000 \times 0.10557$) from the fabrics industry (row 16), \$182,110 ($\$1,000,000 \times 0.18211$) from the lumber and wood products industry (row 20), etc.

*Definitions and conventions*⁹

Classification of industries and commodities.—The classification underlying the I-O industry/commodity categories is based on the Standard Industrial Classification (SIC), which classifies establishments into industries. For the purpose of the SIC, establishments are defined as economic units, generally at a single, physical location where business is conducted or where services or industrial operations are performed. Establishments are classified into an SIC industry on the basis of their principal product or service (primary products).

The I-O industry categories and their composition in terms of the 1977 SIC codes are given in appendix B. The industry categories used in the 85-level tables presented in this article are identified with two-digit I-O numbers. The more detailed industries in the 366- and 537-level tables are identified with four- and six-digit I-O numbers, respectively.

Seventy-seven of the 85 two-digit I-O industries are combinations of industries as defined in the *Standard Industrial Classification Manual*, 1977 edition. These I-O industries exclude the government-owned establishments contained in the industries

as defined in the SIC. Those government-owned establishments that are defined as government enterprises in the NIPA's are included in two I-O industries—Federal Government enterprises (I-O 78) and State and local government enterprises (I-O 79). The remaining six I-O industries are "special industries" that are outside the purview of the SIC. They are noncomparable imports (I-O 80); scrap, used, and secondhand goods (I-O 81); government industry (I-O 82); rest of the world industry (I-O 83); household industry (I-O 84); and inventory valuation adjustment (I-O 85). The commodity classification is closely related to that described above for industries. For a given commodity, the code of the industry in which the commodity is the primary product is assigned as the commodity code. This code is then used to group the production of the commodity as a primary product and its production in other industries as a secondary product.

Trade.—The I-O tables do not trace actual flows of commodities to and from trade. If trade were shown as buying and reselling commodities, industrial and final users would make most of their purchases from a single source—trade. To show the links between the production of commodities and the purchases of them by industrial and final users, commodities are shown as if moving directly to the users, bypassing trade. Production in trade is measured by the margin, which is defined to consist of operating expenses, profits, sales taxes, excise taxes, and customs duties. The margin associated with a commodity is shown as a separate purchase from trade by the user of the commodity.

Valuation of transactions.—In the I-O tables in this article, the commodities are valued at producers' prices. Such prices exclude distribution costs (trade margins and transportation costs). They are defined to include excise taxes collected and paid by the producer. As in the case with trade, transportation costs are shown as a separate purchase by the user of the commodity. (This valuation differs from that used in the NIPA's. In the NIPA's, goods and services are valued at purchasers' prices, which are producers' prices plus distribution costs.)

Secondary products.—In the I-O tables, secondary products are "redefined," that is, the secondary product

and associated inputs are excluded from the industry that produced it and included in the industry in which it was primary. The redefinitions are of two kinds. The first kind is reflected in tables 1 and 2, and therefore in the three other tables. The second kind is reflected only in tables 4 and 5:

For the first kind of redefinition, the inputs associated with the redefined products were estimated on the assumption that the input coefficients applicable to that product were the same as those of the industry to which the product is primary. This kind of redefinition was used in the following cases.

1. Construction work performed by all industries was redefined to the construction industries.

2. Manufacturing in trade and service industries was redefined to the manufacturing industries.

3. Retail trade in service industries was redefined to the trade industries. Services in the trade industries were redefined to the service industries. Selected services were redefined within service industries.

4. Manufacturers' wholesale sales of purchased goods (resales) were redefined to the wholesale trade industries.

5. Rental activities of all industries were redefined to the real estate and rental industries.

The second kind of redefinition was used for all other secondary products. The inputs associated with the redefined product were estimated on the assumption that the input coefficients applicable to that product were the same as those of the industry from which the product was redefined.

Imports.—An imported commodity is treated in one of two ways in the I-O tables. Those that are comparable to commodities that are commercially produced in the United States are included in table 1 with the distribution of the output of the comparable domestically produced commodity. Their domestic port value is shown as a negative entry in the import column of final demand (column 95), so that the row total for the commodity equals the output of that commodity.

Other commodities—those that are not comparable to commodities commercially produced in the United

(Text continued on p. 78)

8. See footnote 7.

9. More information will be contained in the BEA Staff Paper *Definitions and Conventions of the 1977 Input-Output Study*. The availability of this paper will be announced in the SURVEY.

by Industries, 1977—Continued

at producers' prices]

Special industry machinery and equipment	General industrial machinery and equipment	Miscellaneous machinery, except electrical	Office, computing, and accounting machines	Service industry machines	Electric industrial equipment and apparatus	Household appliances	Electric lighting and wiring equipment	Radio, TV, and communication equipment	Electronic components and accessories	Miscellaneous electrical machinery and supplies	Motor vehicles and equipment	Aircraft and parts	Other transportation equipment	Scientific and controlling instruments	Optical, ophthalmic, and photographic equipment	Miscellaneous manufacturing	Transportation and warehousing	Communications, except radio and TV	Commodity number
48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	
																			1
																			19
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(*)	(*)	(*)	(*)	(*)			(*)		(*)	(*)		(*)	(*)	(*)	(*)			(*)	6
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42	80	32	43	45	113	62	39	79	89	35	270	116	59	47	44	106	4,621	1,927	13
2	2	2	3	1	3	1	1	(*)	3	2	(*)	3	(*)	3	40	1	73	(*)	14
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4,323	8,196	3,663	9,181	7,068	8,693	6,316	4,459	15,556	7,831	4,620	84,028	14,195	12,932	6,284	5,220	11,338	54,891	10,559	T
4,392	8,000	4,744	6,611	4,888	9,033	4,226	3,830	13,322	6,881	4,254	33,657	12,181	8,708	7,005	6,561	8,407	71,319	42,308	VA
3,144	5,444	3,856	4,940	3,132	6,507	2,440	2,311	11,688	5,584	2,985	23,069	10,580	7,411	4,905	3,472	5,417	49,595	18,364	88
94	134	117	111	94	138	67	50	256	156	89	1,649	192	142	103	120	211	4,338	5,571	89
1,153	2,422	771	1,560	1,662	2,387	1,719	1,470	1,379	1,142	1,172	8,939	1,410	1,156	1,997	2,970	2,780	17,386	18,373	90
8,714	16,196	8,407	15,793	11,956	17,725	10,542	8,289	28,878	14,711	8,874	117,685	26,376	21,640	13,288	11,782	19,745	126,210	52,867	T

Table 1.—The Use of Commodities

[Millions of dollars at

Commodity number	For the distribution of output of a commodity, read the row for that commodity For the composition of inputs to an industry, read the column for that industry	Radio and TV broad-	Electric, gas, water,	Wholesale and retail	Finance and insurance	Real estate and rental	Hotels; personal and	Business services	Eating and drinking	Automobile repair and	Amusements	Health, educ., and	Federal Government	State and local govern-
		casting	and sanitary services	trade			repair services		places	services		and nonprofit org.	enterprises	ment enterprises
	Industry number	67	68	69	70	71	72	73	74	75	76	77	78	79
1	Livestock and livestock products						3	8	444		35	85	7	
2	Other agricultural products			20		15	23	9	692		662	87	124	2
3	Forestry and fishery products			2					741			13	17	
4	Agricultural, forestry, and fishery services	(*)	7	613	3	1,463	39	5	1	(*)	64	81	1	13
5	Iron and ferroalloy ores mining													
6	Nonferrous metal ores mining													
7	Coal mining		6,065			5						16	578	619
8	Crude petroleum and natural gas		13,148											
9	Stone and clay mining and quarrying											1		
10	Chemical and fertilizer mineral mining													6
11	New construction													
12	Maintenance and repair construction	30	3,712	2,560	350	19,891	599	462	534	347	666	3,540	211	4,760
13	Ordinance and accessories		(*)	4		(*)	(*)	78	(*)			2	(*)	(*)
14	Food and kindred products	4	5	327	1	1	97	66	24,794	2	295	2,218	490	1
15	Tobacco manufactures													
16	Broad and narrow fabrics, yarn and thread mills			1			148				31	25	5	
17	Miscellaneous textile goods and floor coverings			58			20	2	16	11	19	13	2	3
18	Apparel	(*)	4	77		2	382	29		36	79	335	1	11
19	Miscellaneous fabricated textile products			32	80	1	391	7	48	(*)	31	324	53	3
20	Lumber and wood products, except containers		59	414		3	68		14		64	28		
21	Wood containers			19										
22	Household furniture						2				2			
23	Other furniture and fixtures													
24	Paper and allied products, except containers	4	43	2,230	387	53	147	400	340	21	17	906	45	23
25	Paperboard containers and boxes	(*)	4	690	1		46	28	610	1	(*)	60	15	(*)
26	Printing and publishing	14	64	1,547	1,642	301	224	1,555	92	12	62	3,266	168	54
27	Chemicals and selected chemical products	7	320	26	6	179	134	224	48	4	30	2,166	5	231
28	Plastics and synthetic materials													
29	Drugs, cleaning and toilet preparations		1	136	6	4	532	164	113		4	3,183	17	15
30	Paints and allied products						1	42		310	1	1	1	(*)
31	Petroleum refining and related industries	6	8,099	5,055	431	333	447	928	225	698	160	1,482	198	864
32	Rubber and miscellaneous plastics products	1	60	1,058	54	232	332	296	675	97	64	1,369	21	45
33	Leather tanning and finishing												(*)	
34	Footwear and other leather products	(*)	1	87	8	2	31	4	1	(*)	17	20	9	1
35	Glass and glass products	(*)	1	104	7	1	94	20	136	181	(*)	152	1	1
36	Stone and clay products		8	66	2	12	149	15	101	381	2	32	1	60
37	Primary iron and steel manufacturing			9	1		2	3				7	1	(*)
38	Primary nonferrous metals manufacturing		19				5		10		3		6	1
39	Metal containers		4	115				30						
40	Heating, plumbing, and structural metal products			19		94						4	2	1
41	Screw machine products and stampings		46				21	53	283	1,479	8	92	36	5
42	Other fabricated metal products	(*)	87	276	11	4	98	152	53	1,184	13	103	8	6
43	Engines and turbines		617					68		33			4	22
44	Farm and garden machinery			9		39		215					1	60
45	Construction and mining machinery							245			(*)			
46	Materials handling machinery and equipment		5	104				122					2	
47	Metalworking machinery and equipment	(*)	13	41				105		6	(*)		1	9
48	Special industry machinery and equipment			15				71	67					
49	General industrial machinery and equipment		41	2	4	3		230		3			8	4
50	Miscellaneous machinery, except electrical	(*)	22	204		3	18	56	150	313	3	9	8	118
51	Office, computing, and accounting machines		3	29	70	3	595	460				13	4	(*)
52	Service industry machines		(*)	289			34	25	149	335	13	11	8	6
53	Electric industrial equipment and apparatus		105	3			14	98		105			(*)	168
54	Household appliances	(*)	35	40	26		308	41	(*)		(*)	20	6	24
55	Electric lighting and wiring equipment	1	84	44	14	31	17	71	36	100	15	115	11	41
56	Radio, TV, and communication equipment	21	4	77	19	(*)	33	33	1	53	5	56	6	4
57	Electronic components and accessories	175	3	10	49		525	467				99	1	10
58	Miscellaneous electrical machinery and supplies	(*)	5	101	12	35	8	58	8	236	1	322	5	17
59	Motor vehicles and equipment	1	22	337	21	13	11	78	12	5,044	20	44	25	58
60	Aircraft and parts													
61	Other transportation equipment	1	5	18			2	155		4	78	5	14	53
62	Scientific and controlling instruments	1	72	60	8		2	21	21	(*)	7	(*)	1,455	1
63	Optical, ophthalmic, and photographic equipment	110	31	172	100	36	262	773	3	1	103	585	12	14
64	Miscellaneous manufacturing	4	28	573	240	49	690	240	174	16	90	476	39	25
65	Transportation and warehousing	80	2,052	6,806	950	208	251	1,826	1,327	1,010	379	2,098	1,360	338
66	Communications, except radio and TV	62	326	5,584	2,525	510	632	2,619	449	455	243	1,868	119	71
67	Radio and TV broadcasting	57						118						
68	Electric, gas, water, and sanitary services	67	21,426	7,452	1,272	2,040	1,732	908	1,793	473	503	3,391	217	3,331
69	Wholesale and retail trade	41	1,111	4,973	421	673	934	1,253	5,006	4,516	266	2,447	253	339
70	Finance and insurance	72	773	5,608	25,270	6,970	705	1,260	982	282	374	1,467	51	100
71	Real estate and rental	351	480	14,918	2,938	17,316	1,781	3,750	2,563	745	1,125	9,443	351	175
72	Hotels; personal and repair services (exc. auto)	64	156	1,557	643	71	674	1,166	464	95	242	1,052	59	45
73	Business services	289	968	29,408	8,706	5,242	2,206	9,514	3,248	1,178	1,917	7,758	525	433
74	Eating and drinking places	131	107	6,547	1,219	732	317	1,837	158	100	280	1,790	85	161
75	Automobile repair and services	6	142	5,507	383	151	338	1,138	125	173	316	1,007	121	50
76	Amusements	1,823	6	779	3	(*)	18	132	807	(*)	3,328	331	27	(*)
77	Health, educ., & social serv. and nonprofit org.	21	102	379	505	87	285	522	156	24	139	2,932	10	24
78	Federal Government enterprises	8	314	1,724	2,200	553	143	1,011	117	23	48	903	289	61
79	State and local government enterprises	11	18	207	27	38	49	29	61	29	10	100	11	4
80	Noncomparable imports	32	3	371		2	11	272	43		56	30	508	
81	Scrap, used, and secondhand goods						19			206				1
82	Government industry													
83	Rest of the world industry													
84	Household industry													
85	Inventory valuation adjustment													
I	Total intermediate inputs	3,493	60,801	109,461	50,908	57,928	16,660	35,558	47,871	20,325	11,882	59,443	6,160	12,492
VA	Value added	4,976	44,794	274,987	78,314	218,010	29,762	99,028	38,156	22,778	12,674	102,792	13,456	10,470
88	Compensation of employees	2,745	11,999	162,000	52,675	6,677	16,709	53,217	26,068	10,818	7,157	82,877	14,129	7,550
89	Indirect business taxes	174	4,875	53,161	5,505	47,706	1,717	1,300	3,349	1,126	1,370	551		
90	Property-type income	2,057	27,921	59,806	20,133	163,627	11,336	44,512	8,739	10,834	4,147	19,364	-673	2,919
T	Total industry output	8,470	105,596	384,429	129,222	275,938	46,422	134,586	86,027	43,103	24,556	162,235	19,616	22,962

*Less than \$500,000.

by Industries, 1977—Continued

(producers' prices)

Government industry	Rest of the world industry	Household industry	Inventory valuation adjustment	Total intermediate use	Personal consumption expenditures	Gross private fixed investment	Change in business inventories	Exports	Imports	Federal Government purchases			State and local government purchases			Total final demand	Total commodity output	Commodity number
										Total	National defense	Nondefense	Total	Education	Other			
82	83	84	85		91	92	93	94	95									
				47,384	2,511		-1,183	199	-360	6	1	5	48	24	24	1,219	48,603	1
				38,279	7,726		1,832	12,523	-1,047	3,496		3,496	367	191	177	24,897	63,176	2
				6,346	788		34	214	-1,302	-828		-828	-81	4	-85	-1,175	5,170	3
				8,095	353			24	-3	61	4	57	392	165	227	828	8,923	4
				3,548			-437	326	-1,173	-49	-49					-1,395	2,213	5
				3,257		374	57	203	-728	-16	-16	(*)				-110	3,147	6
				14,121	215		161	2,096	-86	31	22	9	109	49	60	2,525	16,646	7
				77,477		116	690	202	-35,062	100	1	99				-33,955	43,523	8
				4,930	20		79	181	-286	-2	-2		-39		-39	-47	4,883	9
				1,298	2		39	223	-231	3		3	87		87	128	1,426	10
						150,890		1		7,450	2,361	5,089	32,354	5,585	26,769	190,694	190,694	11
				57,525			26			3,350	2,265	1,086	12,739	4,351	8,388	16,115	73,640	12
				621	630	22	115	1,530	-99	5,978	5,157	821	45	45	45	8,220	8,841	13
				75,195	113,507		1,617	7,308	-8,358	604	161	443	2,983	2,045	938	117,660	192,855	14
				2,628	8,437		365	1,664	-272							10,195	12,823	15
				24,388	882		1,082	1,148	-1,075	55	50	5	59	27	32	2,152	26,489	16
				5,948	2,045	892	187	342	-402	16	2	14	21	4	17	3,101	9,049	17
				10,305	33,194		2,472	733	-5,865	344	344		288	7	281	31,167	41,472	18
				4,675	4,068		222	332	-255	73	54	20	187	35	152	4,627	9,303	19
				38,243	548	11	1,329	1,928	-3,537	23	18	5	72	49	23	373	38,616	20
				525			8	10	-40	3	3					-17	508	21
				571	8,642	725	360	203	-475	54	9	45	56	40	16	9,566	10,137	22
				830	566	4,325	131	91	-269	105	23	32	664	411	253	5,612	6,442	23
				31,919	5,307		739	2,150	-3,725	128	32	96	1,180	525	654	5,779	37,698	24
				12,359	192		181	178	-13	43	26	17	92	40	52	673	13,033	25
				16,718	10,237		596	702	-360	332	138	195	3,624	2,117	1,507	15,131	31,849	26
				56,407	1,149	541	1,083	6,273	-4,370	1,275	1,071	204	906	330	576	6,857	63,263	27
				20,775			259	1,734	-495	37	34	3	2	2	(*)	1,538	22,313	28
				8,541	16,921		600	1,703	-1,388	330	198	132	1,970	239	1,731	20,184	28,725	29
				5,600	168		148	162	-8	3	(*)	3	119	102	17	594	6,194	30
				57,315	38,595		3,046	2,693	-11,366	1,875	2,043	-169	3,956	1,795	2,160	38,799	96,114	31
				32,019	6,444	58	1,366	1,532	-2,527	309	213	96	590	137	453	7,772	39,791	32
				1,531			18	166	-175	1	(*)	1				10	1,541	33
				575	7,610		209	144	-2,493	24	17	7	28		28	5,522	6,097	34
				7,909	829		163	503	-466	16	7	9	282	87	195	1,327	9,236	35
				24,239	1,123		717	604	-1,247	66	22	44	87	36	51	1,349	25,589	36
				67,833	11	5	1,274	1,580	-7,256	157	119	38	21	4	16	-4,209	63,623	37
				42,579	48	106	1,007	1,512	-4,747	178	88	90	18	1	17	-1,878	40,702	38
				8,256		29	164	79	-55	54	54	25	24	1		295	8,551	39
				20,918	374	3,055	902	1,126	-251	890	634	256				6,096	27,014	40
				18,120	798		368	1,059	-618	104	72	32	161	124	38	1,871	19,992	41
				23,522	2,038	1,591	830	1,466	-1,757	408	288	120	174	95	78	4,751	23,273	42
				6,184	207	1,663	423	1,993	-468	751	725	25	112	112	112	4,681	10,865	43
				1,956	105	8,410	661	1,240	-1,057	21	17	4	80	20	60	9,460	11,416	44
				3,596		8,692	603	4,421	-814	156	127	29	329		329	13,386	16,982	45
				1,546		2,984	104	427	-201	113	76	36	3	1	1	3,430	4,976	46
				5,267	281	7,507	400	1,087	-953	198	116	82	59	39	20	8,580	13,846	47
				2,074	92	5,209	227	2,354	-1,248	84	64	20	28	26	1	6,745	8,818	48
				9,451		5,080	474	2,214	-994	283	193	90	48	48	48	7,105	16,556	49
				8,038	40	29	184	157	-92	102	36	66	34	17	17	454	8,492	50
				3,873	420	7,432	558	3,476	-1,550	1,217	867	351	373	235	138	11,926	15,798	51
				6,264	432	2,986	317	1,155	-133	89	54	36	276	217	59	5,122	11,386	52
				10,298	91	5,854	586	2,072	-1,488	795	552	242	114	48	67	8,024	18,321	53
				1,775	7,014	1,607	174	657	-965	33	28	5	78	32	46	8,597	10,371	54
				5,964	1,318		361	460	-240	67	47	21	171	128	43	2,294	8,199	55
				6,836	8,328	10,620	703	2,498	-5,716	4,794	4,395	400	269	183	86	21,497	28,333	56
				12,720	529	35	490	2,468	-2,226	715	454	261	60	20	40	2,069	14,790	57
				4,385	2,003	1,491	383	859	-763	164	83	81	141	19	122	4,277	8,612	58
				39,822	46,124	30,854	4,368	10,963	-18,253	976	685	291	2,050	651	1,399	77,084	116,906	59
				5,597	427	2,777	186	7,159	-760	9,795	9,166	629	8		8	19,592	25,189	60
				2,465	7,063	8,323	597	975	-1,284	2,997	2,846	151	247	29	218	18,917	21,382	61
				4,395	1,927	4,570	484	1,976	-1,395	1,107	708	398	567	60	508	9,236	13,631	62
				3,687	2,379	4,188	177	1,510	-1,713	679	792	404	792	380	412	8,013	11,700	63
				5,775	12,684	1,283	913	1,295	-3,833	83	58	25	836	518	318	13,263	19,038	64
				75,440	33,210	1,976	1,020	9,756	-332	3,315	2,728	587	3,879	2,373	1,506	52,823	128,264	65
				23,404	22,394	3,385		985		1,063	502	562	1,636	851	785	29,464	52,868	66
				182	344											344	526	67
				75,722	41,824		276	-2,200		1,524	862	662	5,311	2,466	2,845	46,734	122,456	68
				112,682	222,550	24,668	2,980	12,416	5,376	2,125	1,584	542	3,374	1,254	2,121	273,489	386,171	69
				58,752	65,533		(*)	630	-524	613	7	606	3,574	184	3,390	69,826	128,578	70
				79,435	181,314	10,747		3,705		700	296	464	3,338	-446	2,892	199,805	279,243	71

Table 2.—The Make of Commodities

[Millions of dollars]

Industry number	For the distribution of industries producing a commodity, read the column for that commodity For the distribution of commodities produced by an industry, read the row for that industry	Livestock and livestock products	Other agricultural products	Forestry and fishery products	Agricultural, forestry, and fishery services	Iron and ferroalloy ores mining	Nonferrous metal ores mining	Coal mining	Crude petroleum and natural gas	Stone and clay mining and quarrying	Chemical and fertilizer mineral mining	New construction	Maintenance and repair construction	Ordnance and accessories	Food and kindred products	Tobacco manufactures
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Livestock and livestock products.....	48,594		72	398										3,184	
2	Other agricultural products.....		63,176	628	664										433	
3	Forestry and fishery products.....			4,470												
4	Agricultural, forestry, and fishery services.....				7,827											
5	Iron and ferroalloy ores mining.....					2,044	16			(*)	(*)					
6	Nonferrous metal ores mining.....					165	3,120				2					
7	Coal mining.....							16,636								
8	Crude petroleum and natural gas.....							2	43,385							
9	Stone and clay mining and quarrying.....					5		4	1	4,607						(*)
10	Chemical and fertilizer mineral mining.....						1			7	1,284					
11	New construction.....											190,694				
12	Maintenance and repair construction.....												73,640			
13	Ordnance and accessories.....													7,974		
14	Food and kindred products.....		9												188,562	
15	Tobacco manufactures.....															12,803
16	Broad and narrow fabrics, yarn and thread mills.....															
17	Miscellaneous textile goods and floor coverings.....															
18	Apparel.....															
19	Miscellaneous fabricated textile products.....															4
20	Lumber and wood products, except containers.....															(*)
21	Wood containers.....															
22	Household furniture.....															
23	Other furniture and fixtures.....													6		
24	Paper and allied products, except containers.....														(*)	18
25	Paperboard containers and boxes.....															
26	Printing and publishing.....															2
27	Chemicals and selected chemical products.....								50		140			6	307	
28	Plastics and synthetic materials.....														12	
29	Drugs, cleaning and toilet preparations.....									1					294	
30	Paints and allied products.....														2	
31	Petroleum refining and related industries.....									44						
32	Rubber and miscellaneous plastics products.....									2				15	29	
33	Leather tanning and finishing.....														1	
34	Footwear and other leather products.....															
35	Glass and glass products.....															
36	Stone and clay products.....									201	(*)					
37	Primary iron and steel manufacturing.....									3					23	
38	Primary nonferrous metals manufacturing.....						(*)							2		
39	Metal containers.....														8	
40	Heating, plumbing, and structural metal products.....														21	
41	Screw machine products and stampings.....														30	
42	Other fabricated metal products.....														15	
43	Engines and turbines.....														14	
44	Farm and garden machinery.....															
45	Construction and mining machinery.....														4	
46	Materials handling machinery and equipment.....														13	
47	Metalworking machinery and equipment.....														27	
48	Special industry machinery and equipment.....														4	
49	General industrial machinery and equipment.....														4	
50	Miscellaneous machinery, except electrical.....														2	
51	Office, computing, and accounting machines.....														3	
52	Service industry machines.....														5	9
53	Electric industrial equipment and apparatus.....															
54	Household appliances.....														9	
55	Electric lighting and wiring equipment.....														17	
56	Radio, TV, and communication equipment.....														282	
57	Electronic components and accessories.....														23	
58	Miscellaneous electrical machinery and supplies.....															
59	Motor vehicles and equipment.....														15	
60	Aircraft and parts.....														280	
61	Other transportation equipment.....														20	
62	Scientific and controlling instruments.....														21	9
63	Optical, ophthalmic, and photographic equipment.....														1	
64	Miscellaneous manufacturing.....														6	(*)
65	Transportation and warehousing.....				34											
66	Communications, except radio and TV.....															
67	Radio and TV broadcasting.....															
68	Electric, gas, water, and sanitary services.....								86							
69	Wholesale and retail trade.....															
70	Finance and insurance.....															
71	Real estate and rental.....															
72	Hotels, personal and repair services (exc. auto).....															
73	Business services.....															
74	Eating and drinking places.....															
75	Automobile repair and services.....															
76	Amusements.....															
77	Health, educ., & social serv. and nonprofit org.....															
78	Federal Government enterprises.....															
79	State and local government enterprises.....															
82	Government industry.....															
83	Rest of the world industry.....															
84	Household industry.....															
85	Inventory valuation adjustment.....															
T	Total commodity output.....	48,603	63,176	5,170	8,923	2,213	3,147	16,646	43,523	4,883	1,426	190,694	73,640	8,841	192,855	12,823

See footnote at end of table.

Table 2.—The Make of Commodities

[Millions of dollars]

Industry number	For the distribution of industries producing a commodity, read the column for that commodity														
	Stone and clay products	Primary iron and steel manufacturing	Primary nonferrous metals manufacturing	Metal containers	Heating, plumbing, and structural metal products	Screw machine products and stampings	Other fabricated metal products	Engines and turbines	Farm and garden machinery	Construction and mining machinery	Materials handling machinery and equipment	Metalworking machinery and equipment	Special industry machinery and equipment	General industrial machinery and equipment	Miscellaneous machinery, except electrical
	For the distribution of commodities produced by an industry, read the row for that industry														
Commodity number	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
1															
2															
3															
4															
5															
6															
7															
8	8														52
9	190														
10	45														
11															
12															
13		17	2		1	49	16	29		1	(*)	22	16	3	8
14					16	6	36						13		
15					17					1					
16															
17	50														
18															
19	(*)					(*)									
20	9	1	2			52	2			2	(*)	2	22	1	(*)
21															
22		10	7			21	5								
23		3				18	5								
24	17					5				2					
25															
26		6													
27	101	5	42		10	11	10			16					
28	11														
29	9														
30	9														
31	108				40										
32	92	29	13	2	34	25	103		21	7	11	92	26	40	21
33															
34	2					1	6		1				1		
35	3	1				6	2						5		1
36	24,677	5				29	1	29		4	3	1	24	4	22
37	10	61,732	300		155	130	1,657		36	20	4	75	6	84	19
38	44	329	39,474	13	88	12	328		2			81	11	48	4
39				8,360	17	26	10		2			7			
40	27	68	72		25,411	64	150	30	37	25	46	27	24	88	41
41	3	67	38	41	75	18,543	94	26	30	15	12	318	9	51	9
42	21	233	63	8	100	109	24,164	28	36	40	29	161	54	113	59
43		8	2		70	10	18	9,479	2	8		31	12	64	7
44		119	(*)		52	17	32	49	10,765	277	13	10	25	36	4
45	2	102			81	7	164	300	105	16,233	170	27	16	163	17
46		20			17	5	16	6	14	49	4,456	19	25	51	10
47	4	90	5		24	25	110	9	59	28	21	12,373	56	56	21
48	16	32	5	1	54	11	29	9	15	17	29	75	8,057	105	8
49	2	49	42		82	27	227	128	25	47	21	52	70	14,786	68
50	8	17	11	1	12	5	20	23	4	5	4	45	15	59	7,938
51		3			24	26	83				18	18	9	75	7
52	3	8	45	6	82	6	54		16	1	12	13	12	104	10
53	22	26	59		14	7	28	98		3	15	38	8	73	4
54		21	5	9	59	111	15		18				1	63	3
55	6	41	58		22	39	44			4	10	11	3	5	6
56	8	11	86		15	2	62			4	4	5	27	10	18
57	11	20	24		24	32	26	9		6		27	55	53	10
58	4	25	171		(*)	2	7			5	(*)	10	(*)	15	57
59	48	445	123	3	109	570	138	175	83	86	55	134	20	72	40
60	10	57	6		54	42	66	386	20	48	20	28	50	136	8
61		14			85	6	28	68	89	44	5	35	7	43	7
62		3	26		31	17	67			7	6	12	6	50	13
63	8		1	3	4	7	7	14		5		8	15	22	13
64	37	8	14	1	14	21	56		6	1		15	6	13	7
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85															
T	25,589	63,623	40,702	8,551	27,014	19,992	28,273	10,865	11,416	16,982	4,976	13,846	8,818	16,556	8,492

See footnote at end of table.

by Industries, 1977—Continued

at producers' prices]

Office, computing, and accounting machines	Service industry machines	Electric industrial equipment and apparatus	Household appliances	Electric lighting and wiring equipment	Radio, TV, and communication equipment	Electronic components and accessories	Misc. electrical machinery and supplies	Motor vehicles and equipment	Aircraft and parts	Other transportation equipment	Scientific and controlling instruments	Optical, ophthalmic, and photographic equipment	Miscellaneous manufacturing	Transportation and warehousing	Communications, except radio and TV	Radio and TV broadcasting	Electric, gas, water, and sanitary services	Wholesale and retail trade	Finance and insurance	Industry number
51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	
														15						1
																				2
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																	2,307			7
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15,798	11,386	18,321	10,371	8,199	28,333	14,790	8,612	116,906	25,189	21,382	13,631	11,700	19,038	128,264	52,868	526	122,456	386,171	128,578	T

Table 2.—The Make of Commodities by Industries, 1977—Continued

[Millions of dollars at producers' prices]

Industry number	For the distribution of industries producing a commodity, read the column for that commodity For the distribution of commodities produced by an industry, read the row for that industry	Real estate and rental	Hotels; personal and repair services exc. auto	Business services	Eating and drinking places	Automobile repair and services	Amusements	Health, educ., and social serv. and nonprofit org.	Federal Government enterprises	State and local government enterprises	Scrap, used, and secondhand goods	Government industry	Rest of the world industry	Household industry	Inventory valuation adjustment	Total industry output
		71	72	73	74	75	76	77	78	79	81	82	83	84	85	
1	Livestock and livestock products.....						44									52,292
2	Other agricultural products.....						56									65,074
3	Forestry and fishery products.....															4,470
4	Agricultural, forestry, and fishery services.....															7,827
5	Iron and ferroalloy ores mining.....															2,059
6	Nonferrous metal ores mining.....															3,297
7	Coal mining.....															16,653
8	Crude petroleum and natural gas.....															49,083
9	Stone and clay mining and quarrying.....															4,780
10	Chemical and fertilizer mineral mining.....															2,159
11	New construction.....															190,694
12	Maintenance and repair construction.....															73,640
13	Ordinance and accessories.....											4				8,879
14	Food and kindred products.....			1												189,200
15	Tobacco manufactures.....											27				12,853
16	Broad and narrow fabrics, yarn and thread mills.....											54				28,841
17	Miscellaneous textile goods and floor coverings.....															8,871
18	Apparel.....			1												41,427
19	Miscellaneous fabricated textile products.....			(*)												8,098
20	Lumber and wood products, except containers.....			(*)								17				38,477
21	Wood containers.....											1				501
22	Household furniture.....			2								2				10,299
23	Other furniture and fixtures.....			1								2				6,394
24	Paper and allied products, except containers.....			9								67				38,588
25	Paperboard containers and boxes.....			23								97				13,172
26	Printing and publishing.....			18,105								95				49,984
27	Chemicals and selected chemical products.....											41				57,497
28	Plastics and synthetic materials.....											5				19,926
29	Drugs, cleaning and toilet preparations.....			1								4				28,806
30	Paints and allied products.....											15				6,254
31	Petroleum refining and related industries.....											9				98,895
32	Rubber and miscellaneous plastics products.....			1												39,366
33	Leather tanning and finishing.....															1,552
34	Footwear and other leather products.....			(*)												6,103
35	Glass and glass products.....			1												9,091
36	Stone and clay products.....															25,522
37	Primary iron and steel manufacturing.....										379					65,234
38	Primary nonferrous metals manufacturing.....										142					41,379
39	Metal containers.....										128					8,789
40	Heating, plumbing, and structural metal products.....			1							77					26,894
41	Screw machine products and stampings.....			1							204					19,989
42	Other fabricated metal products.....			2							76					26,101
43	Engines and turbines.....										13					10,349
44	Farm and garden machinery.....										9					11,564
45	Construction and mining machinery.....										21					17,724
46	Materials handling machinery and equipment.....										4					4,807
47	Metalworking machinery and equipment.....			(*)							10					13,157
48	Special industry machinery and equipment.....										3					8,714
49	General industrial machinery and equipment.....										24					16,196
50	Miscellaneous machinery, except electrical.....										12					8,407
51	Office, computing, and accounting machines.....			3							17					15,793
52	Service industry machines.....										37					11,956
53	Electric industrial equipment and apparatus.....			1							36					17,725
54	Household appliances.....										18					10,542
55	Electric lighting and wiring equipment.....			1							17					8,238
56	Radio, TV, and communication equipment.....										82					28,878
57	Electronic components and accessories.....										41					14,711
58	Miscellaneous electrical machinery and supplies.....										22					8,874
59	Motor vehicles and equipment.....										275					117,685
60	Aircraft and parts.....										19					26,376
61	Other transportation equipment.....										26					21,640
62	Scientific and controlling instruments.....			1							19					13,288
63	Optical, ophthalmic, and photographic equipment.....										27					11,782
64	Miscellaneous manufacturing.....			793							4					19,745
65	Transportation and warehousing.....			1			1				68					126,210
66	Communications, except radio and TV.....															52,897
67	Radio and TV broadcasting.....			7,944												8,470
68	Electric, gas, water, and sanitary services.....										54					105,596
69	Wholesale and retail trade.....															384,429
70	Finance and insurance.....			727												129,222
71	Real estate and rental.....	275,938														275,938
72	Hotels; personal and repair services (exc. auto).....	256	46,112	55												46,422
73	Business services.....	814	17	133,755												134,586
74	Eating and drinking places.....				86,027											86,027
75	Automobile repair and services.....					43,103										43,103
76	Amusements.....			322			24,234									24,556
77	Health, educ., & social serv. and nonprofit org.....			220				162,016								162,235
78	Federal Government enterprises.....	126			1,812			40	14,240							19,616
79	State and local government enterprises.....	2,110				276		209		4,907						22,962
82	Government industry.....											203,934				203,934
83	Rest of the world industry.....												23,464			23,464
84	Household industry.....													5,930		5,930
85	Inventory valuation adjustment.....														-18,582	-18,582
T	Total commodity output.....	279,243	46,129	161,969	87,839	43,330	24,583	162,016	14,240	4,961	2,250	203,934	23,464	5,930	-18,582	

* Less than \$500,000.

Table 3.—Commodity-by-Industry Direct Requirements, 1977

[Direct requirements per dollar of industry output, at producers' prices]

Commodity number	For the composition of inputs to an industry, read the column for that industry	Livestock and livestock products	Other agricultural products	Forestry and fishery products	Agricultural, forestry, and fishery services	Iron and ferroalloy ores mining	Nonferrous metal ores mining	Coal mining	Crude petroleum and natural gas	Stone and clay mining and quarrying	Chemical and fertilizer mineral mining	New construction	Maintenance and repair construction	Ordnance and accessories	
		1	2	3	4	5	6	7	8	9	10	11	12	13	
		Industry number	1	2	3	4	5	6	7	8	9	10	11	12	13
1	Livestock and livestock products.....	0.17029	0.02054		0.02716										
2	Other agricultural products.....	26332	.03838		.02070				.00004						
3	Forestry and fishery products.....			.00711	.00199										
4	Agricultural, forestry, and fishery services.....	.03634	.03873	.10219	.00769		.00012	.00022	(*)	.00004	.00074	.00118	.00588	.00003	
5	Iron and ferroalloy ores mining.....					.08454									
6	Nonferrous metal ores mining.....					.00486	.08675								
7	Coal mining.....	.00021	.00003			.00442	.00315	.14718		.00155	.00093			.00045	
8	Crude petroleum and natural gas.....								.04690						
9	Stone and clay mining and quarrying.....	.00002	.00227		.00013	.00510	.00070			.03538	.01237	.00563	.01316		
10	Chemical and fertilizer mineral mining.....		(*)							.04683					
11	New construction.....														
12	Maintenance and repair construction.....	.00623	.01037	.06682	.01063	.01117	.00355	.00681	.05537	.00634	.01218	.00118	.00108	.00594	
13	Ordnance and accessories.....			.00114								.00006	.00001	.05441	
14	Food and kindred products.....	.21489		.01452	.00719		.00021	.00002	.00010	.00013	.00023	.00004	.00003	.00003	
15	Tobacco manufactures.....		.00024												
16	Broad and narrow fabrics, yarn and thread mills.....		.00148	.01040	.00339		.00015	.00142			.00199			.00003	
17	Miscellaneous textile goods and floor coverings.....	.00034										.00556	.00358	.00005	
18	Apparel.....											.00013	.00010	.00071	
19	Miscellaneous fabricated textile products.....		.00055	.00130	.00500		.00015	.00056	.00021	.00061	.00032	.00013	.00023	.00049	
20	Lumber and wood products, except containers.....	.00017	.00013			.00160	.00783	.00413			.00093	.08436	.03049	.00184	
21	Wood containers.....	.00004	.00255		.00128									.00124	
22	Household furniture.....											.00047	.00039		
23	Other furniture and fixtures.....											.00191	.00118		
24	Paper and allied products, except containers.....	.00158	.00058	.00003	.00059	.00005	.00012	.00033	.00007	.00058	.00227	.00254	.00384	.00036	
25	Paperboard containers and boxes.....	.00003	.00131	.00003	.00732		.00005		.00004	.00029	.00019	.00003	.00003	.00170	
26	Printing and publishing.....	.00019	.00020	.00009	.00052	.00015	.00018	.00026	.00022	.00096	.00065	.00002	.00001	.00206	
27	Chemicals and selected chemical products.....	.00259	.10216	.03015	.08977	.02078	.03788	.01279	.00812	.01444	.03103	.00209	.00954	.00328	
28	Plastics and synthetic materials.....													.00151	
29	Drugs, cleaning and toilet preparations.....	.00215							.00007		.00019	.00032	.00040	.00011	
30	Paints and allied products.....			.00036					.00018			.00025	.01698	.00019	
31	Petroleum refining and related industries.....	.00986	.04103	.02573	.03774	.02555	.02059	.02030	.00527	.03222	.02538	.02502	.03322	.00454	
32	Rubber and miscellaneous plastics products.....	.00553	.00479	.00051	.00448	.01583	.01674	.00833	.00041	.01050	.00440	.00890	.01824	.00688	
33	Leather tanning and finishing.....													.00001	
34	Footwear and other leather products.....	.00046		.00024					.00003			.00001	.00001	.00001	
35	Glass and glass products.....	.00009		.00004	.00019	.00005	.00009	.00001	.00014	.00019	.00019	.00080	.00154	.00011	
36	Stone and clay products.....		.00093		.00103	.00083	.00634	.00451	.00022	.00054	.00042	.06623	.04726	.00123	
37	Primary iron and steel manufacturing.....	.00011	.00010			.02336	.03109	.00491	.00841	.00755	.01005	.02396	.01468	.03197	
38	Primary nonferrous metals manufacturing.....					.00136	.00373	.00258		.00299	.00144	.01459	.01046	.02589	
39	Metal containers.....			.00092											
40	Heating, plumbing, and structural metal products.....	.00012	.00013						.00076	.00328	.00301	.06937	.06046		
41	Screw machine products and stampings.....	.00038				.00369	.00607	.00876		.00262	.00366	.00051	.00057	.00689	
42	Other fabricated metal products.....	.00152	.00189	.00409	.00247	.01768	.01413	.00599	.00625	.01105	.00417	.02159	.02776	.01023	
43	Engines and turbines.....			.00177	.00346	.01068	.00886	.00655	.00293	.00908	.01061			.00198	
44	Farm and garden machinery.....	.00511	.00773	.00159	.00234										
45	Construction and mining machinery.....					.03288	.03182	.04518	.00471	.03898	.02219	.00160	.00048		
46	Materials handling machinery and equipment.....					.00573	.00334	.00306		.00605	.00227	.00329	.00332		
47	Metalworking machinery and equipment.....			.00002	.00015	.00068	.00097	.00018	.00051	.00111	.00019	.00018	.00016	.00643	
48	Special industry machinery and equipment.....														
49	General industrial machinery and equipment.....	.00029	.00026	.00033	.00010	.00928	.00725	.01019	.00344	.00870	.00486	.00449	.00188	.00719	
50	Miscellaneous machinery, except electrical.....	.00063	.00065	.00007	.00031	.00141	.00491	.00333	.00264	.00469		.00019	.00018	.00573	
51	Office, computing, and accounting machines.....				.00005										
52	Service industry machines.....											.01120	.01325		
53	Electric industrial equipment and apparatus.....	.00013	.00011			.00209	.00413	.00463	.00495	.00441	.00403	.00629	.00601	.00600	
54	Household appliances.....								.00001			.00304	.00407		
55	Electric lighting and wiring equipment.....	.00007	.00004	.00009	.00027	.00010	.00039	.00073	.00029	.00038	.00023	.01446	.01319	.00010	
56	Radio, TV, and communication equipment.....				.00004		.00009	.00004	.00007			.00307	.00255	.00727	
57	Electric components and accessories.....													.01725	
58	Miscellaneous electrical machinery and supplies.....	.00137	.00450	.00007	.00266	.00015	.00143	.00036	.00017	.00090	.00046	.00083	.00067	.00036	
59	Motor vehicles and equipment.....	.00084	.00067	.00060	.00382	.01855	.00136	.00022	.00011	.00854	.00157	.00043	.00049	.00195	
60	Aircraft and parts.....			.00004	.00049									.03482	
61	Other transportation equipment.....			.03532	.00063	.00024	.00082						.00001		
62	Scientific and controlling instruments.....			.00025	.00005	.00015	.00052	.00038	.00044	.00019	.00009	.00255	.00288	.00051	
63	Optical, ophthalmic, and photographic equipment.....			.00009	.00041	.00005	.00012	.00002	.00006	.00019	.00005	.00007	.00006	.00268	
64	Miscellaneous manufacturing.....	.00012	.00013	.00007	.00055	.00321	.00082	.00043	.00024	.00167	.00134	.00204	.00175	.00066	
65	Transportation and warehousing.....	.01761	.01194	.00971	.02396	.02074	.01544	.00768	.00418	.01165	.01315	.02295	.02047	.01371	
66	Communications, except radio and TV.....	.00266	.00274	.00076	.00017	.00083	.00118	.00079	.00132	.00176	.00116	.00369	.00473	.00533	
67	Radio and TV broadcasting.....														
68	Electric, gas, water, and sanitary services.....	.00784	.01679	.00371	.01325	.10377	.05569	.01696	.01528	.05178	.12358	.00316	.00313	.01338	
69	Wholesale and retail trade.....	.03979	.04429	.03163	.06153	.03749	.03209	.02845	.00761	.03044	.02121	.08949	.08541	.01853	
70	Finance and insurance.....	.01621	.01248	.00530	.01200	.00539	.01247	.00749	.00654	.01523	.02432	.00966	.00635	.00389	
71	Real estate and rental.....	.02173	.08647	.00020	.03758	.01195	.01720	.01961	.09192	.02341	.01524	.00237	.00239	.00530	
72	Hotels, personal and repair services (exc. auto).....	.00128	.00699	.00136	.00204	.00102	.00158	.00102	.00089	.00617	.00343	.00133	.00089	.00203	
73	Business services.....	.00417	.01559	.00973	.02194	.02341	.02038	.02565	.01450	.03741	.03502	.07426	.01398	.03259	
74	Eating and drinking places.....	.00015	.00015	.00539	.00930	.00185	.00285	.00124	.00569	.00418	.00630	.00079	.00066	.00908	
75	Automobile repair and services.....	.00294	.00235	.00394	.01547	.01112	.01583	.00535	.00279	.00607	.01014	.00516	.00251	.00114	
76	Amusements.....				.02329			.00005	.00010	.00029	.00032	.00001	(*)		
77	Health, educ., & social serv. and nonprofit org.....	.00716	.00033	.00130	.00158	.00126	.00161	.00097	.00058	.00109	.00120	.00002	.00003	.00043	
78	Federal Government enterprises.....	.00012	.00013	.00078	.00368	.00121	.00227	.00040	.00027	.00117	.00361	.00044	.00035	.00079	
79	State and local government enterprises.....			.00038	.00124	.00039	.00058	.00011	.00011	.00107	.00097	.00023	.00017	.00030	
80	Noncomparable imports.....	(*)	.00010	.00018	.00004	.00068	.00385	.00020	.00229	.00023	.00074	.00002	.00001	.00030	
81	Scrap, used, and secondhand goods.....					.00146	.00364	.00055	.00025	.00216	.00704	.00014	.00004	.00000	
VA	Value added.....	15383	52319	61928	53158	47327	50692	57901	63258	58433	51931	38737	51256	56349	
88	Compensation of employees.....	.06022	.08106	.12424	.37277	.29258	.35335	.33533	.07273	.29911	.20046	.36030	.43404	.41540	
89	Indirect business taxes.....														

Table 3.—Commodity-by-Industry

[Direct requirements per dollar of

Commodity number	For the composition of inputs to an industry, read the column for that industry	Food and kindred products	Tobacco manufactures	Broad and narrow fabrics, yarn and thread mills	Miscellaneous textile goods and floor coverings	Apparel	Miscellaneous fabricated textile products	Lumber and wood products, except containers	Wood containers	Household furniture	Other furniture and fixtures	Paper and allied products, except containers	Paperboard containers and boxes	Printing and publishing
		14	15	16	17	18	19	20	21	22	23	24	25	26
1	Livestock and livestock products.....	0.19106		0.00352	0.00750									
2	Other agricultural products.....	.02265	19029	.06480	.00893	.00062								
3	Forestry and fishery products.....	.00770				.00569		.09747				.00053		
4	Agricultural, forestry, and fishery services.....	.00001		.00002	.00001	.00001		.00132	.00020	.00002		.00002	.00002	(*)
5	Iron and ferrous alloy ores mining.....											.00008		
6	Nonferrous metal ores mining.....											.00526	.00027	.00005
7	Coal mining.....	.00040	.00051	.00108	.00029	.00012	.00015	.00014	.00060	.00039	.00009			
8	Crude petroleum and natural gas.....													
9	Stone and clay mining and quarrying.....	.00012										.00288		
10	Chemical and fertilizer mineral mining.....	.00005										.00042		
11	New construction.....													
12	Maintenance and repair construction.....	.00457	.00142	.00572	.00388	.00314	.00309	.00540	.00818	.00649	.00651	.01031	.00821	.00348
13	Ordnance and accessories.....			(*)	(*)	(*)	(*)	(*)						
14	Food and kindred products.....	17559	.00033	.00007	.00079	.00021	.00059	.00008	.00060	.00289	.00036	.00600	.00021	.00030
15	Tobacco manufactures.....		20446											
16	Broad and narrow fabrics, yarn and thread mills.....			30855	16094	20707	29888			.06202	.00050	.01184		.00053
17	Miscellaneous textile goods and floor coverings.....	.00006		.00920	.05618	.00144	.09264	.00199		.01843	.02296	.00565		.00119
18	Apparel.....	.00006	.00012	.00016	.01385	20850	.01227	.00031	.00040	.00408	.00100	.00023	.00012	.00011
19	Miscellaneous fabricated textile products.....	.00026		.00150	.00150	.01283	.03449			.00291	.00009	.00005		.00001
20	Lumber and wood products, except containers.....	.00012	.00003	.00011	.00008			.00140	31022	33460	12311	.06715	.06998	.00002
21	Wood containers.....	.00029	.00035						.00006	.00918	.00086	.00044	.00005	
22	Household furniture.....									.00214		.00034		
23	Other furniture and fixtures.....										.00776	.00003		
24	Paper and allied products, except containers.....	.00966	.01203	.00123	.00506	.00355	.00321	.00052	.00040	.00214	.00160	18271	.00000	.16091
25	Paperboard containers and boxes.....	.02025	.00604	.00697	.00521	.00390	.00834	.00188	.00625	.01135	.01220	.01431	.04230	.00258
26	Printing and publishing.....	.00487	.00976	.00045	.00080	.00104	.00193	.00044	.00180	.00175	.00120	.00096	.00109	.09681
27	Chemicals and selected chemical products.....	.00603	.00119	.02114	.03174	.00187	.00182	.01207		.00264	.00677	.03345	.02306	.02021
28	Plastics and synthetic materials.....	.00025		14459	21278	.03241	.00905	.00053	.00599	.00422	.00036	.02398	.01028	.00013
29	Drugs, cleaning and toilet preparations.....	.00484	.00090	.00174	.00131	.00253						.00157		
30	Paints and allied products.....			.00008	.00032	(*)		.00437		.01075	.00881	.00028	.00183	.00029
31	Petroleum refining and related industries.....	.00387	.00315	.00706	.00624	.00450	.00215	.01104	.00958	.00578	.00485	.02886	.01153	.00498
32	Rubber and miscellaneous plastics products.....	.00953	.02005	.00921	.02852	.00437	.02635	.00589	.00040	.00496	.04032	.02336	.00215	.00645
33	Leather tanning and finishing.....					.00419	.00976			.00359	.00038			.00007
34	Footwear and other leather products.....	.00001		.00023		.00009		.00022				.00002	.00002	.00003
35	Glass and glass products.....	.01576	.00003	.00285	.00271			.00112		.00519	.00158	.00003	.00001	.00001
36	Stone and clay products.....	.00027	.00010	.00023	.00025	.00015	.00017	.00503	.00219	.00421	.00313	.00190	.00054	.00027
37	Primary iron and steel manufacturing.....	.00005	.00011	.00003	.00018	.00002		.00074	.00559	.02376		.00002	.00594	.00033
38	Primary nonferrous metals manufacturing.....	(*)			.00454			.00037		.00688	.01600	.00115	.00285	.00065
39	Metal containers.....	.03087	.00005											
40	Heating, plumbing, and structural metal products.....							.00313						
41	Screw machine products and stampings.....	.00216						.00807		.00611	.01566			.00001
42	Other fabricated metal products.....	.00270	.00490	.00015	.00010	.00061	.00009	.02037	.00339	.05638	.03447	.00734	.00492	.00166
43	Engines and turbines.....													
44	Farm and garden machinery.....							.00017						
45	Construction and mining machinery.....													
46	Materials handling machinery and equipment.....	.00001	.00003	.00072		.00006		.00050				.00001		
47	Metalworking machinery and equipment.....	.00015	.00022	.00042	.00050	.00023	.00038	.00227	.00160	.00088	.00332	.00046	.00391	.00019
48	Special industry machinery and equipment.....	.00059		.00533	.01019	.00175	.00074	.00083	.00200	.00079		.00340	.00403	.00440
49	General industrial machinery and equipment.....	.00025	.00019			.00012		.00058		.00009	.00191	.00055		.00001
50	Miscellaneous machinery, except electrical.....	.00042	.00019	.00120	.00140	.00063	.00073	.00211	.00379	.00156	.00343	.00118	.00189	.00042
51	Office, computing, and accounting machines.....													.00001
52	Service industry machines.....	.00018						.00059						
53	Electric industrial equipment and apparatus.....	(*)		(*)		.00074		.00060			.00285			
54	Household appliances.....	(*)				.00074							.00001	.00001
55	Electric lighting and wiring equipment.....	.00006	.00002	.00009	.00005	.00008	.00004	.00038	.00020	.00013	.00028	.00007	.00008	.00008
56	Radio, TV, and communication equipment.....	.00001	.00001	.00001	.00001	.00003	.00001	.00002		.00010	.00009	.00001	.00003	.00007
57	Electronic components and accessories.....			.00023										
58	Miscellaneous electrical machinery and supplies.....	.00001	.00003	.00003		.00005		.00030		.00003		.00006	.00008	.00011
59	Motor vehicles and equipment.....	.00004	.00005	.00005	.00001	.00007		.00121	.00020	.00012	.00009	.00011	.00013	.00017
60	Aircraft and parts.....													
61	Other transportation equipment.....							.00004						
62	Scientific and controlling instruments.....	.00012	.00009	.00018	.00003	.00012	.00014	.00022	.00060	.00056	.00019	.00036	.00019	.00007
63	Optical, ophthalmic, and photographic equipment.....	.00006	.00003	.00009	.00034	.00012	.00010	.00014	.00020	.00015	.00011	.00021	.00024	.00916
64	Miscellaneous manufacturing.....	.00010	.00009	.00020	.00016	.01427	.00199	.00036	.00020	.00119	.00017	.00014	.00026	.00261
65	Transportation and warehousing.....	.02350	.00688	.00956	.02164	.00833	.01184	.02329	.02713	.02223	.02099	.03602	.04242	.02618
66	Communications, except radio and TV.....	.00193	.00065	.00436	.00176	.00845	.00320	.00137	.00299	.00555	.00479	.00228	.00255	.01205
67	Radio and TV broadcasting.....													
68	Electric, gas, water, and sanitary services.....	.01093	.00317	.02140	.01660	.00776	.00756	.01331	.01277	.01002	.01247	.04102	.01159	.00778
69	Wholesale and retail trade.....	.05428	.01063	.04169	.03793	.03824	.04801	.04629	.06125	.05601	.04369	.05921	.01907	.03656
70	Finance and insurance.....	.00438	.00695	.00309	.00360	.00573	.00616	.00629	.01716	.01422	.01226	.00399	.00314	.00985
71	Real estate and rental.....	.00280	.00237	.00244	.00309	.00708	.00960	.00283	.00638	.00828	.00956	.00410	.00487	.01534
72	Hotels; personal and repair services (exc. auto).....	.00200	.00056	.00123	.00143	.00296	.00524	.00134	.00319	.00348	.00321	.00324	.00125	.00673
73	Business services.....	.02524	.04929	.02695	.01845	.01972	.01920	.01214	.02713	.03801	.04347	.02179	.01285	.03556
74	Eating and drinking places.....	.00224	.00135	.00373	.00275	.00424	.00426	.00272	.00878	.00590	.00524	.00258	.00384	.02043
75	Automobile repair and services.....	.00177	.00177	.00154	.00145	.00191	.00183	.00365	.00339	.00534	.00536	.00262	.00298	.00387
76	Amusements.....	.00002	.00008	.00001		.00005		.00001		.00102	.00048	.00007	.00002	.00024
77	Health, educ., & social serv. and nonprofit org.....	.00028	.00042	.00098	.00016	.00054	.00315	.00112	.00339	.00209	.00156	.00058	.00016	.00186
78	Federal Government enterprises.....	.00116	.00233	.00134	.00195	.00400	.00232	.00070	.00259	.00252	.00336	.00109	.00129	.01696
79	State and local government enterprises.....	.00066	.00022	.00044	.00053	.00019		.00014	.00040	.00023	.00017	.00089	.00030	.00023
80	Noncomparable imports.....	.02381	.00008	.00042	.01436	.00051	.00656	.00014		.00151	.00020	.00069	.00047	.00045
81	Scrap, used, and secondhand goods.....			.00076	.00630							.01323		
VA	Value added.....	26892	45649	28232	30660	37316	36058	38154	37031	40042	45532	36681	36483	47004
88	Compensation of employees.....	13410	8700	21226	16910	28896	25754	22463	31255	31044	32430	22596	23586	33332
89	Indirect business taxes.....	.03384	.18852	.00822	.00998	.00396	.00358	.00873	.01476	.00705	.00654	.01573		

Direct Requirements, 1977—Continued

industry output, at producers' prices]

Aircraft and parts	Other transportation equipment	Scientific and controlling instruments	Optical, ophthalmic, and photographic equipment	Miscellaneous manufacturing	Transportation and warehousing	Communications, except radio and TV	Radio and TV broadcasting	Electric, gas, water, and sanitary services	Wholesale and retail trade	Finance and insurance	Real estate and rental	Hotels; personal and repair services (exc. auto)	Business services	Eating and drinking places	Automobile repair and services	Amusements	Health, educ., and social serv. and nonprofit org.	Federal Government enterprises 1	State and local government enterprises	Commodity number	
60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79		
				0.00006	0.00001							0.00005	0.00006	0.00516		0.00143	0.00052	0.00034		1	
				0.00094	0.00003				0.00005		0.00005		0.00007	0.00805		0.02695	0.00054	0.00081	0.00008	2	
				0.00030	(*)				0.00001					0.00861			0.00008	0.00087		3	
0.00002	0.00002	0.00002	0.00002	0.00002	0.00003	0.00001	0.00004	0.00007	0.00159	0.00002	0.00530	0.00083	0.00004	0.00001	(*)	0.00260	0.00050	0.00003	0.00054	4	
		0.00007																		5	
	0.00013	0.00006	0.00042	0.00012	0.00003			0.05743			0.00002						0.00010	0.02944	0.02695	6	
		0.00002		0.00129	0.00063			0.12451									(*)			7	
																				8	
																				9	
																				10	
0.0439	0.0273	0.00354	0.00376	0.00535	0.03662	0.03645	0.00352	0.03515	0.00666	0.00271	0.07208	0.01290	0.00343	0.00621	0.00806	0.02713	0.02182	0.01075	0.01730	12	
0.0003	(*)	(*)			0.00001	0.00001		(*)	0.00001	0.00001	(*)	(*)	0.00058	(*)			0.00001	0.00001	0.00001	13	
0.0011	0.00015	0.00303	0.00011	0.00147	0.00058		0.00041	0.00005	0.00085	0.00005	(*)	0.0209	0.00049	28821	0.00004	0.01202	0.01367	0.02650	0.00003	14	
																				15	
0.00172	0.00041	0.0037	0.00000	0.00164	0.00002				(*)			0.00318				0.00126	0.00015	0.00025	0.00016	16	
	0.01184	0.00730	0.00060	0.00272	0.00049				0.00015			0.00042	0.00001	0.00019	0.00024	0.00077	0.00008	0.00010	0.00012	17	
0.00020	0.00074	0.00137	0.00007	0.00082	0.00073	0.00069	0.00001	0.00004	0.00020	0.00001	0.00001	0.00822	0.00022	0.00084	0.00023	0.00207	0.00005	0.00046	0.00018	18	
0.00190	0.00391	0.00006	0.00006	0.00321	0.00058				0.00008	0.00062	(*)	0.00843	0.00005	0.00056	0.000126	0.00200	0.00268	0.00014	0.00019	19	
0.00044	0.00389	0.00188		0.02180	0.00014			0.00056	0.00108		0.00001	0.00145		0.00016		0.00260	0.00017			20	
0.00016	0.00002			0.00035	(*)				0.00005											21	
0.00029	0.00324	0.00021										0.00004				0.00006				22	
0.00029	0.00357															0.00004				23	
0.00025	0.00114	0.00882	0.02304	0.01660	0.00060	0.00066	0.00051	0.00041	0.00580	0.00299	0.00019	0.00316	0.00297	0.00395	0.00048	0.00069	0.00558	0.00231	0.00124	24	
0.00010	0.00059	0.00786	0.00624	0.01820	0.00029	0.00017	0.00004	0.00017	0.00179	0.00001		0.00100	0.00021	0.00709	0.00002	0.00001	0.00037	0.00074	0.0001	25	
0.00156	0.00099	0.00353	0.00108	0.00238	0.00209	0.00265	0.00168	0.00061	0.00403	0.01271	0.00109	0.00483	0.01155	0.00107	0.00028	0.00251	0.02013	0.00856	0.00234	26	
0.00064	0.00265	0.00709	0.00440	0.01741	0.00092	0.00014	0.00086	0.00003	0.00007	0.00004	0.00065	0.00289	0.00166	0.00056	0.00009	0.00121	0.01335	0.00022	0.01006	27	
0.00061	0.00453	0.00841	0.00789	0.02647																28	
	0.00004	0.00008		0.00001	0.00003	0.00071		0.00001	0.00035	0.00004	0.00001	0.01146	0.00122	0.00132		0.00017	0.01962	0.00085	0.00063	29	
0.00129	0.00631	0.00094	0.00004	0.00058	0.00018	0.00054		0.00001	0.00054	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	30	
0.00525	0.00590	0.00622	0.00469	0.00740	0.00969	0.00224	0.00076	0.07670	0.01315	0.00333	0.00121	0.00964	0.00689	0.0262	0.01619	0.00653	0.00914	0.01007	0.03762	31	
0.00515	0.01372	0.03474	0.03141	0.02949	0.00767	0.00126	0.00007	0.00057	0.00275	0.00041	0.00084	0.00714	0.00220	0.00784	0.00226	0.00260	0.00844	0.00105	0.00194	32	
				0.00194																33	
0.00003		0.00059	0.00002	0.00281	0.00003	0.00001	0.00005	0.00001	0.00023	0.00006	0.00001	0.00067	0.00003	0.00001	(*)	0.00069	0.00012	0.00046	0.00003	34	
0.00015	0.00476	0.04552	0.00843	0.00059	0.00016	0.00004	0.00001	0.00001	0.00027	0.00006	0.00001	0.00202	0.00015	0.00158	0.00420	0.00002	0.00094	0.00006	0.00006	35	
0.00159	0.00983	0.00296	0.00224	0.00353	0.00042	0.00022		0.00007	0.00017	0.00001	0.00004	0.00320	0.00011	0.00117	0.00883	0.00009	0.00020	0.00004	0.00262	36	
0.02723	0.0209	0.01804	0.00366	0.02357	0.00230	0.00001		0.00002	0.00002	0.00001		0.00005	0.00002			0.00004	0.00003	(*)	0.00003	37	
0.03876	0.02183	0.03649	0.02566	0.05030	0.00076	0.00118		0.00018										0.00002	0.00002	0.00002	38
				0.00035				0.00004	0.00030				0.00022							39	
0.00161	0.0103	0.00219	0.00042	0.00015	0.00051	0.00136		0.00043	0.00005		0.00034		0.00045	0.00040	0.00329	0.00431	0.00033	0.00003	0.00012	40	
0.00823	0.00942	0.02321	0.00712	0.01294	0.00333	0.00045	0.00004	0.00082	0.00072	0.00008	0.00001	0.00211	0.00113	0.00062	0.02746	0.00053	0.00063	0.00042	0.00027	42	
	0.03026				0.00021	0.00147		0.00584						0.00050	0.00076				0.00020	0.00095	43
									0.00002			0.00014		0.00160					0.00260	0.00044	44
	0.0293													0.00182				(*)	0.00005	0.00001	45
0.01041	0.00452	0.00522	0.00110	0.00148	0.00048	0.00002	0.00002	0.00005	0.00027	0.00011			0.00078		0.00014	0.00001		0.00006	0.00010	46	
	0.00014		0.00044						0.00004				0.00053	0.00078						0.00040	47
0.00666	0.02271	0.00127	0.00205	0.00034	0.00211	0.00076		0.00039	(*)	0.00003	0.00001		0.00039	0.00042	0.00175	0.00006		0.00000	0.00041	0.00018	49
0.01134	0.01044	0.00554	0.00189	0.00254	0.00098	0.00021	0.00005	0.00021	0.00053	0.00001		0.00039	0.00042	0.00175	0.00006		0.00000	0.00040	0.00012	50	
0.00035	0.00002	0.00372			0.00003			0.00003	0.00008	0.00054	0.00001		0.00039	0.00042	0.00175	0.00006		0.00000	0.00012	0.00002	51
0.00044				0.00122	0.00010			(*)	0.00075			0.00073	0.00019	0.00173	0.00077	0.00052	0.00007	0.00009	0.00026	52	
0.00190	0.01024	0.01679	0.00292	0.00343	0.00142			0.00100	0.00001		0.00003	0.00031	0.00073	0.00243				0.00002	0.00029	0.00053	53
	0.00950				0.00012	(*)		(*)	0.00009	0.00031	0.00009	0.00663	0.00030	(*)		(*)	0.00013	0.00032	0.00014	54	
0.00007	0.00616	0.00215	0.00133	0.00104	0.00031	0.00016	0.00006	0.00080	0.00012	0.00011	0.00011	0.00036	0.00053	0.00042	0.00232	0.00062	0.00071	0.00058	0.00179	55	
0.04539	0.00673	0.00008	0.00001	0.00048	0.00036	0.02368	0.00246	0.00004	0.00020	0.00015	(*)	0.00071	0.00024	0.00002	0.00122	0.00018	0.00035	0.00032	0.00017	56	
0.01841	0.00024	0.03287	0.04615	0.00610	0.00023	0.00504	0.02060	0.00002	0.00003	0.00038		0.01130	0.00347				0.00061	0.00007	0.00044	57	
0.00239	0.00217	0.00187	0.00087	0.00047	0.00047	0.00016	0.00001	0.00005	0.00026	0.00010	0.00013	0.00016	0.00043	0.00009	0.00548	0.00004	0.00198	0.00025	0.00075	58	
0.00003	0.02711	0.00014	0.00007	0.00008	0.00262	0.00075	0.00006	0.00021	0.00088	0.00016	0.00005	0.00023	0.00058	0.00014	0.11703	0.00080	0.00027	0.00025	0.00254	59	
0.17200	0.00129				0.00521															60	
	0.03903			0.00043	0.00859	0.00007	0.00007	0.00005		0.00014		0.00005	0.00115		0.00009	0.00316	0.00003	0.00069	0.00230	61	
0.00009	0.00230	0.03858	0.00157	0.00023	0.00034	0.00012	0.00011	0.00068	0.00016	0.00006	0.00001	0.00045	0.00015	(*)	0.00015	0.00001	0.00897	0.00007	0.00020	62	
0.00497	0.00043	0.00072	0.04068	0.00063	0.00019	0.00021	0.01295	0.00029	0.00045	0.00077	0.00013	0.00564	0.00075	0.00004	0.00003	0.00419	0.00361	0.00059	0.00061	63	
0.00034	0.00122	0.00365	0.00028	0.05605	0.00091	0.00093	0.00046	0.00026	0.00149	0.00185											

Table 4.—Commodity-by-Com

[Total requirements, direct and indirect, per dollar

Commodity number	Each entry represents the output required, directly and indirectly, of the commodity named at the beginning of the row for each dollar of delivery to final demand of the commodity named at the head of the column	Commodity number													
		Livestock and livestock products	Other agricultural products	Forestry and fishery products	Agricultural, forestry, and fishery services	Iron and ferroalloy ores mining	Nonferrous metal ores mining	Coal mining	Crude petroleum and natural gas	Stone and clay mining and quarrying	Chemical and fertilizer mineral mining	New construction	Maintenance and repair construction	Ordnance and accessories	Food and kindred products
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Livestock and livestock products.....	1.30704	0.03159	0.01302	0.05431	0.00102	0.00122	0.00077	0.00099	0.00117	0.00176	0.00159	0.00156	0.00173	0.30272
2	Other agricultural products.....	38679	1.05203	0.1713	0.5428	0.0105	0.0123	0.0093	0.0088	0.0112	0.0188	0.0173	0.0165	0.0154	1.9922
3	Forestry and fishery products.....	00841	0.0075	1.00731	0.0271	0.0078	0.0166	0.0100	0.0050	0.0052	0.0070	0.01257	0.0493	0.0087	0.1075
4	Agricultural, forestry, and fishery services.....	06605	0.4344	0.9534	1.01675	0.0076	0.0049	0.0090	0.0122	0.0072	0.0192	0.0320	0.0708	0.0062	0.2171
5	Iron and ferroalloy ores mining.....	00100	0.0088	0.0092	0.0086	1.08840	0.0040	0.0202	0.0121	0.0215	0.0235	0.0398	0.0318	0.0036	0.0148
6	Nonferrous metal ores mining.....	00138	0.0195	0.0113	0.0174	0.1514	1.09584	0.0129	0.0065	0.0145	0.0334	0.0366	0.0312	0.0441	0.0160
7	Coal mining.....	00535	0.0482	0.0279	0.0443	0.1555	1.17763	0.0352	0.1157	0.1630	0.0805	0.0661	0.0760	0.0610	0.0120
8	Crude petroleum and natural gas.....	04511	0.5997	0.3413	0.5235	0.5443	0.4432	0.2949	1.06378	0.4586	0.6385	0.3616	0.3943	0.1764	0.3395
9	Stone and clay mining and quarrying.....	00240	0.0411	0.0179	0.0189	0.0691	0.0247	0.0118	0.0149	1.04175	0.1376	0.1143	0.1197	0.1014	0.0224
10	Chemical and fertilizer mineral mining.....	00136	0.0253	0.0099	0.0215	0.0086	0.0121	0.0055	0.0033	0.0071	1.04654	0.0085	0.0082	0.0044	0.0114
11	New construction.....										1.00000				
12	Maintenance and repair construction.....	03832	0.8174	0.6916	0.2934	0.3204	0.2138	0.1914	0.7096	0.2297	0.3362	0.1903	1.01628	0.1765	0.2673
13	Ordnance and accessories.....	00004	0.0003	0.0108	0.0004	0.0006	0.0006	0.0005	0.0003	0.0011	0.0005	0.0023	0.0011	1.05245	0.0006
14	Food and kindred products.....	34752	0.1268	0.2937	0.3899	0.0452	0.00275	0.0368	0.0442	0.00649	0.0530	0.0467	0.0667	1.29676	0.0002
15	Tobacco manufactures.....	00001													0.0002
16	Broad and narrow fabrics, yarn and thread mills.....	00227	0.0213	0.0416	0.0425	0.0133	0.0186	0.0369	0.0060	0.0177	0.0407	0.0402	0.0348	0.0228	0.0250
17	Miscellaneous textile goods and floor coverings.....	00230	0.0251	0.1113	0.0456	0.0119	0.0105	0.0074	0.0051	0.0088	0.0074	0.0726	0.0509	0.0094	0.0182
18	Apparel.....	00039	0.0026	0.0043	0.0051	0.0034	0.0053	0.0104	0.0041	0.0110	0.0069	0.0073	0.0056	0.0134	0.0047
19	Miscellaneous fabricated textile products.....	00097	0.0105	0.0202	0.0511	0.0082	0.0038	0.0024	0.0016	0.0054	0.0038	0.0060	0.0082	0.0044	0.0087
20	Lumber and wood products, except containers.....	00544	0.0464	0.0631	0.0441	0.0673	0.1550	0.0929	0.0395	0.0381	0.0502	0.12675	0.4844	0.0668	0.0729
21	Wood containers.....	00126	0.0257	0.0022	0.0157	0.0008	0.0008	0.0007	0.0004	0.0007	0.0007	0.0020	0.0019	0.0142	0.0113
22	Household furniture.....	00003	0.0002	0.0014	0.0003	0.0003	0.0002	0.0002	0.0004	0.0002	0.0002	0.0053	0.0044	0.0159	0.0002
23	Other furniture and fixtures.....	00006	0.0005	0.0021	0.0006	0.0011	0.0005	0.0004	0.0009	0.0007	0.0006	0.0197	0.0123	0.0005	0.0005
24	Paper and allied products, except containers.....	01786	0.0792	0.0548	0.1179	0.0584	0.0594	0.0492	0.0294	0.1321	0.1044	0.1362	0.1228	0.0800	0.3756
25	Paperboard containers and boxes.....	01062	0.0390	0.0285	0.1040	0.0214	0.0218	0.0151	0.0093	0.0238	0.0250	0.0388	0.0369	0.0465	0.0387
26	Printing and publishing.....	00571	0.0275	0.0202	0.0355	0.0266	0.0270	0.0240	0.0161	0.0370	0.0379	0.0435	0.0275	0.0541	0.1094
27	Chemicals and selected chemical products.....	07913	1.5560	0.5855	1.3166	0.4666	0.6757	0.2897	0.1688	0.3166	0.8651	0.2822	0.3114	0.2053	0.5758
28	Plastics and synthetic materials.....	00648	0.0513	0.0587	0.0604	0.0703	0.0692	0.0464	0.0167	0.0528	0.0503	0.0949	0.1075	0.0900	0.0791
29	Drugs, cleaning and toilet preparations.....	00600	0.0147	0.0099	0.0169	0.0082	0.0089	0.0058	0.0043	0.0091	0.0171	0.0131	0.0132	0.0071	0.0846
30	Paints and allied products.....	00136	0.0111	0.0216	0.0118	0.0138	0.0119	0.0088	0.0169	0.0101	0.0128	0.1044	0.1877	0.0121	0.0195
31	Petroleum refining and related industries.....	05237	0.6508	0.4269	0.5714	0.5259	0.4372	0.3643	0.1484	0.5478	0.5439	0.4783	0.5344	0.1837	0.3713
32	Rubber and miscellaneous plastics products.....	01882	0.1059	0.0720	0.1110	0.2593	0.2461	0.1483	0.0839	0.1678	0.1080	0.1824	0.2633	0.1793	0.2133
33	Leather tanning and finishing.....	00015	0.0003	0.0009	0.0012	0.0004	0.0003	0.0002	0.0002	0.0003	0.0003	0.0005	0.0004	0.0004	0.0006
34	Footwear and other leather products.....	00071	0.0008	0.0032	0.0037	0.0007	0.0006	0.0004	0.0006	0.0005	0.0006	0.0012	0.0009	0.0008	0.0024
35	Glass and glass products.....	00660	0.0074	0.0130	0.0151	0.0104	0.0091	0.0054	0.0063	0.0093	0.0090	0.0303	0.0356	0.0159	0.2237
36	Stone and clay products.....	00370	0.0407	0.0519	0.0410	0.0624	0.1143	0.0094	0.0496	0.1460	0.0434	0.8007	0.5771	0.0685	0.0371
37	Primary iron and steel manufacturing.....	01500	0.1914	0.1449	0.1068	0.6594	0.6911	0.3555	0.2143	0.3662	0.3391	0.7051	0.5552	0.6741	0.2474
38	Primary nonferrous metals manufacturing.....	01033	0.0920	0.0924	0.0906	0.1768	0.2027	0.1504	0.0713	0.1649	0.1730	0.5136	0.4250	0.6679	0.1644
39	Metal containers.....	01214	0.0218	0.0264	0.0279	0.0092	0.0108	0.0061	0.0046	0.0086	0.0197	0.0137	0.0133	0.0066	0.4190
40	Heating, plumbing, and structural metal products.....	00256	0.0240	0.0588	0.0217	0.0347	0.0271	0.0280	0.0555	0.0613	0.0603	0.7297	0.6341	0.0256	0.0200
41	Screw machine products and stampings.....	00324	0.0157	0.0213	0.0251	0.0078	0.1095	0.1334	0.0146	0.0641	0.0658	0.0753	0.0633	0.1300	0.0478
42	Other fabricated metal products.....	00814	0.0598	0.0915	0.0690	0.2650	0.2165	0.1165	0.1059	0.1646	0.0962	0.3380	0.3744	0.1866	0.0902
43	Engines and turbines.....	00194	0.0173	0.0391	0.0469	0.1657	0.1403	0.1172	0.0418	0.1292	0.1416	0.0154	0.0139	0.0349	0.0126
44	Farm and garden machinery.....	01085	0.0919	0.0297	0.0403	0.0022	0.0021	0.0010	0.0022	0.0023	0.0029	0.0017	0.0015	0.0383	
45	Construction and mining machinery.....	00090	0.0107	0.0076	0.0092	0.4153	0.3590	0.5806	0.4325	0.2484	0.0389	0.0256	0.0102	0.0090	
46	Materials handling machinery and equipment.....	00026	0.0025	0.0034	0.0024	0.0676	0.0406	0.0395	0.0032	0.0654	0.0269	0.0389	0.0333	0.0030	0.0027
47	Metallworking machinery and equipment.....	00108	0.0079	0.0098	0.0102	0.0324	0.0343	0.0225	0.0138	0.0816	0.0184	0.0338	0.0232	0.1069	0.0182
48	Special industry machinery and equipment.....	00118	0.0142	0.0076	0.0135	0.0066	0.0082	0.0045	0.0027	0.0053	0.0229	0.0084	0.0069	0.0053	0.0190
49	General industrial machinery and equipment.....	00271	0.0247	0.0309	0.0213	0.1680	0.1386	0.1842	0.0531	0.1434	0.0956	0.0873	0.0545	0.1092	0.0235
50	Miscellaneous machinery, except electrical.....	00299	0.0215	0.0175	0.0202	0.0545	0.0915	0.0692	0.0400	0.0770	0.0515	0.0384	0.0329	0.1054	0.0275
51	Office, computing, and accounting machines.....	00033	0.0025	0.0022	0.0035	0.0031	0.0028	0.0028	0.0041	0.0039	0.0039	0.0061	0.0084	0.0096	0.0038
52	Service industry machines.....	00091	0.0079	0.0141	0.0095	0.0110	0.0076	0.0052	0.0114	0.0073	0.0101	0.1271	0.1470	0.0059	0.0095
53	Electric industrial equipment and apparatus.....	00189	0.0170	0.0202	0.0161	0.0662	0.0830	0.0892	0.0717	0.0796	0.0710	0.1169	0.1101	0.1022	0.0170
54	Household appliances.....	00025	0.0021	0.0065	0.0022	0.0022	0.0018	0.0014	0.0036	0.0021	0.0025	0.0328	0.0428	0.0021	0.0024
55	Electric lighting and wiring equipment.....	00092	0.0075	0.0144	0.0098	0.0111	0.0119	0.0140	0.0144	0.0108	0.0114	0.1563	0.1419	0.0159	0.0079
56	Radio, TV, and communication equipment.....	00057	0.0040	0.0076	0.0051	0.0062	0.0055	0.0037	0.0045	0.0049	0.0046	0.0390	0.0324	0.8103	0.0052
57	Electronic components and accessories.....	00097	0.0082	0.0073	0.0091	0.0110	0.0110	0.0093	0.0064	0.0116	0.0106	0.0257	0.0197	0.4515	0.0094
58	Miscellaneous electrical machinery and supplies.....	00438	0.0548	0.0131	0.0371	0.0125	0.0241	0.0094	0.0049	0.0163	0.0109	0.0169	0.0139	0.0108	0.0186
59	Motor vehicles and equipment.....	00518	0.0322	0.0454	0.0832	0.3037	0.0764	0.0385	0.0150	0.1538	0.0585	0.0463	0.0372	0.0484	0.0325
60	Aircraft and parts.....	00047	0.0029	0.0047	0.0103	0.0051	0.0046	0.0033	0.0016	0.0041	0.0042	0.0053	0.0046	0.4436	0.0047
61	Other transportation equipment.....	00080	0.0045	0.3231	0.0128	0.0095	0.0143	0.0035	0.0020	0.0046	0.0052	0.0112	0.0071	0.0069	0.0105
62	Scientific and controlling instruments.....	00059	0.0046	0.0078	0.0052	0.0080	0.0115	0.0082							

modity Total Requirements, 1977

of delivery to final demand, at producers' prices)

Tobacco manufactures	Broad and narrow fabrics, yarn and thread mills	Miscellaneous textile goods and floor coverings	Apparel	Miscellaneous fabricated textile products	Lumber and wood products, except containers	Wood containers	Household furniture	Other furniture and fixtures	Paper and allied products, except containers	Paperboard containers and boxes	Printing and publishing	Chemicals and selected chemical products	Plastics and synthetic material	Drugs, cleaning and toilet preparations	Paints and allied products	Petroleum refining and related industries	Rubber and miscellaneous plastics products	Leather tanning and finishing	Commodity number
15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	
0.00835	0.01187	0.01433	0.00528	0.00766	0.00813	0.00268	0.00418	0.00216	0.00417	0.00268	0.00349	0.00492	0.00415	0.01212	0.01075	0.00150	0.00812	0.10572	1
25269	.10214	.02944	.03072	.4254	.00378	.00268	.01008	.00291	.00545	.00333	.00337	.00660	.00993	.01096	.00909	.00133	.00593	.07005	2
0.0068	0.00085	0.0114	0.0789	0.0113	1.4143	0.4909	0.1816	0.1002	0.01342	0.0594	0.0293	0.0171	0.0137	0.0172	0.0421	0.00655	0.0140	0.0410	3
0.1068	0.00550	0.00279	0.00278	0.00280	0.01594	0.0620	0.0811	0.0181	0.00256	0.0152	0.0116	0.0372	0.00262	0.0199	0.0251	0.00125	0.0139	0.0816	4
0.0047	0.01104	0.00123	0.00644	0.00086	0.0142	0.0137	0.0811	0.00888	0.00099	0.0142	0.0070	0.00427	0.00249	0.0163	0.0422	0.00130	0.0019	0.0103	5
0.0076	0.00253	0.00338	0.0136	0.0162	0.0127	0.0088	0.00225	0.00347	0.0186	0.0192	0.0121	0.01415	0.00769	0.0092	0.00808	0.00136	0.0016	0.0190	6
0.0039	0.01020	0.00948	0.00546	0.00674	0.00504	0.00573	0.00766	0.01349	0.00996	0.00525	0.01875	0.01685	0.00650	0.00976	0.00164	0.00114	0.00972	0.00635	7
0.2359	0.5442	0.05644	0.03091	0.03505	0.03125	0.02864	0.02797	0.02607	0.05864	0.04639	0.02694	0.01300	0.11402	0.04416	0.08814	0.63238	0.56665	0.04293	8
0.00136	0.00201	0.00202	0.01111	0.0134	0.00158	0.00133	0.00173	0.00193	0.00226	0.00292	0.00154	0.00694	0.00380	0.00266	0.00925	0.00415	0.00269	0.00188	9
0.0083	0.00294	0.00348	0.00138	0.00174	0.00080	0.00055	0.00096	0.00091	0.00211	0.00161	0.00107	0.02104	0.00897	0.00305	0.00679	0.00124	0.00340	0.00860	10
0.1417	0.02829	0.02575	0.01983	0.02153	0.02796	0.02681	0.02381	0.02398	0.03257	0.03046	0.01946	0.03998	0.03557	0.02163	0.03159	0.06312	0.02568	0.02433	11
0.0005	0.00006	0.00005	0.00006	0.00005	0.00020	0.00010	0.00010	0.00011	0.00006	0.00005	0.00006	0.00006	0.00006	0.00011	0.00008	0.00004	0.00007	0.00005	13
0.0601	0.01063	0.01227	0.01046	0.01309	0.00856	0.00922	0.01297	0.00695	0.01552	0.01006	0.01337	0.01776	0.01401	0.04110	0.04410	0.00565	0.00920	0.04205	14
1.25721	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	0.00005	0.00002	0.00001	0.00001	0.00001	0.00001	0.00003	(*)	(*)	0.00001	15
0.00230	1.46526	2.5979	39273	47152	0.00346	0.00261	1.0352	0.1255	0.02687	0.01204	0.0807	0.00275	0.01563	0.00361	0.00313	0.00101	0.03418	0.00180	16
0.00163	0.01618	0.106037	0.00854	0.09288	0.00535	0.00237	0.02339	0.02596	0.00933	0.04430	0.00443	0.00131	0.00272	0.00233	0.00116	0.00088	0.02681	0.00101	17
0.0041	0.00226	0.01742	1.26189	0.1888	0.00091	0.01005	0.00599	0.00212	0.00116	0.00081	0.00066	0.00050	0.00074	0.00055	0.00058	0.00042	0.00144	0.00059	18
0.0037	0.00077	0.00216	0.01711	1.03096	0.00059	0.00452	0.00355	0.00094	0.00046	0.00036	0.00045	0.00084	0.00059	0.00049	0.00063	0.00027	0.00061	0.00059	19
0.00530	0.00538	0.00723	0.00453	0.00710	1.44506	0.49566	1.8244	1.0011	1.2776	0.05633	0.02491	0.00879	0.00848	0.00722	0.00617	0.00489	0.01117	0.00486	20
0.00108	0.00032	0.00015	0.00013	0.00016	0.00020	1.00883	0.0104	0.0060	0.00013	0.00008	0.00006	0.00010	0.00010	0.00020	0.00011	0.00004	0.00024	0.00043	21
0.00001	0.00002	0.00002	0.00002	0.00004	0.00003	0.00003	1.00222	0.0037	0.00003	0.00003	0.00002	0.00003	0.00003	0.00002	0.00003	0.00004	0.00004	0.00002	22
0.00002	0.00004	0.00006	0.00003	0.00004	0.00007	0.00005	0.00005	1.00773	0.00009	0.00007	0.00004	0.00006	0.00005	0.00004	0.00005	0.00009	0.00005	0.00004	23
0.03158	0.02107	0.02918	0.01926	0.02382	0.00821	0.03672	0.01892	0.01708	1.23393	5.1626	2.2657	0.02489	0.03646	0.03636	0.02274	0.00909	0.03723	0.02216	24
0.01034	0.01578	0.01420	0.01139	0.01749	0.00526	0.06174	0.01700	0.01636	0.02138	1.05392	0.10003	0.00860	0.01457	0.02922	0.01426	0.00484	0.01886	0.02038	25
0.01687	0.00427	0.00460	0.00461	0.00550	0.00308	0.00538	0.00569	0.00477	0.00507	0.00504	1.13135	0.00540	0.00464	0.01037	0.01095	0.00259	0.00421	0.00673	26
0.04875	0.16261	0.18988	0.07425	0.09551	0.04360	0.02843	0.04870	0.04238	0.08879	0.07921	0.05610	1.31548	0.46903	0.15933	0.38224	0.06042	0.17874	0.13272	27
0.00845	0.22453	0.27691	0.10904	0.11984	0.00772	0.01255	0.04004	0.02155	0.04560	0.03319	0.01390	0.01880	0.107644	0.01766	0.08146	0.00348	0.21758	0.00577	28
0.00197	0.00549	0.00513	0.00580	0.00862	0.00083	0.00088	0.00151	0.00101	0.00358	0.00206	0.00142	0.00763	0.00880	1.07608	0.00654	0.00516	0.00525	0.03340	29
0.00063	0.00166	0.00202	0.00110	0.00128	0.00751	0.00344	0.01292	0.01073	0.00217	0.00355	0.00141	0.00345	0.00393	0.00323	1.01551	0.00178	0.00234	0.00135	30
0.2623	0.04241	0.04061	0.02725	0.02892	0.03641	0.03414	0.02852	0.02616	0.06386	0.05065	0.02747	0.06707	0.06092	0.03476	0.05707	1.10219	0.04248	0.08878	31
0.03147	0.02572	0.04571	0.01735	0.04125	0.01449	0.00937	0.06057	0.05030	0.03654	0.02102	0.01924	0.01753	0.02979	0.04481	0.01517	0.00683	1.05995	0.01170	32
0.00002	0.00012	0.00014	0.00605	0.00958	0.00013	0.00006	0.00398	0.00045	0.00006	0.00004	0.00018	0.00005	0.00004	0.00004	0.00008	0.00003	0.00017	1.05690	33
0.00005	0.00042	0.00015	0.00034	0.00026	0.00043	0.00019	0.00015	0.00010	0.00013	0.00011	0.00012	0.00018	0.00015	0.00013	0.00016	0.00011	0.00025	0.00013	34
0.00062	0.00572	0.00497	0.00213	0.00320	0.00261	0.00132	0.00729	0.00316	0.00141	0.00098	0.00101	0.00191	0.00200	0.01811	0.00273	0.00107	0.00700	0.00859	35
0.00202	0.00882	0.00898	0.00263	0.00305	0.01124	0.00832	0.00948	0.00877	0.00684	0.00527	0.00670	0.00580	0.00383	0.01658	0.00688	0.00688	0.00788	0.00563	36
0.00650	0.01116	0.01255	0.00796	0.01114	0.02192	0.02295	0.05328	0.16150	0.01371	0.02237	0.01088	0.02940	0.01999	0.02175	0.04281	0.02060	0.03017	0.01373	37
0.00484	0.01100	0.01942	0.00800	0.00882	0.01315	0.00892	0.02662	0.04501	0.01329	0.01733	0.01014	0.04400	0.02581	0.01826	0.04437	0.00963	0.01814	0.01118	38
0.00094	0.00313	0.00366	0.00178	0.00215	0.00148	0.00106	0.00198	0.00151	0.00211	0.00194	0.00148	0.01307	0.00971	0.02526	0.06168	0.00489	0.00333	0.01649	39
0.00109	0.00218	0.00209	0.00150	0.00168	0.00683	0.00377	0.00244	0.00226	0.00283	0.00244	0.00157	0.00335	0.00277	0.00194	0.00243	0.00481	0.00286	0.00179	40
0.00113	0.00169	0.00198	0.00144	0.00190	0.01429	0.00618	0.01092	0.02182	0.00314	0.00242	0.00188	0.00288	0.00232	0.00679	0.00409	0.00177	0.00558	0.00256	41
0.00939	0.00502	0.00552	0.00432	0.00441	0.03485	0.01911	0.06687	0.04417	0.01682	0.01494	0.00768	0.01005	0.00832	0.01290	0.01156	0.01114	0.01157	0.00560	42
0.00072	0.00139	0.00140	0.00088	0.00100	0.00142	0.00130	0.00121	0.00180	0.00151	0.00136	0.00084	0.00289	0.00201	0.00112	0.00170	0.00338	0.00163	0.00109	43
0.00233	0.00109	0.00048	0.00044	0.00054	0.00058	0.00053	0.00034	0.00027	0.00025	0.00019	0.00021	0.00030	0.00028	0.00048	0.00032	0.00014	0.00021	0.00138	44
0.00060	0.00131	0.00132	0.00075	0.00089	0.00109	0.00088	0.00116	0.00162	0.00168	0.00120	0.00076	0.00383	0.00249	0.00131	0.00231	0.00448	0.00144	0.00101	45
0.00021	0.00142	0.00049	0.00059	0.00071	0.00097	0.00049	0.00045	0.00045	0.00041	0.00031	0.00024	0.00052	0.00041	0.00034	0.00041	0.00036	0.00036	0.00024	46
0.00092	0.00178	0.00207	0.00127	0.00164	0.00481	0.00414	0.00359	0.00676	0.00										

Table 4.—Commodity-by-Commodity

[Total requirements, direct and indirect, per dollar of

Commodity number	Each entry represents the output required, directly and indirectly, of the commodity named at the beginning of the row for each dollar of delivery to final demand of the commodity named at the head of the column	Footwear and other leather products													
		34	35	36	37	38	39	40	41	42	43	44	45	46	47
1	Livestock and livestock products.....	0.02342	0.00148	0.00195	0.00119	0.00147	0.00189	0.00154	0.00169	0.00155	0.00128	0.00130	0.00132	0.00147	0.00136
2	Other agricultural products.....	0.02070	0.00151	0.00258	0.00116	0.00158	0.00176	0.00143	0.00155	0.00157	0.00118	0.00130	0.00123	0.00133	0.00122
3	Forestry and fishery products.....	0.02242	0.00263	0.00174	0.00084	0.00111	0.00102	0.00114	0.00106	0.00145	0.00061	0.00097	0.00070	0.00081	0.00065
4	Agricultural, forestry, and fishery services.....	0.02556	0.00103	0.00105	0.00088	0.00092	0.00086	0.00082	0.00077	0.00084	0.00064	0.00071	0.00066	0.00067	0.00055
5	Iron and ferroalloy ores mining.....	0.00090	0.00088	0.00198	0.00831	0.00265	0.02150	0.01645	0.01968	0.01302	0.01236	0.01188	0.01426	0.01177	0.00820
6	Nonferrous metal ores mining.....	0.00140	0.00182	0.00261	0.06007	0.09931	0.01651	0.01276	0.06059	0.00874	0.00707	0.00352	0.00935	0.00454	0.00433
7	Coal mining.....	0.00486	0.00923	0.02347	0.08045	0.1200	0.2848	0.2203	0.2591	0.1899	0.1708	0.1662	0.1935	0.1615	0.1214
8	Crude petroleum and natural gas.....	0.02709	0.04505	0.04825	0.04386	0.04684	0.03580	0.02708	0.02621	0.02930	0.02345	0.02071	0.02112	0.02188	0.02006
9	Stone and clay mining and quarrying.....	0.00121	0.02231	0.06702	0.06664	0.02003	0.00294	0.00277	0.00263	0.00259	0.00230	0.00191	0.00237	0.00195	0.00199
10	Chemical and fertilizer mineral mining.....	0.00159	0.00176	0.00509	0.00206	0.00130	0.00111	0.00085	0.00094	0.00119	0.00063	0.00066	0.00068	0.00061	0.00063
11	New construction.....														
12	Maintenance and repair construction.....	0.01855	0.02741	0.03816	0.04318	0.02806	0.03161	0.03318	0.02999	0.02593	0.02446	0.02046	0.02304	0.02212	0.01713
13	Ordnance and accessories.....	0.00005	0.00006	0.00102	0.00036	0.00066	0.00014	0.00021	0.00017	0.00014	0.00016	0.00010	0.00013	0.00011	0.00039
14	Food and kindred products.....	0.09567	0.00555	0.00725	0.00446	0.00501	0.00680	0.00588	0.00569	0.00584	0.00486	0.00487	0.00500	0.00560	0.00522
15	Tobacco manufactures.....	(*)	(*)	(*)	(*)	(*)	0.00051	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
16	Broad and narrow fabrics, yarn and thread mills.....	0.07269	0.00229	0.01056	0.00162	0.00301	0.00168	0.00179	0.00284	0.00282	0.00187	0.00264	0.00205	0.00188	0.00162
17	Miscellaneous textile goods and floor coverings.....	0.04731	0.00096	0.00116	0.00084	0.00105	0.00080	0.00099	0.00123	0.00152	0.00104	0.00198	0.00154	0.00151	0.00086
18	Apparel.....	0.06610	0.00093	0.00078	0.00076	0.00084	0.00066	0.00064	0.00065	0.00091	0.00084	0.00054	0.00052	0.00056	0.00055
19	Miscellaneous fabricated textile products.....	0.00061	0.00042	0.00043	0.00062	0.00038	0.00041	0.00046	0.00259	0.00042	0.00072	0.00103	0.00077	0.00038	0.00055
20	Lumber and wood products, except containers.....	0.01477	0.02486	0.01551	0.00705	0.00947	0.00776	0.00744	0.00907	0.01276	0.00461	0.00833	0.00556	0.00652	0.00492
21	Wood containers.....	0.00034	0.00073	0.00011	0.00029	0.00073	0.00022	0.00108	0.00118	0.00028	0.00024	0.00029	0.00039	0.00066	0.00068
22	Household furniture.....	0.00002	0.00004	0.00005	0.00003	0.00003	0.00003	0.00004	0.00003	0.00004	0.00005	0.00004	0.00003	0.00003	0.00003
23	Other furniture and fixtures.....	0.00003	0.00004	0.00007	0.00013	0.00005	0.00007	0.00009	0.00009	0.00006	0.00011	0.00011	0.00009	0.00006	0.00007
24	Paper and allied products, except containers.....	0.02964	0.03386	0.02761	0.00687	0.00912	0.01332	0.01011	0.01397	0.01444	0.01024	0.00856	0.00710	0.00835	0.00828
25	Paperboard container and boxes.....	0.02153	0.05411	0.00774	0.00311	0.00498	0.00677	0.00736	0.00931	0.01220	0.00641	0.00586	0.00321	0.00375	0.00676
26	Printing and publishing.....	0.00653	0.00522	0.00399	0.00314	0.00385	0.01948	0.04002	0.0406	0.0434	0.00362	0.00364	0.00372	0.00427	0.00366
27	Chemicals and selected chemical products.....	0.07476	0.07707	0.05648	0.05607	0.06738	0.04268	0.03141	0.03529	0.05602	0.02214	0.02448	0.02316	0.02226	0.02491
28	Plastics and synthetic materials.....	0.05415	0.00631	0.01758	0.00468	0.02561	0.01161	0.00796	0.00964	0.01533	0.00620	0.01120	0.00807	0.00849	0.00702
29	Drugs, cleaning and toilet preparations.....	0.01023	0.00098	0.00192	0.00085	0.00106	0.00172	0.00131	0.00136	0.00141	0.00063	0.00065	0.00061	0.00063	0.00059
30	Paints and allied products.....	0.00117	0.00310	0.00348	0.00176	0.00239	0.02452	0.00508	0.00509	0.00715	0.00202	0.00419	0.00274	0.00259	0.00244
31	Petroleum refining and related industries.....	0.02345	0.01468	0.02500	0.04309	0.04547	0.08231	0.02839	0.02570	0.02742	0.02583	0.02114	0.02185	0.02401	0.02114
32	Rubber and miscellaneous plastics products.....	0.07487	0.01198	0.01450	0.01016	0.01787	0.01055	0.01616	0.01573	0.03154	0.01392	0.04044	0.02829	0.02599	0.01236
33	Leather tanning and finishing.....	0.19741	0.00010	0.00005	0.00004	0.00003	0.00003	0.00004	0.00007	0.00009	0.00003	0.00006	0.00004	0.00003	0.00005
34	Footwear and other leather products.....	1.04105	0.00046	0.00007	0.00015	0.00008	0.00009	0.00009	0.00008	0.00009	0.00007	0.00008	0.00010	0.00007	0.00008
35	Glass and glass products.....	0.00299	1.08282	0.00198	0.00089	0.00135	0.00091	0.00227	0.00227	0.00243	0.00108	0.00123	0.00116	0.00098	0.00101
36	Stone and clay products.....	0.00375	0.01852	1.14703	0.01575	0.00987	0.00847	0.00940	0.00871	0.00960	0.01459	0.00884	0.01377	0.00995	0.01518
37	Primary iron and steel manufacturing.....	0.01288	0.01293	0.02815	1.26754	0.04337	0.39665	0.29680	0.35504	0.21288	0.22727	0.21629	0.26251	0.21671	0.14873
38	Primary nonferrous metals manufacturing.....	0.00998	0.01791	0.02423	0.05460	1.62226	2.5276	1.7808	0.9209	1.2730	1.0540	0.4719	0.4285	0.6292	0.6254
39	Metal containers.....	0.00434	0.00133	0.00152	0.00109	0.00138	1.04420	0.00107	0.00185	0.00181	0.00071	0.00094	0.00074	0.00075	0.00076
40	Heating, plumbing, and structural metal products.....	0.00147	0.00224	0.00356	0.00343	0.00240	0.00245	1.02232	0.00247	0.00270	0.00179	0.00369	0.02286	0.01795	0.00834
41	Screw machine products and stampings.....	0.00514	0.00463	0.00371	0.00885	0.00738	0.00572	0.03452	1.04044	0.02088	0.03503	0.02843	0.01518	0.01866	0.01218
42	Other fabricated metal products.....	0.01381	0.00646	0.02010	0.01793	0.01780	0.02099	0.04160	0.02785	1.04706	0.02559	0.02069	0.02137	0.02555	0.01643
43	Engines and turbines.....	0.00083	0.00165	0.00293	0.00401	0.00279	0.00207	0.00253	0.00247	0.00356	1.12261	0.07970	0.04279	0.02083	0.00241
44	Farm and garden machinery.....	0.00046	0.00015	0.00119	0.00035	0.00017	0.00021	0.00036	0.00026	0.00024	0.00060	1.07345	0.00171	0.00042	0.00019
45	Construction and mining machinery.....	0.00075	0.00201	0.01207	0.00752	0.00467	0.00330	0.00287	0.00275	0.00254	0.00510	0.00298	1.08275	0.00666	0.00169
46	Materials handling machinery and equipment.....	0.00032	0.00039	0.00089	0.00139	0.00120	0.00071	0.00062	0.00059	0.00052	0.00049	0.00049	0.00063	1.04398	0.00038
47	Metals handling machinery and equipment.....	0.00256	0.00094	0.00263	0.00981	0.01725	0.01069	0.01137	0.01821	0.01367	0.02285	0.01326	0.01346	1.05501	0.00195
48	Special industry machinery and equipment.....	0.00278	0.00786	0.00110	0.00184	0.0138	0.00111	0.00097	0.00104	0.00141	0.00069	0.00077	0.00073	0.00087	0.00078
49	General industrial machinery and equipment.....	0.00168	0.00283	0.00453	0.01721	0.01450	0.00825	0.01336	0.00833	0.00845	0.00346	0.00441	0.00763	0.07459	0.00633
50	Miscellaneous machinery, except electrical.....	0.00431	0.00701	0.00494	0.01029	0.00948	0.00847	0.01136	0.03874	0.01172	0.04092	0.02918	0.01446	0.02561	0.02862
51	Office, computing, and accounting machines.....	0.00046	0.00031	0.00035	0.00058	0.00037	0.00041	0.00066	0.00071	0.00069	0.00044	0.00037	0.00043	0.00054	0.00042
52	Service industry machines.....	0.00061	0.00071	0.00092	0.00111	0.00087	0.00085	0.00110	0.00085	0.00099	0.00107	0.00096	0.00083	0.00083	0.00066
53	Electric industrial equipment and apparatus.....	0.00138	0.00396	0.00315	0.01274	0.00909	0.00618	0.01568	0.00806	0.00975	0.01979	0.01386	0.02323	0.04753	0.03225
54	Household appliances.....	0.00021	0.00088	0.00027	0.00029	0.00022	0.00022	0.00039	0.00039	0.00023	0.00020	0.00024	0.00019	0.00019	0.00016
55	Electric lighting and wiring equipment.....	0.00070	0.00160	0.00187	0.00131	0.00144	0.00098	0.00124	0.00185	0.00097	0.00103	0.00208	0.00096	0.00102	0.00189
56	Radio, TV, and communication equipment.....	0.00055	0.00054	0.00075	0.00065	0.00082	0.00055	0.00101	0.00107	0.00073	0.00124	0.00077	0.00090	0.00081	0.00061
57	Electronic components and accessories.....	0.00117	0.00097	0.00127	0.00144	0.00243	0.00124	0.00222	0.00208	0.00254	0.00348	0.00193	0.00215	0.00304	0.00274
58	Miscellaneous electrical machinery and supplies.....	0.00051	0.00048	0.00066	0.00084	0.00090	0.00058	0.00070	0.00139	0.00074	0.00151	0.00933	0.00163	0.00234	0.00095
59	Motor vehicles and equipment														

Table 5.—Industry-by-Commodity Total Requirements, 1977

[Total requirements, direct and indirect, per dollar of delivery to final demand, at producers' prices]

Table with 14 columns: Industry number, Commodity number, Livestock and livestock products, Other agricultural products, Forestry and fishery products, Agricultural, forestry, and fishery services, Iron and ferroalloy ores mining, Nonferrous metal ores mining, Coal mining, Crude petroleum and natural gas, Stone and clay mining and quarrying, Chemical and fertilizer mineral mining, New construction, Maintenance and repair construction, and Ordnance and accessories. The table lists requirements for 79 industry categories.

See footnotes at end of table.

Total Requirements, 1977—Continued

of delivery to final demand, at producers' prices]

Table with 17 columns (60-79) and 17 rows (1-10) of data. Columns are labeled with industry categories and numbers 60-79. Rows contain numerical values for each category. The last column is labeled 'Industry number'.

States and those that are purchased abroad and used abroad by United States residents—are shown in the row for noncomparable imports (row 80) at foreign port value. The total value of all such imports is shown as a negative entry in the import column (row 80, column 95).

Inventories.—Table 1 shows change in business inventories for each commodity. Inventory change, which is a component of final demand, represents the change in inventory of the commodity wherever held and it is stated at book value. The inventory valuation adjustment, which converts inventory change from book value to replacement cost, is shown as a single entry for the total of all commodities (row 85, column 93). (The inventory accounting in I-O differs from that used in the NIPA's. The NIPA's show the change in inventories held by each industry valued at replacement cost.)

Supplementary data

Final demand in the NIPA's is expressed at purchasers' prices rather than producers' prices, and in categories that differ from those used in I-O. Before I-O tables 4 and 5 can be used to measure the commodity or industry requirements arising from changes in the level and composition of GNP, the GNP (or components thereof) must be stated in the prices

of the year to which the I-O tables refer, in the I-O commodity categories, and at producers' prices with separate entries for the trade margin and transportation costs. In I-O terminology, a bill of goods must be formulated. Supplementary data that are useful in establishing bills of goods are provided in tables A, B, C, and D.¹⁰

Table A shows the I-O commodity composition in 1977 of each NIPA category of final demand, in producers' and purchasers' prices. For each commodity within a category of final demand, the table shows the trade margin and transportation costs included in the purchasers' price. This table may be used if the final demand to be analyzed is given in purchasers' prices and in the classification of the I-O table.

Table B shows the I-O commodity composition in 1977 of each of the 86 categories of personal consumption expenditures (PCE) in the NIPA's (table 2.4) in producers' and purchasers' prices. For each commodity within a PCE category, the table shows the trade margin and transportation costs included in the purchas-

ers' price. This table may be used if the PCE to be analyzed is given in the classification of the NIPA's.

Table C shows the I-O commodity composition in 1977 of each of the 24 categories of producers' durable equipment (PDE) in the NIPA's (table 5.6) in producers' and purchasers' prices. For each commodity within a PDE category, the table shows the trade margin and transportation costs included in the purchasers' price. This table may be used if the PDE to be analyzed is given in the classification of the NIPA's.

Table D reconciles exports and imports as shown in the I-O tables with the preliminary revised NIPA estimates for 1977. The adjustments to merchandise remove goods from exports that are subsequently returned to the exporter and remove from imports goods that are subsequently re-exported. The adjustments to fees and royalties reclassify the fees and royalties of affiliates so that all payments are treated as imports and all receipts are treated as exports. In the NIPA's, transactions between U.S. parents and their foreign affiliates are shown on a net basis in exports while transactions between foreign parents and their U.S. affiliates are shown on a net basis in imports.

Additional information that is useful in formulating bills of goods will be provided in the staff paper referenced in footnote 9.

10. Tables A, B, and C are shown at the 85-commodity level. They also are available at the 537-commodity level for \$7.00 each. See footnote 2 for instructions for ordering.

APPENDIX A.—BEA Publications Relating to Input-Output

Articles in the SURVEY OF CURRENT BUSINESS

1. Morris R. Goldman, Martin L. Marimont, and Beatrice N. Vaccara, "The Interindustry Structure of the United States, 1958," November 1964.
2. Norman Frumkin, "Construction Activity in the 1958 Input-Output Study," May 1965.
3. "The Transactions Table of the 1958 Input-Output Study and Revised Direct and Total Requirements Data," September 1965.
4. Nancy W. Simon, "Personal Consumption Expenditures in the 1958 Input-Output Study," October 1965.
5. "Additional Industry Detail for the 1958 Input-Output Study," April 1966.
6. "Industrial Impact of the 1966 Housing and Commercial Building Decline," November 1966.
7. "The Input-Output Structure of the U.S. Economy: 1963," November 1969.
8. Allan H. Young and Claiborne M. Ball, "Industrial Impacts of Residential Construction and Mobile Home Production," October 1970.
9. "Personal Consumption Expenditures in the 1963 Input-Output Study," January 1971.
10. Beatrice N. Vaccara, "An Input-Output Method for Long-Range Economic Projections," July 1971.
11. Allan H. Young, Leo C. Maley, Jr., Sally R. Reed, and Roy A. Seaton, II, "Interindustry Transactions in New Structures and Equipment, 1963," August 1971.
12. Albert J. Walderhaug, "The Composition of Value Added in the 1963 Input-Output Study," April 1973.
13. Philip M. Ritz and Eugene P. Roberts, "Industry Inventory Requirements: An Input-Output Analysis," November 1973.
14. "The Input-Output Structure of the U.S. Economy: 1967," February 1974.
15. Nancy W. Simon and Philip M. Ritz, "Producers' Durable Equipment in the 1963 and 1967 Input-Output Studies," February 1975.
16. Irving Stern, "Industry Effects of Government Expenditures: An Input-Output Analysis," May 1975.
17. Irving Stern, "Interindustry Transactions in New Structures and Equipment, 1967," September 1975.
18. Philip M. Ritz, "New Construction and State and Local Government Purchases in the 1967 Input-Output Study," November 1977.
19. Philip M. Ritz, "The Input-Output Structure of the U.S. Economy, 1972," February 1974.
20. Philip M. Ritz, Eugene P. Roberts, and Paula C. Young, "Dollar-Value Tables for the 1972 Input-Output Study," April 1979.
21. Peter E. Coughlin, "New Structures and Equipment by Using Industries, 1972," July 1980.

APPENDIX A.—BEA Publications Relating to Input-Output—Continued

Supplements to the SURVEY OF CURRENT BUSINESS

22. *Input-Output Structure of the U.S. Economy: 1963*: Volume 1, "Transactions Data for Detailed Industries;" Volume 2, "Direct Requirements for Detailed Industries;" Volume 3, "Total Requirements for Detailed Industries;" Office of Business Economics (now BEA), 1969.

23. *Input-Output Structure of the U.S. Economy: 1967*: Volume 1, "Transactions Data for Detailed Industries;" Volume 2, "Direct Requirements for Detailed Industries;" Volume 3, "Total Requirements for Detailed Industries;" BEA, 1974. Available on microfiche from National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161, \$4.50 for each. Accession numbers COM 74-50843, COM 74-50844, and COM 74-50845, respectively.

24. Irving Stern, *Industry Effects of Government Expenditures, 1975*. Volume 1, "85-Industry Detail;" Volume 2, "367-Industry Detail;" BEA, September 1975. Both are available from National Technical Information Service, Springfield, VA 22161; \$13.00 for Volume 1, \$40.00 for Volume 2

(microfiche \$4.50 for each). Accession numbers COM 75-11157 and COM 75-11158, respectively.

25. Irving Stern, *Interindustry Transactions in New Structures and Equipment, 1963 and 1967*; Volume I, "Tables with Additional Capital Goods Producing Industry Detail;" Volume II, "Methods and Sources for 1967;" BEA, 1975. Available from National Technical Information Service, Springfield, VA 22161; \$10.00 for Volume I, \$13.00 for Volume II (microfiche \$4.50 for each). Accession numbers PB-248-876 and PB-248-877, respectively.

26. *The Detailed Input-Output Structure of the U.S. Economy: 1972*; Volume I, "The Use and Make of Commodities by Industries;" Volume II, "Total Requirements for Commodities and Industries;" BEA, 1979. Available from Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402; \$9.50 for Volume I and \$8.50 for Volume II. Stock numbers 003-010-00064-3 and 003-010-00065-1, respectively.

BEA Staff Papers

27. "Input-Output Transactions, 1961," Staff Paper in Economics and Statistics, No. 16, Office of Business Economics (now BEA), 1968. Available from National Technical Information Service, Springfield, VA 22161; \$10.00 per copy (microfiche \$4.50). Accession number PB-193-953.

28. "Input-Output Transactions, 1966," Staff Paper in Economics and Statistics, No. 19, BEA, February 1972. Available from National Technical Information Service, Springfield, VA 22161; \$8.50 per copy (\$4.50 microfiche). Accession number COM 72-10299

29. Arlene K. Shapiro, "Input-Output Analysis as a Predictive Tool," Staff Paper No. 20, BEA, December 1972. Available from National Technical Information Service, Springfield, VA 22161; \$11.50 per copy (\$4.50 microfiche). Accession number COM 73-10146.

30. Roger H. Bezdek, "Empirical Tests of Input-Output Forecasts: Review and Critique," Staff Paper No. 24, BEA, July 1974. Available from National Technical Information Service, Springfield, VA 22161; \$8.50 per copy (\$4.50 microfiche). Accession number COM 74-11439.

31. Arlene K. Shapiro, "Sources of Error in Input-Output Projections," Staff Paper No. 26, BEA, July 1975. Available from National Technical Information Service, Springfield, VA 22161; \$8.50 per copy (\$4.50 microfiche). Accession number COM 75-11074.

32. Paula C. Young and Philip M. Ritz, "Summary Input-Output Tables of the U.S. Economy: 1968, 1969, and 1970," Staff Paper No. 27, September 1975. Available from National Technical Information Service, Springfield, VA 22161; \$11.50 per copy (\$4.50 microfiche). Accession number PB-246-690.

33. Paula C. Young and Philip M. Ritz, "Input-Output Tables of the U.S. Economy: 1971," Staff Paper No. 28, BEA, March 1977. Available from National Technical Information Service, Springfield, VA 22161; \$8.50 per copy (\$4.50 microfiche). Accession number PB-265-194.

34. Albert J. Walderhaug, "Revised Input-Output Tables for the U.S. Economy, 1967," Staff Paper No. 29, BEA, June 1977. Available from National Technical Information Service, Springfield, VA 22161; \$10.00 per copy (\$4.50 microfiche). Accession number PB-270-259.

35. Peter E. Coughlin, "Employment and Employee Compensation in the 1967 Input-Output Study," Staff Paper No. 31, BEA, February 1978. Available from National Technical Information Service, Springfield, VA 22161; \$8.50 per copy (\$4.50 microfiche). Accession number PB-278-759.

36. Paula C. Young and Philip M. Ritz, "Update Input-Output Tables of the U.S. Economy, 1972 (Derived from the 1967 Input-Output Table)," Staff Paper No. 32, BEA, April 1979. Available from National Technical Information Service, Springfield, VA 22161; \$10.00 per copy (\$4.50 microfiche). Accession number PB-295-622.

37. Philip M. Ritz, "Definitions and Conventions of the 1972 Input-Output Study," Staff Paper No. 34, BEA, July 1980. Available from National Technical Information Service, Springfield, VA 22161; \$14.50 per copy (\$4.50 microfiche). Accession number PB-80-208-911.

38. Peter E. Coughlin and Albert J. Walderhaug, "New Structures and Equipment by Using Industries, 1971: Detailed Estimates and Methodology," Staff Paper No. 35, BEA, September 1980. Available from National Technical Information Service, Springfield, VA 22161; \$13.00 per copy (\$4.50 microfiche). Accession number PB-81-203-666.

39. Paula C. Young and Shirley F. Loftus, "Summary Input-Output Tables of the U.S. Economy: 1973, 1974, and 1975," Staff Paper No. 37, BEA, October 1981. Available from National Technical Information Service, Springfield, VA 22161; \$11.50 per copy (\$4.50 microfiche). Accession number PB-82-142-399.

40. Jane-Ring F. Crane, "Employment and Employee Compensation in the 1972 Input-Output Study," Staff Paper No. 38, BEA, October 1981. Available from National Technical Information Service, Springfield, VA 22161; \$7.00 per copy (\$4.50 microfiche). Accession number PB-82-142-415.

41. Paula C. Young and Mark A. Planting, "Summary Input-Output Tables of the U.S. Economy: 1976, 1978, and 1979," Staff Paper No. 39, BEA, January 1983. Available from National Technical Information Service, Springfield, VA 22161; \$13.00 per copy (\$4.50 microfiche). Accession number PB-83-167-403.

Miscellaneous Papers

42. Beatrice N. Vaccara, "Changes Over Time in U.S. Input-Output Relationships." Paper presented at Seminar on Input-Output Analysis sponsored by the YMCA Center for International Management Studies and the State Planning Committee of Romania, July 1969.

43. "The Input-Output Structure of the United States Economy: 1947," Office of Business Economics (now BEA), March 1970.

44. "Definitions and Conventions of the 1963 Input-Output Study," BEA, April 1972.

45. "Industrial Composition of Personal Consumption Expenditures by PCE Category in Producers' and Purchasers' Prices, 1963," BEA. Table showing producing industry detail at 367-industry level of classification.

46. "Interindustry Transactions in New Structures and Equipment, 1963," BEA. Table showing producing industry detail at 367-industry level of classification.

47. "Notes on Methods and Sources Used in Preparing the 1963 Capital Flow Table," Office of Business Economics (now BEA), November 1971.

48. "Industrial Composition of Personal Consumption Expenditures by PCE Category in Producers' and Purchasers' Prices, 1967," BEA, 1974. Table showing producing industry detail at 367-industry level of classification.

49. "Definitions and Conventions of the 1967 Input-Output Study," BEA, October 1974. Available from National Technical Information Service, Springfield, VA 22161; \$11.50 per copy (\$4.50 microfiche). Accession number PB-296-293.

50. "Mathematical Derivation of the Total Requirements Tables for the 1972 Input-Output Study," BEA, February 1979.

51. Nancy W. Simon, "Subdivision of Electric Utilities in the 1972 Input-Output Study," BEA, January 1981.

NOTE.—If additional information regarding the above publications is needed, it can be obtained from the Interindustry Economics Division (BE-51), Bureau of Economic Analysis, U.S. Department of Commerce, Washington, D.C. 20230, telephone no. (202) 523-0683.

APPENDIX B.—Industry Classification of the 1977 Input-Output Tables¹

The titles in bold face represent the groupings of industries used for the summary version of the 1977 tables.

Industry number and title	Related Census-SIC codes (1977 edition)	Industry number and title	Related Census-SIC codes (1977 edition)
AGRICULTURE, FORESTRY, AND FISHERIES			
1 Livestock and livestock products			
1.0100 Dairy farm products.....	0241, pt. 0191, pt. 0259, pt. 0291.	11.0204 New garages and service stations.....	pt. 15-17
1.0200 Poultry and eggs.....	025 (excl. 0254 and pt. 0259), pt. 0191, pt. 0219, pt. 0291.	11.0205 New stores and restaurants.....	pt. 15-17.
1.0301 Meat animals.....	021 (excl. pt. 0219), pt. 0191, pt. 0259, pt. 0291.	11.0206 New religious buildings.....	pt. 15-17.
1.0302 Miscellaneous livestock.....	027 (excl. pt. 0279), pt. 0191, pt. 0219, pt. 0259, pt. 0291.	11.0207 New educational buildings.....	pt. 15-17.
2 Other agricultural products			
2.0100 Cotton.....	0131, pt. 0191, pt. 0219, pt. 0259, pt. 0291.	11.0231 New hospitals.....	pt. 15-17.
2.0201 Food grains.....	pt. 011, pt. 0191, pt. 0219, pt. 0259, pt. 0291.	11.0232 New residential institutions and other health related facilities.....	pt. 15-17.
2.0202 Feed grains.....	pt. 011, pt. 0139, pt. 0191, pt. 0219, pt. 0259, pt. 0291.	11.0241 New amusement and recreation buildings.....	pt. 15-17.
2.0203 Grass seeds.....	pt. 0139, pt. 0191, pt. 0219, pt. 0259, pt. 0291.	11.0250 Other new nonfarm buildings.....	pt. 15-17.
2.0300 Tobacco.....	0132, pt. 0191, pt. 0219, pt. 0259, pt. 0291.	11.0301 New telephone and telegraph facilities.....	pt. 16-17.
2.0401 Fruits.....	pt. 017, pt. 0191, pt. 0219, pt. 0259, pt. 0291.	11.0302 New railroads.....	pt. 16-17.
2.0402 Tree nuts.....	0173, pt. 0179, pt. 0191, pt. 0219, pt. 0259, pt. 0291.	11.0303 New electric utility facilities.....	pt. 16-17.
2.0501 Vegetables.....	0134, 0161, pt. 0119, pt. 0139, pt. 0191, pt. 0219, pt. 0259, pt. 0291.	11.0304 New gas utility facilities.....	pt. 16-17.
2.0502 Sugar crops.....	0133, pt. 0191, pt. 0219, pt. 0259, pt. 0291.	11.0305 New petroleum pipelines.....	pt. 16-17.
2.0503 Miscellaneous crops.....	pt. 0119, pt. 0139, pt. 0191, pt. 0219, pt. 0259, pt. 0291.	11.0306 New water supply facilities.....	pt. 16-17.
2.0600 Oil bearing crops.....	0116, pt. 0119, pt. 013, pt. 0173, pt. 0219, pt. 0259, pt. 0291.	11.0307 New sewer system facilities.....	pt. 16-17.
2.0701 Forest products.....	pt. 018, pt. 0191, pt. 0219, pt. 0259, pt. 0291.	11.0308 New local transit facilities.....	pt. 16-17.
2.0702 Greenhouse and nursery products.....	pt. 018, pt. 0191, pt. 0219, pt. 0259, pt. 0291.	11.0400 New highways and streets.....	pt. 16-17.
3 Forestry and fishery products			
3.0001 Forestry products.....	081-4, 097.	11.0501 New farm housing units and additions and alterations.....	pt. 15, pt. 17.
3.0002 Commercial fishing.....	091.	11.0502 New farm service facilities.....	pt. 15, pt. 17.
4 Agricultural, forestry, and fishery services			
4.0001 Agricultural, forestry, and fishery services.....	0254, 07 (excl. 074, and 078), 085, 092, pt. 0279.	11.0601 New petroleum and natural gas well drilling.....	pt. 108, pt. 1112, pt. 1213, pt. 138, pt. 148.
4.0002 Landscape and horticultural services.....	078.	11.0602 New petroleum, natural gas, and solid mineral exploration.....	pt. 108, pt. 1112, pt. 1213, pt. 148.
MINING			
5 Iron and ferroalloy ores mining			
5.0000 Iron and ferroalloy ores mining.....	101, 106.	11.0603 New access structures for solid mineral development.....	pt. 15-17.
6 Nonferrous metal ores mining			
6.0100 Copper ore mining.....	102.	11.0701 New military facilities.....	pt. 15-17.
6.0200 Nonferrous metal ores mining, except copper.....	103-5, pt. 108, 109.	11.0702 New dams and reservoirs.....	pt. 15-17.
7 Coal mining			
7.0000 Coal mining.....	1111, pt. 1112, 1211, pt. 1213.	11.0703 Other new conservation and development facilities.....	pt. 15-17.
8 Crude petroleum and natural gas			
8.0000 Crude petroleum and natural gas.....	131, 132.	11.0704 Other new nonbuilding facilities.....	pt. 15-17.
9 Stone and clay mining and quarrying			
9.0001 Dimension, crushed and broken stone mining and quarrying.....	141-2.	12 Maintenance and repair construction	
9.0002 Sand and gravel mining.....	144.	12.0100 Maintenance and repair, residential.....	pt. 15, pt. 17.
9.0003 Clay, ceramic, and refractory minerals mining.....	145.	12.0201 Maintenance and repair of other nonfarm buildings.....	pt. 15-17.
9.0004 Nonmetallic mineral services and miscellaneous minerals mining.....	pt. 148, 149.	12.0202 Maintenance and repair of farm residential buildings.....	pt. 1215, pt. 17.
10 Chemical and fertilizer mineral mining			
10.0000 Chemical and fertilizer mineral mining.....	147.	12.0203 Maintenance and repair of farm service facilities.....	pt. 15, pt. 17.
CONSTRUCTION			
11 New construction			
11.0101 New residential 1-unit structures, nonfarm.....	pt. 15, pt. 17, pt. 6552.	12.0204 Maintenance and repair of telephone and telegraph facilities.....	pt. 16-17.
11.0102 New residential 2-4 unit structured, nonfarm.....	pt. 15-17.	12.0205 Maintenance and repair of railroads.....	pt. 16-17.
11.0103 New residential garden apartments.....	pt. 15-17, pt. 6552.	12.0206 Maintenance and repair of electric utility facilities.....	pt. 16-17.
11.0104 New residential high-rise apartments.....	pt. 15-17.	12.0207 Maintenance and repair of gas utility facilities.....	pt. 16-17.
11.0105 New residential additions and alterations, nonfarm.....	pt. 15-17.	12.0208 Maintenance and repair of petroleum pipelines.....	pt. 16-17.
11.0106 New hotels and motels.....	pt. 15-17.	12.0209 Maintenance and repair of water supply facilities.....	pt. 16-17.
11.0107 New dormitories and other group housing.....	pt. 15-17.	12.0210 Maintenance and repair of sewer facilities.....	pt. 16-17.
11.0201 New industrial buildings.....	pt. 15-17.	12.0211 Maintenance and repair of local transit facilities.....	pt. 15-17.
11.0202 New office buildings.....	pt. 15-17.	12.0212 Maintenance and repair of military facilities.....	pt. 15-17.
11.0203 New warehouses.....	pt. 15-17.	12.0213 Maintenance and repair of conservation and development facilities.....	pt. 15-17.
MANUFACTURING			
13 Ordnance and accessories			
13.0100 Guided missiles and space vehicles.....	3761.	12.0214 Maintenance and repair of highways and streets.....	pt. 16-17.
13.0200 Ammunition, except for small arms, n.e.c.....	3483.	12.0215 Maintenance and repair of petroleum and natural gas wells.....	pt. 138.
13.0300 Tank and tank components.....	3795.	12.0216 Maintenance and repair of other nonbuilding facilities.....	pt. 15-17.
13.0500 Small arms.....	3484.	14 Food and kindred products	
13.0600 Small arms ammunition.....	3482.	14.0101 Meat packing plants.....	2011.
13.0700 Other ordnance and accessories.....	3489.	14.0102 Sausages and other prepared meats.....	2013.
14 Food and kindred products			
14.0101 Meat packing plants.....	2011.	14.0103 Poultry dressing plants.....	2016.
14.0102 Sausages and other prepared meats.....	2013.	14.0104 Poultry and egg processing.....	2017.
14.0103 Poultry dressing plants.....	2016.	14.0200 Creamery butter.....	2021.
14.0104 Poultry and egg processing.....	2017.	14.0300 Cheese, natural and processed.....	2022.
14.0200 Creamery butter.....	2021.	14.0400 Condensed and evaporated milk.....	2023.
14.0300 Cheese, natural and processed.....	2022.	14.0500 Ice cream and frozen desserts.....	2024.
14.0400 Condensed and evaporated milk.....	2023.	14.0600 Fluid milk.....	2026.
14.0500 Ice cream and frozen desserts.....	2024.	14.0700 Canned and cured sea foods.....	2091.
14.0600 Fluid milk.....	2026.	14.0800 Canned specialties.....	2032.
14.0700 Canned and cured sea foods.....	2091.	14.0900 Canned fruits and vegetables.....	2033.
14.0800 Canned specialties.....	2032.	14.1000 Dehydrated food products.....	2034.
14.0900 Canned fruits and vegetables.....	2033.	14.1100 Pickles, sauces, and salad dressings.....	2035.
14.1000 Dehydrated food products.....	2034.	14.1200 Fresh or frozen packaged fish.....	2092.
14.1100 Pickles, sauces, and salad dressings.....	2035.	14.1301 Frozen fruits, fruit juices and vegetables.....	2037.
14.1200 Fresh or frozen packaged fish.....	2092.	14.1302 Frozen specialties.....	2038.
14.1301 Frozen fruits, fruit juices and vegetables.....	2037.	14.1401 Flour and other grain mill products.....	2041.
14.1302 Frozen specialties.....	2038.	14.1402 Cereal breakfast foods.....	2043.
14.1401 Flour and other grain mill products.....	2041.	14.1403 Blended and prepared flour.....	2045.
14.1402 Cereal breakfast foods.....	2043.	14.1501 Dog, cat, and other pet food.....	2047.
14.1403 Blended and prepared flour.....	2045.	14.1502 Prepared feeds, n.e.c.....	2048.
14.1501 Dog, cat, and other pet food.....	2047.	14.1600 Rice milling.....	2044.
14.1502 Prepared feeds, n.e.c.....	2048.	14.1700 Wet corn milling.....	2046.
14.1600 Rice milling.....	2044.	14.1801 Bread, cake, and related products.....	2051.
14.1700 Wet corn milling.....	2046.	14.1802 Cookies and crackers.....	2052.
14.1801 Bread, cake, and related products.....	2051.	14.1900 Sugar.....	2061-3.
14.1802 Cookies and crackers.....	2052.	14.2001 Confectionery products.....	2065.
14.1900 Sugar.....	2061-3.	14.2002 Chocolate and cocoa products.....	2066.
14.2001 Confectionery products.....	2065.	14.2003 Chewing gum.....	2067.
14.2002 Chocolate and cocoa products.....	2066.	14.2101 Malt beverages.....	2082.
14.2003 Chewing gum.....	2067.	14.2102 Malt.....	2083.
14.2101 Malt beverages.....	2082.	14.2103 Wines, brandy, and brandy spirits.....	2084.
14.2102 Malt.....	2083.	14.2104 Distilled liquor, except brandy.....	2085.
14.2103 Wines, brandy, and brandy spirits.....	2084.	14.2200 Bottled and canned soft drinks.....	2086.
14.2104 Distilled liquor, except brandy.....	2085.	14.2300 Flavoring extracts and sirups, n.e.c.....	2087.
14.2200 Bottled and canned soft drinks.....	2086.	14.2400 Cottonseed oil mills.....	2074.
14.2300 Flavoring extracts and sirups, n.e.c.....	2087.	14.2500 Soybean oil mills.....	2075.
14.2400 Cottonseed oil mills.....	2074.	14.2600 Vegetable oil mills, n.e.c.....	2076.
14.2500 Soybean oil mills.....	2075.	14.2700 Animal and marine fats and oils.....	2077.
14.2600 Vegetable oil mills, n.e.c.....	2076.	14.2800 Roasted coffee.....	2095.
14.2700 Animal and marine fats and oils.....	2077.	14.2900 Shortening and cooking oils.....	2079.
14.2800 Roasted coffee.....	2095.		
14.2900 Shortening and cooking oils.....	2079.		

See footnotes at end of appendix B.

APPENDIX B.—Industry Classification of the 1977 Input-Output Tables ¹— Continued

Industry number and title	Related Census-SIC codes (1977 edition)	Industry number and title	Related Census-SIC codes (1977 edition)
14.3000	2097	24.0705	2648
14.3100	2098	24.0706	2649
14.3200	2099		
15 Tobacco manufactures			
15.0101	211.	25 Paperboard containers and boxes	
15.0102	212.	25.0000	265.
15.0103	213.	26 Printing and publishing	
15.0200	214.	26.0100	271.
16 Broad and narrow fabrics, yarn and thread mills			
16.0100	221-3, 2261-2.	26.0200	272.
16.0200	224.	26.0301	2731.
16.0300	2269, 2281-3.	26.0302	2732.
16.0400	2284.	26.0400	274.
17 Miscellaneous textile goods and floor coverings			
17.0100	227.	26.0501	2751-2, 2754.
17.0200	2291.	26.0502	2795.
17.0300	2292.	26.0601	276.
17.0400	2293.	26.0602	2782.
17.0500	2294.	26.0700	277.
17.0600	2295.	26.0801	2753.
17.0700	2296.	26.0802	2789.
17.0900	2298.	26.0803	2791.
17.1001	2297.	26.0804	2793.
17.1002	2299.	26.0805	2794.
18 Apparel			
18.0101	2251.	27 Chemicals and selected chemical products	
18.0102	2252.	27.0100	281 (excl. 28195), 2865, 2869.
18.0201	2253.	27.0201	2873-4.
18.0202	2254.	27.0202	2875.
18.0203	2255.	27.0300	2879.
18.0300	2259.	27.0401	2861.
18.0400	2257-8, 231-8, 39996.	27.0402	2891.
19 Miscellaneous fabricated textile products			
19.0100	2391.	27.0403	2892.
19.0200	2392.	27.0404	2893.
19.0301	2393.	27.0405	2895.
19.0302	2394.	27.0406	2899.
19.0303	2395.	28 Plastics and synthetic materials	
19.0304	2396.	28.0100	2821.
19.0305	2397.	28.0200	2822.
19.0306	2399.	28.0300	2823.
20 Lumber and wood products, except containers			
20.0100	2411.	28.0400	2824.
20.0200	2421.	29 Drugs, cleaning and toilet preparations	
20.0300	2426.	29.0100	283.
20.0400	2429.	29.0201	2841.
20.0501	2431.	29.0202	2842.
20.0502	2434.	29.0203	2843.
20.0600	2435-6.	29.0300	2844.
20.0701	2439.	30 Paints and allied products	
20.0702	2452.	30.0000	285.
20.0800	2491.	31 Petroleum refining and related industries	
20.0901	2448.	31.0101	291.
20.0902	2492.	31.0102	2992.
20.0903	2499.	31.0103	2999.
21 Wood containers			
21.0000	2441, 2449.	31.0200	2951.
22 Household furniture			
22.0101	2511.	31.0300	2952.
22.0102	2519.	32 Rubber and miscellaneous plastics products	
22.0103	2517.	32.0100	301.
22.0200	2512.	32.0200	302.
22.0300	2514.	32.0301	303.
22.0400	2515.	32.0302	306.
23 Other furniture and fixtures			
23.0100	2521.	32.0400	307.
23.0200	2522.	32.0500	304.
23.0300	2531.	33 Leather tanning and finishing	
23.0400	2541.	33.0001	311.
23.0500	2542.	34 Footwear and other leather products	
23.0600	2591.	34.0100	313.
23.0700	2599.	34.0201	3143-9.
24 Paper and allied products, except containers			
24.0100	261.	34.0202	3142.
24.0200	262.	34.0301	315.
24.0300	263.	34.0302	316.
24.0400	2642.	34.0303	3171.
24.0500	2647.	34.0304	3172.
24.0602	266.	34.0305	319.
24.0701	2641.	35 Glass and glass products	
24.0702	2643.	35.0100	321, 3229, 323.
24.0703	2645.	35.0200	3221.
24.0704	2646.	36 Stone and clay products	
		36.0100	324.
		36.0200	3251.
		36.0300	3253.
		36.0400	3255.
		36.0500	3259.
		36.0600	3261.
		36.0701	3262.

See footnotes at end of appendix B.

APPENDIX B.—Industry Classification of the 1977 Input-Output Tables ¹— Continued

Industry number and title	Related Census-SIC codes (1977 edition)	Industry number and title	Related Census-SIC codes (1977 edition)
36.0702 Fine earthenware food utensils.....	3263.	46 Materials handling machinery and equipment	
36.0800 Porcelain electrical supplies.....	3264.	46.0100 Elevators and moving stairways.....	3534.
36.0900 Pottery products, n.e.c.....	3269.	46.0200 Conveyors and conveying equipment.....	3535.
36.1000 Concrete block and brick.....	3271.	46.0300 Hoists, cranes, and monorails.....	3536.
36.1100 Concrete products, n.e.c.....	3272.	46.0400 Industrial trucks and tractors.....	3537.
36.1200 Ready-mixed concrete.....	3273.	47 Metalworking machinery and equipment	
36.1300 Lime.....	3274.	47.0100 Machine tools, metal cutting types.....	3541.
36.1400 Gypsum products.....	3275.	47.0200 Machine tools, metal forming types.....	3542.
36.1500 Cutstone and stone products.....	328.	47.0300 Special dies and tools and machine tool accessories.....	3544-5.
36.1600 Abrasive products.....	3291.	47.0401 Power driven hand tools.....	3546.
36.1700 Asbestos products.....	3292.	47.0402 Rolling mill machinery.....	3547.
36.1800 Gaskets, packing and sealing devices.....	3293.	47.0403 Metalworking machinery, n.e.c.....	3549.
36.1900 Minerals, ground or treated.....	3295.	48 Special industry machinery and equipment	
36.2000 Mineral wool.....	3296.	48.0100 Food products machinery.....	3551.
36.2100 Nonclay refractories.....	3297.	48.0200 Textile machinery.....	3552.
36.2200 Nonmetallic mineral products, n.e.c.....	3299.	48.0300 Woodworking machinery.....	3553.
37 Primary iron and steel manufacturing		48.0400 Paper industries machinery.....	3554.
37.0101 Blast furnaces and steel mills.....	3312.	48.0500 Printing trades machinery.....	3555.
37.0102 Electrometallurgical products.....	3313.	48.0600 Special industry machinery, n.e.c.....	3559.
37.0103 Steel wire and related products.....	3315.	49 General industrial machinery and equipment	
37.0104 Cold finishing of steel shapes.....	3316.	49.0100 Pumps and compressors.....	3561, 3563.
37.0105 Steel pipe and tubes.....	3317.	49.0200 Ball and roller bearings.....	3562.
37.0200 Iron and steel foundries.....	332.	49.0300 Blowers and fans.....	3564.
37.0300 Iron and steel forgings.....	3462.	49.0400 Industrial patterns.....	3565.
37.0401 Metal heat treating.....	3398.	49.0500 Power transmission equipment.....	3566, 3568.
37.0402 Primary metal products, n.e.c.....	3399.	49.0600 Industrial furnaces and ovens.....	3567.
38 Primary nonferrous metals manufacturing		49.0700 General industrial machinery, n.e.c.....	3569.
38.0100 Primary copper.....	3331.	50 Miscellaneous machinery, except electrical	
38.0200 Primary lead.....	3332.	50.0001 Carburetors, pistons, rings, valves.....	3592.
38.0300 Primary zinc.....	3333.	50.0002 Machinery, except electrical, n.e.c.....	3599.
38.0400 Primary aluminum.....	3334, 28195.	51 Office, computing, and accounting machines	
38.0500 Primary nonferrous metals, n.e.c.....	3339.	51.0101 Electronic computing equipment.....	3573.
38.0600 Secondary nonferrous metals.....	334.	51.0102 Calculating and accounting machines.....	3574.
38.0700 Copper rolling and drawing.....	3351.	51.0300 Scales and balances.....	3576.
38.0800 Aluminum rolling and drawing.....	3353-5.	51.0400 Typewriters and office machines, n.e.c.....	3572, 3579.
38.0900 Nonferrous rolling and drawing, n.e.c.....	3356.	52 Service industry machines	
38.1000 Nonferrous wire drawing and insulating.....	3357.	52.0100 Automatic merchandising machines.....	3581.
38.1100 Aluminum castings.....	3361.	52.0200 Commercial laundry equipment.....	3582.
38.1200 Brass, bronze, and copper castings.....	3362.	52.0300 Refrigeration and heating equipment.....	3585.
38.1300 Nonferrous castings, n.e.c.....	3369.	52.0400 Measuring and dispensing pumps.....	3586.
38.1400 Nonferrous forgings.....	3463.	52.0500 Service industry machines, n.e.c.....	3589.
39 Metal containers		53 Electric industrial equipment and apparatus	
39.0100 Metal cans.....	3411.	53.0100 Instruments to measure electricity.....	3825.
39.0200 Metal barrels, drums, and pails.....	3412.	53.0200 Transformers.....	3612.
40 Heating, plumbing, and fabricated structural metal products		53.0300 Switchgear and switchboard apparatus.....	3613.
40.0100 Metal sanitary ware.....	3431.	53.0400 Motor and generators.....	3621.
40.0200 Plumbing fixture fittings and trim.....	3432.	53.0500 Industrial controls.....	3622.
40.0300 Heating equipment, except electric.....	3433.	53.0600 Welding apparatus, electric.....	3623.
40.0400 Fabricated structural metal.....	3441.	53.0700 Carbon and graphite products.....	3624.
40.0500 Metal doors, sash, and trim.....	3442.	53.0800 Electrical industrial apparatus, n.e.c.....	3629.
40.0600 Fabricated plate work (boiler shops).....	3443.	54 Household appliances	
40.0700 Sheet metal work.....	3444.	54.0100 Household cooking equipment.....	3631.
40.0800 Architectural metal work.....	3446.	54.0200 Household refrigerator and freezers.....	3632.
40.0901 Prefabricated metal buildings.....	3448.	54.0300 Household laundry equipment.....	3633.
40.0902 Miscellaneous metal work.....	3449.	54.0400 Electric housewares and fans.....	3634.
41 Screw machine products and stampings		54.0500 Household vacuum cleaners.....	3635.
41.0100 Screw machine products and bolts, nuts, rivets, and washers.....	345.	54.0600 Sewing machines.....	3636.
41.0201 Automotive stampings.....	3465.	54.0700 Household appliances, n.e.c.....	3639.
41.0202 Crowns and closures.....	3466.	55 Electric lighting and wiring equipment	
41.0203 Metal stampings, n.e.c.....	3469.	55.0100 Electric lamps.....	3641.
42 Other fabricated metal products		55.0200 Lighting fixtures and equipment.....	3645-8.
42.0100 Cutlery.....	3421.	55.0300 Wiring devices.....	3643-4.
42.0201 Hand and edge tools, n.e.c.....	3423.	56 Radio, TV, and communication equipment	
42.0202 Hand saws and saw blades.....	3425.	56.0100 Radio and TV receiving sets.....	3651.
42.0300 Hardware, n.e.c.....	3429.	56.0200 Phonograph records and tapes.....	3652.
42.0401 Plating and polishing.....	3471.	56.0300 Telephone and telegraph apparatus.....	3661.
42.0402 Metal coating and allied services.....	3479.	56.0400 Radio and TV communication equipment.....	3662.
42.0500 Miscellaneous fabricated wire products.....	3495-6.	57 Electronic components and accessories	
42.0700 Steel springs, except wire.....	3493.	57.0100 Electron tubes.....	3671-3.
42.0800 Pipe, valves, and pipe fittings.....	3494, 3498.	57.0200 Semiconductors and related devices.....	3674.
42.1000 Metal foil and leaf.....	3497.	57.0300 Other electronic components.....	3675-9.
42.1100 Fabricated metal products, n.e.c.....	3499.	58 Miscellaneous electrical machinery and supplies	
43 Engines and turbines		58.0100 Storage batteries.....	3691.
43.0100 Turbines and turbine generator sets.....	3511.	58.0200 Primary batteries, dry and wet.....	3692.
43.0200 Internal combustion engines, n.e.c.....	3519.	58.0300 X-ray apparatus and tubes.....	3693.
44 Farm and garden machinery		58.0400 Engine electrical equipment.....	3694.
44.0001 Farm machinery and equipment.....	3523.	58.0500 Electrical equipment and supplies, n.e.c.....	3699.
44.0002 Lawn and garden equipment.....	3524.	45 Construction and mining machinery	
45 Construction and mining machinery		45.0100 Construction machinery and equipment.....	3531.
45.0100 Construction machinery and equipment.....	3531.	45.0200 Mining machinery, except oil field.....	3532.
45.0200 Mining machinery, except oil field.....	3532.	45.0300 Oil field machinery.....	3533.
45.0300 Oil field machinery.....	3533.		

See footnotes at end of appendix B.

APPENDIX B.—Industry Classification of the 1977 Input-Output Tables¹— Continued

Industry number and title	Related Census-SIC codes (1977 edition)	Industry number and title	Related Census-SIC codes (1977 edition)
59 Motor vehicles and equipment		70.0200 Credit agencies other than banks	61, 67 (excl. 6732).
59.0100 Truck and bus bodies.....	3713.	70.0300 Security and commodity brokers.....	62.
59.0200 Truck trailers.....	3715.	70.0400 Insurance carriers.....	63.
59.0301 Motor vehicles and car bodies.....	3711.	70.0500 Insurance agents, brokers, and services.....	64.
59.0302 Motor vehicles parts and accessories.....	3714.	71 Real estate and rental	
60 Aircraft and parts		71.0100 Owner-occupied dwellings.....	Not applicable.
60.0100 Aircraft.....	3721.	71.0200 Real estate.....	65-6, (excl. pt. 6552), pt. 1531.
60.0200 Aircraft and missile engines and engine parts.....	3724, 3764.	SERVICES	
60.0400 Aircraft and missile equipment, n.e.c.....	3728, 3769.	72 Hotels; personal and repair services (except auto)	
61 Other transportation equipment		72.0100 Hotels and lodging places.....	70 (excl. dining).
61.0100 Ship building and repairing.....	3731.	72.0201 Laundry, cleaning, garment services, and shoe repair.....	721, 725.
61.0200 Boat building and repairing.....	3732.	72.0202 Funeral service and crematories.....	726.
61.0300 Railroad equipment.....	374.	72.0203 Portrait, photographic studios, and other miscellaneous personal services.....	722, 729.
61.0500 Motorcycles, bicycles, and parts.....	375.	72.0204 Electrical repair shops.....	762.
61.0601 Travel trailers and campers.....	3792.	72.0205 Watch, clock, jewelry, and furniture repair.....	763-4.
61.0602 Mobile homes.....	2451.	72.0300 Beauty and barber shops.....	723-4.
61.0603 Motor homes (made from purchased materials).....	3716.	73 Business services	
61.0700 Transportation equipment, n.e.c.....	3799.	73.0101 Miscellaneous repair shops.....	769.
62 Scientific and controlling instruments		73.0102 Services to dwellings and other buildings.....	734.
62.0100 Engineering and scientific instruments.....	3811.	73.0103 Personnel supply services.....	736.
62.0200 Mechanical measuring devices.....	3823-4, 3829.	73.0104 Computer and data processing services.....	737.
62.0300 Environmental controls.....	3822.	73.0105 Management and consulting services, testing and research labs.....	7391-2, 7397.
62.0400 Surgical and medical instruments.....	3841.	73.0106 Detective and protective services.....	7393.
62.0500 Surgical appliances and supplies.....	3842.	73.0107 Equipment rental and leasing services.....	7394.
62.0600 Dental equipment and supplies.....	3843.	73.0108 Photofinishing labs, photocopy, and commercial photography.....	7392-3, 7395.
62.0700 Watches, clocks, and parts.....	387.	73.0109 Other business services.....	732, 7331, 7339, 735, 7399.
63 Optical, ophthalmic, and photographic equipment		73.0200 Advertising.....	731.
63.0100 Optical instruments and lenses.....	383.	73.0301 Legal services.....	811.
63.0200 Ophthalmic goods.....	385.	73.0302 Engineering, architectural, and surveying services.....	8911.
63.0300 Photographic equipment and supplies.....	386.	73.0303 Accounting, auditing and bookkeeping, and miscellaneous services, n.e.c.....	893, 899.
64 Miscellaneous manufacturing		74 Eating and drinking places	
64.0101 Jewelry, precious metal.....	3911.	74.0000 Eating and drinking places.....	58, pt. 70.
64.0102 Jewelers' materials and lapidary work.....	3915.	75 Automobile repair and services	
64.0104 Silverware and plated ware.....	3914.	75.0001 Automotive rental and leasing, without drivers.....	751.
64.0105 Costume jewelry.....	3961.	75.0002 Automotive repair shops and services.....	753, 7549.
64.0200 Musical instruments.....	393.	75.0003 Automotive parking and car washes.....	752, 7542.
64.0301 Games, toys, and children's vehicles.....	3944.	76 Amusements	
64.0302 Dolls.....	3942.	76.0100 Motion pictures.....	78.
64.0400 Sporting and athletic goods, n.e.c.....	3949.	76.0201 Theatrical producers (except motion pictures), bands, and entertainers.....	792.
64.0501 Pens and mechanical pencils.....	3951.	76.0202 Bowling alleys, billiard and pool establishments.....	793.
64.0502 Lead pencils and art goods.....	3952.	76.0203 Commercial sports, except racing.....	7941.
64.0503 Marking devices.....	3953.	76.0204 Racing (including track operations).....	7948.
64.0504 Carbon paper and inked ribbons.....	3955.	76.0205 Membership sports and recreation clubs.....	7997.
64.0600 Artificial trees and flowers.....	3962.	76.0206 Other amusement and recreation services.....	791, 799 (excl. 7997).
64.0701 Buttons.....	3963.	77 Health, educational, and social services and nonprofit organizations	
64.0702 Needles, pins, and fasteners.....	3964.	77.0100 Doctors and dentists.....	801-3, 8041.
64.0800 Brooms and brushes.....	3991.	77.0200 Hospitals.....	806.
64.0900 Hard surface floor coverings.....	3996.	77.0301 Nursing and personal care facilities.....	805.
64.1000 Burial caskets and vaults.....	3995.	77.0302 Other medical and health services, excluding nursing homes.....	074, 8049, 807-9.
64.1100 Signs and advertising displays.....	3993.	77.0401 Elementary and secondary schools.....	821.
64.1200 Manufacturing industries, n.e.c.....	3999 (excl. 39996).	77.0402 Colleges, universities, and professional schools.....	822.
TRANSPORTATION, COMMUNICATIONS, AND UTILITIES		77.0403 Libraries, correspondence and vocational schools, and educational services, n.e.c.....	823-9.
65 Transportation and warehousing²		77.0501 Business associations and professional membership organizations.....	861-2.
65.0100 Railroads and related services.....	40, 474, pt. 4789.	77.0502 Labor organizations and civic, social, and fraternal associations.....	863-4.
65.0200 Local and suburban transit and interurban highways passenger transportation.....	41.	77.0503 Religious organizations.....	866.
65.0300 Motor freight transportation and warehousing.....	42, pt. 4789.	77.0504 Other membership organizations.....	84, 865, 869, 8922, 6732.
65.0400 Water transportation.....	44.	77.0600 Job training and related services.....	8331.
65.0500 Air transportation.....	45.	77.0700 Child day care services.....	8351.
65.0600 Pipe lines, except natural gas.....	46.	77.0800 Residential care.....	8361.
65.0701 Freight forwarders and other transportation services.....	471, 4723, pt. 478.	77.0900 Social services, n.e.c.....	8321, 8399.
65.0702 Arrangement of passenger transportation.....	4722.	GOVERNMENT ENTERPRISES	
66 Communications, except radio and TV		78 Federal Government enterprises	
66.0000 Communications, except radio and TV.....	48 (excl. 483).	78.0100 U.S. Postal Service.....	4311.
67 Radio and TV broadcasting		78.0200 Federal electric utilities.....	pt. 491.
67.0000 Radio and TV broadcasting.....	483.	78.0300 Commodity Credit Corporation.....	pt. 613.
68 Electric, gas, water, and sanitary services²		78.0400 Other Federal Government enterprises.....	several. ³
68.0100 Electric services (utilities).....	491, pt. 493.	79 State and local government enterprises	
68.0200 Gas production and distribution (utilities).....	492, pt. 493.	79.0100 Local government passenger transit.....	pt. 41.
68.0301 Water supply and sewerage systems.....	494, 4952.	79.0200 State and local electric utilities.....	pt. 491.
68.0302 Sanitary services, steam supply, and irrigation systems.....	495 (excl. 4952), 496-7, pt. 493.	79.0300 Other State and local government enterprises.....	several. ³
WHOLESALE AND RETAIL TRADE			
69 Wholesale and retail trade			
69.0100 Wholesale trade.....	50, 51.		
69.0200 Retail trade.....	52-7, 59, 7396, 8042.		
FINANCE, INSURANCE, AND REAL ESTATE			
70 Finance and insurance²			
70.0100 Banking.....	60.		

See footnotes at end of appendix B.

APPENDIX B.—Industry Classification of the 1977 Input-Output Table ¹— Continued

Industry number and title	Related Census-SIC codes (1977 edition)	Industry number and title	Related Census-SIC codes (1977 edition)
SPECIAL INDUSTRIES		95 Imports	
80 Noncomparable imports		95.0000 Imports.....	
80.0000 Noncomparable imports.....		96 Federal Government purchases, national defense	
81 Scrap, used and secondhand goods		96.0000 Federal Government purchases, national defense.....	
81.0001 Scrap.....		97 Federal Government purchases, nondefense	
81.0002 Used and secondhand goods.....		97.0000 Federal Government purchases, nondefense.....	
82 Government industry		98 State and local government purchases, education	
82.0000 Government industry.....		98.0001 State and local government purchases, elementary and secondary education.....	
83 Rest of world industry		98.0002 State and local government purchases, higher education.....	
83.0000 Rest of the world industry.....		98.0003 State and local government purchases, other education and libraries.....	
84 Household industry		99 State and local government purchases, other	
84.0000 Household industry.....		99.1001 State and local government purchases, health and hospitals..	
85 Inventory valuation adjustment		99.1002 State and local government purchases, public assistance and relief.....	
85.0000 Inventory valuation adjustment.....		99.1003 State and local government purchases, sewerage.....	
VALUE ADDED AND FINAL DEMAND		99.1004 State and local government purchases, sanitation.....	
V.A. Value added		99.2001 State and local government purchases, police.....	
87.0000 Value added.....		99.2002 State and local government purchases, fire.....	
88 Compensation of employees		99.2003 State and local government purchases, correction.....	
88.0000 Compensation of employees.....		99.3001 State and local government purchases, highways.....	
89 Indirect business taxes		99.3002 State and local government purchases, water and air facilities.....	
89.0000 Indirect business taxes.....		99.3003 State and local government purchases, transit utilities.....	
90 Property-type income		99.3004 State and local government purchases, other commerce and transportation.....	
90.0000 Profit-type income, net interest, and capital consumption allowances.....		99.3005 State and local government purchases, gas and electric utilities.....	
91 Personal consumption expenditures		99.3006 State and local government purchases, water.....	
91.0000 Personal consumption expenditures.....		99.3007 State and local government purchases, urban renewal and community facilities.....	
92 Gross private fixed investment		99.3008 State and local government purchases, natural and agricultural resources and recreation.....	
92.0000 Gross private fixed investment.....		99.3009 State and local government purchases, other general government.....	
93 Change in business inventories		OTHER SYMBOLS	
93.0000 Change in business inventories.....		Outputs	
94 Exports		T.I.U. Total intermediate use.....	
94.0000 Exports.....		T.F.D. Total final demand.....	
		T.C.O. Total commodity output.....	
		Inputs	
		T.I.I. Total intermediate inputs.....	
		V.A. Value added.....	
		T.I.O. Total industry output.....	

1. The industry classification is usually identical with that for the commodity that is the primary product of the industry. However, for some industries, the primary product, or a component thereof, is the same as the primary product of another industry. In such cases, commodity output is included with the industry most definitively associated with the commodity, usually the largest producer.

2. Excluding government enterprises.

3. In the 1977 SIC, government enterprise activities are generally classified with the similar private activity. In I-O, activities of enterprises are classified in groups 78 and 79 and the corresponding SIC's are shown except for 78.0400 and 79.0300, each of which includes a number of SIC's and several activities for which no comparable SIC exists.

CURRENT BUSINESS STATISTICS

THE STATISTICS here update series published in BUSINESS STATISTICS: 1982, a statistical supplement to the SURVEY OF CURRENT BUSINESS. That volume (available from the Superintendent of Documents for \$8.00, stock no. 003-010-00124-1) provides a description of each series, references to sources of earlier figures, and historical data as follows: For all series, monthly or quarterly, 1979 through 1982, annually, 1961-82; for selected series, monthly or quarterly, 1961-82 (where available).

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Unless otherwise stated in footnotes below, data through 1982 and methodological notes are as shown in BUSINESS STATISTICS: 1982	1982	1983	1983								1984					
	Annual	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	
GENERAL BUSINESS INDICATORS																
PERSONAL INCOME BY SOURCE																
Seasonally adjusted, at annual rates:																
Total personal income..... bil. \$.	2,578.6	2,742.1	2,670.1	2,689.0	2,719.3	2,732.6	2,747.6	2,756.4	2,781.6	2,812.5	2,833.5	2,859.6	*2,906.5	*2,927.4	*2,942.3	2,957.1
Wage and salary disbursements, total..... do...	1,568.1	1,664.6	1,616.8	1,632.1	1,652.2	1,660.9	1,673.5	1,680.5	1,691.8	1,710.6	1,715.3	1,726.0	1,748.7	*1,757.1	*1,763.3	1,784.1
Commodity-producing industries, total.... do...	509.2	529.7	510.0	517.1	522.0	527.5	533.3	537.0	543.1	546.7	550.5	552.9	564.0	*568.5	*569.6	578.1
Manufacturing..... do...	383.8	402.8	387.9	393.5	397.5	401.2	405.8	408.5	413.3	416.0	419.5	421.8	429.7	*433.6	*435.6	441.8
Distributive industries..... do...	378.8	397.2	388.4	390.7	394.8	397.5	400.0	396.8	399.8	408.1	408.0	411.8	414.3	*414.6	416.4	420.8
Service industries..... do...	374.1	411.5	397.8	402.4	408.2	411.3	414.1	415.5	419.6	425.2	424.7	427.6	432.7	*434.8	*436.6	443.0
Govt. and gov't. enterprises..... do...	306.0	326.2	320.6	321.9	327.1	324.7	326.1	331.1	329.2	330.6	332.1	333.7	337.7	339.3	340.7	342.1
Other labor income..... do...	156.6	173.4	166.0	168.1	170.1	172.2	174.3	176.3	178.4	180.6	182.6	184.9	186.9	189.0	191.1	193.0
Proprietors' income: †																
Farm..... do...	21.5	20.9	22.3	22.1	21.4	19.4	16.6	14.9	15.0	20.7	23.8	30.4	47.6	*49.5	*46.5	31.0
Nonfarm..... do...	87.4	107.6	100.8	103.1	106.6	109.0	109.9	110.9	113.0	114.2	114.3	115.0	*119.9	*121.7	*121.8	123.7
Rental income of persons with capital consumption adjustment..... bil. \$.	49.9	54.8	54.3	54.6	54.8	55.0	55.3	50.8	55.8	56.0	56.2	56.5	56.7	57.0	57.2	57.4
Dividends..... do...	66.4	70.5	68.9	69.0	69.4	69.5	70.2	70.9	71.6	72.3	72.9	73.4	74.1	75.1	76.2	77.0
Personal interest income..... do...	366.2	366.3	355.7	355.0	356.9	359.4	364.4	370.2	375.2	378.3	380.9	384.0	389.6	395.6	402.2	406.2
Transfer payments..... do...	374.5	403.6	402.0	402.7	406.7	406.7	403.5	402.2	401.9	402.0	409.8	412.4	411.3	*411.1	*413.1	414.9
Less: Personal contrib. for social insur. do...	112.0	119.5	116.8	117.6	118.8	119.5	120.1	120.3	121.1	122.2	122.4	122.9	128.3	128.7	129.0	130.2
Total nonfarm income..... do...	2,527.6	2,691.5	2,618.4	2,637.5	2,668.5	2,683.8	2,701.4	2,711.8	2,736.7	2,761.8	2,779.7	2,799.2	*2,828.8	*2,847.7	*2,865.4	2,895.4
DISPOSITION OF PERSONAL INCOME																
Seasonally adjusted, at annual rates:																
Total personal income..... bil. \$.	2,578.6	2,742.1	2,670.1	2,689.0	2,719.3	2,732.6	2,747.6	2,756.4	2,781.6	2,812.5	2,833.5	2,859.6	*2,906.5	*2,927.4	*2,942.3	2,957.1
Less: Personal tax and nontax payments..... do...	402.1	406.5	403.6	402.2	415.5	420.2	396.9	400.1	403.4	408.3	411.0	414.7	419.2	*421.8	*423.3	427.9
Equals: Disposable personal income..... do...	2,176.5	2,335.6	2,266.5	2,286.8	2,303.8	2,312.4	2,350.7	2,356.3	2,378.2	2,404.2	2,422.5	2,444.9	*2,487.4	*2,505.7	*2,519.1	2,529.2
Less: Personal outlays..... do...	2,051.1	2,221.9	2,146.2	2,181.8	2,218.8	2,228.0	2,238.9	2,238.7	2,260.1	2,279.9	2,294.3	2,320.7	*2,370.1	*2,347.1	*2,355.9	2,382.4
Personal consumption expenditures..... do...	1,991.9	2,158.0	2,084.6	2,119.9	2,156.4	2,164.8	2,174.8	2,173.8	2,194.7	2,213.4	2,227.1	2,252.1	*2,301.3	*2,277.0	*2,285.1	2,310.9
Durable goods..... do...	244.5	279.4	259.6	270.6	278.6	284.1	287.1	278.2	283.2	289.3	312.2	*322.1	*312.7	*309.9	314.1	
Nondurable goods..... do...	761.0	804.1	780.1	786.6	804.4	807.7	813.8	813.1	817.4	825.7	827.7	821.6	*825.5	*839.6	*837.8	851.5
Services..... do...	986.4	1,074.5	1,044.9	1,062.7	1,073.4	1,073.0	1,073.9	1,082.5	1,094.2	1,097.9	1,105.5	1,118.4	*1,126.6	*1,124.7	*1,137.4	1,145.3
Interest paid by consumers to business..... do...	58.1	62.8	60.6	60.9	61.3	62.1	62.9	63.7	64.1	65.1	65.8	67.2	67.6	*68.9	*69.6	70.2
Personal transfer payments to foreigners (net)..... do...	1.1	1.2	1.0	1.1	1.1	1.1	1.2	1.2	1.2	1.4	1.4	1.4	1.4	1.2	1.2	1.2
Equals: personal saving..... do...	125.4	113.7	120.3	104.9	85.1	84.4	111.8	117.5	118.2	124.3	128.2	124.2	*117.2	*158.5	*163.1	146.9
Personal saving as percentage of disposable personal income ‡..... percent.	5.8	4.9	5.1	4.5	4.0	4.0	4.5	4.9	5.0	5.1	5.2	*5.0	*5.4	*5.8	6.2	.....
Disposable personal income in constant (1972) dollars..... bil. \$.	1,060.2	1,094.6	1,077.2	1,078.4	1,083.3	1,087.5	1,100.4	1,097.4	1,102.6	1,113.5	1,121.5	1,129.4	*1,142.9	*1,151.3	1,152.1	.....
Personal consumption expenditures in constant (1972) dollars..... do...	970.2	1,011.4	990.8	999.7	1,014.0	1,018.1	1,018.1	1,012.4	1,017.5	1,025.1	1,031.0	1,040.3	*1,057.4	*1,046.2	1,045.1	.....
Durable goods..... do...	139.8	156.3	147.1	152.1	157.0	160.3	160.7	155.5	157.4	160.5	162.7	172.4	*177.7	*172.7	171.2	.....
Nondurable goods..... do...	364.2	376.1	370.0	370.0	376.2	378.0	378.8	377.0	378.4	382.5	384.7	380.3	*391.2	*386.8	384.3	.....
Services..... do...	466.2	479.0	473.7	477.6	480.8	479.7	478.5	479.9	481.7	482.1	483.6	487.6	*488.5	*486.7	489.6	.....
Implicit price deflator for personal consumption expenditures..... index, 1972=100..	205.3	213.4	210.4	212.1	212.7	212.6	213.6	214.7	215.7	215.9	216.0	216.5	*217.6	*217.6	218.7	.....
INDUSTRIAL PRODUCTION																
<i>Federal Reserve Board Index of Quantity Output</i>																
Not Seasonally Adjusted																
Total index..... 1967=100..	138.6	147.6	140.5	141.9	143.9	149.7	147.0	153.3	158.4	158.4	154.7	151.5	*154.3	*160.5	*161.6	*162.2
By industry groupings:																
Mining and utilities..... do...	146.3	142.9	136.8	134.2	133.4	137.8	146.8	152.2	148.2	141.6	142.6	152.6	*158.4	*154.6	*148.2	*144.3
Manufacturing..... do...	137.6	148.2	141.5	143.0	145.4	151.3	146.8	153.4	160.0	160.7	156.1	150.9	*153.9	*161.3	*163.8	*164.7
Nondurable manufactures..... do...	156.2	168.1	160.8	162.3	165.0	172.6	167.6	177.6	183.2	182.1	173.9	164.5	*166.8	*175.6	*177.3	*178.5
Durable manufactures..... do...	124.7	134.5	128.1	129.7	131.8	136.5	132.4	136.7	143.9	145.9	143.8	141.4	*145.0	*151.4	*154.4	*155.2
Seasonally Adjusted																
Total index..... do...	138.6	147.6	140.0	142.6	144.4	146.4	149.7	151.8	153.8	155.0	155.3	156.2	*158.5	*160.1	*160.9	*163.1
By market groupings:																
Products, total..... do...	141.8	149.2	141.6	144.5	146.2	148.1	150.9	153.2	154.9	155.6	155.8	157.4	159.7	*160.5	*161.2	*163.2
Final products..... do...	141.5	147.1	139.9	142.8	144.5	146.4	149.0	150.7	152.1	152.7	153.2	155.2	157.5	*158.2	*158.8	*160.7
Consumer goods..... do...	142.6	151.7	144.3	147.7	150.4	152.4	154.8	156.3	157.3	156.9	156.1	157.7	159.5	*159.6	*159.9	*161.6

See footnotes at end of tables.

Unless otherwise stated in footnotes below, data through 1982 and methodological notes are as shown in BUSINESS STATISTICS: 1982

	1982	1983		1983								1984			
	Annual	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
GENERAL BUSINESS INDICATORS—Continued															
MANUFACTURERS' SALES, INVENTORIES, AND ORDERS †—Continued															
Unfilled orders, end of year or month (unadjusted), total..... mil. \$.	'294,147	'327,947	'305,145	'307,750	'306,981	'308,479	'310,259	'310,881	'312,599	'319,340	'323,191	'327,947	'336,515	'344,503	354,133
Durable goods industries, total..... do.	'285,266	'317,423	'295,445	'297,733	'296,840	'298,323	'299,806	'300,272	'301,814	'308,608	'312,642	'317,423	'325,614	'333,278	342,952
Nondur. goods ind. with unfilled orders ‡..... do.	'8,881	'10,524	'9,700	'10,017	'10,141	'10,156	'10,453	'10,609	'10,785	'10,732	'10,549	'10,524	'10,901	'11,225	11,181
Unfilled orders, end of year or month (seasonally adjusted) total..... mil. \$.	'296,147	'330,122	'300,195	'303,067	'304,554	'308,675	'311,718	'313,967	'316,782	'322,369	'328,099	'330,122	'334,385	'340,725	348,105
By industry group:															
Durable goods industries, total #..... do.	'287,014	'319,303	'290,614	'293,355	'294,630	'298,496	'301,298	'303,389	'305,935	'311,530	'317,209	'319,303	'323,457	'329,512	337,055
Primary metals..... do.	'15,145	'20,817	'16,946	'17,011	'17,248	'17,625	'17,982	'18,635	'19,347	'19,989	'20,971	'20,817	'21,656	'22,127	21,776
Blast furnaces, steel mills..... do.	'6,843	'10,094	'7,813	'7,767	'7,915	'7,960	'8,232	'8,563	'9,140	'9,696	'10,053	'10,094	'10,607	'10,816	10,725
Nonferrous and other primary met..... do.	'6,155	'8,195	'6,936	'7,033	'7,051	'7,328	'7,375	'7,748	'7,777	'8,448	'8,460	'8,195	'8,392	'8,533	8,208
Fabricated metal products..... do.	'21,646	'20,534	'21,262	'21,057	'21,068	'21,026	'20,909	'20,856	'20,764	'20,674	'20,644	'20,534	'20,616	'20,942	20,836
Machinery, except electrical..... do.	'55,759	'58,363	'54,163	'54,424	'54,818	'55,220	'54,982	'55,176	'56,704	'58,189	'58,392	'58,363	'59,195	'59,930	61,131
Electrical machinery..... do.	'60,333	'69,996	'61,556	'61,966	'63,044	'63,350	'65,039	'66,131	'66,910	'68,371	'69,206	'69,996	'71,325	'73,254	74,855
Transportation equipment..... do.	'121,203	'134,467	'123,441	'125,315	'124,584	'126,831	'127,605	'127,776	'127,211	'129,153	'132,831	'134,467	'135,174	'137,621	142,798
Aircraft, missiles, and parts..... do.	'93,037	'103,890	'95,424	'97,010	'95,735	'97,316	'97,039	'97,101	'97,447	'99,487	'101,605	'103,890	'104,419	'105,846	111,416
Nondur. goods ind. with unfilled orders ‡..... do.	'9,133	'10,819	'9,581	'9,712	'9,924	'10,179	'10,420	'10,578	'10,847	'10,839	'10,890	'10,819	'10,928	'11,213	11,050
By market category:															
Home goods and apparel *..... do.	'3,477	'4,234	'3,601	'3,612	'3,915	'3,961	'4,133	'4,181	'4,133	'4,061	'4,088	'4,234	'4,537	'4,909	4,692
Consumer staples *..... do.	'799	'728	'764	'764	'772	'735	'711	'719	'740	'722	'747	'728	'711	'735	687
Equip. and defense prod., excl. auto *..... do.	'183,056	'196,656	'182,777	'185,216	'185,325	'187,707	'188,140	'188,201	'189,939	'192,781	'196,509	'196,656	'198,240	'202,168	208,498
Automotive equipment *..... do.	'5,246	'7,618	'5,265	'5,518	'5,624	'5,856	'6,191	'6,745	'6,610	'7,012	'7,333	'7,618	'7,842	'8,039	7,926
Construction materials and supplies..... do.	'12,866	'12,276	'12,950	'12,895	'12,676	'12,667	'12,502	'12,563	'12,461	'12,450	'12,371	'12,276	'12,254	'12,385	12,406
Other materials and supplies..... do.	'90,703	'108,610	'94,838	'95,062	'96,242	'97,749	'100,041	'101,558	'102,899	'105,343	'107,051	'108,610	'110,801	'112,489	113,896
Supplementary series:															
Household durables..... do.	'3,057	'3,715	'3,162	'3,182	'3,476	'3,512	'3,682	'3,730	'3,649	'3,592	'3,590	'3,715	'4,026	'4,346	4,104
Capital goods industries..... do.	'219,762	'236,703	'221,026	'223,107	'223,139	'226,011	'226,663	'226,657	'228,158	'231,474	'235,333	'236,703	'238,591	'242,889	250,119
Nondefense..... do.	'123,108	'123,942	'118,792	'118,873	'119,335	'119,897	'119,376	'119,749	'121,562	'123,952	'124,494	'123,942	'124,941	'127,802	129,285
Defense..... do.	'96,654	'112,761	'102,234	'104,234	'103,804	'106,114	'107,287	'106,908	'106,596	'107,522	'110,839	'112,761	'113,650	'115,087	120,834
BUSINESS INCORPORATIONS @															
New incorporations (50 States and Dist. Col.):															
Unadjusted..... number.	566,942	600,400	53,796	49,294	50,763	54,357	47,726	53,515	49,890	49,331	47,924	51,969	52,885		
Seasonally adjusted..... do.			48,032	48,903	50,211	50,992	48,601	52,828	50,445	50,441	51,642	51,557	53,044		
INDUSTRIAL AND COMMERCIAL FAILURES @															
Failures, total..... number.	(?)														
Commercial service..... do.															
Construction..... do.															
Manufacturing and mining..... do.															
Retail trade..... do.															
Wholesale trade..... do.															
Liabilities (current), total..... thous. \$.	(?)														
Commercial service..... do.															
Construction..... do.															
Manufacturing and mining..... do.															
Retail trade..... do.															
Wholesale trade..... do.															
Failure annual rate (seasonally adjusted) No. per 10,000 concerns.....															

COMMODITY PRICES

PRICES RECEIVED AND PAID BY FARMERS †																
Prices received, all farm products..... 1910-14=100..	609	616	612	622	624	612	601	635	621	614	615	641	660	658	'663	666
Crops #..... do.	524	555	526	549	559	548	545	601	583	579	579	593	599	592	'601	607
Commercial vegetables..... do.	630	654	705	749	701	698	582	595	619	670	657	722	815	843	'771	711
Cotton..... do.	469	534	525	510	537	528	566	566	533	540	564	568	529	555	'595	579
Feed grains and hay..... do.	378	453	416	447	466	460	464	490	490	476	476	476	479	473	'483	502
Food grains..... do.	401	407	412	423	423	396	380	410	414	412	405	397	399	391	'399	408
Fruit..... do.	649	474	452	464	476	475	441	597	394	433	443	527	479	473	'481	496
Tobacco..... do.	1,489	1,513	1,517	1,517	1,526	1,521	1,521	1,465	1,570	1,521	1,478	1,465	1,469	1,457	1,448	1,444
Livestock and products #..... do.	696	678	703	698	691	679	659	669	660	649	651	689	724	726	'727	726
Dairy products..... do.	831	829	832	826	813	807	813	826	844	850	844	844	832	820	'807	801
Meat animals..... do.	876	830	895	891	874	848	806	813	781	758	742	804	853	869	'890	884
Poultry and eggs..... do.	252	269	242	236	252	257	262	278	294	283	312	335	373	364	'339	353
Prices paid:																
Production items..... do.	865	884	878	885	888	887	881	886	889	885	891	895	901	903	'910	914
All commodities and services, interest, taxes, and wage rates (parity index)..... 1910-14=100..	1,076	1,105	1,096	1,102	1,106	1,107	1,104	1,108	1,112	1,110	1,116	1,119	1,128	1,132	'1,138	1,142
Parity ratio §..... do.	57	56	56	56	56	55	54	57	56	55	55	57	59	58	58	58
CONSUMER PRICES (U.S. Department of Labor Indexes) Not Seasonally Adjusted																
ALL ITEMS, WAGE EARNERS AND CLERICAL WORKERS, REVISED (CPI-W)..... 1967=100..																
	288.6	297.4	293.0	294.9	296.3	297.2	298.2	299.5	300.8	301.3	301.4	301.5	302.7	303.3	'303.3	304.1
ALL ITEMS, ALL URBAN CONSUMERS (CPI-U) ◊..... 1967=100..																
	289.1	298.4	293.4	295.5	297.1	298.1	299.3	300.3	301.8	302.6	303.1	303.5	305.2	306.6	'307.3	308.8
Special group indexes:																
All items less shelter..... do.	273.3	283.5	278.7	280.8	282.4	283.4	284.5	285.4	286.8	287.5	287.8	288.1	289.8	291.4	'291.9	293.2
All items less food ◊..... do.	288.4	298.3	292.4	294.7	296.5	297.8	299.3	300.5	302.3	303.2	303.9	304.0	304.8	305.9	'306.8	308.6
All items less medical care ◊..... do.	286.8	295.1	290.1	292.3	293.9	294.9	296.0	297.0	298.5	299.3	299.7	300.0	301.6	302.9	'303.6	305.1

See footnotes at end of tables.

Table with columns for years 1982, 1983, 1983, and 1984, and rows for monthly data from Mar. to Apr.

DOMESTIC TRADE—Continued

Table of Domestic Trade data including Retail Trade (Continued) and Estimated sales for various store categories like Nondurable goods, Food stores, and Apparel.

LABOR FORCE, EMPLOYMENT, AND EARNINGS

Table of Labor Force, Employment, and Earnings data including Labor Force and Population, Civilian labor force, and Unemployed statistics.

See footnotes at end of tables.

	1982		1983		1983								1984			
	Annual		Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Unless otherwise stated in footnotes below, data through 1982 and methodological notes are as shown in BUSINESS STATISTICS: 1982																
FOREIGN TRADE OF THE UNITED STATES—Continued																
Indexes																
Exports (U.S. mdse., excl. military grant-aid):																
Unit value..... 1977=100..	152.5	154.1	*154.2	154.8	152.6	153.7	155.0	154.0	154.9	156.6	156.5	155.8	157.4	158.1	157.0	
Quantity..... do.....	115.1	107.8	118.2	107.5	105.7	113.9	102.2	100.8	108.3	109.1	106.7	111.7	107.8	106.8	123.8	
Value..... do.....	175.6	166.2	182.3	166.5	161.3	175.0	158.4	155.2	167.7	170.9	167.0	174.0	169.8	168.8	194.3	
General imports:																
Unit value..... do.....	167.5	160.6	162.2	160.7	158.9	160.2	158.7	160.8	160.9	160.7	161.0	162.7	162.6	161.5	163.7	
Quantity..... do.....	99.9	110.3	103.1	101.5	113.7	111.9	112.0	118.1	111.2	128.8	119.2	109.7	134.2	128.1	139.5	
Value..... do.....	167.4	177.1	167.3	163.1	180.6	179.2	177.7	189.9	179.0	206.9	191.9	178.5	218.2	206.8	228.4	
Shipping Weight and Value																
Waterborne trade:																
Exports (incl. reexports):																
Shipping weight..... thous. sh. tons.	400,896	361,408	30,532	30,409	28,757	31,256	27,814	29,478	31,028	30,520	30,222	31,864				
Value..... mil. \$.	115,885	100,696	8,758	8,644	7,829	8,345	8,051	8,130	8,377	8,524	8,519	8,891				
General imports:																
Shipping weight..... thous. sh. tons.	*376,232	366,423	23,412	25,526	32,956	31,134	32,434	35,406	35,595	38,810	32,237	28,263				
Value..... mil. \$.	*155,513	155,312	11,616	11,161	13,323	12,924	13,354	14,324	13,237	15,641	14,195	12,567				

TRANSPORTATION AND COMMUNICATION

TRANSPORTATION																
Air Carriers (Scheduled Service)																
Certificated route carriers:																
Passenger-miles (revenue)..... bil.	259.64	*281.15	24.87	21.88	22.95	25.90	26.66	27.31	21.60	22.49	20.83	*22.51	21.49	20.14		
Passenger-load factor..... percent.	59.0	60.7	67.6	60.3	59.1	65.1	63.4	64.6	57.3	59.0	56.7	56.9	53.7	53.8		
Ton-miles (revenue), total..... mil.	32,850	*35,680	3,119	2,777	2,895	3,213	3,293	3,366	2,812	2,945	2,784	*2,965	2,732	2,619		
Operating revenues (quarterly) \$ mil. \$.																
Passenger revenues..... do.....	36,013		8,422			9,570			10,560							
Cargo revenues..... do.....	30,326		7,122			8,178			9,014							
Mail revenues..... do.....	2,404		559			612			666							
Operating expenses (quarterly) \$..... do.....	705		162			161			153							
Operating revenues (quarterly) \$..... do.....	36,715		9,074			9,465			9,942							
Net income after taxes (quarterly) \$..... do.....	-870		-700			24			351							
Domestic operations:																
Passenger-miles (revenue)..... bil.	210.15	*222.57	21.25	18.04	18.41	20.44	20.44	20.97	16.41	17.75	17.29	*18.42	17.42	*13.34	*16.17	
Cargo ton-miles..... mil.	3,039	*3,383	288	263	275	289	279	295	292	309	311	297	262	271		
Mail ton-miles..... do.....	1,004	1,064	94	88	82	85	81	84	82	88	91	129	90	90		
Operating revenues (quarterly) \$..... mil. \$.	28,730		6,898			7,673			8,231							
Operating expenses (quarterly) \$..... do.....	29,466		7,567			7,728			7,907							
Net income after taxes (quarterly) \$..... do.....	-690		-674			-81			99							
International operations:																
Passenger-miles (revenue)..... bil.	49.43	54.84	3.62	3.84	4.54	5.46	6.21	6.34	5.19	4.74	3.74	4.09	4.07	3.40		
Cargo ton-miles..... mil.	2,430	*2,704	217	206	210	217	235	224	247	263	259	234	196	212		
Mail ton-miles..... do.....	399	415	33	32	34	32	32	32	31	35	41	54	34	32		
Operating revenues (quarterly) \$..... mil. \$.	6,435		1,431			1,804			2,206							
Operating expenses (quarterly) \$..... do.....	6,454		1,428			1,655			1,935							
Net income after taxes (quarterly) \$..... do.....	-192		-31			100			234							
Urban Transit Systems																
Passengers carried, total..... mil.	7,714	7,859	716	656	664	661	593	658	653	687	672	658	647	660	725	
Motor Carriers																
Carriers of property, large, class I, qtrly.:																
Number of reporting carriers..... do.....	100		100			100			100			100				
Operating revenues, total..... mil. \$.	*15,404		3,610			4,029			4,254			4,489				
Net income, after extraordinary and prior period charges and credits..... mil. \$.	*81		32			121			113			87				
Tonnage hauled (revenue), common and contract carrier service..... mil. tons.	*82		36			41			43			44				
Freight carried—volume indexes, class I and II intercity truck tonnage (ATA):																
Common carriers of general freight, seas. adj..... 1967=100..	128.9	138.3	127.5	130.5	133.6	135.7	151.0	138.5	139.6	139.0	139.5	141.4	144.4	139.7	*142.7	
Class I Railroads †																
Financial operations, qtrly. (AAR), excl. Amtrak:																
Operating revenues, total #..... mil. \$.	*27,093	26,726	6,487			6,584			6,808			6,937				
Freight..... do.....	*25,615	25,829	6,171			6,750			6,579			6,703				
Passenger, excl. Amtrak..... do.....	*373	107	75			77			26			27				
Operating expenses..... do.....	*27,094	26,726	6,126			6,346			6,319			6,396				
Net railway operating income..... do.....	*805	1,296	256			247			399			385				
Ordinary income..... do.....	1,192	1,217	173			255			371			430				
Traffic:																
Revenue ton-miles, qtrly. (AAR)..... bil.	797.8	826.2	196.1			203.9			210.8			215.3			223.0	
Price index for railroad freight..... 1969=100..	351.4	355.8	355.3	355.3	355.4	355.4	355.6	355.6	355.6	357.1	357.1	357.2	370.7	370.7	371.0	
Travel																
Lodging industry:																
Restaurant sales index..... same month 1967=100..	196	202	201	198	218	220	212	200	203	223	202	204				
Hotels: Average room sale ◊..... dollars..	61.71	64.51	62.23	67.24	62.94	64.45	61.63	63.25	68.16	68.50	64.39	64.01				
Rooms occupied..... % of total..	63	64	68	68	66	68	62	68	64	72	64	50				
Motor hotels: Average room sale ◊..... dollars..	41.16	42.30	43.33	43.49	42.17	43.53	44.24	42.74	42.09	41.55	41.89	40.52				
Rooms occupied..... % of total..	64	66	71	69	68	72	72	74	64	67	62	50				
Economy hotels*: Average room sale ◊..... dollars..	24.96	28.69	29.18	24.56	24.81	30.03	31.38	31.16	28.17	29.47	32.34	32.47				
Rooms occupied *..... % of total..	64	65	65	63	64	72	78	76	69	65	63	51				
Foreign travel:																
U.S. citizens: Arrivals (quarterly)..... thous.	*9,388		*2,217			*2,987			4,073	*1,079						
Departures (quarterly)..... do.....	*10,275		*2,273			*3,387			3,833	*943						
Aliens: Arrivals (quarterly)..... do.....	*10,909		*2,120			*2,232			2,595	*643						
Departures (quarterly)..... do.....	*9,047		*1,611			*1,889			2,257	*612						
Passports issued..... do.....	3,664	4,152	458	474	392	490	340	344	260	222	219	255	272	372	*504	
National parks, recreation visits # #..... do.....	48,901	49,328	1,687	2,260	3,832	6,418	9,776	9,058	6,078	4,454	2,104	1,115				

See footnotes at end of tables.

Unless otherwise stated in footnotes below, data through 1982 and methodological notes are as shown in BUSINESS STATISTICS: 1982	1982	1983	1983										1984			
	Annual		Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.

TRANSPORTATION AND COMMUNICATION—Continued

COMMUNICATION																
Telephone carriers:																
Operating revenues # mil. \$.	73,808	78,092	6,628	6,485	6,498	6,542	6,504	6,558	6,569	6,673	6,560	6,660				
Station revenues do.	31,678	33,090	2,735	2,760	2,776	2,775	2,750	2,725	2,754	2,802	2,780	2,757				
Tolls, message do.	28,099	30,325	4,704	2,331	2,358	2,352	2,311	2,498	2,318	2,352	2,301	2,369				
Operating expenses (excluding taxes) do.	51,269	53,095	3,929	4,299	4,378	4,443	4,325	4,332	4,137	4,651	4,716	5,647				
Net operating income (after taxes) do.	11,951	12,797	1,420	1,139	1,094	1,043	1,123	1,158	1,195	1,038	948	468				
Phones in service, end of period mil.	157.8	134.4	155.4	154.5	153.4	146.8	144.6	142.5	140.6	138.6	136.5	134.4				
Telegraph carriers:																
Domestic:																
Operating revenues mil. \$.	809.3		74.9	69.9	72.8	74.4	70.0	75.5	74.1	73.1	74.6					
Operating expenses do.	678.7		59.4	57.9	59.6	60.9	60.6	63.5	60.4	63.2	66.2					
Net operating revenues (before taxes) do.	86.8		10.9	8.4	9.2	9.9	5.8	8.2	8.6	6.2	4.9					
Overseas, total:																
Operating revenues do.	607.7		54.8	49.9	52.3	53.9	40.8	50.3	50.2	52.5	53.4					
Operating expenses do.	495.2		43.8	43.6	44.3	44.1	43.5	43.8	43.8	44.7	44.9					
Net operating revenues (before taxes) do.	83.7		8.4	3.5	5.6	6.9	1.8	4.0	4.0	5.5	5.9					

CHEMICALS AND ALLIED PRODUCTS

CHEMICALS																
Inorganic Chemicals																
Production:																
Aluminum sulfate, commercial (17% Al ₂ O ₃) † thous. sh. tons.	1,154	1,144	103	87	100	107	87	117	101	86	91	100				
Chlorine gas (100% Cl ₂) † do.	9,176	9,960	812	810	848	806	872	883	862	862	857	803		(*)	796	
Hydrochloric acid (100% HCl) † do.	2,460	2,608	222	188	198	226	220	235	240	228	225	207			257	
Phosphorus, elemental do.	361	366	32	30	31	30	27	30	32	34	34	30			31	
Sodium hydroxide (100% NaOH) † do.	9,385	10,230	840	850	881	816	895	884	889	879	872	813			803	
Sodium silicate, anhydrous † do.	664	732	61	57	74	65	57	58	76	77	52	58			59	
Sodium sulfate, anhydrous † do.	864	855	76	70	76	62	63	70	74	71	73	66			66	
Sodium tripolyphosphate (100% Na ₃ P ₃ O ₁₀) † do.	651	669	53	51	50	53	60	62	56	59	60	55			53	
Titanium dioxide (composite and pure) † do.	657	757	61	68	59	65	62	62	68	67	63	60			60	
Sulfur, native (Frasch) and recovered:																
Production thous. met. tons.	8,614	8,156	677	645	672	646	678	685	690	714	737	761			741	
Stocks (producers') end of period do.	4,202	3,218	3,866	3,760	3,692	3,717	3,721	3,658	3,560	3,493	3,369	3,218			3,172	
Inorganic Fertilizer Materials																
Production:																
Ammonia, synthetic anhydrous † thous. sh. tons.	15,776	13,683	1,264	1,182	1,140	1,011	975	1,096	1,137	1,213	1,238	1,245			1,293	
Ammonium nitrate, original solution † do.	7,091	6,618	647	607	581	506	420	391	461	604	648	597			592	
Ammonium sulfate † do.	1,769	1,968	165	160	177	161	170	161	167	184	175	160			162	
Nitric acid (100% HNO ₃) † do.	7,390	7,373	712	650	626	551	505	479	584	690	702	649			643	
Nitrogen solutions (100% N) † do.	2,728	2,403	235	228	242	179	149	192	205	226	237	213			217	
Phosphoric acid (100% P ₂ O ₅) † do.	8,262	9,950	922	895	754	650	731	800	832	924	934	952			853	
Sulfuric acid (100% H ₂ SO ₄) † do.	32,680	34,725	3,142	2,983	2,757	2,451	2,551	2,729	2,910	3,120	3,211	3,383			3,106	
Superphosphate and other phosphatic fertilizers (gross weight):																
Production thous. sh. tons.	13,139	15,774	1,478	1,402	1,237	1,086	1,125	1,251	1,329	1,439	1,501	1,463			1,388	
Stocks, end of period † do.	892	844	688	820	1,069	1,023	1,017	812	658	582	641	844			867	
Potash, sales (K ₂ O) do.	5,186	6,271	543	458	627	474	326	597	691	638	646	457			566	
Exports, total † do.																
Nitrogenous materials do.	20,337	22,832	1,937	1,933	1,568	1,983	1,787	1,892	2,113	1,815	1,894	1,651			2,344	
Phosphate materials do.	11,997	14,837	1,289	1,258	1,122	1,127	1,194	1,126	1,444	1,206	1,185	1,051			1,432	
Potash materials do.	1,218	804	63	48	33	93	48	97	93	44	54	78			92	
Imports:																
Ammonium nitrate do.	262	347	34	44	39	12	22	15	38	28	46	26			34	
Ammonium sulfate do.	319	285	35	33	18	16	4	29	11	17	14	40			60	
Potassium chloride do.	7,154	7,875	860	765	679	403	396	717	629	840	710	742			706	
Sodium nitrate do.	131	97	9	23	16	22	7	8	3	6	0	4			21	
Industrial Gases †																
Production:																
Acetylene mil. cu. ft.	3,828	3,304	248	265	311	253	248	297	298	292	315	312			297	
Hydrogen (high and low purity) do.	88,884	103,859	8,098	8,251	8,173	8,209	8,522	7,758	8,864	10,523	10,149	9,445			9,715	
Nitrogen (high and low purity) do.	483,886	579,574	48,951	48,540	49,831	47,344	49,131	49,986	47,755	48,795	48,347	49,703			51,369	
Oxygen (high and low purity) do.	348,548	347,394	29,052	28,659	28,668	28,014	29,451	29,424	30,781	30,657	29,512	28,009			31,331	
Organic Chemicals †																
Production:																
Acetylsalicylic acid (aspirin) mil. lb.	123.4	130.8	2.7	2.7	2.4	2.2	2.5	2.4	1.9	3.2	2.6	2.2			2.6	
Creosote oil mil. gal.	136.3	175.6	5.6	6.2	6.8	7.9	5.7	6.8	6.6	6.9	6.1	7.7			6.0	
Ethyl acetate (85%) mil. lb.	235.4	206.0	27.7	10.6	15.0	15.2	14.2	15.0	15.6	15.1	16.7	16.3			15.6	
Formaldehyde (37% HCHO) do.	4,816.5	5,398.0	470.2	490.5	461.5	442.9	415.0	437.3	462.6	498.8	453.1	462.6			422.1	
Glycerin, refined, all grades do.	229.5	265.4	22.1	16.4	21.1	26.1	19.9	20.2	23.4	24.6	24.1	20.9			26.2	
Methanol, synthetic mil. gal.	1,137.7	997.5	76.3	90.4	93.4	91.8	97.5	77.9	94.0	74.7	80.1	60.3			86.6	
Phthalic anhydride mil. lb.	684.4	851.3	72.7	71.7	69.7	80.3	69.5	63.5	64.1	59.9	58.9	70.1			73.3	
ALCOHOL																
Ethyl alcohol and spirits:																
Production mil. tax gal.	601.1	677.3	59.4	46.0	56.5	60.2	63.8	56.9	59.2	54.9	53.1	48.0			49.3	
Stocks, end of period do.	95.0	78.6	69.8	58.3	58.8	50.9	60.1	42.7	49.3	55.7	70.9	78.6			73.5	
Denatured alcohol:																
Production mil. wine gal.	284.9	352.8	30.0	28.2	33.7	30.4	31.2	27.6	23.2	26.1	27.2	23.4			29.5	
Consumption (withdrawals) do.	277.9	355.5	23.5	30.6	36.1	32.5	32.3	32.5	24.4	29.3	23.9	26.2			29.7	
For fuel use * do.	41.9	55.2	1.4	5.5	7.8	0.3	6.5	6.7	2.9	1.3	1.4	2.3			7.2	
Stocks, end of period do.	6.6	6.5	19.1	11.9	8.8	7.7	4.7	8.4	6.3	7.5	10.3	6.5			11.3	

See footnotes at end of tables.

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	Annual	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	
														1984	1984	
CHEMICALS AND ALLIED PRODUCTS—Continued																
PLASTICS AND RESIN MATERIALS																
Production:																
Phenolic resins.....mil. lb.	'1,397.7	'1,404.5	115.0	112.2	112.6	119.7	105.1	124.7	123.0	132.8	118.0	137.4	*123.2	128.5	132.4	
Polyethylene and copolymers.....do.	'12,548.0	'13,837.5	1,137.1	1,139.1	1,157.0	1,143.3	1,188.8	1,136.7	1,208.1	1,257.1	1,194.4	1,088.6	*1,194.2	*1,194.1	1,321.5	
Polypropylene.....do.	'3,515.0	'4,452.3	345.8	337.8	363.0	386.3	376.1	353.1	409.9	407.8	388.9	366.2	388.1	413.4	439.4	
Polystyrene and copolymers.....do.	'5,608.6	'5,542.1	489.6	459.5	463.3	469.4	433.7	432.3	464.4	492.7	495.9	445.6	*473.9	*498.4	512.8	
Polyvinyl chloride and copolymers.....do.	'5,397.2	'5,626.5	543.5	478.1	513.2	535.3	492.7	454.8	487.5	483.8	441.1	354.9	*498.8	*576.8	640.7	
MISCELLANEOUS PRODUCTS																
Explosives (industrial), shipments, quarterly.....mil. lb.	2,514.9	*2,229.3	487.5			537.5						*614.6			668.8	
Paints, varnish, and lacquer, shipments: ◊																
Total shipments.....mil. \$.	7,112.6	8,553.3	722.8	744.8	802.4	893.5	763.4	831.2	783.8	718.8	632.4	551.6	674.6			
Architectural coatings.....do.	3,113.4	3,846.5	342.8	346.1	380.3	454.8	367.1	392.8	344.4	292.7	232.6	204.9	256.4			
Product finishes (OEM).....do.	2,598.4	3,003.7	247.8	254.5	269.8	280.4	244.3	272.0	275.1	276.5	258.4	225.2	283.4			
Special purpose coatings.....do.	1,400.8	1,703.1	132.2	144.3	152.3	158.2	152.0	166.3	164.3	149.5	141.4	121.6	134.8			

ELECTRIC POWER AND GAS

ELECTRIC POWER															
Production:															
Electric utilities, total.....mil. kw.-hr.	2,241,211	2,310,285	182,488	170,372	174,392	191,048	220,165	229,957	195,604	182,931	182,949	212,319	216,450	189,498	
By fuels.....do.	1,931,998	1,978,154	152,185	140,384	143,198	160,356	192,052	204,130	173,892	162,184	158,270	180,628	186,710	161,597	
By waterpower.....do.	309,213	332,130	30,302	29,989	31,194	30,692	28,113	25,828	21,712	20,747	24,678	31,691	29,738	27,901	
Sales to ultimate customers, total (Edison Electric Institute) †.....mil. kw.-hr.	2,093,592		526,540			501,648			603,471						
Commercial \$.....do.	514,087		125,226			123,083			153,091						
Industrial \$.....do.	770,670		187,908			199,884			208,702						
Railways and railroads.....do.	4,288		1,191			953			1,092						
Residential or domestic.....do.	729,240		193,729			160,273			221,583						
Street and highway lighting.....do.	14,188		3,752			3,170			3,335						
Other public authorities.....do.	55,729		13,524			12,999			13,955						
Interdepartmental.....do.	5,390		1,211			1,286			1,713						
Revenue from sales to ultimate customers (Edison Electric Institute) †.....mil. \$.	121,127		30,803			29,515			38,274						
GAS †															
Total utility gas, quarterly (American Gas Association):															
Customers, end of period, total.....thous.	48,519	48,940	48,918			48,815			47,915			48,940			
Residential.....do.	44,652	45,040	44,996			44,905			44,154			45,040			
Commercial.....do.	3,636	3,670	3,689			3,679			3,532			3,670			
Industrial.....do.	185	183	184			183			183			183			
Other.....do.	46	46	48			47			46			46			
Sales to customers, total.....tril. Btu.	'14,280	'12,673	4,319			2,694			2,252			3,428			
Residential.....do.	'4,770	'4,495	1,906			931			384			1,258			
Commercial.....do.	2,471	2,344	925			483			287			648			
Industrial.....do.	'6,892	'5,688	1,418			1,249			1,559			1,481			
Other.....do.	'148	'145	69			31			22			40			
Revenue from sales to customers, total.....mil. \$.	'63,391	'64,095	22,572			13,897			10,799			17,049			
Residential.....do.	'23,701	'26,145	10,752			5,560			2,615			7,198			
Commercial.....do.	'11,666	'12,691	4,996			2,683			1,568			3,417			
Industrial.....do.	'27,389	'24,557	6,475			5,511			6,521			6,236			
Other.....do.	'635	'702	348			143			94			198			

FOOD AND KINDRED PRODUCTS; TOBACCO

ALCOHOLIC BEVERAGES															
Beer:															
Production.....mil. bbl.	195.01	192.14	16.78	15.54	18.17	18.47	18.50	18.27	15.71	15.30	13.62	12.46	14.15	14.75	
Taxable withdrawals.....do.	176.57	177.61	15.07	15.49	16.84	17.01	16.85	17.35	14.84	13.77	13.17	11.98	12.42	12.63	
Stocks, end of period.....do.	13.22	13.26	16.05	16.21	15.84	15.82	15.73	14.98	14.53	14.30	13.92	13.26	13.70	14.17	
Distilled spirits (total):															
Production.....mil. tax gal.	*138.08	119.41	12.89	11.82	11.19	9.23	5.62	6.24	10.27	12.28	9.27	8.55	10.36		
Consumption, apparent, for beverage purposes.....mil. wine gal.	*437.66	*431.13	36.27	33.72	34.06	38.65	31.96	33.80	33.75	34.34	43.13	50.45	30.54		
Stocks, end of period.....mil. tax gal.	*604.67	551.47	606.81	609.20	605.58	604.56	566.89	587.02	590.45	580.93	569.00	551.47	576.46		
Imports.....mil. proof gal.	106.03	113.77	7.24	6.56	7.09	15.46	6.48	8.51	7.35	15.03	10.97	11.77	7.20	9.46	7.58
Whisky:															
Production.....mil. tax gal.	91.25	72.51	9.39	8.73	7.47	6.20	3.51	3.72	4.76	4.02	5.26	5.38	6.21		
Stocks, end of period.....do.	533.39	480.38	535.38	537.72	533.41	535.11	500.07	524.63	523.00	511.58	497.23	480.38	505.69		
Imports.....mil. proof gal.	76.60	81.28	4.95	4.43	4.83	12.20	4.12	6.11	4.77	11.26	7.33	8.66	4.84	6.84	4.65
Wines and distilling materials:															
Effervescent wines:															
Production.....mil. wine gal.	31.01	*37.10	2.27	3.23	2.84	3.15	3.26	3.47	4.33	3.79	2.81	2.89	1.46		
Taxable withdrawals.....do.	29.18	32.51	2.28	1.14	3.67	1.78	1.39	2.74	2.85	6.08	3.56	4.56	1.25		
Stocks, end of period.....do.	13.00	16.11	15.14	17.18	16.81	17.08	19.64	20.14	21.58	19.00	17.64	16.11	16.95		
Imports.....do.	8.35	11.11	0.62	0.77	0.72	0.80	0.74	0.69	0.84	1.21	1.48	1.72	1.36	0.80	0.81
Still wines:															
Production.....do.	550.47	*429.29	5.58	5.45	6.10	6.83	4.33	26.78	172.21	139.57	35.65	13.17	6.66		
Taxable withdrawals.....do.	362.78	*365.20	33.06	32.56	31.54	33.67	28.26	28.12	29.88	32.32	34.07	30.13	25.90		
Stocks, end of period.....do.	697.52	686.47	620.77	583.98	554.34	511.61	487.30	467.11	595.40	683.05	666.15	686.47	619.08		
Imports.....do.	113.79	119.83	8.41	8.58	9.35	10.87	9.68	9.49	9.72	10.97	11.36	11.20	11.29	7.93	9.02
Distilling materials produced at wineries.....do.	190.27	174.89	9.87	7.62	7.26	4.44	7.86	14.33	45.11	40.91	14.10	5.92	3.30		

See footnotes at end of tables.

Unless otherwise stated in footnotes below, data through 1982 and methodological notes are shown in BUSINESS STATISTICS: 1982.	1982	1983	1983										1984			
	Annual	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	
FOOD AND KINDRED PRODUCTS; TOBACCO—Continued																
DAIRY PRODUCTS																
Butter, creamery:																
Production (factory).....mil. lb.	1,257.0	*1,299.2	*123.6	*124.0	*120.7	*103.7	*91.4	*84.6	*84.7	*100.5	*98.1	*109.6	126.0	113.0	111.1	
Stocks, cold storage, end of period.....do....	466.8	499.4	529.0	555.7	576.1	589.6	588.4	581.8	552.3	523.9	506.7	499.4	510.6	532.5	*529.3 531.2	
Producer Price Index, Grade A and AA (N.Y.) *..... 1967=100..	230.9	230.0	229.9	.....	229.9	229.9	229.9	230.5	234.1	232.2	232.2	222.1	222.1	222.4	224.0
Cheese:																
Production (factory), total.....mil. lb.	*4,541.7	*4,818.4	*425.3	*413.1	*439.4	*444.7	*402.1	*381.3	*373.0	*391.9	*388.2	*415.4	387.4	369.1	412.9	
American, whole milk.....do....	*2,752.3	*2,927.6	*259.4	*263.4	*284.7	*286.2	*260.8	*228.8	*209.4	*222.6	*217.8	*236.8	231.1	221.4	247.6	
Stocks, cold storage, end of period.....do....	963.5	1,204.6	1,117.9	1,132.3	1,138.1	1,162.4	1,194.2	1,231.4	1,248.2	1,234.8	1,214.8	1,204.6	1,202.2	1,219.8	*1,217.4 1,171.6	
American, whole milk.....do....	880.8	1,099.7	1,018.0	1,031.8	1,032.9	1,048.9	1,083.0	1,124.0	1,140.9	1,131.1	1,110.6	1,099.7	1,096.8	1,116.4	*1,117.3 1,070.7	
Imports.....do....	269.3	286.2	22.6	22.1	22.8	16.6	20.1	21.1	24.3	25.8	27.5	41.4	22.1	16.7	19.2	
Price, wholesale, cheddar, single daisies (Chicago).....\$ per lb.	1.684	1.682	1.666	1.666	1.675	1.684	1.684	1.684	1.691	1.699	1.699	1.684	1.689	1.689	1.689	
Condensed and evaporated milk:																
Production, case goods.....mil. lb.	734.9	*694.2	*55.4	*60.5	*62.6	*66.2	*58.4	*56.4	*52.3	*53.2	*60.2	*63.2	48.8	44.6	51.2	
Stocks, manufacturers', case goods, end of period.....do....	51.9	46.7	48.4	60.7	74.6	75.7	94.0	101.5	94.1	82.0	56.0	46.7	47.1	50.0	52.8	
Exports.....do....	19.3	5.6	0.4	0.4	0.5	0.3	0.4	0.5	0.5	0.7	0.9	0.7	0.8	0.5	0.6	
Fluid milk:																
Production on farms.....do....	135,802	139,968	12,049	11,966	12,642	12,273	12,061	11,692	11,262	11,430	11,000	11,395	11,490	10,905	11,741	
Utilization in mfd. dairy products.....do....	79,098	82,501	7,409	7,293	7,672	7,788	7,160	6,762	6,374	6,321	6,127	6,435	6,583	*6,413 6,971		
Price, wholesale, U.S. average.....\$ per 100 lb.	13.60	*13.60	13.60	*13.60	13.30	13.20	13.20	13.30	13.50	13.80	13.90	*13.70	13.60	13.40	13.20 *13.10	
Dry milk:																
Production:																
Dry whole milk.....mil. lb.	102.2	*111.2	10.5	*9.2	*9.4	8.8	*7.8	*9.3	*9.4	*10.2	*10.5	*9.9	10.4	9.2	11.3	
Nonfat dry milk (human food).....do....	*1,400.5	*1,499.9	*133.9	*139.2	*153.6	*154.2	*143.4	*125.3	*102.1	*102.7	*99.4	*111.1	111.9	105.0	109.2	
Stocks, manufacturers', end of period:																
Dry whole milk.....do....	6.0	6.4	5.0	5.0	5.4	5.8	5.9	4.9	4.4	4.4	4.6	6.4	5.7	5.4	5.8	
Nonfat dry milk (human food).....do....	93.3	74.6	81.4	89.5	99.0	91.7	99.2	85.8	69.7	67.9	63.1	74.6	66.0	62.8	58.9	
Exports, whole and nonfat (human food).....do....	187.8	321.6	27.9	23.6	22.9	33.0	19.0	22.9	47.3	36.4	35.6	30.6	29.1	13.1	8.8	
Price, manufacturers' average selling, nonfat dry milk (human food).....\$ per lb.	*0.936	0.938	0.942	0.943	0.941	0.940	0.939	0.940	0.936	0.937	0.937	0.919	0.912	0.910	0.911	
GRAIN AND GRAIN PRODUCTS																
Exports (barley, corn, oats, rye, wheat).....mil. bu.	3,524.8	*3,440.2	310.9	279.8	254.5	275.1	248.9	220.3	*285.7	286.6	310.5	320.4	300.9	277.6	313.3	
Barley:																
Production (crop estimate).....do....	*522.4	*519.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stocks (domestic), end of period, total.....do....	418.1	375.7	296.7	.....	*222.8	.....	.....	.....	.....	516.0	.....	.....	.....	.....	273.5
On farms.....do....	293.9	253.1	198.5	.....	*142.9	.....	.....	.....	.....	344.4	.....	.....	.....	.....	173.8
Off farms.....do....	124.2	122.6	98.2	.....	*79.9	.....	.....	.....	.....	171.6	.....	.....	.....	.....	99.7
Exports, including malt \$.....do....	66.4	71.6	3.7	0.2	2.4	2.0	1.3	6.0	14.2	8.1	9.1	15.6	7.8	6.0	11.2	
Producer Price Index, No. 2 feed, Minneapolis *..... 1967=100..	162.6	180.9	145.2	170.7	162.2	169.9	165.6	195.4	223.0	225.1	229.3	199.6	216.6	216.6	223.4 236.1	
Corn:																
Production (crop estimate, grain only).....mil. bu.	*8,359.4	*4,203.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stocks (domestic), end of period, total.....do....	8,284.2	4,934.3	6,247.3	.....	*4,962.3	.....	.....	.....	.....	*3,140.3	.....	.....	.....	.....	3,257.8
On farms.....do....	6,016.9	3,102.0	4,292.4	.....	*3,133.3	.....	.....	.....	.....	*1,531.7	.....	.....	.....	.....	1,944.2
Off farms.....do....	2,267.3	1,832.4	1,954.9	.....	*1,829.1	.....	.....	.....	.....	*1,608.6	.....	.....	.....	.....	1,313.5
Exports, including meal and flour.....do....	1,924.9	1,876.5	169.6	157.6	149.1	151.2	123.7	119.4	142.9	155.0	196.4	175.2	172.6	158.4	176.4	
Producer Price Index, No. 2, Chicago *..... 1967=100..	193.5	248.4	224.0	245.9	248.8	253.3	252.8	274.4	273.1	268.4	277.6	255.8	255.9	246.7	268.1 280.8	
Oats:																
Production (crop estimate).....mil. bu.	*620.5	*477.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stocks (domestic), end of period, total.....do....	475.6	378.4	333.8	.....	*230.2	.....	.....	.....	.....	505.3	.....	.....	.....	.....	269.4
On farms.....do....	399.8	322.5	273.9	.....	*191.5	.....	.....	.....	.....	426.2	.....	.....	.....	.....	226.9
Off farms.....do....	75.8	56.0	59.9	.....	*38.6	.....	.....	.....	.....	79.1	.....	.....	.....	.....	42.5
Exports, including oatmeal.....do....	5.8	*2.8	0.1	0.3	0.3	0.2	0.4	0.3	0.1	0.5	0.1	0.2	0.1	0.1	0.3	
Producer Price Index, No. 2, Minneapolis *..... 1967=100..	272.0	252.6	230.2	246.6	245.2	238.8	226.7	244.4	278.6	286.4	284.2	276.4	282.1	250.1	267.9 272.9	
Rice:																
Production (crop estimate).....mil. bags #.	*153.6	*99.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
California mills:																
Receipts, domestic, rough.....mil. lb.	2,912	2,730	145	240	105	216	213	393	*900	451	183	154	296	87	243	
Shipments from mills, milled rice.....do....	1,619	1,884	152	166	186	172	122	309	263	99	83	66	181	86	151	
Stocks, rough and cleaned (cleaned basis), end of period.....mil. lb.	503	478	385	381	268	351	246	269	*211	405	442	478	482	413	461	
Southern States mills (Ark., La., Tenn., Tex.):																
Receipts, rough, from producers.....mil. lb.	11,482	9,143	526	357	325	216	135	951	2,332	1,340	732	930	829	488	522	
Shipments from mills, milled rice.....do....	7,020	6,289	668	495	529	672	458	450	535	489	516	504	498	548	562	
Stocks, domestic, rough and cleaned (cleaned basis), end of period.....mil. lb.	3,170	2,703	2,684	2,451	1,757	1,276	952	1,146	2,162	2,569	2,573	2,703	2,776	2,592	2,418	
Exports.....do....	5,516	5,151	490	446	438	550	360	488	624	460	378	359	299	220	462	
Producer price, No. 2, medium grain (Southwest Louisiana).....\$ per lb.	0.166	0.172	0.165	0.165	0.170	0.175	0.175	0.175	0.175	0.175	0.175	0.175	0.175	0.175	0.175	
Rye:																
Production (crop estimate).....mil. bu.	*21.0	*28.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stocks (domestic), end of period.....do....	10.9	*6.3	8.0	.....	*6.3	.....	.....	.....	.....	(*)	.....	.....	.....	.....	.....
Producer Price Index, No. 2, Minneapolis *..... 1967=100..	293.2	210.7	197.6	210.5	210.5	193.3	195.5	210.5	233.7	214.8	223.4	214.8	213.1	210.5	214.8 223.4	
Wheat:																
Production (crop estimate), total.....mil. bu.	*2,812	*2,425	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Spring wheat.....do....	*700	*432	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Winter wheat.....do....	*2,112	*1,994	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Distribution, quarterly @.....do....	2,476	2,626	646	.....	*337	.....	.....	.....	.....	*1,001	.....	.....	.....	.....	*1,979
Stocks (domestic), end of period, total.....do....	2,520.7	2,326.4	1,877.1	.....	*1,540.7	.....	.....	.....	.....	2,966.1	.....	.....	.....	.....	1,752.8
On farms.....do....	1,166.2	1,015.9	886.4	.....	*694.9	.....	.....	.....	.....	1,248.8	.....	.....	.....	.....	771.5
Off farms.....do....	1,354.5	1,310.5	990.7	.....	*845.8	.....	.....	.....	.....	1,717.3	.....	.....	.....	.....	981.3
Exports, total, including flour.....do....	1,527.5	1,488.3	137.4	121.7	102.7	121.8	123.5	94.7	127.6	122.9	104.9	129.3	120.2	113.1	125.3	
Wheat only.....do....	1,493.6	1,407.6	131.1	111.8	95.3	112.0	115.8	87.5	119.2	114.8	102.3	128.4	118.3	111.0	118.7	

See footnotes at end of tables.

Unless otherwise stated in footnotes below, data through 1982 and methodological notes are shown in BUSINESS STATISTICS: 1982	1982	1983	1983										1984			
	Annual	Annual	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
FOOD AND KINDRED PRODUCTS; TOBACCO—Continued																
GRAIN AND GRAIN PRODUCTS—Continued																
Wheat—Continued																
Producer Price Indexes: *																
Hard, winter Ord, No.1, Kans. City																
1967=100..	240.8	237.2	249.0	253.6	245.1	238.0	221.4	227.9	238.5	231.5	228.8	229.2	229.8	219.2	229.1	236.2
Spring, No. 1, D.N. Ord, Minneapolis																
1967=100..	221.5	228.3	221.9	237.4	239.2	228.7	224.8	220.7	236.4	238.4	235.8	232.7	230.2	222.3	231.9	236.7
Wheat flour:																
Production:																
Flour..... thous. sacks (100 lb.)..	284,965	306,066	26,787	24,118	25,759	25,088	24,700	28,861	27,423	26,125	24,923	24,464	24,861	.....	.....	.....
Millfeed..... thous. sh. tons..	5,137	5,563	488	438	460	449	445	536	502	474	456	443	444	.....	.....	.....
Grindings of wheat..... thous. bu.	640,158	686,983	59,111	53,866	58,064	56,734	55,238	65,014	61,869	58,366	56,246	54,997	55,854	.....	.....	.....
Stocks held by mills, end of period																
thous. sacks (100 lb.)..	4,276	3,805	3,760	.....	.....	3,490	.....	.....	3,599	.....	.....	3,805	.....	.....	.....	.....
Exports..... do.	14,518	34,628	2,692	4,256	3,193	4,172	3,293	3,095	3,621	3,469	1,122	395	830	883	2,846	.....
Producer Price Index * 6/83=100..	.....	.....	.....	.....	.....	100.0	99.9	99.6	100.0	98.4	96.6	*96.1	96.3	95.9	97.1	99.4
POULTRY AND EGGS																
Poultry:																
Slaughter..... mil. lb.																
15,146	15,547	1,349	1,275	1,329	1,409	1,247	1,435	1,357	1,368	1,266	1,172	1,208	*1,168	1,261	.....	.....
Stocks, cold storage (frozen), end of period, total																
mil. lb.	345	281	326	333	345	406	480	532	578	601	376	281	277	251	260	264
Turkeys..... do.																
204	162	185	192	210	256	323	384	432	460	252	162	161	146	149	142	.....
Price, in Georgia producing area, live broilers																
\$ per lb.	0.250	*0.270	*0.240	*0.235	0.255	0.270	0.295	*0.305	*0.305	*0.280	*0.325	0.335	0.360	0.365	0.365	0.340
Eggs:																
Production on farms..... mil. cases \$.																
193.6	189.2	16.5	15.6	15.9	15.4	15.7	15.7	15.3	15.8	15.5	16.0	15.8	14.8	16.1	15.7	.....
Stocks, cold storage, end of period:																
Shell..... thous. cases \$.																
34	13	18	23	32	44	24	25	25	45	18	13	28	17	*36	31	.....
Frozen..... mil. lb.																
25	12	23	22	21	21	20	19	16	14	13	12	11	11	12	12	.....
Price, wholesale, large (delivered; Chicago)																
\$ per doz.	0.668	0.727	0.662	0.649	0.684	0.680	0.662	0.744	0.762	0.779	0.884	0.986	1.123	1.026	0.883	1.018
LIVESTOCK																
Cattle and calves:																
Slaughter (federally inspected):																
Calves..... thous. animals..																
2,729	2,798	246	202	194	211	214	262	258	259	266	262	253	236	264	.....	.....
Cattle..... do.																
33,907	34,816	2,828	2,615	2,820	3,000	2,737	3,220	3,156	3,099	2,899	2,994	2,951	2,836	2,954	.....	.....
Prices, wholesale:																
Beef steers (Omaha)..... \$ per 100 lb.																
64.22	62.52	64.03	67.70	67.51	65.90	62.22	61.27	59.19	59.58	59.41	58.12	62.85	67.08	67.07	68.60	67.86
Steers, stocker and feeder (Kansas City)..... do.																
62.79	61.39	66.71	65.90	63.88	60.41	58.21	59.58	55.81	56.97	58.12	61.00	64.39	65.97	66.30	64.15	64.15
Calves, vealers (So. St. Paul)..... do.																
77.70	72.97	75.50	77.12	76.00	71.00	75.00	75.00	73.38	66.75	67.50	67.50	64.94	77.50	77.50	77.50	.....
Hogs:																
Slaughter (federally inspected)..... thous. animals..																
79,328	84,762	7,350	7,086	6,905	7,028	6,362	7,082	7,268	7,829	8,152	7,515	6,947	6,591	7,578	.....	.....
Prices:																
Wholesale, average, all weights (Sioux City)																
\$ per 100 lb.	55.21	47.73	51.37	47.84	47.40	45.73	45.81	49.77	46.05	41.64	38.81	46.53	50.14	46.68	47.36	48.69
Hog-corn price ratio (bu. of corn equal in value to 100 lb. live hog).....																
22.4	16.6	18.6	16.0	15.1	14.4	13.9	13.9	13.3	12.8	11.8	14.0	15.3	14.6	*14.3	14.1	.....
Sheep and lambs:																
Slaughter (federally inspected)..... thous. animals..																
6,273	6,412	616	509	508	508	497	585	595	580	510	536	540	548	586	.....	.....
Price, wholesale, lambs, average (Omaha) †																
\$ per 100 lb.	53.03	54.74	59.75	58.75	59.00	53.00	51.12	49.25	48.50	51.75	56.00	57.75	60.50	58.75	58.75	60.50
MEATS																
Total meats (excluding lard):																
Production..... mil. lb.																
37,266	38,974	3,269	3,051	3,163	3,299	3,002	3,440	3,435	3,523	3,472	3,383	3,218	3,092	3,349	.....	.....
Stocks, cold storage, end of period..... do.																
554	679	586	608	619	595	570	543	535	577	663	679	693	708	*738	775	.....
Exports (meat and meat preparations)..... do.																
1,566	1,449	136	133	115	118	121	99	130	127	134	119	112	104	134	.....	.....
Imports (meat and meat preparations)..... do.																
2,015	2,031	170	178	187	176	189	181	171	169	123	104	180	167	171	.....	.....
Beef and veal:																
Production, total..... do.																
22,789	23,487	1,929	1,759	1,891	2,004	1,840	2,157	2,128	2,103	1,974	2,002	1,952	1,894	1,977	.....	.....
Stocks, cold storage, end of period..... do.																
302	334	306	285	272	261	259	275	277	287	325	334	349	343	*336	335	.....
Exports..... do.																
540	571	55	46	40	44	46	42	58	53	59	43	50	47	67	.....	.....
Imports..... do.																
1,446	1,382	112	123	131	122	134	128	117	112	71	54	118	108	107	.....	.....
Price, wholesale, beef, fresh, steer carcasses, choice (600-700 lbs.) (Central U.S.)..... \$ per lb.																
1.013	0.978	1.006	1.078	1.050	1.024	0.977	0.950	0.921	0.912	0.916	0.998	1.057	1.029	1.051	1.035	.....
Lamb and mutton:																
Production, total..... mil. lb.																
356	368	36	30	30	29	28	33	33	32	29	30	31	32	35	.....	.....
Stocks, cold storage, end of period..... do.																
9	11	8	8	9	9	8	9	9	9	10	11	8	8	8	9	.....
Pork (excluding lard):																
Production, total..... do.																
14,121	15,120	1,303	1,262	1,243	1,266	1,134	1,250	1,273	1,388	1,468	1,350	1,234	1,165	1,338	.....	.....
Stocks, cold storage, end of period..... do.																
219	301	235	273	293	280	253	214	210	240	295	301	295	312	*351	388	.....
Exports..... do.																
282	251	21	32	22	22	19	16	16	23	23	23	18	16	18	.....	.....
Imports..... do.																
498	555	49	48	47	46	46	45	45	50	44	43	53	52	56	.....	.....
Prices:																
Producer Price Index, Hams, smoked 1967=100..																
306.3	291.9	315.2	290.1	281.5	275.5	269.2	273.2	280.7	283.0	284.7	*303.9	287.9	283.1	279.6	287.0	.....
Fresh loins, 8-14 lb. average, wholesale (N.Y.)..... \$ per lb.																
1.277	1.159	1.219	1.180	1.162	1.173	1.144	1.156	1.129	1.062	0.954	1.070	1.246	1.152	1.072	1.112	.....
MISCELLANEOUS FOOD PRODUCTS																
Cocoa (cacao) beans:																
Imports (incl. shells)..... thous. lg. tons..																
194.2	181.0	19.0	3.8	14.4	11.1	9.6	7.2	6.1	5.3	7.7	8.2	15.5	21.3	28.7	.....	.....
Producer price, Accra (New York)..... \$ per lb.																
0.924	1.082	0.990	0.960	1.000	1.200	1.100	1.220	1.050	1.108	1.150	1.270	1.320	1.340	1.335	1.283	.....
Coffee:																
Imports, total..... thous. bags																
17,416	16,449	1,373	1,253	1,502	1,034	1,319	1,230	1,532	1,685	1,380	1,253	1,598	1,299	1,440	.....	.....
From Brazil..... do.																
3,372	3,418	232	259	292	229	246	310	344	307	240	265	279	149	267	.....	.....
Producer price, Santos, No. 4 (N.Y.)..... \$ per lb.																
1.420	1.400	1.330	1.415	1.415	1.415	1.415	1.430	1.430	1.430	1.430	1.430	1.430	1.430	1.430	1.430	1.430
Fish:																
Stocks, cold storage, end of period..... mil. lb.																
383	425	298	286	292	318	367	417	421	417	415	425	406	368	*344	*324

See footnotes at end of tables.

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	Annual		Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.

FOOD AND KINDRED PRODUCTS; TOBACCO—Cont.

MISCELLANEOUS FOOD PRODUCTS—Cont.																
Sugar:																
Exports, raw and refined.....sh. tons..	58,512	207,871	1,308	1,236	984	11,555	10,506	45,455	55,973	29,866	16,605	31,825	28,400	33,940	30,094	
Imports, raw and refined.....thous. sh. tons..	2,616	2,915	140	238	333	139	242	193	339	322	333	253	269	358	278	
Producer Price Indexes: *																
Raw (cane).....1967=100..	278.4	315.9	312.4	319.8	323.1	323.0	314.9	321.4	321.4	314.9	314.1	311.6	309.4	315.7	314.8	314.4
Refined.....12/77=100..	161.0	172.0	168.5	171.9	171.8	172.8	173.8	173.0	175.1	175.1	173.9	173.8	173.8	173.4	174.2	174.5
Tea, imports.....thous. lb.	182,613	170,451	14,170	15,799	16,018	10,931	12,159	11,747	15,025	16,531	13,600	15,631	15,599	15,956	20,235	
TOBACCO																
Leaf:																
Production (crop estimate).....mil. lb.	11,994	11,429														
Stocks, dealers' and manufacturers', end of period.....do.	5,371	5,358	5,290			4,990			5,209			5,358				
Exports, incl. scrap and stems.....thous. lb.	562,260	509,828	45,958	43,953	33,631	32,728	28,635	36,045	26,430	51,706	87,912	60,302	41,984	40,165	43,329	
Imports, incl. scrap and stems.....do.	295,740	316,917	23,013	29,965	24,428	22,307	28,582	27,161	21,462	35,975	37,916	22,646	29,786	43,619	40,005	
Manufactured:																
Consumption (withdrawals):																
Cigarettes (small):																
Tax-exempt.....millions..	82,078	69,680	5,590	4,260	5,828	7,411	4,678	5,980	6,294	5,743	5,603	5,374	5,243	4,790		
Taxable.....do.	614,017	597,463	54,360	47,466	47,854	60,448	42,985	54,516	52,532	49,628	53,075	43,212	49,948	44,583		
Cigars (large), taxable.....do.	3,056	3,030	255	216	261	299	211	309	286	272	271	224	243	226		
Exports, cigarettes.....do.	73,585	60,698	4,249	4,319	4,687	6,119	4,671	4,608	5,318	4,941	5,190	5,171	3,775	4,366	4,893	

LEATHER AND PRODUCTS

LEATHER																
Exports:																
Upper and lining leather.....thous. sq. ft.	159,804	155,808	15,078	15,200	13,492	14,868	12,013	13,099	12,715	14,027	12,400	9,412	13,624	13,015	17,787	
Price, producer:																
Sole, bends, light.....index, 1967=100..																
LEATHER MANUFACTURES																
Footwear:																
Production, total.....thous. pairs..	*342,380	340,966	31,470	27,001	29,970	28,472	22,528	30,372	29,835	29,051	27,736	24,943	26,873			
Shoes, sandals, and play shoes, except athletic.....thous. pairs..	*260,840	263,508	23,859	20,702	23,125	22,139	18,803	23,465	23,375	22,039	20,617	19,800	20,801			
Slippers.....do.	*64,892	61,062	5,723	4,616	5,176	5,020	3,021	5,811	5,585	5,936	6,014	3,889	4,886			
Athletic.....do.	*16,648	16,396	1,888	1,683	1,669	1,313	704	1,096	875	1,076	1,105	1,254	1,186			
Other footwear.....do.	*3,703	4,970	534	561	540	446	346	308	397	408	326	224	231			
Exports.....do.	7,717	6,158	637	553	486	546	520	591	506	539	454	394	361	344	450	
Prices, producer:																
Men's leather upper, dress and casual.....index, 12/80=100..	105.2	107.0	106.6	107.0	104.6	107.6	107.3	107.8	108.1	108.0	107.4	107.4	107.9	108.4	108.4	108.2
Women's leather upper.....index, 1967=100..	215.8	*222.3	220.4	224.3	224.6	222.6	221.8	222.2	224.8	224.6	224.3	*220.0	224.8	221.3	223.1	219.3
Women's plastic upper.....index, 12/80=100..	97.9	*100.7	98.8	99.9	99.9	99.8	101.1	102.0	102.9	102.9	102.9	*100.5	104.2	102.5	103.1	103.3

LUMBER AND PRODUCTS

LUMBER—ALL TYPES #																
National Forest Products Association:																
Production, total.....mil. bd. ft.	*25,795	*31,479	2,682	2,623	2,645	2,718	2,585	2,714	2,748	2,787	2,504	2,345	2,740	2,678		
Hardwoods.....do.	*4,774	*5,721	394	374	396	444	458	504	497	502	493	416	454	484		
Softwoods.....do.	21,021	25,758	2,288	2,249	2,249	2,274	2,127	2,210	2,251	2,285	2,011	1,929	2,286	2,194		
Shipments, total.....do.	*25,960	*31,358	2,632	2,683	2,775	2,764	2,537	2,669	2,737	2,795	2,404	2,445	2,589	2,603		
Hardwoods.....do.	*4,935	*5,896	435	452	431	452	465	498	483	489	480	404	452	479		
Softwoods.....do.	21,025	25,462	2,197	2,231	2,344	2,312	2,072	2,171	2,254	2,306	1,924	2,041	2,137	2,124		
Stocks (gross), mill, end of period, total.....do.	5,745	5,866	5,997	5,924	5,824	5,772	5,817	5,858	5,870	5,862	5,964	5,866	6,021	6,097		
Hardwoods.....do.	1,766	1,591	1,655	1,564	1,556	1,542	1,532	1,534	1,549	1,562	1,577	1,591	1,597	1,603		
Softwoods.....do.	3,979	4,275	4,342	4,360	4,268	4,230	4,285	4,324	4,321	4,300	4,387	4,275	4,424	4,494		
Exports, total sawmill products.....do.																
Imports, total sawmill products.....do.	9,421	12,293	1,055	885	1,153	1,099	1,048	1,090	1,057	1,118	1,092	885	941	1,135	1,108	
SOFTWOODS																
Douglas fir:																
Orders, new.....mil. bd. ft.	5,976	7,571	656	635	714	675	584	543	717	642	529	688	740	631	848	
Orders, unfilled, end of period.....do.	612	673	698	684	692	648	636	567	639	625	599	673	753	762	815	
Production.....do.	5,743	7,646	697	682	693	644	613	583	671	676	581	552	708	666	819	
Shipments.....do.	5,793	7,510	624	649	706	719	596	612	645	656	555	614	660	622	795	
Stocks (gross), mill, end of period.....do.	862	998	1,055	1,088	1,075	1,000	1,017	988	1,014	1,034	1,060	998	1,046	1,090	1,114	
Exports, total sawmill products.....do.	471	569	51	60	63	50	34	54	35	48	46	43	38	44	57	
Sawed timber.....do.	125	129	16	17	16	10	9	14	7	11	5	8	10	9	13	
Boards, planks, scantlings, etc.....do.	345	439	35	43	48	39	25	41	28	37	40	34	28	35	44	
Producer Price Index, Douglas fir, dressed †.....1967=100..	266.2	363.8	376.2	375.5	390.2	404.7	407.0	381.4	345.3	332.0	318.7	*324.7	322.8	351.7	369.7	364.2

See footnotes at end of tables.

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	Annual	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	
LUMBER AND PRODUCTS—Continued																
SOFTWOODS—Continued																
Southern pine:																
Orders, new.....mil. bd. ft.	'6,014	'6,821	615	571	642	534	546	571	599	628	502	537	513	577	.....
Orders, unfilled, end of period..... do....	438	556	528	529	556	511	502	487	503	506	489	556	522	498	.....
Production..... do....	'6,186	'6,637	561	550	584	594	570	598	551	586	536	471	577	610	.....
Shipments..... do....	'5,996	'6,703	573	570	615	579	555	586	583	625	519	470	547	601	.....
Stocks (gross), mill and concentration yards, end of period.....mil. bd. ft.	1,474	1,408	1,471	1,451	1,419	1,434	1,449	1,461	1,429	1,390	1,407	1,408	1,438	1,447	.....
Exports, total sawmill products.....thous. bd. ft.	245,221	217,660	18,375	21,244	21,552	16,511	15,832	12,346	20,057	16,349	20,326	17,001	9,648	17,975	14,273	
Producer Price Index, southern pine, dressed † 1967=100.....	285.9	319.9	319.3	321.3	325.5	334.9	330.0	323.4	308.3	313.5	316.2	*328.2	333.7	337.4	334.3	334.8
Western pine:																
Orders, new.....mil. bd. ft.	6,880	8,433	718	709	781	728	654	717	814	768	616	699	738	641	812	
Orders, unfilled, end of period..... do....	324	410	422	426	439	432	413	409	444	446	432	410	466	470	457	
Production..... do....	6,681	8,548	710	713	722	767	705	784	789	764	666	691	724	655	873	
Shipments..... do....	6,775	8,347	685	705	768	735	673	721	779	766	630	721	682	637	825	
Stocks (gross), mill, end of period..... do....	1,055	1,256	1,153	1,161	1,115	1,147	1,179	1,242	1,252	1,250	1,286	1,256	1,298	1,316	1,364	
Producer Price Index, other softwood, dressed †..... 1967=100.....	356.0	403.4	398.1	403.2	410.6	438.7	437.3	429.3	388.5	382.4	382.6	*394.2	393.9	417.2	425.2	416.0
HARDWOOD FLOORING																
Oak:																
Orders, unfilled, end of period.....mil. bd. ft.	4.8	8.6	6.5	6.4	6.5	7.5	6.7	6.8	6.0	7.3	6.7	8.6	9.1	10.4	10.4	9.4
Shipments..... do....	75.0	98.9	8.7	8.5	8.4	9.0	7.1	8.9	8.8	9.0	8.1	7.3	8.6	9.4	9.5	8.5
Stocks (gross), mill, end of period..... do....	12.0	5.5	8.4	7.3	6.4	6.6	5.4	5.3	4.9	4.8	4.7	5.5	3.9	3.7	3.7	4.0

METALS AND MANUFACTURES

IRON AND STEEL																
Exports:																
Steel mill products..... thous. sh. tons.	1,842	1,199	89	106	101	100	108	100	99	110	114	84	86	73	80	
Scrap..... do....	6,804	7,520	563	564	688	805	562	624	720	575	671	751	620	663	683	
Pig iron..... do....	54	6	1	1	(^o)	2	1	(^o)	1	1	(^o)	(^o)	(^o)	2	22	
Imports:																
Steel mill products..... do....	'16,663	17,070	1,113	1,182	1,353	1,297	1,411	1,617	1,512	1,755	1,835	1,730	2,082	2,161	2,224	
Scrap..... do....	474	641	78	58	63	71	58	42	44	49	62	52	53	60	61	
Pig iron..... do....	322	233	1	1	25	39	3	5	18	40	14	74	49	55	45	
Iron and Steel Scrap																
Production..... thous. sh. tons.	27,127	27,149	2,395	2,247	2,376	2,286	2,181	2,368	2,409	2,467	2,428	*2,247	*2,442	2,452	.....
Receipts, net..... do....	'27,520	32,557	2,913	2,733	2,817	2,859	2,629	2,620	2,700	2,988	3,008	*2,804	*3,128	3,576	.....
Consumption..... do....	'56,986	59,941	5,157	5,029	5,233	5,098	4,762	5,009	5,111	5,545	5,375	*5,036	*5,709	5,912	.....
Stocks, end of period..... do....	6,418	5,838	6,117	5,969	5,905	5,920	6,000	6,042	6,062	5,837	5,944	*5,838	*5,647	5,768	.....
Prices, steel scrap, No. 1 heavy melting:																
Composite..... \$ per lg. ton.	61.51	67.24	70.50	68.64	60.00	66.21	67.03	70.21	73.13	72.69	63.64	78.56	84.68	89.89	88.81	87.34
Pittsburgh district..... do....	66.71	76.92	79.00	77.00	67.50	72.50	74.50	79.50	83.50	82.50	85.00	91.50	98.00	103.00	100.50	102.00
Ore																
Iron ore (operations in all U.S. districts):																
Mine production..... thous. lg. tons.	'35,433	37,967	2,314	3,165	3,991	4,260	4,034	4,034	3,189	3,207	2,729	2,611	3,145	4,303	.....
Shipments from mines..... do....	'35,756	44,748	477	2,876	5,323	5,592	5,986	5,542	4,002	4,749	5,131	4,053	1,142	1,251	.....
Imports..... do....	'14,501	13,090	206	567	1,245	1,411	1,556	1,448	1,035	1,934	1,374	1,531	600	811	418	
U.S. and foreign ores and ore agglomerates:																
Receipts at iron and steel plants..... do....	49,872	57,197	1,268	3,852	6,729	6,992	7,346	6,209	5,462	6,265	6,244	5,509	*1,159	*1,556	1,841	
Consumption at iron and steel plants..... do....	55,233	61,220	5,201	5,406	5,560	5,267	5,449	5,272	5,171	5,667	5,242	5,125	5,517	5,670	6,391	
Exports (domestic)..... do....	3,178	3,471	(^o)	304	616	345	313	516	474	218	1	682	155	113	46	
Stocks, total, end of period..... do....	52,621	32,567	39,615	37,498	37,192	37,385	36,951	35,312	35,716	34,729	33,831	32,567	30,118	28,364	.....
At mines..... do....	12,129	3,899	16,184	16,485	15,163	13,832	11,647	10,093	9,308	7,769	5,369	3,899	5,444	8,996	.....
At furnace yards..... do....	29,923	28,494	18,909	17,292	18,534	20,508	22,332	22,187	23,415	23,922	25,061	25,494	21,047	*16,857	12,238	
At U.S. docks..... do....	5,750	3,174	4,522	3,711	3,495	3,045	2,972	3,032	2,993	3,038	3,401	3,174	3,127	2,511	1,654	
Manganese (mn. content), general imports..... do....	477	482	37	20	38	45	50	28	46	56	39	35	39	63	34	
Pig Iron and Iron Products																
Pig iron:																
Production (including production of ferroalloys) thous. sh. tons.	'43,136	48,741	4,206	4,333	4,376	4,090	4,213	4,245	4,159	4,317	4,119	4,084	4,310	4,497	5,083	5,077
Consumption..... do....	'44,409	'49,213	4,260	4,336	4,480	4,214	4,311	4,273	4,256	4,336	4,128	4,033	4,349	.....	.....
Stocks, end of period..... do....	580	459	627	625	637	589	599	583	558	504	488	459	451	.....	.....
Producer Price Index, basic..... 6/82=100.....	100.1	100.5	99.4	100.5	99.7	99.7	100.3	100.3	98.1	99.9	99.9	100.5	100.5	100.2	100.5
Castings, gray and ductile iron:																
Orders, unfilled, for sale, end of period thous. sh. tons.	536	637	551	545	548	572	609	630	626	590	603	637	.....	.....	.....
Shipments, total..... do....	8,215	9,309	813	759	818	810	707	864	841	887	812	711	893	1,000	.....
For sale..... do....	4,641	5,448	452	446	484	477	417	533	501	521	474	400	1,000	521	.....
Castings, malleable iron:																
Orders, unfilled, for sale, end of period thous. sh. tons.	14	18	19	23	15	16	19	23	27	25	22	18	.....	.....	.....
Shipments, total..... do....	284	293	27	24	25	24	19	23	26	27	27	27	30	29	
For sale..... do....	119	92	9	8	9	7	5	8	9	9	10	9	12	12	

See footnotes at end of tables.

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	Annual	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	
METALS AND MANUFACTURES—Continued																
Steel, Raw and Semifinished																
Steel (raw):																
Production..... thous. sh. tons..	'74,577	83,379	7,127	7,292	7,412	6,993	6,921	7,020	7,134	7,692	7,263	6,991	7,970	8,142	9,056	
Rate of capability utilization..... percent..	48.4	55.4	55.5	58.9	57.9	56.5	54.3	55.1	57.8	60.2	58.7	54.7	69.2	76.0	80.8	
Steel castings:																
Orders, unfilled, for sale, end of period																
Shipments, total..... thous. sh. tons..	161	142	165	152	157	159	156	145	143	144	142	142	75	71		
For sale, total..... do.....	1,017	727	62	57	63	62	52	60	62	67	67	67	84	80		
	916	667	56	50	57	57	48	56	58	65	64	61				
Steel Mill Products																
Steel products, net shipments:																
Total (all grades)..... thous. sh. tons..	59,783	'67,454	5,969	5,399	5,612	5,986	5,045	5,789	5,893	6,078	6,014	6,269	5,980	6,150	7,239	
By product:																
Semifinished products..... do.....	3,408	3,899	297	298	327	360	296	307	378	365	358	374	349	402	463	
Structural shapes (heavy), steel piling..... do.....	3,424	'3,448	206	240	271	307	256	268	326	306	338	320	343	335	408	
Plates..... do.....	4,136	3,832	341	305	304	326	280	320	338	362	366	381	352	378	421	
Rails and accessories..... do.....	782	883	81	78	70	70	67	82	86	74	83	87	108	120	122	
Bars and tool steel, total..... do.....	9,440	'11,666	1,078	892	980	996	828	1,047	1,016	1,146	1,018	1,009	1,010	'1,027	1,297	
Bars: Hot rolled (incl. light shapes)..... do.....	'4,357	'6,285	588	446	526	522	402	563	571	623	569	578	585	620	697	
Bars: Reinforcing..... do.....	3,526	'4,138	422	350	355	371	340	381	337	405	331	320	299	276	445	
Bars: Cold finished..... do.....	1,013	1,197	94	92	96	100	83	99	104	114	113	106	121	125	147	
Pipe and tubing..... do.....	5,026	3,242	283	252	262	273	240	273	290	305	309	303	303	321	366	
Wire and wire products..... do.....	1,332	1,384	131	124	122	130	111	115	119	119	109	99	116	115	129	
Tin mill products..... do.....	4,321	4,308	406	369	372	379	328	371	351	325	313	402	322	307	345	
Sheets and strip (incl. electrical), total..... do.....	27,914	34,792	3,045	2,841	2,905	3,144	2,640	3,005	2,989	3,075	3,120	3,294	3,077	3,147	3,689	
Sheets: Hot rolled..... do.....	9,052	11,619	1,000	958	982	1,086	881	1,001	984	1,051	1,061	1,049	1,076	1,127	1,316	
Sheets: Cold rolled..... do.....	11,132	13,781	1,239	1,126	1,145	1,222	1,003	1,181	1,166	1,192	1,239	1,366	1,155	1,217	1,394	
By market (quarterly):																
Service centers and distributors..... do.....	'12,972	'15,713	3,539			3,915			3,878			4,384			4,850	
Construction, incl. maintenance..... do.....	6,260	'6,276	1,370			1,644			1,613			1,643			1,553	
Contractors' products..... do.....	2,290	'2,587	634			659			628			660			663	
Automotive..... do.....	'9,295	'12,087	2,453			3,024			3,004			3,598			3,223	
Rail transportation..... do.....	1,030	'918	203			245			240			258			311	
Machinery, industrial equip., tools..... do.....	2,582	'2,320	538			594			558			638			728	
Containers, packaging, ship. materials..... do.....	4,471	'4,532	1,133			1,183			1,136			1,105			1,049	
Other..... do.....	'20,883	'23,011	5,270			5,732			5,671			6,092			6,793	
Steel mill shapes and forms, inventories, end of period—total for the specified sectors:																
Producing mills, inventory, end of period:																
Steel in process..... mil. sh. tons..	22.4	23.4	21.9	22.3	23.3	23.2	23.8	24.2	24.0	24.5	24.2	23.4	23.9			
Finished steel..... do.....	8.1	7.1	7.8	7.8	8.0	7.8	8.0	8.0	7.9	8.2	7.6	7.1	7.1			
Service centers (warehouses), inventory, end of period..... mil. sh. tons..	4.7	5.7	4.8	4.7	5.1	5.1	5.3	5.4	5.4	5.5	5.6	5.7	5.8			
Consumers (manufacturers only):																
Inventory, end of period..... do.....	4.3	4.9	4.1	4.4	4.6	4.7	4.8	5.0	4.9	4.8	4.8	4.9	5.2			
Receipts during period..... do.....	53.4	46.6	4.9	4.7	4.6	4.5	3.8	4.3	4.1	3.8	3.7	3.5	4.1			
Consumption during period..... do.....	54.7	45.9	4.8	4.4	4.4	4.4	3.7	4.1	4.2	3.9	3.7	3.4	3.8			
NONFERROUS METALS AND PRODUCTS																
Aluminum:																
Production, primary (dom. and foreign ores)																
thous. met. tons..	3,274	3,353	248	245	265	261	284	297	299	320	318	340	342	324		
Recovery from scrap ↑..... do.....	'1,666	1,690	142	140	139	144	131	142	143	151	151	148	135	141		
Imports (general):																
Metal and alloys, crude..... do.....	'616.3	714.9	33.2	66.9	84.6	82.9	72.1	65.7	56.6	58.2	63.6	40.3	'70.9	'94.9	114.3	
Plates, sheets, bars, etc..... do.....	'176.4	'209.7	21.9	19.8	22.8	19.6	21.5	20.7	20.2	27.7	22.2	22.3	'33.3	'41.3	49.7	
Exports:																
Metal and alloys, crude..... do.....	'364.0	360.7	14.0	46.4	8.2	14.9	37.1	33.2	41.5	27.4	50.8	24.1	'24.5	'20.1	19.9	
Plates, sheets, bars, etc..... do.....	'189.6	166.6	18.7	14.4	12.3	12.7	12.2	13.2	14.4	15.0	14.3	14.8	'20.2	'21.5	21.8	
Price, primary ingot, 99.5% minimum..... \$ per lb..	0.7600	0.7770	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600	0.7898	0.8100	0.8100	0.8100	0.8100	0.8100	0.8100	
Aluminum products:																
Shipments:																
Ingot and mill prod. (net ship.)..... mil. lb..	12,128	'13,856	1,201	1,084	1,235	1,193	1,100	1,263	1,264	1,154	1,174	'1,291	1,186	1,340		
Mill products, total..... do.....	'9,116	'10,600	946	865	1,003	924	878	890	875	881	877	'938	928	934		
Sheet and plate..... do.....	5,329	6,355	547	503	622	573	552	522	'518	510	519	593	548	549		
Castings..... do.....	1,306	1,496	135	117	133	136	104	123	128	134	140	129				
Inventories, total (ingot, mill products, and scrap), end of period..... mil. lb..	6,200	'5,009	5,892	5,744	5,579	5,439	5,472	5,375	5,258	5,296	5,208	'5,009	5,176	5,237		
Copper:																
Production:																
Mine, recoverable copper..... thous. met. tons..	1,139.6	1,045.7	89.9	85.3	92.8	90.4	76.9	80.0	87.3	90.3	94.4	89.7	91.4	86.3		
Refinery, primary..... do.....	'1,227.1	1,182.4	114.8	107.6	109.1	116.2	80.0	83.7	88.3	93.9	96.0	94.7	95.3	99.9		
From domestic ores..... do.....	1,064.8	1,003.7	99.9	88.8	91.2	100.1	71.6	74.9	74.6	79.6	80.2	81.8	84.1	89.3		
From foreign ores..... do.....	'162.2	178.8	14.9	18.7	17.8	16.1	8.4	8.9	13.7	14.2	15.8	12.9	'11.2	10.6		
Secondary, recovered as refined..... do.....	570.2															
Imports (general):																
Refined, unrefined, scrap (copper cont.)..... do.....	'518.7	714.7	65.5	94.7	73.9	74.4	68.2	76.0	41.6	47.6	40.3	39.3	73.7	46.0	65.5	
Refined..... do.....	'259.8	486.4	44.1	71.6	45.0	54.0	50.8	49.6	28.1	30.7	30.0	21.6	56.1	31.8	51.0	
Exports:																
Refined and scrap..... do.....	381.1	277.2	19.6	23.0	21.4	21.3	30.9	35.6	13.7	28.0	10.3	25.4	39.5	35.9	30.5	
Refined..... do.....	35.0	87.5	1.5	2.0	3.2	2.9	18.1	13.4	4.1	14.2	2.8	11.2	17.5	14.4	8.9	
Consumption, refined (by mills, etc.)..... thous. sh. tons..	1,790															
Stocks, refined, end of period..... do.....	668															
Price, electrolytic (wirebars), dom., delivered \$ per lb..	0.7431	0.7926	0.8207	0.8349	0.8563	0.8184	0.8295	0.8054	0.7759	0.7239	0.6958	0.7080	0.6879	0.7075	0.7531	

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METALS AND MANUFACTURES-Continued

NONFERROUS METALS AND PRODUCTS-Continued																
Copper-base mill and foundry products, shipments (quarterly total):																
Brass mill products..... mil. lb.	2,014															
Copper wire mill products (copper cont.)..... do....	2,393															
Brass and bronze foundry products..... do....	405															
Lead:																
Production:																
Mine, recoverable lead..... thous. met. tons..	512.4	447.6	37.2	36.6	35.7	28.3	35.1	43.1	37.2	37.0	38.2	34.8	41.6			
Recovered from scrap (lead cont.)..... do....	1571.3	504.1	41.0	41.3	42.5	37.3	37.2	39.6	43.4	48.9	48.4	45.7	44.4			
Imports (general), ore (lead cont.), metal..... do....	50.1	58.8	2.4	6.3	6.5	4.2	3.5	6.0	2.1	6.4	5.2	6.1	12.8	5.1	8.1	
Consumption, total..... do....	1,075.4	1,080.7	80.4	83.1	81.9	90.6	79.8	94.6	104.2	102.3	95.3	107.9	112.7			
Stocks, end of period:																
Producers', ore, base bullion, and in process (lead content), ABMS..... thous. met. tons..	75.0	74.5	65.3	59.0	59.5	64.5	65.4	68.5	71.5	69.1	66.7	74.5	77.9	82.9	89.8	
Refiners' (primary), refined and antimonial (lead content)..... thous. met. tons..	73.5	58.2	80.4	83.5	93.7	89.4	86.5	75.5	59.3	56.3	51.9	58.2				
Consumers' (lead content)..... do....	97.2	71.7	79.0	77.5	72.5	86.5	72.9	62.5	66.2	68.9	70.3	71.7				
Scrap (lead-base, purchased), all smelters (gross weight)..... thous. met. tons..	33.5	32.8	21.6	23.6	20.0	21.3	25.2	27.4	24.8	30.3	32.3	32.8				
Price, common grade, delivered..... \$ per lb.	0.2554	0.2168	0.2073	0.2117	0.2022	0.1941	0.1932	0.1946	0.2169	0.2538	0.2515	0.2446	0.2512			
Tin:																
Imports (for consumption):																
Ore (tin content)..... metric tons..	1,931	969	34	45	3	51	122		45	71	207	169	70	60		
Metal, unwrought, unalloyed..... do....	27,939	34,048	2,365	3,578	2,845	2,778	2,056	2,757	3,325	3,671	2,147	3,225	3,556	4,661		
Recovery from scrap, total (tin cont.)..... do....	12,544	11,579	971	1,008	954	1,118	986	1,055	1,130	830	892	835	856			
As metal..... do....	1,067	2,243	176	197	171	207	188	242	200	181	224	227	157			
Consumption, total..... do....	53,450	55,800	4,900	4,700	4,700	4,800	4,300	4,600	4,700	4,800	4,400	4,800	4,600	4,300		
Primary..... do....	38,700	40,400	3,600	3,500	3,500	3,500	3,100	3,400	3,400	3,500	3,200	3,100	3,400			
Exports, incl. reexports (metal)..... do....	19,357	3,552	298	221	235	311	298	375	226	298	260	280	278	446	141	
Stocks, pig (industrial), end of period..... do....	3,152	3,020	3,815	4,026	3,527	3,634	3,931	4,091	3,604	3,074	3,180	3,020	2,970	2,286		
Price, Straits quality (delivered)..... \$ per lb.	6.5392	6.5478	6.6772	6.8759	6.6710	6.6707	6.5968	6.4838	6.4510	6.4683	6.4902	6.3080	6.2374	6.2788		
Zinc:																
Mine prod., recoverable zinc..... thous. met. tons..																
Imports (general):																
Ores (zinc content)..... do....	49.3	62.2	2.5	2.4	6.6	5.6	14.2	7.1	1.1	2.7	4.1	10.0	1.4	3.5		
Metal (slab, blocks)..... do....	1456.1	613.3	42.6	51.2	60.4	54.0	43.0	50.7	60.4	64.0	66.6	59.2	67.2	71.4		
Consumption (recoverable zinc content):																
Ores..... do....	53.1	52.9	5.2	5.1	4.9	4.4	4.4	3.3	2.0	3.4	6.0	5.7	5.8			
Scrap, all types..... do....	208.1	190.2	14.4	14.6	14.4	13.5	13.4	16.9	16.7	17.4	18.1	17.4	17.2			
Slab zinc: @																
Production, total f..... thous. met. tons..	1302.5	261.8	22.7	22.4	23.5	21.8	16.0	23.2	22.7	24.1	24.7	21.8	23.2	22.1	21.6	
Consumption, fabricators..... do....	1709.5	775.3	68.8	66.7	64.1	65.7	55.8	64.5	67.2	65.5	70.1	63.7	69.4			
Exports..... do....	0.3	0.4	(²)	(²)	0.1	(²)	(²)	0.1	(²)	(²)	(²)	(²)	(²)	0.1		
Stocks, end of period:																
Producers', at smelter (ABMS)..... do....	28.2	16.7	19.4	17.9	19.2	20.4	20.1	13.6	9.6	14.5	16.1	16.7	14.4	15.8	15.0	
Consumers'..... do....	77.6	71.5	70.4	73.4	75.6	70.9	68.1	71.5	74.9	73.2	71.8	73.9	80.4			
Price, Prime Western..... \$ per lb.	0.3847	0.4139	0.3790	0.3800	0.3811	0.3946	0.4001	0.4056	0.4298	0.4611	0.4755	0.4874	0.4922	0.5061		
MACHINERY AND EQUIPMENT																
Heating, combustion, atmosphere equipment, new orders (domestic), net, qtrly #..... mil. \$.																
Electric processing heating equipment..... do....	65.4	87.8	24.4			60.5			68.8			74.5				
Fuel-fired processing heating equip..... do....	128.2	177.3	19.7			19.2			20.5			23.7				
Material handling equipment (industrial):																
Orders (new), index, seas. adj..... 1967=100..	249.2	275.7	222.9	246.9	248.9	283.6	344.3	249.3	271.9	355.6	359.2	335.2	321.5			
Industrial supplies, machinery and equipment:																
New orders index, seas. adjusted..... 1977=100..	94.6	97.9	85.9	88.2	91.6	100.4	103.1	104.1	105.0	106.6	109.1	112.6	119.6	121.3	113.2	
Industrial suppliers distribution:																
Sales index, seas. adjusted..... 1977=100..	120.9	113.9	107.6	113.5	112.0	111.6	112.2	121.0	121.6	119.0	121.0	119.4	127.7	132.1	131.7	132.2
Inflation index, not seas. adj. (tools, material handling equip., valves, fittings, abrasives, fasteners, metal products, etc.)..... 1977=100..	153.1	155.0	154.8	155.1	155.1	155.3	155.1	154.5	154.8	154.9	155.5	156.3	156.5	157.0		
Fluid power products shipments indexes:																
Hydraulic products, seas. adj..... 1972=100..	208	201	178	180	192	197	197	208	223	229	237	239	245	259	271	
Pneumatic products, seas. adj..... do....	202	208	190	185	194	198	193	207	235	231	248	244	260	263	248	
Machine tools:																
Metal cutting type tools:																
Orders, new (net), total..... mil. \$.	1,064.45	1,151.65	89.65	79.25	93.60	96.45	128.75	91.00	102.45	129.45	115.35	91.25	133.20	133.05	146.50	
Domestic..... do....	889.60	1,069.45	84.95	73.65	88.20	88.45	124.65	82.65	98.60	115.60	107.65	84.15	122.50	121.70	131.90	
Shipments, total..... do....	2,894.75	1,371.50	134.40	112.95	98.80	145.75	75.40	82.85	94.10	102.05	107.25	181.75	72.55	103.05	122.50	
Domestic..... do....	2,598.60	1,199.60	119.70	100.55	88.60	119.05	61.90	72.75	85.50	93.15	96.15	152.15	65.35	95.30	112.35	
Order backlog, end of period..... do....	1,043.0	823.2	896.5	862.8	857.6	808.3	861.6	869.8	878.2	905.6	913.6	823.2	883.8	913.8	937.8	
Metal forming type tools:																
Orders, new (net), total..... do....	433.30	544.50	35.85	39.30	41.70	48.80	46.35	46.25	53.35	73.10	44.90	60.00	55.90	69.85	61.95	
Domestic..... do....	371.75	488.75	32.05	37.40	37.90	41.10	42.00	42.00	49.55	40.85	40.85	48.30	53.05	66.00	56.75	
Shipments, total..... do....	709.65	473.55	41.85	37.85	37.05	37.25	36.95	30.15	37.60	43.35	40.45	56.05	40.40	44.25	66.75	
Domestic..... do....	599.75	430.45	36.40	35.00	35.05	33.10	31.95	28.90	33.15	40.85	37.10	54.35	35.55	40.40	60.00	
Order backlog, end of period..... do....	150.6	221.6	124.5	126.0	130.6	142.2	151.6	167.6	183.4	213.2	217.6	221.6	237.0	202.6	257.8	

See footnotes at end of tables.

	1982	1983	1983												1984			
	Annual	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.			
METALS AND MANUFACTURES—Continued																		
MACHINERY AND EQUIPMENT—Continued																		
Tractors used in construction, shipments, qtrly:																		
Tracklaying, total..... units..	7,053	.....	234	(¹)	784	727	556	475	797	717	728	742	522	703	.....	.....
..... mil. \$.	793.5	.....	16.0	(¹)	69.3	66.5	48.8	33.9	71.2	64.9	74.2	75.8	44.1	55.7	.....	.....
Wheel (contractors' off-highway)..... units..	2,443	1,676	251	.....	.....	284	.....	.....	515	.....	.....	664	.....	.....	.....	.....
..... mil. \$.	222.2	158.1	15.4	.....	.....	31.7	.....	.....	49.9	.....	.....	62.2	.....	.....	.....	.....
Tractor shovel loaders (integral units only), wheel and tracklaying types..... units..	*24,134	.....	(¹)	.....	(¹)	.....	.....	.....	(¹)	.....	.....	7,524	.....	.....	.....	.....
..... mil. \$.	*1,030.3	.....	(¹)	.....	(¹)	.....	.....	.....	(¹)	.....	.....	360.5	.....	.....	.....	.....
Tractors, wheel, farm, nonfarm (ex. garden and construction types), ship., qtrly..... units..	80,785	95,943	5,092	6,626	8,673	8,489	5,412	5,738	13,838	12,994	9,554	10,052	8,275	11,918	.....	.....
..... mil. \$.	2,491.6	3,131.1	161.4	221.9	314.5	307.7	214.8	142.8	391.6	391.4	295.3	312.1	261.7	364.6	.....	.....
ELECTRICAL EQUIPMENT																		
Batteries (auto. type replacement), ship.....thous..	54,214	56,105	3,730	3,509	3,720	4,032	3,914	5,100	6,373	6,548	6,105	6,295	6,499	4,273	.....	.....
Radio sets, production, total market.....thous..	31,782	36,454	*2,789	2,266	2,636	*2,638	3,095	3,315	*3,218	4,441	4,249	*3,510	3,423	2,838	3,421	.....	
Television sets (incl. combination models), production, total market.....thous..	16,405	19,680	*1,561	1,282	1,313	*1,938	1,517	1,610	*2,303	2,050	1,731	*1,925	1,679	1,632	2,133	1,668		
Household major appliances (electrical), factory shipments (domestic and export) #.....thous..	26,683	32,386	*2,748	*2,508	2,597	2,897	2,672	3,081	2,978	3,046	2,820	2,535	3,273	3,023	3,387	3,170		
Air conditioners (room).....do.....	2,761	2,002	*307	259	300	265	306	108	58	32	52	98	168	262	504	459		
Dishwashers.....do.....	2,170	3,093	248	214	259	276	196	340	291	311	302	245	308	242	258	258		
Disposers (food waste).....do.....	2,780	3,527	*308	*312	249	298	280	316	322	360	393	264	340	355	368	348		
Microwave ovens/ranges *.....do.....	4,071	6,114	*356	398	492	431	461	544	636	771	648	772	738	587	615	612		
Ranges.....do.....	2,035	2,752	232	*201	252	248	197	269	250	265	254	211	260	237	260	237		
Refrigerators.....do.....	4,364	5,316	*404	*362	463	520	505	580	556	494	410	321	494	426	509	484		
Freezers.....do.....	1,340	1,288	*115	111	112	136	141	128	113	85	72	77	103	95	89	90		
Washers.....do.....	4,019	4,616	420	352	416	399	322	470	438	412	377	292	479	427	420	364		
Dryers (incl. gas).....do.....	2,728	3,294	283	236	282	264	206	317	309	323	313	250	366	331	287	250		
Vacuum cleaners (qtrly).....do.....	7,536	7,942	2,082	.....	.....	1,799	.....	.....	2,214	.....	.....	1,848	.....	.....	2,277	.....	
GAS EQUIPMENT (RESIDENTIAL)																		
Furnaces, gravity and forced-air, shipments.....thous..	1,156	1,662	119	112	101	108	113	146	176	197	167	173	146	142	127	.....	
Ranges, total, sales.....do.....	1,368	1,673	134	127	129	154	104	128	156	136	134	149	132	133	154	.....	
Water heaters (storage), automatic, sales.....do.....	3,041	3,172	288	301	259	265	238	248	239	280	253	269	319	315	308	.....	

PETROLEUM, COAL, AND PRODUCTS

COAL																
Anthracite:																
Production †.....thous. sh. tons..	4,588	3,995	333	269	277	332	311	402	387	423	410	368	.....	.....	.....	.....
Exports.....do.....	980	776	30	28	66	38	79	115	117	139	93	66	9	5	3	.....
Producer Price Index.....1967=100..	640.3	617.0	634.2	621.7	603.1	605.1	613.3	610.4	610.4	610.4	612.0	*612.3	612.2	612.2	611.3	610.0
Bituminous:																
Production †.....thous. sh. tons..	833,523	780,870	68,128	60,361	62,703	61,991	54,606	72,547	69,894	72,778	70,629	65,126	.....	.....	.....	.....
Consumption, total †.....do.....	703,561	.....	55,153	52,481	54,079	58,066	69,391	73,267	63,207	.....	.....	.....	.....	.....	.....	.....
Electric power utilities.....do.....	592,591	.....	46,985	43,497	45,586	50,274	60,301	64,079	54,127	50,598	51,099	.....	.....	.....	.....	.....
Industrial, total.....do.....	104,372	.....	7,737	8,394	8,101	7,462	8,581	8,708	8,442	.....	.....	.....	.....	.....	.....	.....
Coke plants (oven and beehive).....do.....	40,859	.....	2,565	3,204	3,149	2,732	3,267	3,250	3,194	.....	.....	.....	.....	.....	.....	.....
Residential and commercial.....do.....	6,598	.....	451	590	392	330	509	480	638	.....	.....	.....	.....	.....	.....	.....
Stocks, end of period, total †.....do.....	189,085	.....	185,308	187,208	190,767	190,742	174,867	168,151	167,231	.....	.....	.....	.....	.....	.....	.....
Electric power utilities.....do.....	175,053	.....	173,740	175,251	178,422	178,006	162,277	155,708	154,933	160,068	159,277	.....	.....	.....	.....	.....
Industrial, total.....do.....	14,032	.....	11,568	11,957	12,345	12,736	12,590	12,443	12,298	.....	.....	.....	.....	.....	.....	.....
Oven-coke plants.....do.....	4,625	.....	3,718	4,080	4,442	4,805	4,481	4,156	3,832	.....	.....	.....	.....	.....	.....	.....
Exports.....do.....	105,244	76,870	6,258	6,077	6,877	7,231	6,043	8,251	7,393	7,978	5,726	6,194	5,053	4,243	5,809	.....
Producer Price Index.....1967=100..	530.4	533.2	534.6	534.3	532.0	530.8	531.3	533.2	534.6	534.9	539.1	*540.7	537.7	540.2	542.9	539.8
COKE																
Production:																
Beehive and oven (byproduct).....thous. sh. tons..	28,115	25,808	5,579	.....	.....	6,451	.....	.....	6,753	.....	.....	7,025	.....	.....	.....	.....
Petroleum coke §.....do.....	29,908	30,615	2,404	2,284	2,611	2,580	2,649	2,735	2,577	2,610	2,743	2,677	2,713	2,598	.....	.....
Stocks, end of period:																
Oven-coke plants, total.....do.....	8,190	3,518	5,781	.....	.....	4,569	.....	.....	3,875	.....	.....	3,518	.....	.....	.....	.....
At furnace plants.....do.....	7,858	3,233	5,469	.....	.....	4,220	.....	.....	3,577	.....	.....	3,233	.....	.....	.....	.....
At merchant plants.....do.....	331	286	312	.....	.....	348	.....	.....	298	.....	.....	286	.....	.....	.....	.....
Petroleum coke.....do.....	1,344	1,096	1,317	1,324	1,390	1,230	963	891	966	1,110	1,101	1,096	1,127	1,265	.....	.....
Exports.....do.....	1,109	*731	37	99	72	41	*72	32	45	49	47	119	55	23	61	.....
PETROLEUM AND PRODUCTS																
Crude petroleum:																
Oil wells completed.....number..	40,300	*37,159	3,433	*3,031	3,186	3,514	2,683	2,641	3,733	2,970	3,237	3,470	3,253	3,212	4,092	2,821
Producer Price Index.....1967=100..	733.4	681.5	678.0	678.0	678.0	677.9	675.7	675.1	675.7	675.7	675.6	*674.4	676.0	676.0	676.0	674.3
Gross input to crude oil distillation units.....mil. bbl.	4,442.6	4,348.3	344.7	349.9	373.9	378.2	390.5	382.0	373.7	371.2	368.5	353.6	365.8	356.0	.....	.....
Refinery operating ratio.....% of capacity..	70	72	66	69	72	75	75	74	76	73	75	70	73	76	.....	.....
All oils, supply, demand, and stocks:																
New supply, total ◊.....mil. bbl.	5,608.2	5,570.0	430.5	449.2	469.0	464.4	493.7	505.1	492.3	482.8	464.3	470.4	484.5	465.5	.....	.....
Production:																
Crude petroleum.....do.....	3,156.7	3,159.4	269.0	260.6	269.2	260.3	268.0	268.2	260.0	268.3	258.7	267.0	268.4	253.0	.....	.....
Natural gas plant liquids.....do.....	585.1	589.9	49.0	46.3	48.0	47.6	49.3	49.7	49.7	51.6	50.6	48.9	50.3	48.8	.....	.....
Imports:																
Crude and unfinished oils.....do.....	1,352.4	1,303.3	75.1	102.7	108.4	114.8	128.3	138.2	136.5	115.1	108.6	109.5	103.8	93.7	.....	.....
Refined products.....do.....	514.0	517.5	37.4	39.6	43.4	41.7	48.1	49.0	46.1	47.9	46.5	45.1	62.0	69.9	.....	.....
Change in stocks, all oils (decrease,—).....do.....	-53.7	23.2	-56.4	0.2	21.4	12.1	24.9	33.2	24.8	19.7	-1.6	-57.2	-23.1	33.9	.....	.....
Demand, total.....do.....	5,880.4	5,812.0	504.8	467.6	468.0	481.6	480.0	496.9	482.4	481.2	486.4	537.2	536.3	463.1	.....	.....
Exports:																
Crude petroleum.....do.....	86.3	59.9	5.4	2.6	8.7	4.3	4.5	5.3	5.3	4.3	5.6	2.9	4.7	5.4	.....	.....
Refined products.....do.....	211.2	209.9	19.4	21.6	17.6	18.9	13.2	15.2	15.2	13.5	14.8	16.9	13.1	11.4	.....	.....

See footnotes at end of tables.

Unless otherwise stated in footnotes below, data through 1982 and methodological notes are as shown in BUSINESS STATISTICS: 1982	1982	1983	1983										1984			
	Annual	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	
PETROLEUM, COAL, AND PRODUCTS—Continued																
PETROLEUM AND PRODUCTS—Continued																
All oils, supply, demand, and stocks—Continued																
Domestic product demand, total #mil. bbl.	5,582.9	5,542.1	480.0	443.4	441.8	458.4	462.3	476.3	461.9	463.4	466.0	517.4	518.5	446.3	.....
Gasoline .....do.....	2,396.1	2,424.8	212.8	195.8	203.5	211.1	211.0	216.2	201.8	204.9	199.6	212.9	194.7	181.5	.....
Kerosene .....do.....	47.0	46.4	3.9	3.9	2.9	2.3	2.6	3.0	2.9	3.4	4.6	7.1	6.5	3.2	.....
Distillate fuel oil .....do.....	974.9	979.0	89.9	81.4	72.6	75.8	69.7	76.5	77.0	80.8	86.4	104.1	108.2	82.4	.....
Residual fuel oil .....do.....	626.5	512.2	48.7	40.9	40.6	39.5	40.5	42.2	39.7	38.0	40.7	48.7	61.4	46.5	.....
Jet fuel .....do.....	369.6	380.4	31.6	31.6	31.2	32.1	32.1	33.4	32.2	31.2	30.0	36.5	37.0	32.3	.....
Lubricants .....do.....	51.0	51.9	4.8	4.2	4.7	4.6	4.4	4.6	4.9	5.2	4.1	3.8	4.1	5.1	.....
Asphalt .....do.....	124.4	*136.2	6.2	7.8	12.3	17.2	17.7	20.3	17.7	14.4	10.5	4.3	4.2	4.5	.....
Liquefied gases .....do.....	547.3	537.7	40.8	37.0	33.9	35.1	39.8	38.0	43.7	46.1	49.4	63.3	61.8	49.5	.....
Stocks, end of period, total .....do.....	1,429.9	1,453.1	1,375.4	1,375.7	1,397.1	1,409.3	1,434.2	1,467.4	1,492.1	1,511.9	1,510.3	1,453.1	1,430.0	1,463.9	.....
Crude petroleum .....do.....	643.6	722.3	670.4	683.6	681.4	686.3	682.7	706.9	712.6	718.2	712.8	722.3	732.9	727.5	.....
Strategic petroleum reserve .....do.....	293.9	379.1	311.8	317.7	326.8	332.5	340.7	351.8	361.0	367.2	371.3	379.1	384.4	387.2	.....
Unfinished oils, natural gasoline, etc .....do.....	158.1	161.0	166.1	166.4	164.6	165.4	164.0	170.1	170.1	171.8	166.2	161.0	159.9	159.2	.....
Refined products .....do.....	628.3	569.9	539.0	525.7	551.1	557.5	587.6	590.4	609.4	621.8	631.3	569.9	537.3	577.3	.....
Refined petroleum products:																
Gasoline (incl. aviation):																
Production .....do.....	2,322.1	2,320.3	183.4	186.7	198.7	200.3	208.8	203.8	198.4	192.7	199.8	196.3	187.7	184.1	.....
Stocks, end of period .....do.....	196.8	187.8	186.2	185.3	189.3	185.8	194.2	187.4	192.2	190.3	198.4	187.8	188.0	199.3	.....
Prices (excl. aviation):																
Retail, reg. grade, U.S. city average (BLS): *	612.5	552.2	533.5	515.3	537.2	559.5	566.6	571.2	566.3	559.2	548.2	*535.8	519.6	513.6	519.1	521.7
Leaded\$ per gal.	1.222	1.157	1.064	1.131	1.177	1.197	1.207	1.203	1.189	1.172	1.156	1.146	1.131	1.125	1.125	1.145
Unleaded .....do.....	1.296	1.241	1.151	1.215	1.259	1.277	1.288	1.285	1.274	1.255	1.241	1.231	1.216	1.209	1.210	1.227
Aviation gasoline:																
Production .....mil. bbl.	8.9	9.1	0.6	0.7	0.7	0.9	0.9	1.0	1.0	0.8	0.7	0.5	0.6	0.9	.....
Stocks, end of period .....do.....	2.3	2.3	2.5	2.4	2.4	2.5	2.4	2.6	2.5	2.4	2.4	2.3	2.4	2.6	.....
Kerosene:																
Production .....do.....	42.0	40.2	3.9	2.7	2.7	2.2	2.5	2.6	3.5	4.3	3.9	4.1	5.6	4.4	.....
Stocks, end of period .....do.....	10.4	7.9	8.9	8.3	8.2	8.0	8.5	8.3	9.2	10.2	10.2	7.9	7.5	9.3	.....
Producer Price Index (light distillate) .....1967=100.	996.4	905.8	939.2	908.4	897.1	894.3	882.8	880.7	880.4	889.3	885.5	*881.4	871.2	884.9	902.3	874.1
Distillate fuel oil:																
Production .....mil. bbl.	951.3	895.5	61.7	65.1	75.8	76.4	80.6	81.0	81.7	83.1	80.4	78.2	80.1	83.1	.....
Imports .....do.....	34.0	61.6	1.3	2.2	4.4	5.3	8.0	9.3	7.6	7.9	5.7	6.6	8.4	13.3	.....
Stocks, end of period .....do.....	178.6	140.4	118.7	103.2	109.2	113.8	131.0	143.5	154.7	163.3	161.3	140.4	119.5	132.2	.....
Producer Price Index (middle distillate) .....1967=100.	1,012.7	889.5	874.2	813.4	838.1	879.4	876.3	883.0	894.3	912.2	901.8	*892.1	870.6	923.6	951.3	874.1
Residual fuel oil:																
Production .....mil. bbl.	390.4	308.9	25.8	28.2	28.8	24.9	23.9	21.9	24.4	24.8	25.5	27.7	29.5	29.1	.....
Imports .....do.....	283.1	251.6	21.3	22.3	22.0	20.3	21.2	21.9	20.7	19.6	23.3	20.0	32.9	32.1	.....
Stocks, end of period .....do.....	66.2	49.1	46.3	46.6	50.9	50.1	51.9	48.3	49.7	51.4	54.5	49.1	45.4	57.6	.....
Producer Price Index .....1967=100.	1,182.0	1,083.6	987.5	1,015.7	987.7	1,034.2	1,062.4	1,081.6	1,102.1	1,120.0	1,125.5	*1,109.6	1,164.8	1,093.1	1,116.1	1,110.3
Jet fuel:																
Production .....mil. bbl.	357.0	372.3	32.3	29.4	31.2	31.3	31.9	31.4	32.8	31.2	32.3	29.1	32.5	32.7	.....
Stocks, end of period .....do.....	36.8	38.6	42.2	40.2	41.3	41.3	41.7	40.2	41.8	43.4	45.9	38.6	35.6	39.0	.....
Lubricants:																
Production .....do.....	51.6	53.6	4.0	4.2	4.5	4.4	4.6	4.7	4.7	4.9	5.2	4.5	4.3	4.6	.....
Stocks, end of period .....do.....	12.5	12.1	13.1	12.7	12.1	11.7	11.6	11.4	11.0	10.6	11.5	12.1	12.3	11.7	.....
Asphalt:																
Production .....do.....	119.4	*135.6	8.4	10.7	12.3	14.9	15.1	16.2	15.1	13.3	9.9	7.4	6.4	7.0	.....
Stocks, end of period .....do.....	15.9	*13.8	24.4	27.3	27.0	25.1	22.9	19.2	17.1	16.4	15.8	18.8	21.1	23.6	.....
Liquefied gases (incl. ethane and ethylene):																
Production, total .....do.....	557.5	584.8	47.0	45.9	47.9	47.8	48.7	46.7	48.7	52.3	53.5	51.0	49.9	49.0	.....
At gas processing plants (L.P.G.) .....do.....	459.0	466.3	37.9	36.2	37.9	37.0	37.6	36.1	37.8	41.7	43.2	41.8	40.0	38.9	.....
At refineries (L.R.G.) .....do.....	98.5	118.5	9.1	9.7	10.0	10.8	11.1	10.6	10.9	10.7	10.4	9.2	9.9	10.1	.....
Stocks (at plants and refineries) .....do.....	94.0	100.6	82.8	86.0	96.1	106.1	112.5	118.2	118.9	120.7	118.4	100.6	93.2	88.9	.....

PULP, PAPER, AND PAPER PRODUCTS

PULPWOOD †															
Receipts .....thous. cords (128 cu.ft.)	'78,519	'84,475	7,051	6,770	6,943	7,154	6,821	7,445	7,286	7,691	7,172	6,691	7,044	7,434	.....
Consumption .....do.....	'79,039	'85,442	7,360	7,162	7,025	7,188	6,801	7,395	7,203	7,534	7,267	6,741	7,185	7,295	.....
Inventories, end of period .....do.....	5,426	5,229	5,109	4,779	4,677	4,763	4,952	5,177	5,051	5,430	5,266	5,229	5,168	5,192	.....
WASTE PAPER †															
Consumption, total .....thous. sh. tons.	'13,565	'14,539	1,251	1,164	1,221	1,205	1,128	1,205	1,202	1,337	1,275	*1,157	*1,292	1,276	.....
Inventories, end of period .....do.....	1,022	920	851	828	812	856	854	853	876	864	864	920	908	896	.....
WOODPULP †															
Production:															
Total .....thous. sh. tons.	'49,334	'52,535	4,569	4,308	4,517	4,405	4,156	4,483	4,422	4,685	4,597	4,124	*4,513	4,538	.....
Dissolving pulp .....do.....	1,092	1,261	112	95	133	123	72	99	91	113	117	106	98	106	.....
Paper grades chemical pulp .....do.....	39,478	42,356	3,694	3,505	3,624	3,533	3,374	3,624	3,586	3,777	3,704	3,297	*3,601	3,648	.....
Groundwood and thermo-mechanical .....do.....	5,064	5,067	442	393	432	413	401	432	427	449	443	419	*463	454	.....
Semi-chemical .....do.....	3,699	3,851	321	314	329	335	309	328	318	347	334	303	352	331	.....
Inventories, end of period:															
At pulp mills:															
Own use woodpulp .....do.....	177	172	193	198	208	201	209	212	193	186	192	172	'151	143	.....
Market pulp .....do.....	437	380	407	429	434	425	452	468	420	449	484	380	*394	351	.....
Market pulp at paper and board mills .....do.....	429	522	535	518	528	515	499	492	466	476	499	522	564	543	.....
Exports, all grades, total .....do.....	'3,395	'3,674	332	346	312	324	289	289	328	314	252	384	360	317	374
Dissolving and special alpha .....do.....	631	646	58	78	40	50	31	60	30	77	61	72	52	38	74
All other .....do.....	'2,763	'3,027	274	267	272	274	258	229	298	238	191	312	208	279	300
Imports, all grades, total .....do.....	'3,894	'4,093	338	301	378	357	327	350	332	431	362	345	337	420	341
Dissolving and special alpha .....do.....	162	179	20	11	23	12	20	9	11	15	7	20	14	11	19
All other .....do.....	'3,732	'3,914	318	289	355	345	307	341	321	416	355	325	323	409	322

See footnotes at end of tables.

	1982	1983	1983										1984			
	Annual		Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
PULP, PAPER, AND PAPER PRODUCTS—Continued																
PAPER AND PAPER PRODUCTS †																
Paper and board:																
Production (API):																
Total	thous. sh. tons..	'59,488	'64,868	5,540	5,274	5,554	5,381	5,117	5,675	5,501	5,832	5,642	5,169	'5,666	'5,647	6,030
Paper	do.....	30,422	32,917	2,796	2,609	2,786	2,722	2,553	2,930	2,764	2,935	2,863	2,706	'2,885	'2,849	3,023
Paperboard	do.....	29,065	31,951	2,744	2,609	2,768	2,658	2,563	2,745	2,737	2,897	2,778	2,463	2,781	'2,798	3,007
Producer price indexes:																
Paperboard	1967=100..	254.9	250.1	246.3	248.1	248.7	249.6	249.7	250.1	254.0	255.5	259.4	*260.9	262.2	269.3	273.6
Building paper and board	do.....	239.5	250.0	244.2	247.0	249.3	249.4	256.2	252.1	252.8	254.7	254.7	*250.4	251.9	253.9	258.9
Selected types of paper (API):																
Groundwood paper, uncoated:																
Orders, new	thous. sh. tons..	'1,469	'1,559	128	122	126	131	135	163	131	152	124	122	147	'153	143
Orders, unfilled, end of period	do.....	91	156	106	101	94	99	114	145	153	164	153	156	161	'184	186
Shipments	do.....	'1,459	'1,509	123	127	129	128	118	129	132	142	137	121	138	'133	143
Coated paper:																
Orders, new	do.....	'4,998	'15,945	499	439	509	543	499	556	451	523	463	'545	'502	'533	555
Orders, unfilled, end of period	do.....	325	'551	342	352	398	457	524	528	492	496	447	'551	'526	'546	581
Shipments	do.....	5,032	5,743	460	447	468	481	453	536	465	535	513	496	514	'518	537
Uncoated free sheet papers:																
Orders, new	do.....	'7,820	'9,010	833	743	751	744	755	782	720	741	757	735	'730	'715	787
Shipments	do.....	'8,187	'9,030	805	759	762	762	676	786	748	794	773	750	'795	'777	814
Unbleached kraft packaging and industrial converting papers:																
Shipments	thous. sh. tons..	'3,688	'3,792	316	291	304	312	287	349	327	339	329	301	'322	322	352
Tissue paper, production	do.....	'4,438	'4,790	399	397	410	392	385	419	399	414	408	390	'407	'395	426
Newsprint:																
Canada:																
Production	thous. metric tons..	8,109	8,486	680	695	724	719	699	726	707	750	774	673	757	622	666
Shipments from mills	do.....	8,054	8,439	674	710	683	796	679	696	738	764	766	723	699	646	674
Stocks at mills, end of period	do.....	256	303	389	374	415	339	359	388	358	344	352	303	361	337	329
United States:																
Production	do.....	4,574	4,688	406	364	399	372	378	419	377	406	414	372	417	410	434
Shipments from mills	do.....	4,525	4,675	394	362	404	395	395	418	378	407	412	390	415	412	454
Stocks at mills, end of period	do.....	86	99	159	161	156	133	116	117	116	116	117	99	103	102	82
Consumption by publishers	do.....	10,107	10,579	875	879	919	858	816	847	885	1,001	985	'954	'847	'879	939
Stocks at and in transit to publishers, end of period	thous. metric tons..	854	790	805	780	746	809	826	849	812	785	750	790	785	'808	787
Imports	thous. sh. tons..	6,531	6,919	620	538	599	659	538	584	543	634	633	593	663	621	591
Price, rolls, contract, f.o.b. mill, freight allowed or delivered	Index, 1967=100..	315.8	302.9	299.1	299.1	299.1	299.1	295.0	305.8	310.4	309.6	309.6	309.6	309.6	309.6	316.0
Paper products:																
Shipping containers, corrugated and solid fiber shipments	mil. sq. ft. surf. area.	235,185	252,876	*21,828	20,466	20,777	22,044	19,582	22,649	22,317	23,476	21,043	19,874	22,070	21,983	23,650

RUBBER AND RUBBER PRODUCTS

RUBBER																
Natural rubber:																
Consumption	thous. metric tons..	660.61	676.27	55.28	55.31	56.86	67.04	48.79	39.22	50.21	75.29	69.67	'49.57	'73.76	56.78	.....
Stocks, end of period	do.....	95.42	80.75	87.35	93.77	100.01	97.86	99.18	90.69	83.29	74.83	75.87	'90.75	'95.19	95.68	.....
Imports, incl. latex and guayule	thous. lg. tons..	618.27	642.07	48.54	62.11	63.44	65.20	50.41	31.90	44.22	67.83	71.06	54.71	87.84	57.82	75.45
Price, wholesale, smoked sheets (N.Y.)	\$ per lb.	0.453	*0.560	0.578	0.578	0.568	0.545	0.583	0.593	0.605	0.605	0.583	.....	0.573	0.583	0.580
Synthetic rubber:																
Production	thous. metric tons..	1,828.95	1,978.28	170.06	160.46	171.13	164.50	154.64	150.50	163.16	177.96	193.73	'163.29	183.29	173.02	.....
Consumption	do.....	1,757.30	1,860.79	158.19	146.32	146.22	156.68	135.85	174.52	174.39	184.53	162.14	'150.21	'177.54	175.36	.....
Stocks, end of period	do.....	255.94	283.80	283.54	283.84	294.34	290.82	304.77	276.24	262.34	256.12	282.72	*283.79	*284.08	277.18	.....
Exports (Bu. of Census)	thous. lg. tons..	284.62	275.01	24.44	24.91	31.66	24.37	20.15	21.08	22.01	20.14	23.75	23.67	24.12	22.22	28.09
TIRES AND TUBES																
Pneumatic casings, automotive:																
Production	thous.....	'178,500	186,923	15,370	16,325	15,653	15,473	12,570	16,440	16,360	16,734	15,136	15,483	16,749	17,498	19,121
Shipments, total	do.....	201,236	218,865	18,034	17,782	18,907	20,431	17,879	20,117	21,246	20,532	17,527	16,077	18,509	17,971	21,640
Original equipment	do.....	38,633	49,364	4,232	4,143	4,286	4,461	3,240	3,931	5,003	4,870	4,625	4,608	4,755	5,109	5,728
Replacement equipment	do.....	158,688	164,265	13,353	13,185	14,202	15,586	14,354	15,686	15,717	15,153	12,458	10,890	13,118	12,253	15,191
Exports	do.....	3,915	5,236	499	454	419	384	285	500	526	509	444	579	636	609	721
Stocks, end of period	do.....	39,955	33,340	50,287	51,921	42,395	39,622	36,989	35,541	32,854	31,530	31,676	33,340	35,450	37,615	38,529
Exports (Bu. of Census)	do.....	5,971	4,656	424	392	436	306	270	360	447	391	485	484	458	427	544
Inner tubes, automotive:																
Exports (Bu. of Census)	do.....	1,924	1,829	157	134	138	193	100	147	169	240	126	177	97	137	187

See footnotes at end of tables.

Unless otherwise stated in footnotes below, data through 1982 and methodological notes are as shown in BUSINESS STATISTICS: 1982	1982	1983	1983										1984			
	Annual		Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
STONE, CLAY, AND GLASS PRODUCTS																
PORTLAND CEMENT																
Shipments, finished cement.....thous. bbl.	'343,463	'376,287	25,367	28,363	33,569	39,415	37,266	41,931	39,537	39,053	32,771	22,202	20,356	25,638	29,202	.....
CLAY CONSTRUCTION PRODUCTS																
Shipments:																
Brick, unglazed (common and face) mil. standard brick..	4,408.6	'5,791.6	445.7	451.8	529.1	615.4	546.7	607.9	583.4	545.7	494.2	'375.4	320.0	.....	.....	.....
Structural tile, except facing.....thous. sh. tons..	40.9	30.1	2.2	3.4	1.4	2.6	2.3	2.8	3.6	3.3	2.1	2.1	1.0	.....	.....	.....
Sewer pipe and fittings, vitrified.....do.....	325.0	'375.1	27.1	29.7	30.6	36.7	39.8	43.7	40.0	38.6	29.8	'20.9	23.2	.....	.....	.....
Floor and wall tile and accessories, glazed and unglazed.....mi. sq. ft.	294.8	'333.6	29.8	27.9	31.4	29.9	27.1	30.5	27.3	29.2	27.0	25.6	24.8	.....	.....	.....
Producer Price Index, Brick (common), f.o.b. plant or N.Y. dock.....1967=100.	312.5	338.1	333.8	337.7	339.3	340.1	341.9	341.9	341.9	344.0	345.3	'345.5	346.9	346.7	347.9	349.4
GLASS AND GLASS PRODUCTS																
Flat glass, mfrs.' shipments.....thous. \$.	871,331	968,516	228,658	.....	.....	238,331	.....	.....	.....	251,886	.....	.....	249,641	.....	.....	.....
Glass containers: †																
Production.....thous. gross..	309,376	'288,616	27,039	25,659	25,513	24,804	24,212	27,139	23,805	25,539	21,130	'16,665	21,126	23,443	.....	.....
Shipments, domestic, total ‡	307,113	'287,844	25,926	24,456	26,183	26,737	25,615	28,422	24,909	23,083	20,288	'18,483	21,109	21,228	.....	.....
Narrow-neck containers:																
Food.....do.....	27,658	27,374	2,690	2,241	2,496	2,467	2,008	3,215	2,995	1,916	1,658	1,502	2,092	2,221	.....	.....
Beverage.....do.....	61,020	'59,895	5,118	4,872	5,711	6,331	5,880	6,347	5,389	4,513	4,230	'3,843	3,966	4,500	.....	.....
Beer.....do.....	107,861	'97,755	8,955	9,076	9,612	9,370	9,402	9,164	7,575	7,165	6,256	'5,778	6,887	6,439	.....	.....
Liquor and wine.....do.....	22,265	22,947	2,039	1,754	1,912	2,005	2,069	1,980	2,011	2,281	1,870	1,667	1,838	1,790	.....	.....
Wide-mouth containers:																
Food and dairy products.....do.....	63,372	60,108	5,129	4,451	4,829	5,037	5,010	6,170	5,527	5,642	4,861	4,232	4,943	4,782	.....	.....
Narrow-neck and wide-mouth containers:																
Medicinal and toilet.....do.....	22,322	'17,977	1,824	1,894	1,469	1,354	1,115	1,393	1,280	1,441	1,294	'1,350	1,240	1,340	.....	.....
Chemical, household and industrial.....do.....	2,615	1,788	171	168	154	173	131	153	132	125	119	111	143	156	.....	.....
Stocks, end of period.....do.....	45,634	'43,307	50,022	51,269	50,604	49,467	48,104	45,893	44,080	44,583	45,091	'43,307	44,855	46,514	.....	.....
GYPSUM AND PRODUCTS																
Production:																
Crude gypsum (exc. byproduct).....thous. sh. tons.	'10,538	12,948	905	1,053	1,033	1,141	1,017	1,218	1,300	1,221	1,161	1,117	1,146	1,159	.....	.....
Calcined.....do.....	'11,243	13,710	1,110	1,131	1,087	1,167	1,128	1,276	1,262	1,278	1,213	1,161	1,263	1,212	.....	.....
Imports, crude gypsum.....do.....	6,718	8,031	513	636	698	694	784	682	872	995	741	561	705	703	.....	.....
Sales of gypsum products:																
Uncalcined.....do.....	'4,528	4,064	195	235	268	464	338	377	432	471	339	383	268	266	.....	.....
Calcined:																
Industrial plasters.....do.....	'430	'442	37	36	35	36	30	35	35	40	40	36	36	40	.....	.....
Building plasters, total (incl. Keene's cement) @	'264	257	22	21	21	22	21	24	23	22	20	'19	20	20	.....	.....
Board products, total.....mil. sq. ft.	13,093	16,818	1,425	1,312	1,319	1,449	1,422	1,593	1,471	1,548	1,493	1,542	1,494	1,524	.....	.....
Lath.....do.....	39	36	3	3	3	4	3	3	3	2	3	4	2	3	.....	.....
Veneer base.....do.....	286	368	32	28	29	35	31	37	33	31	32	34	34	37	.....	.....
Gypsum sheathing.....do.....	264	344	28	30	29	32	29	31	31	30	29	25	28	28	.....	.....
Regular gypsum board.....do.....	8,447	10,807	933	844	861	934	903	1,014	933	981	970	1,000	945	970	.....	.....
Type X gypsum board.....do.....	3,486	4,283	352	322	317	356	366	414	381	402	385	408	407	398	.....	.....
Predecorated wallboard.....do.....	119	119	11	10	11	12	9	10	10	10	9	10	10	12	.....	.....
5/16 mobile home board.....do.....	453	861	66	76	69	77	80	83	80	90	65	62	66	75	.....	.....

TEXTILE PRODUCTS

FABRIC																
Woven fabric, finishing plants:																
Production (finished fabric).....mil. linear yd.	6,660	7,190	'726	562	561	'716	421	592	'702	603	591	'643	550	.....	.....	.....
Cotton.....do.....	2,466	2,654	'274	215	210	'268	147	209	'264	215	207	'226	209	.....	.....	.....
Manmade fiber and silk fabrics.....do.....	4,194	4,537	'452	348	351	'448	274	383	'438	388	384	'416	341	.....	.....	.....
Inventories held at end of period.....do.....	637	598	611	603	619	607	511	630	632	647	655	597	621	.....	.....	.....
Cotton.....do.....	257	231	242	241	248	233	245	252	263	267	260	230	257	.....	.....	.....
Manmade fiber and silk fabrics.....do.....	380	367	369	362	371	374	381	378	368	380	395	367	364	.....	.....	.....
Backlog of finishing orders.....do.....	.....	.....	614	592	618	575	592	541	544	537	512	489	540	.....	.....	.....
Cotton.....do.....	.....	.....	241	225	226	199	200	221	234	229	226	223	228	.....	.....	.....
Manmade fiber and silk fabrics.....do.....	.....	.....	374	367	392	376	392	320	310	309	286	267	312	.....	.....	.....
COTTON and MANUFACTURES																
Cotton (excluding linters):																
Production:																
Ginnings ◊.....thous. running bales..	'11,526	7,500	.....	.....	.....	.....	.....	2	315	770	3,348	6,007	7,214	.....	.....	.....
Crop estimate.....thous. net weight bales \$.	11,963	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7,618	.....	.....	.....
Consumption.....thous. running bales..	4,938	5,553	'549	431	441	'543	369	453	'560	459	446	'468	469	448	'548	.....
Stocks in the United States, total, end of period # thous. running bales..	14,232	10,686	11,399	10,358	9,455	8,449	7,561	14,047	13,116	12,515	11,725	10,686	9,512	8,347	'6,903	5,698
Domestic cotton, total.....do.....	14,229	10,685	11,397	10,356	9,454	8,447	7,560	14,046	13,115	12,514	11,724	10,685	9,511	8,346	'6,903	5,697
On farms and in transit.....do.....	2,433	1,159	896	767	748	273	150	7,067	6,663	4,767	2,506	1,159	1,222	1,275	'1,166	962
Public storage and compresses.....do.....	11,101	8,924	9,713	8,796	7,930	7,419	6,656	6,268	5,814	7,192	8,665	8,924	7,643	6,359	'4,997	3,960
Consuming establishments.....do.....	695	602	788	793	776	755	754	711	638	555	553	602	646	712	'740	775

See footnotes at end of tables.

Unless otherwise stated in footnotes below, data through 1982 and methodological notes are as shown in BUSINESS STATISTICS: 1982

	1982	1983	1983										1984			
	Annual		Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.

TEXTILE PRODUCTS—Continued

COTTON AND MANUFACTURES—Cont.																
Cotton (excluding linters)—Continued																
Exports.....	6,079	5,649	487	612	464	831	409	383	322	261	441	632	663	719	896	
Imports.....	39	8	1	(*)	(*)	(*)	1	2	1	1	(*)	(*)	(*)	(*)	(*)	
Price (farm), American upland ♦.....	57.6	63.9	62.2	60.4	63.6	62.6	67.1	67.0	63.1	64.0	66.8	67.3	62.7	65.7	70.5	
Price, Strict Low Middling, Grade 41, staple 34 (1-1/16"), average 10 markets.....	*60.5	63.1	66.0	65.3	66.9	70.7	70.3	72.9	71.7	72.0	73.4	73.0	70.6	71.8	74.9	
Spindle activity (cotton system spindles):																
Active spindles, last working day, total.....	14.2	13.9	14.4	14.0	14.2	14.2	13.8	14.1	14.2	14.9	14.1	13.9	13.8	.....	.....
Consuming 100 percent cotton.....	5.3	5.3	5.3	5.3	5.3	5.3	5.2	5.2	5.3	5.3	5.3	5.3	5.2	5.2	.....
Spindle hours operated, all fibers, total.....	81.6	90.3	9.4	6.8	7.1	8.6	5.9	7.8	8.8	7.7	7.4	7.6	7.4	.....	.....
Average per working day.....	0.320	0.343	0.336	0.342	0.354	0.344	0.295	0.372	0.352	0.384	0.369	0.305	0.368	.....	.....
Consuming 100 percent cotton.....	30.2	33.7	*3.1	2.5	2.5	*3.1	2.2	3.0	*3.4	3.0	2.9	*3.0	2.8	2.9	.....
Cotton cloth:																
Cotton broadwoven goods over 12" in width:																
Production (qtrly.).....	3,779	4,163	1,046	.....	.....	1,042	.....	.....	1,029	.....	.....	1,046	.....	.....	.....
Orders, unfilled, end of period, compared with avg. weekly production.....	11.1	11.8	10.3	10.0	10.8	11.7	14.8	12.6	12.4	12.6	12.7	13.8	10.4	11.2	.....
Inventories, end of period, compared with avg. weekly production.....	7.1	4.7	4.9	4.8	4.3	4.3	5.1	4.2	3.8	3.8	4.2	4.8	4.6	4.5	.....
Ratio of stocks to unfilled orders (at cotton mills), end of period.....	0.65	0.40	0.47	0.44	0.40	0.37	0.34	0.33	0.31	0.30	0.33	0.34	0.44	0.40	.....
Exports, raw cotton equiv. thous. net-weight 480 lb. bales.....	239.2	188.8	18.2	17.2	14.2	15.9	12.7	14.0	15.4	16.0	15.3	14.8	.....	.....	.....
Imports, raw cotton equivalent.....	601.3	793.1	56.7	54.6	61.7	58.9	64.5	66.6	77.9	71.4	80.9	77.4	.....	.....	.....
Producer Price Index, gray cotton broadweaves *..... 12/75=100.....	152.6	152.1	151.1	151.7	152.2	151.0	151.5	151.7	152.8	156.0	156.7	*156.7	157.9	159.2	158.1	158.1
MANMADE FIBERS AND MANUFACTURES																
Fiber production, qtrly:																
Acetate filament yarn.....	195.2	227.6	50.3	.....	.....	62.2	.....	.....	61.3	.....	.....	53.8	.....	.....	.....
Rayon staple, including tow.....	355.0	374.8	92.6	.....	.....	92.1	.....	.....	92.1	.....	.....	96.0	.....	.....	.....
Noncellulosic, except textile glass:																
Yarn and monofilaments.....	3,040.3	3,560.5	801.1	.....	.....	924.0	.....	.....	903.3	.....	.....	932.1	.....	.....	.....
Staple, incl. tow.....	3,402.5	3,970.6	886.7	.....	.....	1,015.5	.....	.....	1,032.8	.....	.....	1,035.6	.....	.....	.....
Textile glass fiber.....	899.2	1,166.0	245.1	.....	.....	273.1	.....	.....	313.2	.....	.....	334.6	.....	.....	.....
Fiber stocks, producers', end of period:																
Acetate filament yarn.....	10.7	12.5	9.8	.....	.....	12.2	.....	.....	14.1	.....	.....	12.5	.....	.....	.....
Rayon staple, including tow.....	25.9	23.3	31.5	.....	.....	28.9	.....	.....	21.3	.....	.....	23.3	.....	.....	.....
Noncellulosic fiber, except textile glass:																
Yarn and monofilaments.....	279.8	275.1	270.1	.....	.....	259.5	.....	.....	270.4	.....	.....	275.1	.....	.....	.....
Staple, incl. tow.....	324.8	342.0	292.7	.....	.....	278.0	.....	.....	300.8	.....	.....	342.0	.....	.....	.....
Textile glass fiber.....	141.0	125.2	131.1	.....	.....	101.1	.....	.....	102.7	.....	.....	125.2	.....	.....	.....
Manmade fiber and silk broadwoven fabrics:																
Production (qtrly.), total #.....	8,585.5	10,089.1	2,344.7	.....	.....	2,513.9	.....	.....	2,516.2	.....	.....	2,714.3	.....	.....	.....
Filament yarn (100%) fabrics #.....	2,951.1	3,601.0	803.1	.....	.....	885.4	.....	.....	877.5	.....	.....	1,035.0	.....	.....	.....
Chiefly rayon and/or acetate fabrics.....	346.6	255.1	60.8	.....	.....	60.6	.....	.....	66.0	.....	.....	67.7	.....	.....	.....
Chiefly nylon fabrics.....	397.5	325.3	84.4	.....	.....	87.6	.....	.....	72.6	.....	.....	79.7	.....	.....	.....
Spun yarn (100%) fabrics #.....	4,726.7	5,295.0	1,248.9	.....	.....	1,331.1	.....	.....	1,353.5	.....	.....	1,361.5	.....	.....	.....
Rayon and/or acetate fabrics, blends.....	113.7	113.9	26.5	.....	.....	28.8	.....	.....	28.3	.....	.....	30.3	.....	.....	.....
Polyester blends with cotton.....	3,547.8	3,998.4	942.3	.....	.....	1,018.9	.....	.....	1,023.0	.....	.....	1,014.2	.....	.....	.....
Acetate filament and spun yarn fabrics.....	893.0	1,031.7	257.6	.....	.....	256.2	.....	.....	245.5	.....	.....	272.4	.....	.....	.....
Producer Price Index, gray synthetic broadweaves *..... 12/75=100.....	143.7	147.0	144.7	145.5	146.1	146.3	146.5	147.4	147.7	149.3	151.5	*151.0	151.6	150.9	151.8	152.4
Manmade fiber textile trade:																
Exports, manmade fiber equivalent.....	438.55	460.71	43.40	43.45	40.39	39.80	35.00	36.21	39.50	36.97	36.44	35.24
Yarn, tops, thread, cloth.....	200.59	167.19	15.55	15.61	14.45	14.15	12.50	13.06	14.39	14.72	13.44	12.49
Cloth, woven.....	132.57	108.66	10.40	10.84	9.07	9.07	7.71	8.38	9.41	9.31	8.77	7.76
Manufactured prods., apparel, furnishings.....	237.96	293.52	27.85	27.84	25.95	25.66	22.50	23.16	25.11	22.26	23.00	22.74
Imports, manmade fiber equivalent.....	807.10	1,069.49	76.53	73.20	86.99	105.55	98.14	108.25	98.34	106.84	85.83	77.93
Yarn, tops, thread, cloth.....	132.58	182.50	14.44	14.99	16.49	18.61	16.81	15.98	15.62	17.41	14.69	13.36
Cloth, woven.....	93.34	123.21	9.12	10.77	11.06	13.05	11.31	11.53	10.75	11.03	9.55	9.07
Manufactured prods., apparel, furnishings.....	674.51	886.99	62.08	58.22	70.50	86.74	81.33	92.27	82.72	89.43	71.15	64.58
Apparel, total.....	485.31	574.39	38.10	38.63	47.65	58.88	55.16	65.73	54.39	56.24	42.75	34.18
Knit apparel.....	193.09	241.30	15.03	15.33	21.73	27.45	25.44	27.60	24.28	24.22	16.19	11.05
WOOL AND MANUFACTURES																
Wool consumption, mill (clean basis):																
Apparel class.....	105.9	132.4	*12.8	10.6	9.9	*13.7	8.7	10.5	*12.8	11.2	11.2	*12.4	11.0	.....	.....
Carpet class.....	9.8	11.9	*1.2	0.9	1.0	*1.2	0.8	1.1	*1.4	0.9	0.7	*0.9	0.8	.....	.....
Wool imports, clean yield.....	61.4	79.1	5.0	6.7	4.9	7.5	6.5	5.8	5.1	8.5	8.0	8.9	11.2	9.0	7.8	
Duty-free.....	21.4	28.7	1.5	1.9	2.1	2.9	2.4	2.3	1.9	3.3	2.5	3.8	2.7	1.8	2.7	
Wool prices, raw, shorn, clean basis, delivered to U.S. mills:																
Domestic—Graded territory, 64's, staple 2-3/4" and up.....	*2.47	*2.12	1.93	1.93	1.93	1.98	2.19	2.23	2.25	2.25	2.25	2.28	2.30	2.30	2.30	2.45
Australian, 64's, Type 62, duty-paid.....	2.99	2.66	2.66	2.66	2.82	2.62	2.60	2.62	2.63	2.71	2.70	2.66	*2.68	2.76	2.79	2.77
Wool broadwoven goods, exc. felts:																
Production (qtrly.).....	121.1	139.0	34.2	.....	.....	40.0	.....	.....	28.2	.....	.....	36.6	.....	.....	.....
FLOOR COVERINGS																
Carpet, rugs, carpeting (woven, tufted, other), shipments, quarterly.....	906.5	1,084.9	232.1	.....	.....	272.2	.....	.....	284.7	.....	.....	293.9	.....	.....	.....
APPAREL																
Women's, misses', juniors' apparel cuttings:																
Coats.....	*12,617	10,595	617	644	981	1,153	1,033	1,344	1,299	1,118	956	474	*366	419	473	
Dresses.....	166,747	151,386	17,333	15,343	14,124	12,877	10,357	11,471	11,532	11,393	10,830	9,169	*12,640	15,106	15,346	
Suits (incl. pant suits, jumpsuits).....	12,138	9,327	724	615	818	856	932	819	786	825	770	706	*855	964	1,052	
Skirts.....	104,430	100,385	9,149	7,944	8,197	8,627	7,892	9,776	9,016	8,671	7,937	7,324	*7,828	8,364	8,378	
Blouses.....	*27,845	31,795	2,658	2,540	2,833	3,045	2,433	2,790	2,777	2,997	2,599	2,353	*2,839	2,946	3,084	

See footnotes at end of tables.

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	Annual		Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.

TEXTILE PRODUCTS—Continued

APPAREL—Continued																
Men's apparel cuttings:																
Suits	thous. units.	*11,735	10,768	927	779	845	839	570	858	951	1,098	1,100	879	*1,076	1,039	1,139
Coats (separate), dress and sport	do.	*16,477	17,139	1,471	1,432	1,496	1,672	1,390	1,583	1,469	1,510	1,429	1,176	*1,439	1,559	1,633
Trousers (separate), dress	do.	*111,749	109,014	10,244	9,261	8,656	10,188	7,060	9,996	9,141	9,675	10,174	7,365	*9,724	11,719	10,352
Slacks (jean cut), casual	do.	*172,299	202,930	16,564	16,288	17,350	22,319	17,448	18,128	19,879	16,996	19,577	10,265	*14,107	15,207	15,400
Shirts, dress and sport	thous. doz.	*92,423	39,506	3,591	3,179	3,404	3,562	2,455	3,298	3,467	3,356	3,531	3,158	*3,560	3,705	3,843
Hosiery, shipments	thous. doz. pairs.	288,704	308,079	25,415	26,424	26,395	26,070	29,966	26,144	25,317	25,829	25,278	24,905	24,191	25,847	28,867

TRANSPORTATION EQUIPMENT

AEROSPACE VEHICLES																	
Orders, new (net), qtrly, total	mil. \$.	86,587		27,246			24,442							*16,788			
U.S. Government	do.	55,715		20,724			15,120							*9,101			
Prime contract	do.	84,290		26,645			23,863							*16,419			
Sales (net), receipts, or billings, qtrly, total	do.	75,487		19,102			20,826							*20,568			
U.S. Government	do.	42,239		10,594			11,681							*13,105			
Backlog of orders, end of period #	do.	105,810		113,954			117,570							*113,790			
U.S. Government	do.	60,067		70,197			73,636							*69,632			
Aircraft (complete) and parts	do.	46,446		52,621			53,290							*50,439			
Engines (aircraft) and parts	do.	11,958		12,090			12,824							*12,552			
Missiles, space vehicle systems, engines, propulsion units, and parts	mil. \$.	13,432		13,919			14,527							*13,450			
Other related operations (conversions, modifications), products, services	mil. \$.	13,330		14,731			15,092							*15,043			
Aircraft (complete); Shipments †	do.	8,639.8	10,167.9	1,418.9	1,107.9	791.0	1,191.3	429.9	484.8	785.1	432.2	827.7	1,206.2				
Airframe weight †	thous. lb.	44,383	47,329	7,007	5,194	3,854	5,723	1,998	2,338	3,490	1,751	3,797	4,793				
Exports, commercial	mil. \$.	4,775	5,569	1,006	457	397	924	368	178	232	193	307	679	140	378	322	
MOTOR VEHICLES (NEW)																	
Passenger cars:																	
Factory sales (from U.S. plants), total ††	thous.	5,049	6,739	575	529	587	644	461	492	627	678	636	581	647	682	772	(?)
Domestic ††	do.	4,696	6,201	517	475	528	592	426	466	581	623	587	541	608	632	702	
Retail sales, total, not seasonally adj	do.	7,980	9,179	821	762	837	904	792	741	705	861	782	752	778	841	964	896
Domestics §	do.	5,758	6,793	600	578	630	668	577	531	538	664	590	559	583	655	756	721
Imports §	do.	2,221	2,386	221	184	207	236	215	210	166	197	191	192	195	186	208	174
Total, seas, adjusted at annual rate	mil.	2,221		8.4	8.5	9.1	10.1	9.7	8.9	9.2	9.8	9.5	10.5	11.2	10.6	10.0	10.1
Domestics §	do.			6.2	6.4	6.9	7.5	7.2	6.6	7.0	7.0	6.9	7.8	8.4	8.5	7.9	8.1
Imports §	do.			2.2	2.1	2.2	2.6	2.5	2.3	2.1	2.8	2.6	2.7	2.8	2.1	2.1	2.0
Retail inventories, end of period, domestics: §	thous.																
Not seasonally adjusted	do.	1,126	1,352	1,235	1,191	1,191	1,209	1,102	1,088	1,192	1,220	1,303	1,352	1,471	1,532	1,572	1,558
Seasonally adjusted	do.	1,127	1,390	1,238	1,201	1,154	1,082	1,050	1,166	1,231	1,257	1,306	1,390	1,498	1,565	*1,606	1,565
Inventory-retail sales ratio, domestics §		2.3	2.5	2.4	2.3	2.0	1.7	1.7	2.1	2.1	2.2	2.3	2.1	2.2	2.2	2.4	2.3
Exports (BuCensus), total	do.	374.30	551.16	56.59	54.45	60.81	51.92	34.26	31.87	46.27	57.22	48.16	38.14	40.71	53.69	70.88	
To Canada	do.	334.05	523.99	54.75	52.21	58.14	50.30	32.75	30.63	41.92	54.64	45.64	36.18	38.85	50.64	68.57	
Imports (BuCensus), complete units	do.	3,067.0	3,691.0	313.4	277.2	355.8	325.5	283.3	263.5	271.6	342.3	346.7	369.3	396.1	340.6	464.0	
From Canada, total	do.	702.5	836.8	69.3	77.9	88.5	85.8	56.0	44.3	49.6	67.0	71.3	98.4	83.5	94.3	87.5	
Registrations ♦, total new vehicles	do.	7,754	8,924	725	728	773	869	789	773	735	757	701	910	747	782	835	
Imports, incl. domestically sponsored	do.	2,269	*2,457	*206	208	215	244	228	246	207	190	176	239	195	194	199	
Trucks and buses:																	
Factory sales (from U.S. plants), total @	do.	1,906	2,414	221	191	212	230	161	192	226	241	233	207	246	252	283	(?)
Domestic @	do.	1,779	2,260	207	179	198	214	150	181	214	225	218	192	231	235	264	
Retail sales, not seasonally adjusted: *	do.																
Light-duty, up to 14,000 lbs. GVW	do.	2,063.8	2,520.7	225.4	207.3	222.8	247.9	204.2	185.1	224.1	221.8	223.5	244.5	226.7	256.2	313.7	289.4
Medium-duty, 14,001-26,000 lbs. GVW	do.	45.7	47.7	3.9	3.8	4.1	4.4	5.0	4.8	4.4	3.8	3.0	3.9	3.7	4.3	4.7	4.8
Heavy-duty, 26,001 lbs. and over GVW	do.	138.9	141.0	13.6	11.4	9.7	11.4	11.8	12.0	12.2	13.4	11.6	15.1	12.1	14.2	17.1	18.8
Retail sales, seasonally adjusted:	do.																
Light-duty, up to 14,000 lbs. GVW	do.			180.7	202.8	201.3	206.9	223.4	192.8	241.2	240.1	248.0	268.8	*256.6	245.5	258.3	278.9
Medium-duty, 14,001-26,000 lbs. GVW	do.			3.7	3.8	4.0	3.8	4.1	3.9	4.0	3.9	4.0	4.4	*4.6	5.3	4.5	5.0
Heavy-duty, 26,001 lbs. and over GVW	do.			11.6	9.9	9.9	10.5	11.2	11.9	12.1	13.5	15.1	16.2	*12.6	15.4	14.8	16.4
Retail inventories, end of period:	do.																
Not seasonally adjusted *	do.	539.5	583.7	543.7	545.9	551.3	551.4	498.4	509.1	532.8	571.4	603.1	583.7	649.5	672.8	686.4	684.6
Seasonally adjusted	do.	545.5	591.4	534.1	536.8	540.5	525.6	507.5	552.8	562.0	570.3	598.3	591.4	*629.4	664.3	676.7	673.6
Exports (BuCensus)	do.	124.43	*131.86	11.30	12.83	11.87	13.33	10.62	11.34	10.11	12.67	10.29	10.54	10.52	15.20	15.76	
Imports (BuCensus), including separate chassis and bodies	thous.	738.48	846.89	70.78	69.48	78.19	80.99	63.13	68.70	61.17	82.06	74.53	94.07	80.41	72.72	85.78	
Registrations ♦, new vehicles, excluding buses not produced on truck chassis	thous.	2,430	2,977	227	244	254	275	259	254	249	265	253	332	282	302	329	
Truck trailers and chassis, complete (excludes detachables), shipments †																	
Vans †	do.	96,190	121,711	9,848	6,979	8,708	9,674	8,387	11,513	12,898	12,775	13,182	14,736	15,391			
Trailer bodies (detachable), sold separately †	do.	64,892	86,444	6,367	4,808	5,958	6,714	5,202	8,632	9,683	9,521	9,739	11,168	11,750			
Trailer chassis (detachable), sold separately †	do.	3,988	2,215	153	61	69	31	57	299	271	171	180	629	88			
Trailer chassis (detachable), sold separately †	do.	2,918	4,531	43	47	147	620	456	414	300	578	921	961	1,638			
RAILROAD EQUIPMENT																	
Freight cars (new), for domestic use; all railroads and private car lines (excludes rebuilt cars and cars for export):																	
Shipments	number.	*17,236	*5,772	444	205	376	338	260	469	460	736	615	745	415	528	894	
Equipment manufacturers	do.	*15,515	*5,570	334	205	376	338	260	469	458	736	615	745	415	528	894	
New orders	do.	*7,071	*5,964	207	615	797	150	994	287	416	642	351	805	2,736	1,523	1,213	
Equipment manufacturers	do.	*6,321	*5,962	207	614	797	150	934	287	416	642	351	805	2,736	1,523	1,213	
Unfilled orders, end of period	do.	4,295	3,271	3,916	4,326	4,747	4,559	3,897	3,755	3,756	3,368	3,156	3,271	5,553	6,548	6,928	
Equipment manufacturers	do.	4,095	3,271	3,914	4,323	4,744	4,556	3,894	3,752	3,756	3,368	3,156	3,271	5,553	6,548	6,928	
Freight cars (revenue), class 1 railroads (AAR): ‡	thous.																
Number owned, end of period	do.	1,039	1,007	1,031	1,028	1,026	1,024	1,020	1,019	1,018	1,015	1,011	1,007	1,006	1,001	996	
Held for repairs, % of total owned	do.	8.7	10.0	9.2	9.5	10.0	10.0	10.1	10.0	9.8	10.0	9.8	10.0	10.0	10.0	10.4	
Capacity (carrying), total, end of mo	mil. tons.	84.87	82.96	84.55	84.44	84.18	84.01	83.77									

FOOTNOTES FOR PAGES S-1 THROUGH S-32

General Notes for all Pages:

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

Page S-1

- ‡ 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.

Page S-2

- 1. Based on data not seasonally adjusted.
- # Includes data not shown separately.
- ‡ See note "‡" for p. S-8.
- † See note "†" for p. S-8.
- †† See note "††" for p. S-3.
- @ Revised series. For manufacturing see note "††" for p. S-3. For retail see note "‡" for p. S-8. For wholesale see note "†" for p. S-8.

Page S-3

- # Includes data for items not shown separately.
- ‡ See note "‡" for p. S-8.
- † See note "†" for p. S-8.
- †† Effective May 1984 SURVEY, data have been revised for Jan. 1977-Dec. 1983. A detailed description of this revision and data appear in the report "Manufacturers' Shipments, Inventories, and Orders" M3-1.13 (1977-1983), copies of this report can be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. A computer tape of the report, including data back to 1958 can be purchased from the Data User Services Division, Customer Services Branch, Bureau of the Census, Washington, DC 20233.
- @ 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.
- † See note "†" for p. S-3.
- ◇ 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.

Page S-5

- 1. Based on unadjusted data.
- 2. Series will resume when Dun & Bradstreet has completed revising data processing procedures.
- @ 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. 1984 SURVEY, data have been revised (back to 1981 for some commodities) and are available upon request.
- ◇ Beginning with data for January 1983, the index is affected by a change in methodology used to compute the homeownership component. For additional information regarding this change, see p. S-36 of the Feb. 1983 SURVEY.
- * New series.
- †† See note "††" for p. S-3.

Page S-6

- § For actual producer prices or 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.
- * New series. This index (first shown in the Feb. 1984 SURVEY) reflects costs associated with homeowners' consumption of shelter service. This new index combines the subindexes of owners' equivalent rent and household insurance. Indexes prior to Dec. 1982 are not available. For additional information, see p. S-36 of the Feb. 1983 SURVEY.
- ‡ Effective with the Feb. 1984 SURVEY, data have been revised back to 1979 to reflect updated seasonal factors and are available upon request.
- † Effective with the Feb. 1984 SURVEY, data back to 1979 have been revised and are available upon request.
- ◇ See note "◇" for p. S-5.

Page S-7

- 1. Computed from cumulative valuation total.
- 2. Index as of May 1, 1984: building, 358.1; construction, 385.6.
- 3. The corrected Jan.-Feb. 1983 index is 156.5.
- # Includes data for items not shown separately.
- § Data for Mar., June, Sept., and Dec. 1983, and Mar. 1984 are for five weeks; other months four weeks.
- † Data for seasonally adjusted housing starts have been revised from 1981-83, and are available upon request.
- @ Unadjusted data for manufacturers' shipments of mobile homes for January 1982 through November 1983 and seasonally adjusted data for January 1981 through November 1983 have been revised and are available upon request.

Page S-8

- 1. Advance Estimate.
- 2. Direct endorsement cases are included beginning with June data.
- ◇ 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 April 1984 SURVEY, wholesale trade data have been revised for Jan. 1978-Dec. 1983. A detailed description and the revised series appear in the report "Revised Monthly Wholesale Trade" BW-13-83s, available from the Bureau of the Census, Washington, DC 20233; \$2.50 per copy.
- ‡ Effective April 1984 SURVEY, retail trade data have been revised for Jan. 1978-Dec. 1983. Revised data and a summary of changes appear in the report "Revised Monthly Retail Sales and Inventories" BR-13-83s, available from the Bureau of the Census, Washington, DC 20233; \$2.75 per copy.

* New series. Annual data for earlier periods are available upon request. Monthly data for earlier periods will be available later.

Page S-9

- 1. Advance estimate.
- # Includes data for items not shown separately.
- ◇ Effective with the January 1984 SURVEY, the seasonally adjusted labor force series have been revised back to January 1979. Revised monthly series appear in the February 1984 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.
- ‡ See note "‡" for p. S-8.
- * New series.
- @ Data include resident armed forces.

Page S-10

- 1. This series has been discontinued.
- § These unemployment rates are for civilian workers only. The unemployment rate for all workers, including the resident armed forces, was 7.7 in Apr. 1984.
- ◇ See note "◇" for p. S-9.
- * New series.

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.
- * New series.

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.
- 2. This series has been discontinued.
- 3. Data are unavailable.
- ◇ Production and nonsupervisory workers.
- ‡ Earnings in 1977 dollars reflect changes in purchasing power since 1977 by dividing by Consumer Price Index.
- § Wages as of May 1, 1984: Common, \$15.63; Skilled, \$20.53.
- * New series.
- @ New series. The Employment Cost Index (ECI) is a quarterly measure of the average change in the cost of employing labor.
- † Excludes farm, household, and Federal workers.

Page S-13

1. Average for Dec.
2. Reported annual; monthly revisions are not available.
3. Effective December 1, 1982, there was a break in the commercial paper series because of changes in reporting panels, modifications to reporting instructions and corrections to misreported bank data.

‡ Effective January 1984, series revised due to changes in the reporting panel and in the item contents. The new panel includes 168 banks that had domestic office assets exceeding \$1.4 billion as of December 31, 1982.

Includes data for items not shown separately.

‡‡ Reflects offsetting changes in classification of deposits of thrift institutions. Deposits of thrifts were formerly grouped with deposits of individuals, partnerships, and corporations, instead of with deposits of commercial banks in the United States.

* "Transaction balances other than demand deposits" consists of ATS, NOW, super NOW, and telephone transfer accounts, which formerly were classified with savings deposits. "Nontransaction balances" reflects the combination of deposits formerly reported separately as time deposits and the savings deposits remaining after deduction of the items now reported separately under "transaction balances."

§ 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).

◇ Securities of Federal agencies and corporations have been shifted out of "other securities" and are now combined with U.S. Treasury securities. Also, loan obligations of States and political subdivisions have been shifted out of "other securities" and are now shown separately among the loan items.

@ 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.

Page S-14

1. Data are for fiscal years ending Sept. 30 and include revisions not distributed to the months.
2. Average for the year.
3. Daily average.
4. Interest rate charged as of Apr. 1, 1984 was 10.87.

† Effective April 1984 SURVEY, the consumer installment credit series have been revised back to July 1980 to reflect more complete benchmark data for some of the components.

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.

‡‡ Courtesy of *Metals Week*.

@@ Average effective rate

* New series.

Page S-15

1. Beginning 1983, the reporting frequency has been changed from a monthly to a quarterly basis.
2. This series has been discontinued.

† Effective Feb. 1984 SURVEY, the money stock measures and components have been revised back to 1959 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.

* New series. For "Other checkable deposits," see also note "‡‡" for this page.

@ 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.

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

@@ Annual data for 1978-82 and monthly data for 1982 have been revised to exclude private placements. Monthly revisions for 1978-81 are not available.

Page S-16

1. The Aaa public utility average was suspended Jan. 17, 1984, because of a lack of appropriate issues. The 1984 ranges for the average corporate and Aaa corporate do not include Aaa utilities after January 16.

§ 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.

@ Data may not equal the sum of the geographic regions, or commodity groups and principal commodities, because of revisions to the totals not reflected in the component items.

◇ As of Jan. 25, 1984, the base period was changed to 1982=100.

Page S-17

1. Beginning with Jan. 1982 data, the Customs value is being substituted for the f.a.s. value.

Includes data not shown separately.

§ Data may not equal the sum of geographic regions, or commodity groups and principal commodities, because of revisions to the totals not reflected in the components.

Page S-18

1. See note 1 for p. S-17.

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

3. Before extraordinary and prior period items.

4. For month shown.

5. Domestic trunk operations only (averaging about 90 percent of domestic total).

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

Includes data for items not shown separately.

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

‡ Beginning Jan. 1977, Class I railroads are defined as those having operating revenues of \$50 million or more.

◇ 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.

* New series.

Page S-19

1. Reported annual total; monthly revisions are not available.
2. A portion of data is being withheld to avoid disclosing information for individual companies; not comparable with other published data.

3. A portion of data is being suppressed because of not meeting publication standards. For nitrogen solutions, prior to May 1983, see also note 2 for this page.

4. Figure is being suppressed because of not meeting publication standards.

5. Effective with May 1984 SURVEY, data have been restated to represent thousands of metric 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.

‡ Monthly data back to 1981 have been revised and are available upon request.

* New series, first shown in the Mar. 1984 SURVEY. Annual and monthly data back to 1980 are available upon request.

Page S-20

1. Reported annual total; monthly revisions are not available.
2. Annual total includes data for Hawaii; not distributed to the months.

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

‡ Revised quarterly data for 1981 and 1982 are available upon request.

◇ Effective 1983, data are based on a new sample of approximately 150 establishments, which was selected using the 1981 annual survey "Paints and Allied Products" panel as a universe frame. Comparable data for 1979-82 are available upon request.

† Revised quarterly data for 1982 are available upon request.

Page S-21

1. Based on quotations for fewer than 12 months.
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. Previous year's crop; new crop not reported until Oct. (beginning of new crop year).

6. See note "@" for this page.

7. Figure is preliminary and subject to change.

8. Quarterly estimates of rye stocks will no longer be available; however, June 1 stock estimates (representing previous year's crop) will continue to be published each year.

9. Represents stocks as of June 1, based on previous year's crop.

10. May 1 estimate of 1984 crop.

§ Excludes pearl barley.

Bags of 100 lbs.

@ Data are quarterly except for June (covering Apr. and May) and Sept. (covering June-Sept.).

* New series, first shown in the Mar. 1984 SURVEY. Annual and monthly data for earlier periods are available upon request.

Page S-22

- § Cases of 30 dozen.
- ◇ Bags of 132.276 lbs.
- ‡ Monthly revisions for 1982 are available upon request.
- * New series, first shown in the Mar. 1984 SURVEY. Annual and monthly indexes covering wheat for earlier periods are available upon request.

Page S-23

1. Crop estimate for the year.
 2. Average for seven months; price not available for July, Aug., and Oct.-Dec.
 3. Annual total; monthly revisions are not available.
 4. Effective December 1983 SURVEY, the footwear production series have been revised back to January 1981.
- # Totals include data for items not shown separately.
 - * New series, first shown in the Mar. 1984 SURVEY. Annual and monthly indexes for earlier periods are available upon request.
 - † New series.

Page S-24

1. Annual data; monthly revisions not available.
 2. Less than 500 short tons.
- † New series.

Page S-25

1. Annual data; monthly revisions are not available.
 2. For month shown.
- † Beginning January 1982, data represent metallic (mostly aluminum) content. Data for 1981 and prior years represent aluminum content only.
 - * New series.

Page S-26

1. Annual data; monthly revisions are not available.
 2. Less than 50 tons.
- ◇ 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.

Page S-27

1. Data withheld to avoid disclosing information for individual companies.
 2. Data are for five weeks; other months 4 weeks.
- # Includes data for items not shown separately.
 - § Includes nonmarketable catalyst coke.
 - ◇ Includes small amounts of "other hydrocarbons and alcohol new supply (field production)," not shown separately.
 - † Effective with the Nov. 1983 SURVEY, monthly revisions for 1982 are available upon request.
 - * New series. Includes U.S. produced and imported microwave ovens and combination microwave oven/ranges.

Page S-28

1. Reported annual totals; revisions not allocated to the months.
 2. Effective with Jan. 1983, data include road oil. Total road oil data for 1982 were (thous. bbl.): 591, domestic demand; 610, production; 47, stocks.
- † New series. First shown in March 1984 SURVEY. Earlier data are available upon request.
 - * New series, first shown in the Feb. 1984 SURVEY. Prices back to 1974 are available upon request.
 - # Includes data for items not shown separately.

Page S-29

1. See note 1 for p. S-28.
 2. Average for 11 months; no price available for Dec. 1983.
- ◇ Source: American Paper Institute. Total U.S. estimated consumption by all newspaper users.
 - † See note "†" for p. S-28.

Page S-30

1. Reported annual total; revisions not allocated to the months.
 2. Crop for the year.
 3. Data cover five weeks; other months, four weeks.
 4. See note "@" for this page.
- # Includes data for items not shown separately.
 - ◇ Cumulative ginnings to the end of month indicated.
 - § Bales of 480 lbs.
 - ‡ Beginning Jan. 1982, shipments include those for direct export; such shipments for 1981 were 2,165 thous. gross.
 - † Monthly revisions for 1981 and 1982 are available upon request.
 - @ Effective with the Mar. 1984 SURVEY, sales of regular basecoat and all other building plasters (including Keene's cement) have been combined to represent sales of total building plasters. For comparability, earlier published figures for these two series should be combined.

Page S-31

1. Monthly data discontinued for the year 1982; reinstated beginning Jan. 1983.
 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. Monthly average.
 6. Less than 500 bales.
 7. Average for 9 months; no data for Oct.-Dec.
 8. Average for 10 months; no data for Jan.-Feb.
- ◇ 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).
 - # Includes data not shown separately.
 - * New series.

Page S-32

1. Annual total includes revisions not distributed to the months.
 2. Production of new vehicles (thous. of units) for Apr. 1984: *passenger cars, 672; trucks, 261.*
 3. Effective with the Feb. 1984 SURVEY, data have been revised back to 1981 to reflect updated seasonal factors and are available upon request.
 4. Monthly data discontinued for the year 1982; reinstated beginning Jan. 1983.
 5. Effective with the April 1984 SURVEY, data have been revised back to 4th Qtr. 1980 and are available upon request.
- # Total includes backlog for nonrelated products and services and basic research.
 - § Domestic cars 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.
 - † Monthly revisions for aircraft shipments and airframe weight for 1982 are available upon request. Monthly revisions for truck trailers, etc. for 1981 and 1982 are available upon request.
 - @ Includes passenger vans.
 - * New series, first shown in the Mar. 1984 SURVEY. Annual and monthly data back to 1967 are available upon request.
 - †† Includes Volkswagens produced in the U.S.

New Series

Beginning with the March 1984 issue, several new series will be shown in "Current Business Statistics" (blue pages) of the SURVEY OF CURRENT BUSINESS. Some of them replace series that are no longer available or had in some way deteriorated in quality; others are additions to the earlier coverage. The new series are listed below, along with the page number on which they will regularly appear. In the months to come, descriptions for selected series will be provided on this page.

<i>Page</i>	<i>Series</i>	<i>Page</i>	<i>Series</i>
S-5	Unfilled orders for home goods and apparel; consumer staples; equipment and defense products, excluding auto; and automotive equipment are shown separately.		for seasonally adjusted "outstanding" and "net change" have been added. Series for credit held by savings and loan institutions have also been added.
S-8	Several series on newspaper advertising expenditures from Media Records, Inc. have been replaced with series from the Newspaper Advertising Bureau, Inc.	S-15	"Money market deposit accounts" and seasonally adjusted "other checkable deposits" have been added to the Monetary Statistics subsection.
S-9	The population series from the Bureau of the Census has been replaced with two series from the Bureau of Labor Statistics, "total non-institutional population" and "civilian non-institutional population," that refer to persons 16 years and over.	S-18	Two series covering economy hotels have been added to the Travel subsection: "Average room sale" and "Rooms occupied."
S-10	The unemployment rate for "Black and other" has been replaced with the rate for "Black." Unemployment rates for "Hispanic origin," "agricultural wage and salary workers," and a new occupational breakdown have been added.	S-19	"Denatured alcohol, consumption for fuel use" has been added to the Alcohol subsection.
	The government employment series "State and local" has been replaced with a separate breakdown: "State government" and "local government."	S-21	Producer Price Indexes for butter, barley, corn, oats, and rye have been added.
S-10,11,12	In the Labor Force, Employment, and Earnings section, the series covering "Wholesale and retail trade" are no longer shown. "Wholesale trade" and "retail trade" are shown separately.	S-22	Producer Price Indexes for wheat and wheat flour have been added.
S-12	Eight series for the Employment Cost Index have been added.	S-23	Producer Price Indexes for sugar (raw and refined), and Douglas fir have been added.
S-13	The deposits, loans, and investment series reported by large commercial banks have been revised. The revision includes some new items and definitional changes.	S-24	Producer Price Indexes for softwood lumber, and pig iron have been added.
S-14	The prime rate charged by banks on short-term business loans has been added.	S-27	Shipments of microwave ovens/ranges have been added to the Electrical Equipment subsection.
	The Consumer Installment Credit subsection has been revamped. Data for extensions and liquidations are no longer available. Series	S-28 and S-29	Discontinued monthly pulp and paper series from the Bureau of the Census have been replaced with series from the American Paper Institute.
		S-30	"Building plasters, total" replaces the breakdown that had been shown previously in the Gypsum and Products subsection.
		S-31	Producer Price Indexes for gray cotton broadwovens, and gray synthetic broadwovens have been added.
		S-32	Unadjusted retail sales and inventories for trucks and buses have been added.

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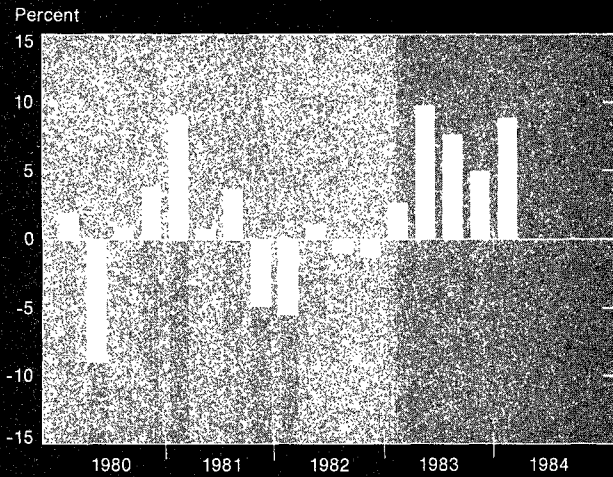


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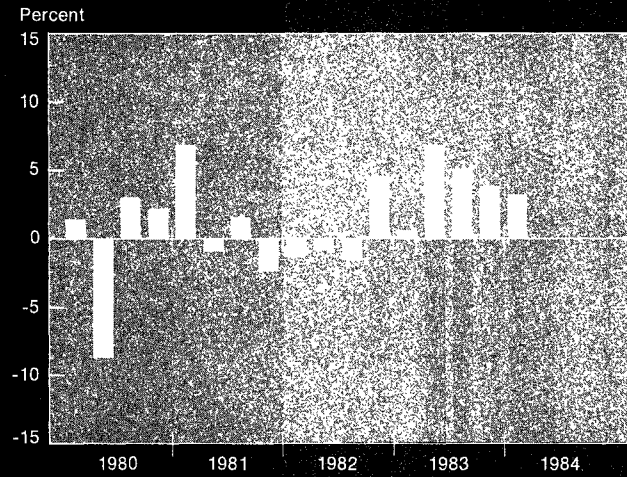
In the first quarter

- Real GNP increased 9 percent
- Real final sales increased 3 percent
- GNP fixed-weighted price index increased 5 percent
- Real disposable personal income increased 10 percent

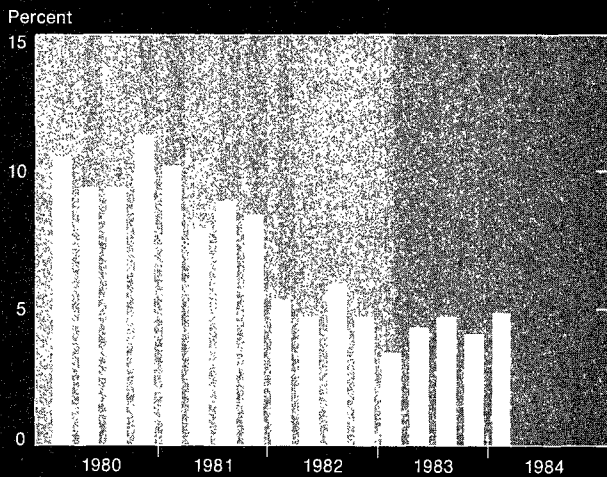
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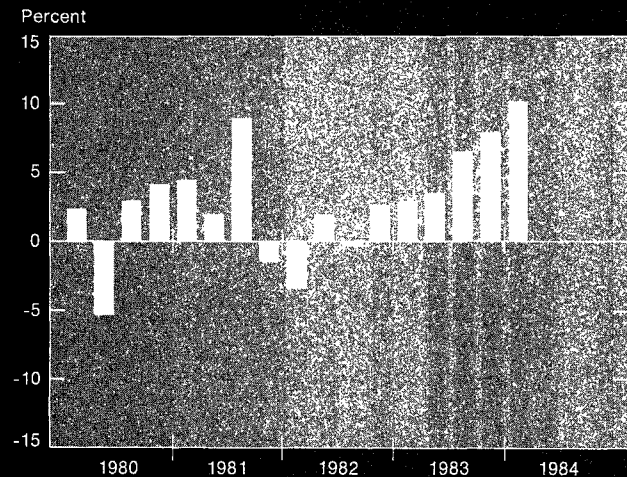
Real Final Sales



GNP Fixed-Weighted Price Index



Real Disposable Personal Income



Percent change at an annual rate from preceding quarter; based on seasonally adjusted estimates