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10

SURVEY OF CURRENT BUSINESS



SURVEY OF CURRENT BUSINESS



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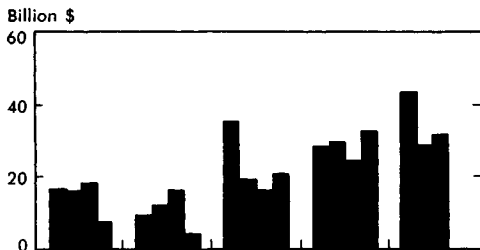
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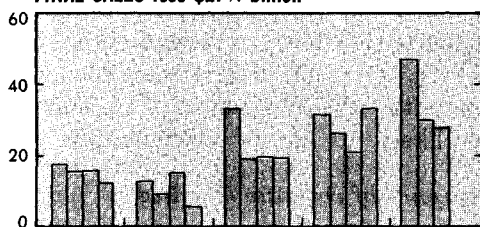
the BUSINESS SITUATION

CHART 1

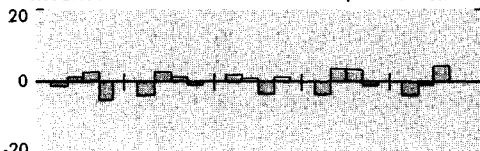
GNP up \$32 billion in third quarter



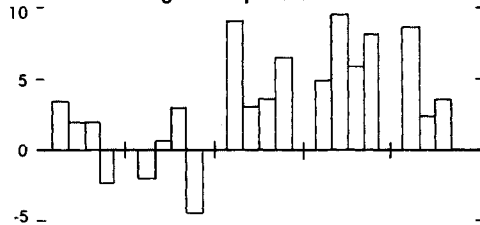
FINAL SALES rose \$27½ billion



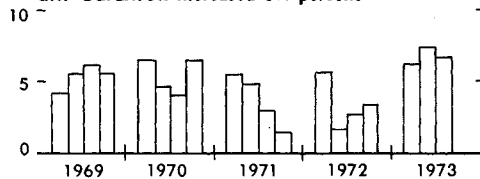
INVENTORY INVESTMENT increased \$ 4¼ billion



REAL OUTPUT grew 3½ percent



GNP DEFLATOR increased 6¼ percent



Change From Previous Quarter
Seasonally Adjusted at Annual Rates

THE rate of inventory accumulation is estimated to have speeded up in the third quarter, but the rise in other demands was less rapid than in the second quarter. Total production of goods and services measured in current prices—the gross national product—rose \$32 billion at a seasonally adjusted annual rate, somewhat more than the \$29½ billion increase in the second quarter (chart 1). The acceleration of inventory accumulation accounted for more than \$4 billion of the third quarter GNP rise, with final sales—GNP excluding inventory accumulation—increasing a bit less than \$28 billion. In the second quarter, final sales rose \$29¼ billion and accounted for the entire rise in GNP.

In real terms, GNP is estimated to have increased at an annual rate of 3.6 percent in the third quarter. This is a speedup from the rate of only 2.4 percent in the second, but is much slower than the pace from late 1971 through early 1973. The implicit price deflator increased in the third quarter at an annual rate of 6.7 percent, down from 7.3 percent in the second.

The estimate of a substantial rise in inventory accumulation in the third quarter is based on incomplete data and is subject to possible sizable revision next month. Third quarter accumulation is estimated to have been at an annual rate of \$8.7 billion, up from \$4.5 billion in the second quarter but no higher than the rate a year ago. About \$1½ billion of the speedup in the third quarter was in farm inventory accumulation, which largely reflected a transfer of stocks out of the Commodity Credit Corporation's holdings to private holdings. Such transfers do not affect GNP; the recorded increase in farm stocks is offset by the recording of a

“negative purchase” by the Federal Government. Nonfarm inventory accumulation also accelerated substantially despite some slowdown in accumulation of auto inventories. Earlier this year, inventory investment in at least some businesses was apparently held down because demand growth was so strong that businessmen were having difficulty replenishing stock; some part of the acceleration of investment in the third quarter may reflect a slowing of demand growth and an easing of supply conditions.

Consumer spending on goods increased \$9¼ billion in the third quarter, about \$1 billion more than the increase in the second quarter but well below the enormous expansion of \$20¼ billion in the first. All of the third quarter increase was in outlays for nondurables, as spending for durables declined about \$¼ billion. Purchases of furniture and household equipment were about unchanged following increases of \$¼ billion in the second quarter and \$3¼ billion in the first. New car sales were at an annual rate of 11¼ million units in the third quarter, off ½ million units from the second quarter and ¼ million units from the first. Sales of domestic-type models slipped moderately, but sales of imports were off appreciably and, at 1.7 million units, were at their lowest rate since the second quarter of 1972. Spending for services rose nearly \$8 billion, a bit stronger than the trend over the past year or so. Consumer spending rose in line with income growth in the third quarter, and the saving rate held steady at 6 percent.

Among the other components of final demand, residential investment was little changed for the second consecutive quarter. Business fixed in-

vestment rose \$4½ billion, somewhat faster than the \$3¼ billion increase in the second quarter but less than the big increases in the two preceding quarters. Government purchases rose \$4½ billion, about \$2 billion less than the increase in the second quarter; the slowdown is mainly attributable to Federal purchases, which were about unchanged in the third quarter following an increase of \$1¼ billion in the second. The data on net exports are very preliminary, but available figures indicate an increase of \$1¼ billion as compared with advances of \$2¼ billion in the second quarter and \$3½ billion in the first.

Growth of real private product was at an annual rate of 3.8 percent in the third quarter, essentially the same as the 3.6 percent growth rate of total real GNP (table 1). Gross auto product and gross farm product together account for less than 10 percent of real private product, but they are volatile and often have an important effect on the behavior of the total. This has been the case recently. Auto and farm products both declined sharply in the second and third quarters, and this contributed substantially to the slowdown of overall real output growth relative to the pace last year and in the first quarter. Both of these components increased sharply in the first quarter, and this boosted the growth rate of overall real output.

Private product excluding these two components—i.e., nonauto, nonfarm private product—shows a growth slowdown this year that is much milder than the slowdown in the growth of total real private product or of total real GNP. The growth of the nonauto, nonfarm aggregate averaged 5.6 percent (annual rate) in the second and third

quarters, compared to an average of 7.7 percent in the preceding six quarters of rapid growth shown in table 1. By contrast, the growth of total private product averaged only 3.1 percent in the second and third quarters, down from an average of 7.8 percent in the preceding six quarters.

State-Local Fiscal Position

State and local governments continue to enjoy a relatively strong fiscal position, but there are indications that it may worsen next year. General revenue sharing payments, which began in December 1972, have undoubtedly contributed to the current surpluses of these governments; however, the ultimate impact of revenue sharing on patterns of State-local spending and taxation is uncertain.

As measured in the national income accounts (NIA), the State and local sector had surpluses of \$13.9 billion (annual rate) and \$11.5 billion in the first and second quarters of 1973, respectively. Preliminary data indicate a surplus of about \$10 billion in the third quarter (table 2). (These figures represent an overall position; there are undoubtedly many governments, particularly major cities, operating under severe fiscal constraints.)

Although the large surplus position that began to be evident during 1972 has persisted this year, there is no sign of the steady growth of the surplus that was predicted in some studies last year. This is particularly clear for the fiscal position excluding social insurance funds; the "operational" surplus was relatively small in the first and second quarters of 1972 and there was a deficit in the third. For the full

year 1973, there will be a surplus in these "operational" funds, but it certainly will be smaller than in 1972.

Receipts continue to increase substantially this year, as the economy expands and revenue sharing grows. However, the State-local surplus is being held down by rapid growth of capital outlays, especially for structures, an evident slight decline in Federal grants other than revenue sharing, and the relative absence of tax increases which were prevalent in 1972 and earlier years. Where tax rates were raised this year, the increases have often been related to programs of local property tax relief so that the net effect is simply to shift revenues from one form of taxation to others. Moreover, some states have lowered income tax rates, and others have narrowed the base for the general sales tax.

If the spending and receipt trends evident in 1973 continue in 1974—when a slowdown in revenue growth is likely, as a result of slackening economic activity—the State-local NIA surplus is likely to shrink considerably.

Impact of revenue sharing

As shown in table 2, the inception of general revenue sharing has contributed to the strong current fiscal position, although revenues generated by a booming economy have also played a major role. Revenue sharing payments began in December 1972, and, by the end of 1973, about \$9¾ billion will have been paid to more than 38,000 separate governmental units. Under present law, the program will continue until 1977. There will always be great difficulty in pinpointing the specific effects of revenue sharing funds on State and local revenues and expenditures, but some tentative conclusions can be drawn.

One immediate effect, according to data for the year ended in mid-1973, was a significant accumulation of financial assets by State and local governments. The funds are gradually being expended, however, especially for construction. It appears that revenue sharing has replaced a significant amount—perhaps more than \$2 billion—of long-term borrowing that

Table 1.—Quarterly Changes in Real GNP

[Percent, seasonally adjusted at annual rate]

	1971	1972				1973		
	IV	I	II	III	IV	I	II	III
Real GNP.....	6.6	4.9	9.5	5.8	8.1	8.7	2.4	3.6
General government.....	0.3	-1.0	-7	5.0	4.2	1.5	1.0	1.1
Private.....	7.2	5.4	10.4	5.8	8.4	9.3	2.5	3.8
Auto.....	-18.3	2.2	19.1	40.4	4.2	57.3	-7.8	-22.4
Farm.....	-3.7	-1.6	-6.4	-22.2	10.8	10.1	-33.5	-20.3
Other.....	9.4	5.8	10.6	5.3	8.6	6.7	4.8	6.5

Table 2.—Fiscal Position of State and Local Governments, NIA Basis
[Billions of dollars; quarterly data seasonally adjusted at annual rates]

	1946-53 (avg.)	1954-61 (avg.)	1962-66 (avg.)	1967	1968	1969	1970	1971	1972	1972				1973		
										I	II	III	IV	I	II	III
Surplus or deficit (-), NIA basis.....	0.1	-1.0	1.2	-1.6	-0.3	0.7	1.8	4.0	13.1	8.4	15.2	9.5	19.6	13.9	11.5	^E 9.8
Surplus, social insurance funds.....	.6	1.7	3.1	4.4	5.0	5.7	6.5	7.5	9.0	8.4	8.8	9.2	9.6	^E 10.0	^E 10.1	^E 10.3
Surplus or deficit, all other funds.....	-.5	-2.7	-1.9	-5.9	-5.3	-5.0	-4.8	-3.4	4.1	.0	6.3	.2	9.9	3.9	1.4	^E -0.5
Revenue sharing grants.....									2.6				10.5	10.6	6.0	6.0

^E Estimate.

would otherwise have been scheduled during 1973.

A second effect was to raise capital outlays, although the amount of revenue sharing used for capital expenditures is likely to be much smaller for subsequent disbursements than it was for the December 1972 and January 1973 disbursements. This is largely because most recipient governments had by late 1972 already completed their fiscal 1973 budgets without making allowance for the new funds. Thus, many governments treated the first two disbursements as "unexpected" revenue, available for capital projects or other non-recurring needs. In addition, there was some uncertainty on the part of recipients as to the permanence of the program, resulting in an initial reluctance to use the disbursements for on-going programs.

The revenue sharing disbursements in April and July were more generally a part of the normal process of budget planning by recipient governments. As a result, a larger proportion is likely to have been allocated to current expenditures—perhaps well over 50 percent. Nevertheless, it still appears that capital outlays get a larger proportion of revenue sharing funds than they do of the revenues generated by recipient governments from their own sources. This could change, of course, if it becomes clear that revenue sharing is a permanent source of funds.

Tax relief is another potential result of revenue sharing. Tax relief is defined as an actual lowering of taxes, or the cancellation, postponement, or reduction of previously planned increases. There is some evidence on the extent to which this has occurred.

First, "planned use reports" on the April and July disbursements, submitted by recipient governments to the Treasury Department's Office of Revenue Sharing, indicate that about half of the governments (accounting for half of the funds) anticipate some tax relief as a result of revenue sharing. However, the proportion allocated to tax relief cannot be determined from the reports.

Second, a Brookings Institution study, involving a detailed examination of a few governments, concluded that tax relief will eventually amount to between 40 percent and 45 percent of total revenue sharing, with the remainder generating new spending or displacing borrowings.

Finally, BEA's own informal contacts with major State governments and some large cities and counties, which focus only on the use of funds in calendar 1973, indicate that tax relief would account for roughly 20 percent of the funds disbursed in 1972 and 1973. It is thought, however, that tax relief will become more important in subsequent years as the emphasis in the use of revenue sharing shifts away from capital outlays.

Housing

As a result of the severe tightness that has developed in mortgage markets, as well as some softening of underlying demand for new housing, inventories of housing units, both completed and under construction, have increased rapidly and permit authorizations and housing starts have declined. The number of new units authorized by permits in the third quarter was down about 20 percent from the first, and private housing starts in the third

quarter totaled 2.0 million units (seasonally adjusted annual rate), down 17 percent from the rate of 2.4 million in the first quarter. The decline in starts has varied by region; from the first to the third quarter, starts declined about 22 percent in both the Northeast and South, 14 percent in the North Central region, and were about unchanged in the West. In the West, the starts boom had peaked in the first quarter of 1972, and starts in this year's third quarter were off 28 percent from that peak.

As 1973 began, a cutback in housing starts was generally expected as an adjustment following the housing boom of the past 2 years; a common forecast was for a drop of about 10 percent to a total for the year 1973 of about 2.1 million units. For that forecast to be realized, the starts rate in the fourth quarter would have to drop to about 1.85 million units, only 8 percent below the third quarter rate. Such a decline seems highly probable given the continuing decline in permit authorizations and the sharply reduced availability of mortgage financing. It would make the drop in starts from the first to the fourth quarter of this year amount to about 23 percent, about equal to the decline from the first quarter of 1969 to the first quarter of 1970 but less than the 40 percent decline from the fourth quarter of 1965 to the fourth quarter of 1966.

Single-family homes

Starts of single-family homes were 1.1 million units (seasonally adjusted annual rate) in the third quarter, down 8 percent from the first. The sales rate of new homes dropped 22 percent from the first quarter to the third, continuing

the decline which started late last year, and the inventory of unsold homes continued to increase; in the first 2 months of the third quarter, the inventory represented an average 9½ months of sales, well above the previous peaks of 6½ months reached during the periods of credit stringency in 1966 and 1969. As a result of the current credit stringency, the decline in the sales rate intensified in the summer. In the first half of the year, the decline reflected an adjustment following the boom of the past 2 years and, probably, the accelerating increase in the price of new homes. The median price of new houses sold in August of this year was \$33,200, up 18 percent from August 1972. (Changes in the median price reflect changes in size and other quality considerations as well as increased construction costs.)

Sales of mobile homes, which are an important source of low-cost housing, held fairly steady the first half of the year, at a seasonally adjusted annual rate of 660,000 units. Sales declined sharply in the summer to an average annual rate of 560,000 units in July and August, about 17 percent below the rate in the first quarter.

Multifamily housing

Starts of units in multiunit structures dropped to an annual rate of 891,000 in the third quarter, 15 percent below the first quarter. Indicators of market conditions for multifamily housing have been somewhat difficult to interpret in recent quarters. In spite of the very high starts rate of the past 2½ years and the rising number of units being completed, the market absorption of new rental apartments—the percent of new units rented within 3 months of completion—has shown little change. Also, the rental vacancy rate has edged up only slowly over the past several quarters. Part of the explanation of why rental absorption has not weakened, nor rental vacancies increased more rapidly, certainly lies in the rising importance of condominiums and cooperatives among the new apartment buildings; these are ownership units, and never enter the rental market. Multiunit construction

Table 3.—Average Time from Start to Completion, by Structure Size

!Months!		
Number of Units in Building	1971	1972
1 unit.....	4.8	5.2
5 units or more.....	8.6	8.9
50-100 units.....	10.7	11.6
100 units or more.....	15.4	18.2

Source: Bureau of the Census.

and the rental apartment market have never been synonymous, but the disparity between the two has grown in recent years.

Another influence that has a bearing on the behavior of rental absorption rates and vacancy rates is changes in the time required to complete construction. If shortages of labor or building materials cause the construction lag to lengthen, so that completions are delayed, that will tend to moderate the "natural" decline in the absorption rate and rise in the vacancy rate. The Census Bureau has published annual figures on the average number of months from start to completion for 1971 and 1972, which show the construction lag lengthening (table 3). Given the capacity pressures and reports of shortages that have developed in the economy this year, it does not seem unreasonable to believe that the construction lag has continued to lengthen.

Mortgage Credit

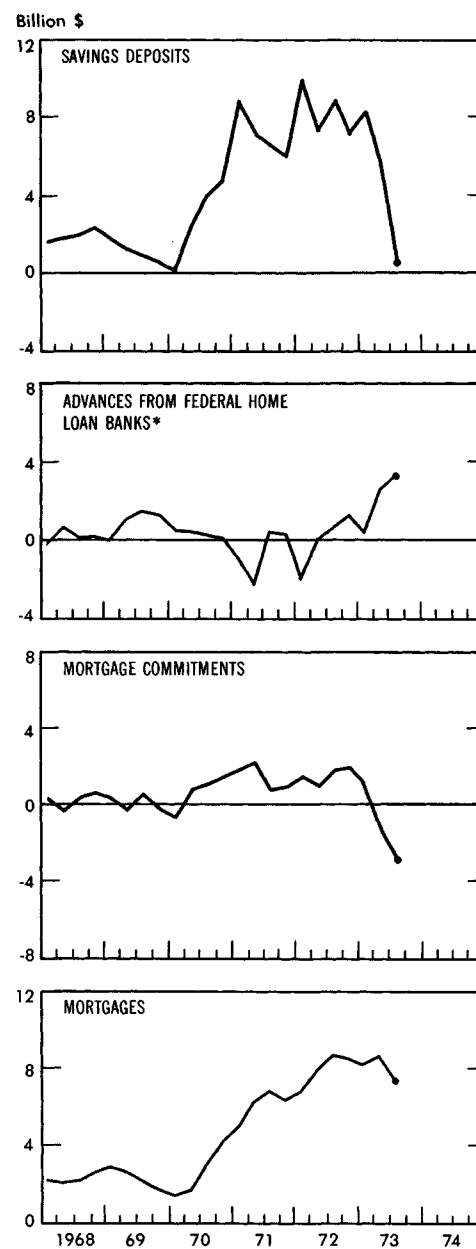
For the third time in 7 years, high interest rates are causing a sharp reduction in the supply of funds available for mortgage credit. Savers are once again shifting funds from savings accounts to higher yielding open market instruments and the net flow of savings to the major mortgage lending institutions is contracting sharply. From June to August (the latest month for which data are available) the net flow of savings to the savings and loan associations was less than \$½ billion at a seasonally adjusted quarterly rate. This compares with flows of \$5½ billion in the second quarter and \$8¼ billion in the first, and average quarterly flows of \$8¼ billion in 1972 and \$7 billion in 1971 (chart 2).

Despite the fact that this year's sharp escalation of short-term interest

rates carried to levels far above previous highs, the net flow of savings from June to August was no worse than it was in the 1969-70 period of credit tightening or in the 1966 period. One reason for this may be that the minimum purchase of Treasury bills and most Federal agency issues—the most attractive investment alternatives to small savers—was boosted from

CHART 2

Savings and Loan Associations



Change from end of quarter to end of quarter, seasonally adjusted.

*June to August at quarterly rate.

*Not seasonally adjusted

Data: FHLBB

\$1,000 to \$10,000 in 1970. Another reason may be that the Federal regulatory agencies early this summer raised the structure of interest rates permissible on certificate type time and saving deposits. Also, the S&L's are much more aggressive in competing for the more interest sensitive certificate of deposit (CD) type funds than they were in the past. The S&L's began to compete for CD-type funds as a result of the credit squeeze of 1966, and such deposits have since then accounted for a steadily increasing share of total deposits. Currently, more than 50 percent of deposits at the S&L's carry rates higher than that paid on regular passbook accounts, as compared with 30 percent at the end of 1969 and 23 percent at the end of 1968. Of course, the other side of the coin is that depositors are now much more conscious of interest rate differentials than they once were, which requires the S&L's to compete more aggressively for deposits if they are to avoid large outflows.

As this issue of the SURVEY goes to press in mid-October, short-term interest rates, especially the Treasury bill rate, are noticeably below their recent highs and it may well be that the worst of the threat of a steadily weakening flow of deposits to the S&L's, caused by escalating short-term interest rates, has passed. However, the prospect of an improved deposit flow awaits a substantial easing of credit market conditions, which recent Federal Reserve statements indicate is not a likely near term development. Although full data on the flow of savings for September are not yet available, the evidence at hand suggests that savers continued to divert funds from the S&L's but not to the extent that they had in August, when the net savings flow was negative.

Commitments

The reduction in the flow of new money to the S&L's came at a time when there was an enormous volume of mortgage lending commitments outstanding, and this caused the S&L's to reduce their holdings of liquid assets and sharply increase their borrowings from the Federal Home Loan Banks.

Commitments outstanding (including loans in process) rose without interruption from early 1970 to February of this year when they reached a record \$21½ billion (seasonally adjusted). Since February, the S&L's have sharply curtailed the volume of new commitments, and the takedown of commitments previously made has cut the volume outstanding 17½ percent to \$17¼ billion. That is still a very large overhang, and it may take until early 1974, or perhaps longer, to bring commitments down to a level at which the S&L's will again be willing to make new ones. However, there is no historical precedent for the huge buildup of commitments in the past few years, and thus it is hard to judge how much of an adjustment may be in the offing. In the previous contraction of the mortgage market, outstanding commitments peaked in February 1969 at \$7 billion and declined a little more than 25 percent to \$5¼ billion in March 1970. In the 1966 contraction, outstandings peaked at \$5½ billion in January and fell nearly 50 percent to \$3 billion in December.

Mortgage lending

As a result of the huge volume of commitments, mortgage lending by the S&L's continued very strong in the summer. From June to August, mortgage lending increased more than \$7¼ billion at a seasonally adjusted quarterly rate, only moderately less than the increases of \$8¾ billion in the second quarter (the record) and \$8¼ billion in the first (chart 2). Lending would probably have been even stronger in the summer if it had not been for the fact that mortgage interest rates rose above the ceilings permissible under usury laws in some States. There are

currently 17 States where usury laws limit interest rates to 8 percent or less.

In order to meet their mortgage commitments, the S&L's have sharply stepped up their borrowings from the Federal Home Loan Banks. Borrowings totaled \$13¼ billion in August, up more than \$5 billion from the end of last year, and were equal to 6 percent of savings deposits in August. During the credit stringency in 1969, by comparison, borrowings rose about \$4 billion during the course of the year and amounted to a somewhat larger share (6.8 percent) of savings deposits at yearend 1969.

In addition to the lending activity of the Federal Home Loan Banks, there has been substantial support to mortgage markets this year from the secondary market purchases of other Government-sponsored agencies, the Federal National Mortgage Association (FNMA) and the Federal Home Loan Mortgage Corporation (FHLMC). In the first 8 months of the year, FNMA made commitments to purchase more than \$7½ billion in the secondary market as compared with \$6½ billion in the full year 1969. Actual purchases amounted to \$3 billion through August, as compared with a little more than \$4 billion in 1969. The FHLMC, which became operational in late November 1970, has made commitments to purchase \$1½ billion in the secondary market so far this year and actual transactions have amounted to \$1 billion.

In the second quarter of this year (the latest for which data are available), net credit extended by Government-sponsored agencies in support of the mortgage market (including advances from the Federal Home Loan Banks to S&L's) was \$21½ billion at a

Table 4.—Mortgage Debt Expansion

[Billion dollars, seasonally adjusted at annual rates]

Line		1968	1969	1970	1971	1972		1973	
						1st half	2d half	1st qtr.	2d qtr.
1	Residential mortgage debt expansion.....	20.9	22.3	21.1	38.8	48.5	58.9	55.5	59.5
2	Advances by Federal Home Loan Banks plus support by federally sponsored credit agencies.....	3.1	8.5	7.1	3.6	4.8	8.6	12.0	21.4
3	Line 2+line 1.....	14.8	38.1	33.6	9.3	9.9	14.6	21.6	36.0

Source: Federal Reserve Board, Flow of Funds.

seasonally adjusted annual rate. That support amounted to 36 percent of total mortgage debt expansion in that quarter (Table 4). In the full year 1969, agency support amounted to \$8½ billion, about 38 percent of total mortgage debt expansion.

In other efforts to buttress mortgage markets, the Federal Home Loan Bank Board early this summer reduced the reserves that S&L's must maintain from 6.5 to 5.5 percent of deposits, thereby freeing some \$2¼ billion for expansion of lending activity. In addition, the Board recently announced that it will loan up to \$2.5 billion to the S&L's in support of new mortgage lending commitments by the S&L's. These funds will be loaned at 8½ percent, which is below the current rate on FHLB advances, and will become available early next spring. The extent to which the S&L's will make use of the new program remains to be seen.

Also, in his mid-September message to Congress on Federal Housing Policy, the President directed the Department of Housing and Urban Development to reinstate the "Tandem Plan" under the auspices of the Government National Mortgage Association (GNMA). Under this plan, GNMA offers to buy from mortgage lenders FHA-insured mortgages, which currently have a ceiling rate of 8½ percent, at above-market prices. The purpose of this is to reduce the "points" that lenders charge in order to bring the effective rate on FHA-mortgages up to current mortgage market yields. Only mortgages on new housing will be eligible for GNMA purchase; up to \$3 billion will be available.

In spite of the fact that there has recently been some decline in short-term interest rates, monetary policy remains highly restrictive and the outlook for homebuilding for the next 6 months or so remains unfavorable. In the multiunit market, the large number of units still under construction suggests that a rebound of activity will be slow to materialize. Weakness in the single-family market is now clearly evident, and the very high inventory-sales ratio suggests that it will be some time before excess inventories are worked off.

Moreover, the outlook for mortgage credit is not favorable, as relief of pressures on mortgage lending institutions awaits a major easing in credit market conditions. Even when that does occur, there will be a lag before a major expansion of mortgage lending activity gets underway, as it will take time for lenders to rebuild liquidity and for mortgage interest rates to decline to levels attractive to borrowers.

Nonfinancial Corporate Profits

Profits have risen steeply during the current economic expansion, especially in the past year. The book value of nonfinancial corporations' pretax profits increased 15 percent in 1971, 16 percent in 1972, and 35 percent from the first half of 1972 to the first half of 1973. However, a considerable amount of the recent expansion is estimated by BEA to consist of inventory profits that arise because of differences between the replacement cost of goods taken out of inventory and the cost at which they are charged to production. Such profits arise when prices are increasing, and they must in effect be used for inventory restocking if the physical volume of inventories is not to decline. Because such profits are not generated by current production activity, they are excluded from the profit component of national income—an aggregate that measures the factor incomes arising from current production. This review focuses on profits as measured in national income, because changes in those profits can be more meaningfully related to changes in production.

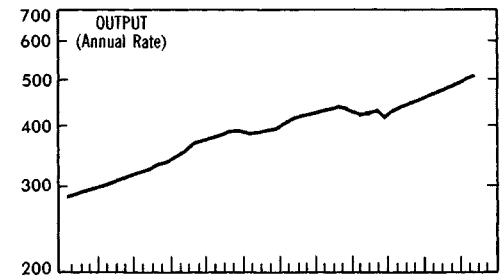
On the national income basis, pretax profits of nonfinancial corporations in the United States increased 16 percent in 1971 and 14 percent in 1972; the rise from the first half of 1972 to the first half of 1973 was 21 percent, much smaller than the 35 percent rise in the book value figure but nevertheless a large advance.¹ Despite these increases, profits remain low relative to national

1. Profits remitted from abroad are included in the profit component of national income, as income to U.S. owners of capital invested abroad. However, profits from abroad are excluded from this review because they are generated by production abroad, not by production of nonfinancial corporations in the United States.

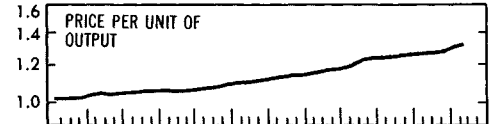
CHART 3

Nonfinancial Corporations: Output, Costs, and Profits

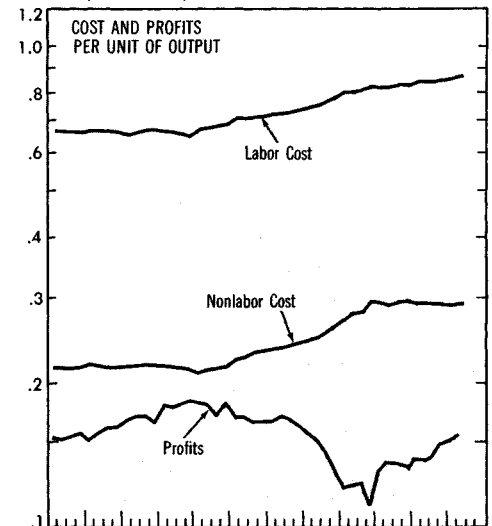
Billions of 1958 \$ (Ratio scale)



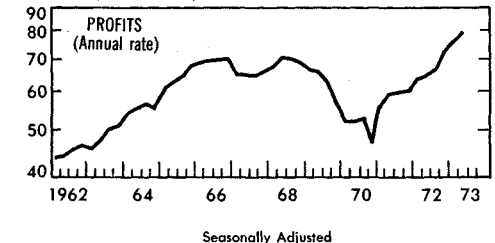
Dollars (Ratio scale)



Dollars (Ratio scale)



Billion \$ (Ratio scale)



NOTE.—Output is constant dollar gross corporate product (GCP). Price per unit is calculated by dividing current dollar GCP by constant dollar GCP. Unit costs and unit profits are calculated by dividing the several components of current dollar GCP by constant dollar GCP. Nonlabor cost consists of capital consumption allowances, net interest, and indirect business taxes plus business transfers less subsidies received.

output. It was not until late 1972 that the profits of nonfinancial corporations, expressed at a seasonally adjusted annual rate, finally surpassed the previous peak set in late 1966 (chart 3).

Profits by industry

The sharpest gains in nonfinancial corporate profits in the current expansion have been in manufacturing, and over the past year manufacturing has in fact accounted for the entire increase in the aggregate. (Manufacturing currently accounts for about two-thirds of the total profits generated by nonfinancial corporations in the United States.) In durable goods manufacturing, where output and profitability are highly sensitive to economic fluctuations, profits dropped 16 percent in 1969 and 44 percent in 1970, then recovered equally sharply in 1971 and 1972 and were still rising very rapidly in this year's first half. The cyclical decline in the profits of nondurables manufacturers in 1969-70 was milder and was followed by essential stability in 1971 and the first half of 1972. After mid-1972, however, profits of nondurables manufacturers rose very sharply. Profits of nonmanufacturing industries have been stable to declining since early 1972, and their aggregate amount in this year's first half—about \$26¼ billion at an annual rate—was virtually the same as in the first half of 1972. Over the same 1-year period, profits of manufacturers rose from \$38 billion to \$51 billion (annual rates).

The year 1966 marked a peak in the profits of most industries, culminating the boom that had begun in 1961. This was followed by a decline in the "mini-recession" of 1967, recovery in 1968, and renewed weakness in 1969-70. Table 5 shows in a summary way the considerable differences in recent years in the profit experience of various industries. The 1966 profits peak was surpassed in durables manufacturing this year, and in nondurables manufacturing during 1972. By contrast, profits of the transportation-communication-utilities group are far below the 1966 peak and indeed no better than in 1962. The weakness has been especially severe in

Table 5.—Pretax Corporate Profits, Indexed to 1966

[1966=100; quarterly data seasonally adjusted at annual rate]

	1965	1967	1968	1969	1970	1971	1972	1973	
								I	II
All nonfinancial corporations.....	92	94	99	91	73	85	97	111	113
Durables manufacturing.....	95	86	93	78	44	61	84	112	119
Nondurables manufacturing.....	89	97	104	95	93	96	108	123	128
Transportation, communication, 2nd public utilities.....	93	90	89	85	65	72	78	77	71
Transportation.....	96	59	39	21	(1)	31	52	-----	-----
Communication.....	90	99	104	109	93	81	81	-----	-----
Public Utilities.....	95	97	97	91	74	82	86	-----	-----
Other industries.....	91	104	112	109	103	121	120	120	120
Trade.....	94	109	120	123	115	140	130	-----	-----
Construction.....	88	112	107	111	112	117	151	-----	-----
Services.....	80	108	104	91	83	96	99	-----	-----
All other.....	93	81	98	76	76	85	85	-----	-----

NOTE.—Data are on national income basis, i.e., including inventory valuation adjustment.

1. Net loss.

2. Agriculture, mining, real estate.

transportation, which encompasses railroads, airlines, and trucking. By further contrast, the cyclical decline in the profits of other nonmanufacturing industries as a group was relatively mild and profits never fell below the 1966 figure; since 1971, the expansion in this group's profits has also been very mild.

Profits related to production

The rapid rise in manufacturing profits during the current economic expansion reflects rapid growth in the amount of national output originating in manufacturing and a sharp increase, especially in durables manufacturing, in the ratio of profits to that output. That ratio is a "profit margin" that reflects how the incomes arising from current production are distributed among the factors that contribute to production. BEA makes annual estimates of the amount of national output—real GNP—originating in each major industry, but the estimates are for the whole industry including its unincorporated segment. It is thus not feasible to calculate on an industry basis the

ratio of corporate profits to output produced by corporations. However, a proxy for that profit margin ratio can be calculated for each industry by using aggregate "profit-type income" generated in the industry, including proprietors' income and rental income of persons.

Table 6 shows this ratio for selected industries, indexed to 1966. In manufacturing, the ratio went up very sharply as the amount of output originating in manufacturing recovered from the 1970 recession. Large productivity gains typically occur in manufacturing as utilization increases in a recovery, and these gains have a very favorable effect on profitability. Despite the recent improvement, however, the ratio of profit per unit of output remains well below the levels of the mid-1960's. In durables manufacturing, the ratio peaked in 1965, then declined steadily; in 1970 it was only about 40 percent of its 1965 level, and the improvement in 1971 and 1972 moved it back up only to about 70 percent of the 1965 level.

Table 6.—Ratio of Pretax Profit-Type Income to Real Output Originating, Indexed to 1966

[1966=100]

	1965	1967	1968	1969	1970	1971	1972
Durables manufacturing.....	104	88	89	72	43	59	75
Nondurables manufacturing.....	93	95	94	77	73	72	76
Transportation, communication, and public utilities.....	100	87	81	72	57	58	58
Transportation.....	102	66	54	41	28	47	55
Communication.....	97	92	89	81	61	52	47
Public utilities.....	101	93	87	76	63	63	62
Trade.....	101	101	102	102	97	104	95
Construction.....	100	112	111	118	117	126	141
Services ¹	95	104	105	106	106	109	107

1. Excluding households and institutions.

In nondurables manufacturing, the ratio peaked in 1966 and declined through 1971; the improvement in 1972 moved it up to only about 75 percent of the 1966 level.

In communications and utilities, the ratio of profit-type income to output has been declining for years and declined again in 1972. This trend has held profits down despite large gains year after year in the amount of output originating in those industries. In transportation, the ratio dropped immensely from the mid-1960's to 1970. Sharp improvements in 1971 and 1972 were reflected in sharp profits advances, but profits remained far below the 1966 peak (table 5) and the ratio of profit per unit of output was also still very low (table 6).

In other industries, where noncorporate organization is more prevalent, the ratio of profit-type income to total output originating may be a rather poor proxy for the ratio of corporate profits to corporate output. In construction, the ratio has been generally rising since the mid-1960's; in services, it dropped in 1972 after years of advance; in trade, the ratio has been erratic over the past decade and it fell last year.

Profits of nonfinancial corporations

For the aggregate of nonfinancial corporations, there is a more complete set of estimates of the factors that influence profits—including BEA estimates of real gross product originating in those corporations and Bureau of Labor Statistics estimates of output per man-hour and compensation per man-hour. As chart 3 shows, the current profits expansion has been generated by an expansion in the amount of real output originating in nonfinancial cor-

porations and a recovery in profit per unit of output. The profit margin jumped sharply in early 1971, reflecting the rebound from the late-1970 auto strike as well as the general cyclical recovery. The margin was then relatively stable until mid-1972 but rose sharply during the year from mid-1972 to mid-1973. Even so, profit per unit of output is still well below the levels of the mid-1960's.

Output originating in nonfinancial corporations, their value added, is the sum of factor incomes originating in those corporations—employee compensation, net interest payments, and pretax profit (on the national income basis)—plus other charges against production—capital consumption allowances, indirect business taxes, and transfer payments made, less subsidies received. In real terms, this output is conceptually the difference between the real value of total corporate sales plus inventory change (i.e., sales and inventory change in constant dollars) and the real value of purchased inputs. In chart 3 and table 7, the "price" shown is the price per unit of this output, or value added. This unit price is equal to the sum of unit labor cost, unit nonlabor cost (interest plus the other charges against production), and unit profit.²

Table 7 summarizes the behavior of profits and the factors influencing them, starting at the previous peak in profits in 1966. In the period from end-1966 through mid-1968, encompassing the "mini-recession" of 1967 and the subsequent recovery, profits showed no

2. This measure of profit per unit of constant dollar value added differs from profit per dollar of sales because (1) sales are usually stated in current prices for profit margin calculations and (2) sales are equal to the sum of value added plus expenditures for purchased inputs.

net change. From mid-1968 to the cyclical peak in economic activity at end-1969, productivity growth was very slow and unit labor cost rose sharply; unit nonlabor cost also rose sharply, and unit profit and total profits fell. During the recession year 1970, the growth rate of productivity strengthened slightly but unit labor cost continued to rise rapidly, and unit nonlabor cost escalated as output declined.

The rebound from the late-1970 auto strike augmented the general economic recovery in the first half of 1971. Since mid-1971, the economic expansion has been less dramatic. Output per man-hour in nonfinancial corporations has been rising about 4 percent per year but compensation per man-hour has been rising much faster, so that unit labor cost has continued to increase. However, unit nonlabor cost has been roughly stable as costs have been spread over a growing output. Unit profit has improved significantly, especially in the year from mid-1972 to mid-1973.

The increase in profits in this year's second quarter was much slower than over the preceding three quarters, as the rise in both output and unit profit decelerated. A continued slowing of profit expansion is probable. With output growth slowing, the growth rate of productivity in nonfinancial corporations will probably drop below 4 percent; the rise in compensation per man-hour may also slow but unit labor cost will undoubtedly continue to increase at a substantial rate. Nonlabor cost per unit of output is also likely to rise as output growth decelerates. By way of perspective, the growth rate of productivity in the expansion from 1960 to 1966 averaged just about 4 percent per year, roughly the same as in the past 2 years; compensation per man-hour increased only slightly faster than productivity and unit labor costs changed hardly at all. Unit nonlabor costs rose about 1 percent per year. In the late 1960's, when output growth was slower and capacity was more fully utilized, productivity increased only about 2½ percent per year and compensation per man-hour increased 7 percent per year; unit labor costs rose about 4 percent per year and unit nonlabor costs at a rate of nearly 6 percent.

Table 7.—Percent Change in Nonfinancial Corporations' Profits and in Factors Influencing Profits

[Percent, seasonally adjusted at annual rate]

	1966-IV to 1968-II	1968-II to 1969-IV	1969-IV to 1970-IV	1970-IV to 1971-II	1971-II to 1972-II	1972-II to 1973-II
Profits.....	-.1	-13.6	-16.5	59.6	9.2	21.2
Output (constant dollar gross product).....	3.8	3.5	-3.4	9.5	7.2	8.0
Unit profit.....	-3.7	-16.5	-13.6	45.7	1.9	12.3
Unit labor cost.....	3.2	5.8	5.5	-.8	2.5	3.4
Output per man-hour.....	3.0	1.3	1.7	8.3	4.3	4.1
Compensation per man-hour.....	6.3	7.2	7.3	7.5	6.9	8.1
Unit nonlabor cost.....	6.3	6.6	13.1	-3.3	.6	-6
Unit price.....	2.7	2.8	5.1	2.4	2.0	3.4

* Preliminary.

Alternative Calculations of Constant Dollar GNP

THE rate of change of GNP in constant dollars ("real GNP") is generally influenced by the choice of the valuation period used for the constant dollar calculation. The estimates prepared by BEA are currently in 1958 dollars; this means that the value of output in every period is restated on the assumption that 1958 prices prevailed in every period. If the prices of another year were used instead, the resulting constant dollar GNP could show rates of changes over time somewhat different from those shown by GNP in 1958 dollars. The reason for such differences is that the prices of various goods and services change relative to one another over time. (The selection of the valuation period has no effect on the rate of change of constant dollar GNP over a given timespan if the rates of change of either the outputs or the prices of all the goods and services are identical over that span.)

Table A.—Alternative Measures of Constant Dollar GNP

	GNP in constant dollars of—		
	1958	1967	1972
	Billions of dollars		
1962.....	529.7	625.2	791.1
1963.....	551.0	650.0	820.8
1964.....	581.1	684.7	863.2
1965.....	617.8	726.8	916.3
1966.....	658.1	773.3	974.0
1967.....	675.2	793.9	1,000.8
1968.....	706.6	829.6	1,043.5
1969.....	725.6	851.3	1,068.9
1970.....	722.5	849.2	1,065.3
1971.....	745.4	874.6	1,095.4
1972.....	790.7	926.7	1,155.2
	Percent change from previous year		
1963.....	4.0	4.0	3.8
1964.....	5.4	5.3	5.2
1965.....	6.3	6.2	6.2
1966.....	6.5	6.4	6.3
1967.....	2.6	2.7	2.8
1968.....	4.7	4.5	4.3
1969.....	2.7	2.6	2.4
1970.....	-.4	-.2	-.3
1971.....	3.2	3.0	2.8
1972.....	6.1	6.0	5.5
	Average annual percent change		
1962-72.....	4.1	4.0	3.9

The valuation period used in calculating constant dollar GNP will be changed when BEA next benchmarks the national income and product accounts. Meanwhile, some preliminary calculations have been made of constant dollar GNP calculated with the prices of more recent years. Calculations in the prices of 1967 and 1971 were published in the October 1972 SURVEY. The calculations in 1967 dollars are updated here through the second quarter of 1973 using the revised GNP data published in the July 1973 SURVEY. Also shown are new calculations in 1972 dollars.

Table A shows rates of growth from 1962 to 1972 in GNP in constant 1958 dollars, in constant 1967 dollars, and in constant 1972 dollars. Over the 10-year period, GNP in 1958 dollars increased at an average annual rate of 4.1 percent as compared with 4.0 percent in 1967 dollars and 3.9 percent in 1972 dollars. In some years, the differences are somewhat larger. The largest differences occurred in 1968, 1971, and 1972, when the percentage change in GNP in constant 1958 dollars exceeded the change in GNP in constant 1972 dollars by 0.4, 0.4, and 0.6 percentage points, respectively. The differences in the growth rates for these 3 years and for the 1962-72 span were due primarily to large increases in output of passenger cars. The weight of this item in real GNP is larger when expressed in 1958 dollars than in 1967 or 1972 dollars because its deflator has risen at a slower rate than the deflator for total GNP since 1958. Hence, an increase in this component has a greater effect on GNP calculated in constant 1958 dollars than on GNP calculated in constant dollars of a later period.

Table B shows quarter-to-quarter percent changes (at seasonally adjusted annual rates) for GNP in constant 1958 dollars, constant 1967 dollars, and constant 1972 dollars. The largest differences among the quarterly movements of the three series occurred in the first quarter of 1965, the fourth quarter of 1970, and the first quarter of 1971.

In nine of the past 10 quarters, GNP in constant 1972 dollars has increased

at a slower rate than GNP in constant 1958 dollars; while GNP in constant 1967 dollars has increased at a slower rate than GNP in constant 1958 dollars in seven of the past 10 quarters. This persistent difference was due largely to a steady decline in constant dollar Federal general government employee compensation, particularly in the military. The weight of this item in real GNP is less when expressed in 1958 dollars than in 1967 or 1972 dollars because its deflator has risen more rapidly than the deflator for total GNP since 1958. Hence, a decline in this component has less effect on GNP calculated in constant 1958 dollars than on GNP calculated in constant dollars of a later period. Also contributing to the difference was the rapid growth in output of passenger cars during this period. The large differences in 1970-IV and 1971-I were due primarily to the impact of the General Motors strike on passenger car output.

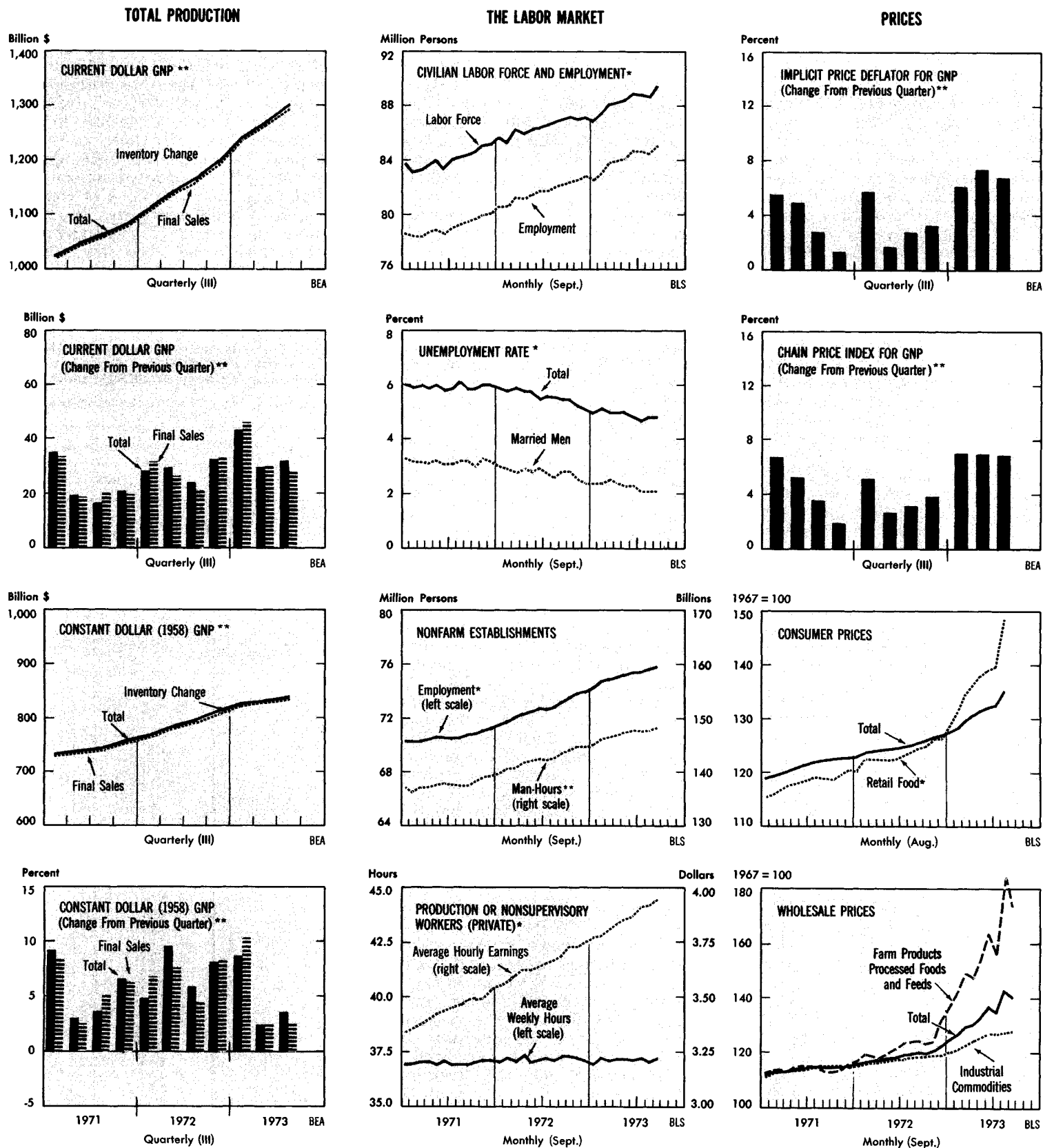
Table B.—Quarterly Changes in GNP in Constant 1958 Dollars, Constant 1967 Dollars, and Constant 1972 Dollars

[Percent change from previous quarter, seasonally adjusted annual rate]

	GNP in constant dollars of—		
	1958	1967	1972
1962: II.....	6.5	6.4	6.5
III.....	4.3	4.1	4.1
IV.....	3.7	3.3	3.0
1963: I.....	2.2	2.4	1.8
II.....	3.6	3.9	3.5
III.....	6.6	6.2	6.6
IV.....	5.4	5.2	5.4
1964: I.....	6.6	6.4	5.6
II.....	5.3	5.4	4.9
III.....	5.1	4.9	5.1
IV.....	1.9	2.3	2.5
1965: I.....	9.2	8.3	7.7
II.....	5.9	6.2	6.5
III.....	8.2	8.0	8.2
IV.....	9.4	9.1	9.4
1966: I.....	8.1	7.9	7.3
II.....	3.7	3.6	3.7
III.....	3.2	3.5	2.7
IV.....	4.9	4.7	4.9
1967: I.....	-.9	-.5	.5
II.....	3.0	2.7	2.3
III.....	4.4	4.6	4.5
IV.....	2.8	3.1	2.6
1968: I.....	5.4	5.0	4.8
II.....	7.5	7.1	6.8
III.....	4.0	4.3	4.1
IV.....	2.4	1.3	1.3
1969: I.....	3.4	3.4	3.2
II.....	1.9	2.5	2.1
III.....	1.9	1.6	2.2
IV.....	-2.3	-2.1	-2.8
1970: I.....	-2.1	-1.7	-1.8
II.....	.5	.2	.5
III.....	2.9	3.3	2.5
IV.....	-4.3	-3.6	-2.7
1971: I.....	9.1	8.0	7.2
II.....	2.9	2.9	2.6
III.....	3.6	3.5	3.1
IV.....	6.6	5.5	5.6
1972: I.....	4.9	5.7	4.3
II.....	9.5	9.0	8.5
III.....	5.8	5.7	5.6
IV.....	8.1	8.0	7.3
1973: I.....	8.7	7.9	7.8
II.....	2.4	2.8	2.7

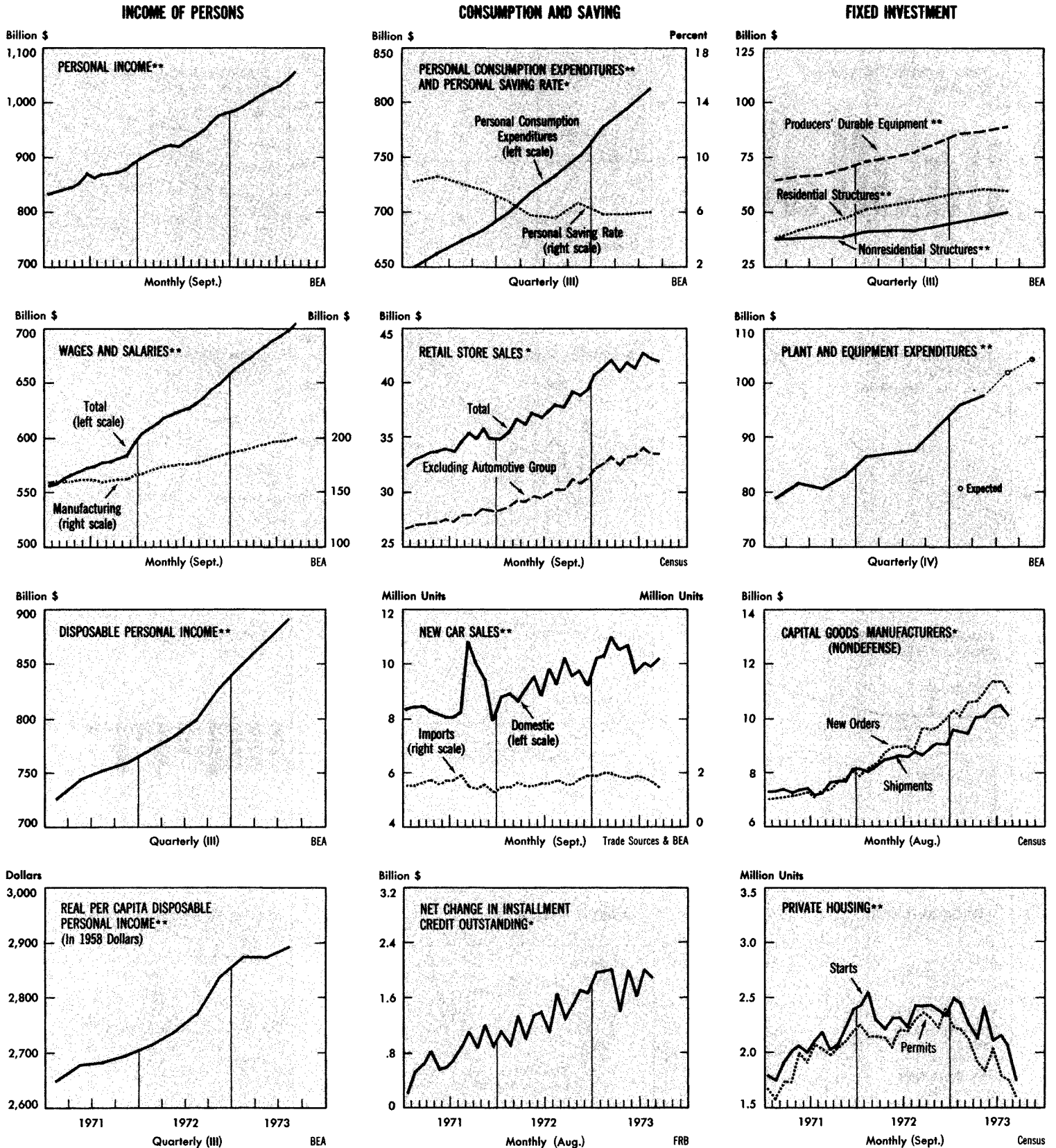
CHART 4

- GNP rose \$32 billion in third quarter; real GNP grew 3½ percent (annual rate)
- In September: The jobless rate was unchanged at 4.8 percent; nonfarm payroll employment rose 190,000
- Wholesale price index declined due to a sharp drop in agricultural prices



*Seasonally Adjusted **Seasonally Adjusted at Annual Rates

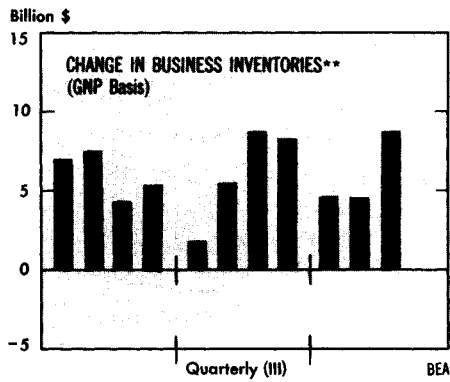
- In September: Personal income advanced \$10 billion
- In third quarter: Consumer spending increased \$17½ billion
- Business fixed investment rose \$ 4½ billion; residential outlays were little changed



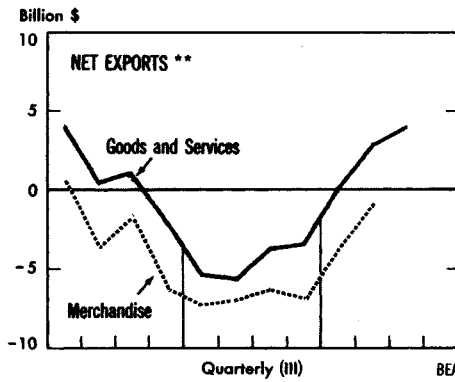
*Seasonally Adjusted **Seasonally Adjusted at Annual Rates

- In third quarter: Inventory investment increased \$ 4¼ billion
- Net exports of goods and services were up \$ 1¼ billion
- Federal Government purchases showed little change, State and local spending rose \$ 4¾ billion

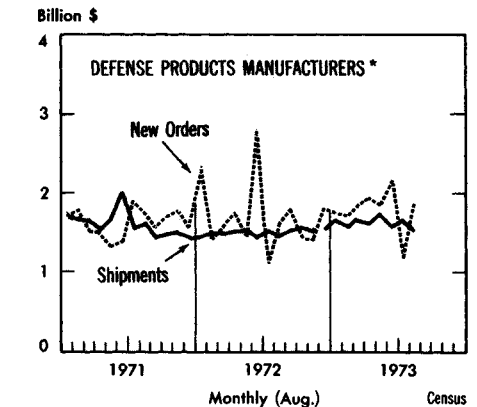
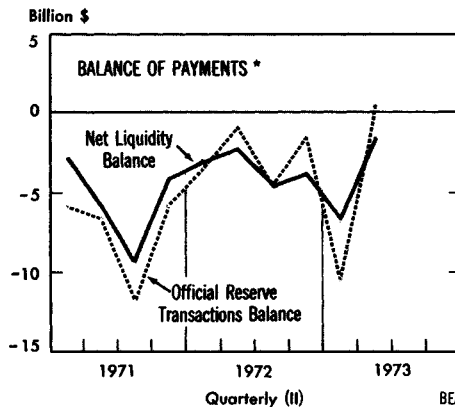
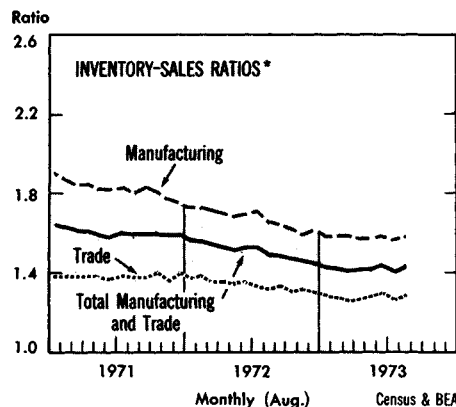
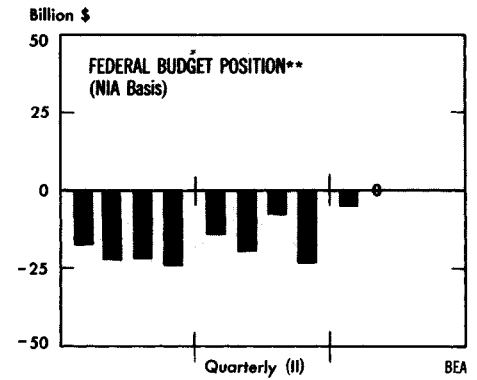
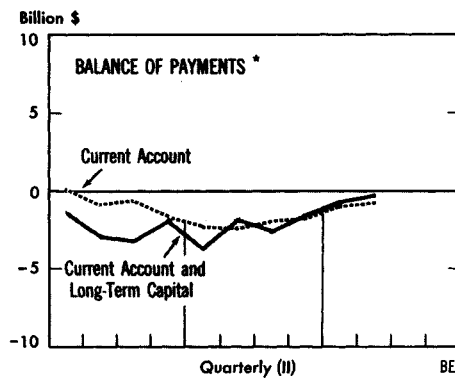
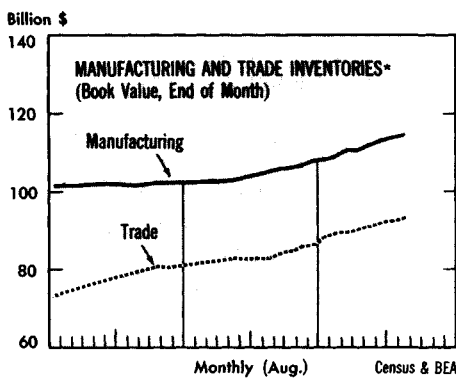
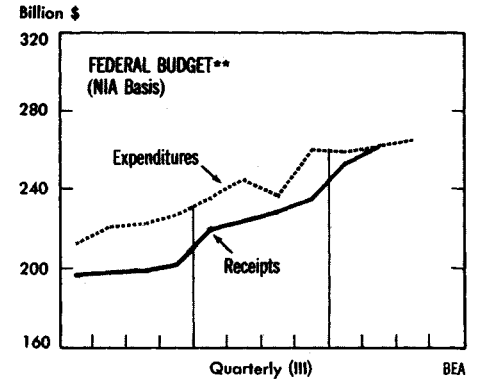
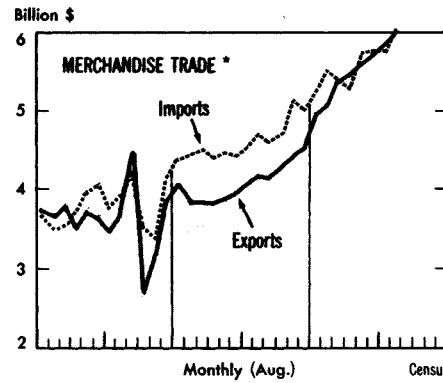
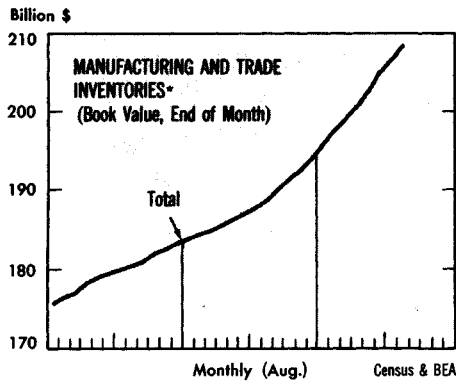
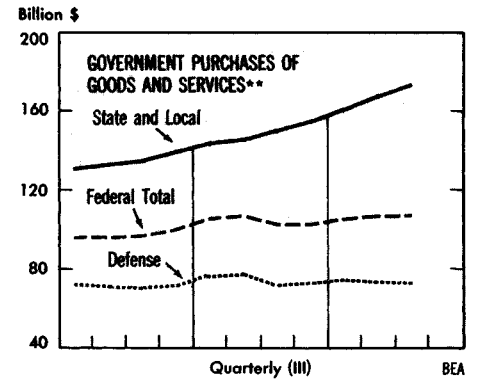
INVENTORIES



FOREIGN TRANSACTIONS



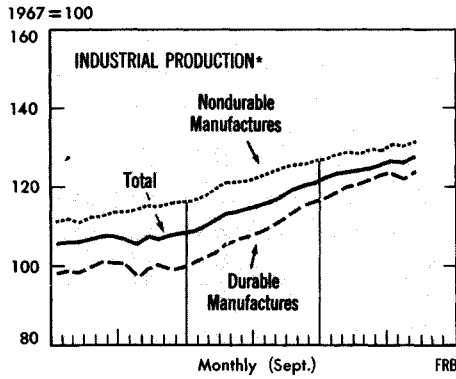
GOVERNMENT



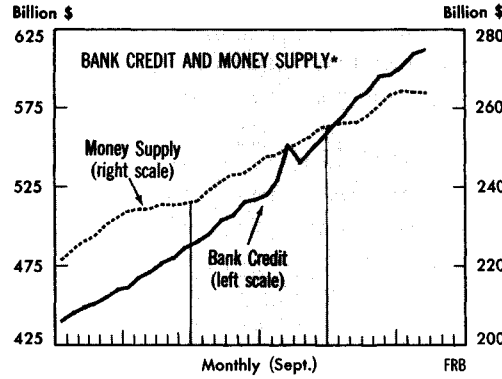
*Seasonally Adjusted **Seasonally Adjusted at Annual Rates

- In September: Industrial production increased three-fourths of 1 percent
- Bank credit was about unchanged; money supply growth slowed
- Interest rates and bond yields declined

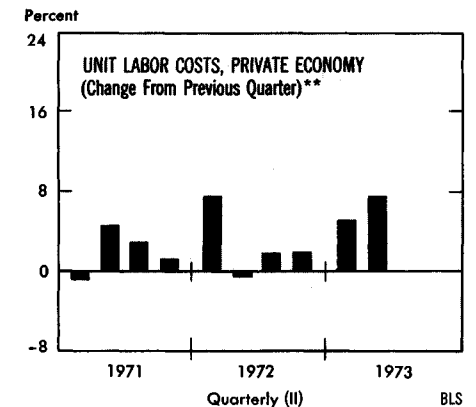
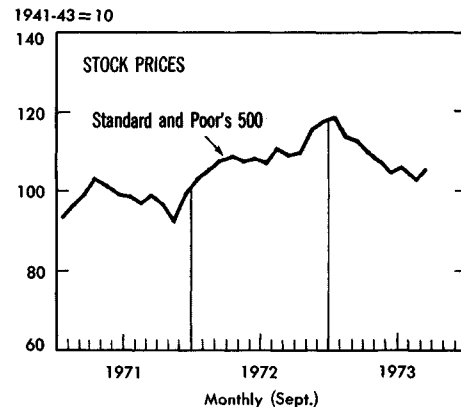
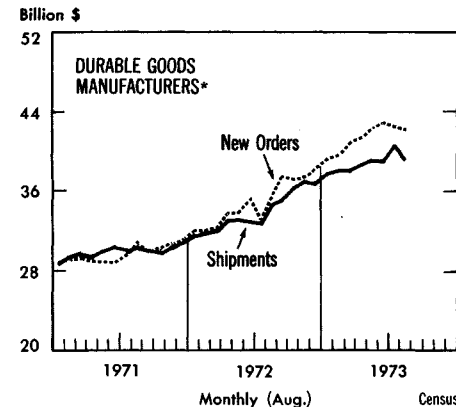
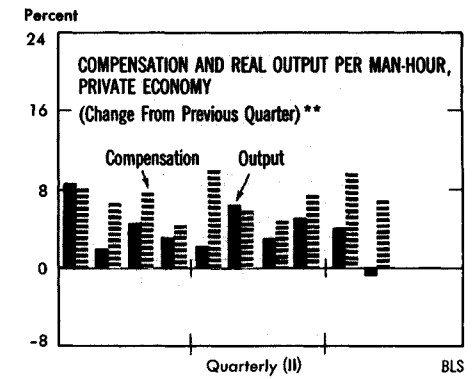
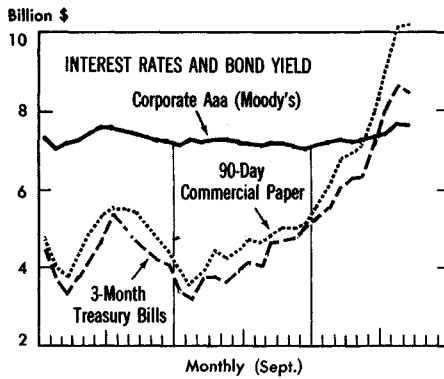
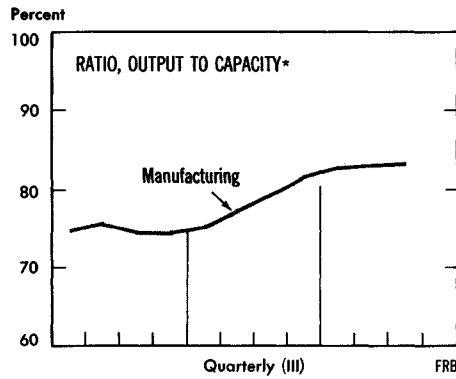
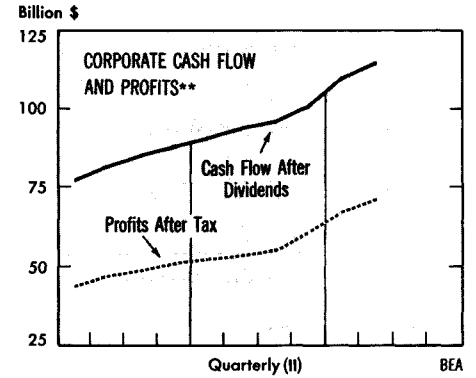
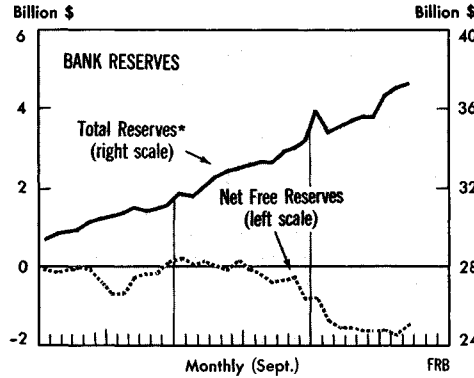
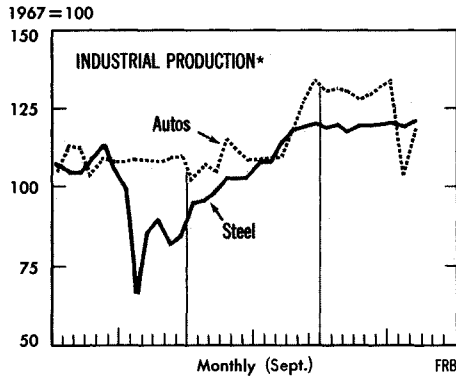
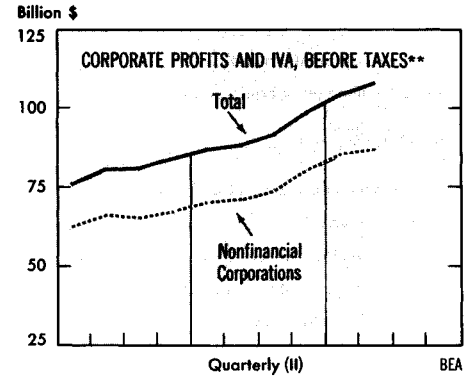
INDUSTRIAL PRODUCTION



MONEY, CREDIT, AND SECURITIES MARKETS



PROFITS AND COSTS



*Seasonally Adjusted **Seasonally Adjusted at Annual Rates

NATIONAL INCOME AND PRODUCT TABLES

	1971	1972	1972			1973			1971	1972	1972			1973			
			II	III	IV	I	II	III ^p			II	III	IV	I	II	III ^p	
			Seasonally adjusted at annual rates									Seasonally adjusted at annual rates					
Billions of current dollars									Billions of 1958 dollars								

Table 1.—Gross National Product in Current and Constant Dollars (1.1, 1.2)

Gross national product.....	1,055.5	1,155.2	1,142.4	1,166.5	1,199.2	1,242.5	1,272.0	1,304.0	745.4	790.7	785.6	796.7	812.3	829.3	834.3	841.6
Personal consumption expenditures.....	667.2	726.5	719.2	734.1	752.6	779.4	795.6	813.4	496.3	526.8	523.4	531.0	540.5	552.7	553.3	556.8
Durable goods.....	103.6	117.4	115.1	120.2	122.9	132.2	132.8	132.1	92.2	104.0	101.9	105.8	109.2	117.0	116.2	114.9
Nondurable goods.....	278.7	299.9	297.9	302.3	310.7	322.2	330.3	340.8	211.6	220.9	220.7	222.2	225.8	228.8	228.0	230.0
Services.....	284.9	309.2	306.2	311.6	319.0	325.0	332.6	340.5	192.4	201.8	200.8	202.9	205.4	207.0	209.1	211.9
Gross private domestic investment.....	153.2	178.3	174.7	181.5	189.4	194.5	198.2	206.7	110.3	122.9	121.0	124.8	129.1	130.2	130.2	134.0
Fixed investment.....	147.1	172.3	169.2	172.9	181.2	189.9	193.7	198.0	105.0	118.3	116.7	118.2	122.8	126.9	126.9	128.1
Nonresidential.....	104.4	118.2	116.3	118.3	124.3	130.9	134.1	138.7	76.1	83.7	82.5	83.4	87.5	91.2	91.5	93.6
Structures.....	37.9	41.7	41.5	41.3	43.0	45.3	47.2	50.0	22.5	23.0	23.0	22.7	23.1	23.8	24.4	25.5
Producers' durable equipment.....	66.5	76.5	74.9	77.0	81.2	85.5	86.9	88.8	53.6	60.8	59.5	60.7	64.3	67.4	67.2	68.1
Residential structures.....	42.7	54.0	52.8	54.5	56.9	59.0	59.6	59.3	29.0	34.6	34.2	34.7	35.3	35.6	35.3	34.6
Nonfarm.....	42.2	53.5	52.3	53.9	56.4	58.4	59.1	58.7	28.6	34.2	33.9	34.3	35.0	35.3	35.0	34.2
Farm.....	.6	.6	.5	.6	.5	.6	.5	.6	.4	.4	.4	.4	.3	.4	.3	.4
Change in business inventories.....	6.1	6.0	5.5	8.7	8.2	4.6	4.5	8.7	5.3	4.6	4.3	6.6	6.3	3.3	3.4	5.9
Nonfarm.....	4.5	5.6	4.8	8.4	7.9	4.4	4.4	7.2	3.8	4.5	4.0	6.6	6.2	3.2	3.3	5.1
Farm.....	1.6	.4	.7	.3	.3	.2	.1	1.5	1.4	.1	.3	.0	.1	.1	.1	.8
Net exports of goods and services.....	.8	-4.6	-5.7	-3.8	-3.5	.0	2.8	4.0	.4	-2.0	-2.8	-9.9	-8.8	2.0	5.6	5.4
Exports.....	66.3	73.5	74.0	79.7	89.7	97.2	102.7	102.7	52.7	56.4	54.1	56.6	59.6	65.3	66.6	66.1
Imports.....	65.5	78.1	75.6	77.7	83.2	89.7	94.4	98.8	52.4	58.4	56.8	57.5	60.3	63.3	61.1	60.7
Government purchases of goods and services.....	234.3	255.0	254.2	254.7	260.7	268.6	275.3	279.9	138.4	143.0	144.0	141.8	143.5	144.4	145.2	145.4
Federal.....	98.1	104.4	106.7	102.3	102.7	105.5	107.3	107.1	60.9	60.8	62.9	58.8	58.6	58.2	58.2	57.3
National defense.....	71.6	74.4	76.6	71.9	72.4	74.3	74.2	73.6								
Other.....	26.5	30.1	30.1	30.4	30.3	31.2	33.1	33.5								
State and local.....	136.2	150.5	147.5	152.4	158.0	163.0	168.0	172.8	77.5	82.2	81.1	83.0	85.0	86.2	87.0	88.1

Table 2.—Gross National Product by Major Type of Product in Current and Constant Dollars (1.3, 1.5)

Gross national product.....	1,055.5	1,155.2	1,142.4	1,166.5	1,199.2	1,242.5	1,272.0	1,304.0	745.4	790.7	785.6	796.7	812.3	829.3	834.3	841.6
Final sales.....	1,049.4	1,149.1	1,136.9	1,157.8	1,191.0	1,237.8	1,267.5	1,295.3	740.1	786.1	781.3	790.0	806.0	826.0	831.0	835.8
Change in business inventories.....	6.1	6.0	5.5	8.7	8.2	4.6	4.5	8.7	5.3	4.6	4.3	6.6	6.3	3.3	3.4	5.9
Goods output.....	497.1	541.4	536.4	548.6	563.6	589.6	604.2	621.8	396.1	423.9	421.5	428.4	438.4	452.1	453.9	457.2
Final sales.....	491.1	535.4	531.0	539.9	555.4	585.0	599.6	613.1	390.8	419.3	417.2	421.7	432.1	448.7	450.5	451.4
Change in business inventories.....	6.1	6.0	5.5	8.7	8.2	4.6	4.5	8.7	5.3	4.6	4.3	6.6	6.3	3.3	3.4	5.9
Durable goods.....	193.1	219.1	214.6	222.6	233.2	242.5	249.7	252.7	163.0	184.1	180.4	186.2	196.3	203.4	207.1	207.3
Final sales.....	191.1	214.1	211.4	216.8	222.8	238.1	242.4	244.3	161.3	180.2	177.7	181.8	188.0	200.3	201.8	201.3
Change in business inventories.....	2.0	4.9	3.2	5.8	10.4	4.4	7.3	8.4	1.7	3.9	2.7	4.4	8.2	3.2	5.4	6.0
Nondurable goods.....	304.0	322.3	321.9	326.0	330.3	347.2	354.5	369.1	233.1	239.8	241.1	242.2	242.1	248.7	246.7	249.9
Final sales.....	299.9	321.2	319.6	323.1	332.5	346.9	357.3	368.8	229.5	239.1	239.5	240.0	244.1	248.5	248.7	250.0
Change in business inventories.....	4.1	1.1	2.3	2.9	-2.2	.3	-2.8	.4	3.6	.7	1.6	2.2	-1.9	.2	-2.0	-1.1
Services.....	447.4	487.3	481.5	491.8	503.9	514.8	527.7	540.0	280.1	292.6	290.3	294.5	298.8	300.6	304.1	308.1
Structures.....	110.9	126.5	124.4	126.2	131.7	138.1	140.1	142.1	69.1	74.2	73.8	73.8	75.1	76.7	76.3	76.3

Table 3.—Gross National Product by Sector in Current and Constant Dollars (1.7, 1.8)

Gross national product.....	1,055.5	1,155.2	1,142.4	1,166.5	1,199.2	1,242.5	1,272.0	1,304.0	745.4	790.7	785.6	796.7	812.3	829.3	834.3	841.6
Private.....	930.3	1,019.7	1,008.6	1,030.0	1,060.0	1,098.9	1,126.2	1,155.8	684.7	729.5	725.0	735.3	750.3	767.1	772.0	779.1
Business.....	889.9	975.4	965.2	984.9	1,013.6	1,050.5	1,076.8	1,105.1	662.2	706.6	702.6	712.3	726.8	742.9	748.3	755.2
Nonfarm.....	859.4	941.0	931.3	951.0	976.9	1,008.9	1,033.5	1,056.0	636.3	682.0	677.4	688.7	702.5	718.1	725.9	734.0
Farm.....	30.4	34.4	33.9	33.9	36.7	41.6	43.3	49.0	26.0	24.6	25.2	23.6	24.2	24.8	22.4	21.2
Households and institutions.....	33.5	36.8	36.6	37.5	37.8	39.3	40.5	41.7	16.8	17.4	17.4	17.5	17.4	18.0	18.2	18.6
Rest of the world.....	7.0	7.5	6.8	7.6	8.7	9.1	8.9	9.1	5.6	5.5	5.0	5.5	6.2	6.3	5.5	5.3
General government.....	125.1	135.4	133.8	136.5	139.2	143.5	145.8	148.2	60.7	61.1	60.6	61.3	62.0	62.2	62.4	62.5
Federal.....	47.6	50.3	50.0	50.2	50.5	52.5	52.2	52.2	23.0	21.8	21.7	21.7	21.7	21.6	21.4	21.2
State and local.....	77.6	85.1	83.8	86.4	88.7	91.1	93.6	96.0	37.6	39.3	38.9	39.7	40.3	40.6	41.0	41.3

HISTORICAL STATISTICS

THE national income and product data for 1929-63 are in *The National Income and Product Accounts of the United States, 1929-1965, Statistical Tables* (available at \$1 from Commerce Department District Offices or the Superintendent of Documents; see addresses inside front cover). Each July SURVEY contains preliminary data for the latest 2 years and fully revised data for the preceding 2. The July 1973 issue has data for 1969-72. Prior July issues have fully revised data as follows: 1968-69, July 1972; 1967-68, July 1971; 1966-67, July 1970; 1965-66, July 1969; 1964-65, July 1968. BEA will provide on request a reprint of the fully revised data for the years 1964-69.

	1971	1972	1972			1973		
			II	III	IV	I	II	III ^p
			Seasonally adjusted at annual rates					
Billions of dollars								

Table 4.—Relation of Gross National Product, National Income, and Personal Income (1.9)

Gross national product	1,055.5	1,155.2	1,142.4	1,166.5	1,199.2	1,242.5	1,272.0	1,304.0
Less: Capital consumption allowances.....	93.8	102.4	103.6	102.3	105.1	106.9	109.0	110.7
Equals: Net national product ..	961.6	1,052.8	1,038.8	1,064.2	1,094.1	1,135.5	1,163.0	1,193.3
Less: Indirect business tax and nontax liability... Business transfer payments..... Statistical discrepancy.....	102.4 4.3 -3.4	109.5 4.6 -1.5	108.4 4.6 -1.0	110.5 4.7 1.6	112.8 4.7 .2	115.6 4.8 1.1	117.2 4.9 3.2	118.5 5.0 -----
Plus: Subsidies less current surplus government enterprises.....	1.2	1.7	1.5	1.8	2.2	.9	.4	.5
Equals: National income	859.4	941.8	928.3	949.2	978.6	1,015.0	1,038.2	-----
Less: Corporate profits and inventory valuation adjustment..... Contributions for social insurance..... Wage accruals less disbursements.....	80.1 64.6 .6	91.1 73.7 -5	88.0 72.9 -4	91.5 74.5 -2	98.8 75.8 .0	104.3 89.3 .0	107.9 90.9 -3	----- 92.9 .0
Plus: Government transfer payments to persons..... Interest paid by government (net) and by consumers..... Dividends..... Business transfer payments.....	88.9 31.0 25.1 4.3	98.3 32.7 26.0 4.6	95.3 32.6 25.9 4.6	96.4 32.9 26.2 4.7	107.3 33.7 26.4 4.7	108.8 34.7 26.9 4.8	110.8 36.1 27.3 4.9	113.7 37.9 28.1 5.0
Equals: Personal income	863.5	939.2	926.1	943.7	976.1	996.6	1,019.0	1,046.7

Table 5.—Gross Auto Product in Current and Constant Dollars (1.15, 1.16)

	Billions of current dollars							
	1971	1972	1972	1972	1972	1972	1972	1972
Gross auto product ¹	40.9	43.6	42.1	46.5	45.6	51.5	51.2	48.4
Personal consumption expenditures.....	35.4	39.4	38.1	41.8	41.2	45.1	44.6	44.4
Producers' durable equipment.....	6.3	7.0	6.7	7.4	7.3	8.0	7.9	7.8
Change in dealers' auto inventories.....	1.4	-5	-4	-8	-4	.9	1.2	-6
Net exports.....	-2.6	-2.7	-2.8	-2.3	-2.9	-2.8	-2.9	-3.7
Exports.....	2.5	3.0	2.8	3.2	3.3	3.6	3.6	4.1
Imports.....	5.1	5.7	5.6	5.4	6.2	6.4	6.5	7.8
Addenda:								
New cars, domestic ²	35.7	37.9	36.9	40.3	39.5	44.0	44.8	43.3
New cars, foreign.....	7.8	8.6	8.2	8.8	9.4	10.6	9.8	9.7
	Billions of 1958 dollars							
Gross auto product ¹	36.4	39.0	37.7	41.0	41.4	46.4	45.5	42.7
Personal consumption expenditures.....	31.4	35.2	34.0	36.7	37.3	40.4	39.6	39.0
Producers' durable equipment.....	5.6	6.3	6.1	6.5	6.7	7.2	7.0	6.9
Change in dealers' auto inventories.....	1.2	-4	-3	-7	-3	.8	1.0	-5
Net exports.....	-2.3	-2.4	-2.4	-1.9	-2.6	-2.4	-2.5	-3.2
Exports.....	2.3	2.6	2.4	2.7	3.0	3.2	3.1	3.5
Imports.....	4.5	5.0	4.8	4.7	5.5	5.6	5.6	6.7
Addenda:								
New cars, domestic ²	32.4	34.6	33.5	36.2	36.7	40.6	40.7	39.1
New cars, foreign.....	7.2	7.9	7.5	8.0	8.8	9.9	9.0	8.9

1. The gross auto product total includes government purchases.
 2. Differs from the gross auto product total by the markup on both used cars and foreign cars.
^p Preliminary.

	1971	1972	1972			1973		
			II	III	IV	I	II	III ^p
			Seasonally adjusted at annual rates					
Billions of dollars								

Table 6.—National Income by Type of Income (1.10)

National income	859.4	941.8	928.3	949.2	978.6	1015.0	1038.2	-----
Compensation of employees	644.1	707.1	699.6	713.1	731.2	757.4	774.9	793.5
Wages and salaries.....	573.8	627.3	620.8	632.5	648.7	666.7	682.3	698.9
Private.....	449.7	493.3	488.4	497.5	510.9	525.1	538.7	552.8
Military.....	19.4	20.3	20.1	20.0	20.1	20.9	20.5	20.4
Government civilian.....	104.7	113.8	112.3	115.1	117.7	120.7	123.1	125.7
Supplements to wages and salaries..... Employer contributions for social insurance.....	70.3 33.7	79.7 39.0	78.9 38.7	80.5 39.3	82.5 40.2	90.8 47.4	92.6 48.3	94.6 49.3
Other labor income.....	36.6	40.7	40.2	41.3	42.3	43.3	44.2	45.3
Proprietors' income	68.7	74.2	73.2	74.1	77.1	80.6	81.5	85.1
Business and professional.....	51.9	54.0	53.3	54.3	55.3	56.3	57.1	58.0
Farms.....	16.8	20.2	19.9	19.8	21.8	24.3	24.4	27.1
Rental income of persons	24.5	24.1	22.6	24.9	24.9	24.7	24.6	25.3
Corporate profits and inventory valuation adjustment	80.1	91.1	88.0	91.5	98.8	104.3	107.9	-----
Profits before tax.....	85.1	98.0	94.8	98.4	106.1	119.6	128.9	-----
Profits tax liability.....	37.4	42.7	41.4	42.9	45.9	52.7	57.4	-----
Profits after tax.....	47.6	55.4	53.4	55.6	60.3	66.9	71.6	-----
Dividends.....	25.1	26.0	25.9	26.2	26.4	26.9	27.3	28.1
Undistributed profits.....	22.5	29.3	27.5	29.4	33.9	40.0	44.2	-----
Inventory valuation adjustment.....	-4.9	-6.9	-6.7	-6.9	-7.3	-15.4	-21.1	-17.0
Net interest	42.0	45.2	44.8	45.7	46.6	47.9	49.4	51.1

Table 7.—National Income by Industry Division (1.11)

All industries, total	859.4	941.8	928.3	949.2	978.6	1015.0	1038.2	-----
Agriculture, forestry, and fisheries.....	26.2	30.4	30.0	29.9	32.2	34.7	35.1	-----
Mining and construction.....	53.7	59.9	59.3	60.4	61.8	64.0	65.5	-----
Manufacturing.....	226.4	252.6	248.7	253.9	266.5	280.8	290.4	-----
Nondurable goods.....	91.8	99.9	97.7	100.8	104.6	107.3	109.9	-----
Durable goods.....	134.5	152.7	151.0	153.1	161.9	173.5	180.5	-----
Transportation.....	32.8	36.0	35.3	36.2	37.3	38.2	38.5	-----
Communication.....	17.8	20.0	19.5	20.4	20.8	20.9	21.0	-----
Electric, gas, and sanitary services.....	16.5	18.2	18.3	18.5	18.6	19.1	19.4	-----
Wholesale and retail trade.....	130.9	139.7	138.3	140.5	143.2	146.9	149.7	-----
Finance, insurance, and real estate.....	100.1	107.9	105.7	109.2	111.6	114.2	117.3	-----
Services.....	109.8	120.1	119.0	121.8	123.9	128.4	131.4	-----
Government and government enterprises.....	138.2	149.5	147.6	150.7	153.9	158.6	160.9	-----
Rest of the world.....	7.0	7.5	6.8	7.6	8.7	9.1	8.9	-----

Table 8.—Corporate Profits (Before Tax) and Inventory Valuation Adjustment by Broad Industry Groups (6.12)

All industries, total	80.1	91.1	88.0	91.5	98.8	104.3	107.9	-----
Financial institutions	15.2	17.5	17.3	17.6	18.6	19.8	21.4	-----
Federal Reserve banks.....	3.3	3.4	3.4	3.4	3.4	3.9	4.4	-----
Other financial institutions.....	11.9	14.1	14.0	14.2	15.2	16.0	17.0	-----
Nonfinancial corporations	64.9	73.6	70.7	73.9	80.2	84.5	86.5	-----
Manufacturing.....	32.5	40.1	38.7	39.9	44.7	49.7	52.4	-----
Nondurable goods.....	17.8	20.0	18.5	20.4	22.4	22.8	23.9	-----
Durable goods.....	14.7	20.2	20.2	19.5	22.3	26.9	28.5	-----
Transportation, communication, and public utilities.....	8.6	9.3	8.9	9.8	9.9	9.2	8.5	-----
All other industries.....	23.9	24.2	23.1	24.1	25.7	25.6	25.6	-----

1971	1972	1972			1973		
		II	III	IV	I	II	III*
		Seasonally adjusted at annual rates					
Billions of dollars							

Table 13.—Federal Government Receipts and Expenditures (3.1, 3.2)

	1971	1972	1973	1974	1975	1976	1977
Federal Government receipts	198.9	228.7	225.4	229.6	236.9	253.6	262.4
Personal tax and nontax receipts.....	89.9	107.9	106.6	108.1	111.3	108.5	111.4
Corporate profits tax accruals.....	33.3	37.8	36.7	38.0	40.7	46.6	50.8
Indirect business tax and nontax accruals.....	20.4	19.9	19.7	19.9	20.3	20.7	21.2
Contributions for social insurance.....	55.2	63.0	62.4	63.6	64.6	77.8	80.8
Federal Government expenditures	221.0	244.6	244.4	237.0	260.3	258.6	262.4
Purchases of goods and services.....	98.1	104.4	106.7	102.3	102.7	105.5	107.3
National defense.....	71.6	74.4	76.6	71.9	72.4	74.3	74.2
Other.....	26.5	30.1	30.1	30.4	30.3	31.2	33.1
Transfer payments.....	74.9	82.9	80.1	80.8	91.0	91.8	93.8
To persons.....	72.3	80.1	77.3	78.0	88.5	89.7	91.5
To foreigners (net).....	2.6	2.7	2.8	2.8	2.5	2.1	2.3
Grants-in-aid to State and local governments.....	29.1	37.7	38.0	34.4	46.1	41.1	40.5
Net interest paid.....	13.6	13.5	13.6	13.4	13.7	14.7	15.6
Subsidies less current surplus of government enterprises.....	5.3	6.1	5.9	6.2	6.7	5.5	5.1
Subsidies.....	3.9	5.5	5.1	6.1	6.1	4.6	3.9
Current surplus.....	-1.4	-6	-8	-1	-6	-9	-1.2
Less: Wage accruals less disbursements.....	.0	.0	-1	.0	.0	.0	-1
Surplus or deficit (-), national income and product accounts	-22.2	-15.9	-19.0	-7.4	-23.4	-5.0	.0

Table 14.—State and Local Government Receipts and Expenditures (3.3, 3.4)

	1971	1972	1973	1974	1975	1976	1977
State and local government receipts	152.3	177.2	175.9	175.3	191.2	190.2	192.8
Personal tax and nontax receipts.....	27.7	34.3	34.1	34.6	36.1	36.6	37.9
Corporate profits tax accruals.....	4.1	4.9	4.7	4.9	5.2	6.1	6.6
Indirect business tax and nontax accruals.....	82.0	89.6	88.7	90.6	92.5	94.9	96.0
Contributions for social insurance.....	9.4	10.7	10.5	10.9	11.3	11.6	12.1
Federal grants-in-aid.....	29.1	37.7	38.0	34.4	46.1	41.1	40.5
State and local government expenditures	148.3	164.0	160.8	165.9	171.6	176.4	181.2
Purchases of goods and services.....	136.2	150.5	147.5	152.4	158.0	163.0	168.0
Transfer payments to persons.....	16.6	18.2	18.0	18.5	18.8	19.1	19.4
Net interest paid.....	-2	-4	-4	-4.5	-6	-1.2	-1.3
Subsidies less current surplus of government enterprises.....	-4.1	-4.4	-4.4	-4.5	-4.6	-4.7	-4.7
Subsidies.....	.0	.0	.0	.0	.0	.0	.1
Current surplus.....	4.2	4.5	4.4	4.5	4.6	4.7	4.7
Less: Wage accruals less disbursements.....	.2	-1	-1	.0	.0	.0	-1
Surplus or deficit (-), national income and product accounts	4.0	13.1	15.2	9.5	19.6	13.9	11.5

Table 15.—Sources and Uses of Gross Saving (5.1)

	1971	1972	1973	1974	1975	1976	1977
Gross private saving	171.9	174.2	170.0	170.3	186.0	181.5	183.0
Personal saving.....	60.2	49.7	45.9	45.8	54.4	50.0	51.0
Undistributed corporate profits.....	22.5	29.3	27.5	29.4	33.9	40.0	44.2
Corporate inventory valuation adjustment.....	-4.9	-6.9	-6.7	-6.9	-7.3	-15.4	-21.1
Corporate capital consumption allowances.....	60.4	65.9	66.2	66.0	68.0	69.3	70.5
Noncorporate capital consumption allowances.....	33.4	36.5	37.5	36.3	37.1	37.8	38.8
Wage accruals less disbursements.....	.4	-3	-2	-2	.0	.0	.0
Government surplus or deficit (-), national income and product accounts	-18.1	-2.8	-3.9	2.0	-3.8	8.9	11.6
Federal.....	-22.2	-15.9	-19.0	-7.4	-23.4	-5.0	.0
State and local.....	4.0	13.1	15.2	9.5	19.6	13.9	11.5
Capital grants received by the United States.....	.7	.7	.7	.7	.7	.0	.0
Gross investment	151.1	170.6	165.9	174.7	183.1	191.5	197.7
Gross private domestic investment.....	153.2	178.3	174.7	181.5	189.4	194.5	206.7
Net foreign investment.....	-2.1	-7.6	-8.7	-6.9	-6.3	-3.0	-9.0
Statistical discrepancy	-3.4	-1.5	-1.0	1.6	.2	1.1	3.2

* Preliminary.

1971	1972	1972			1973		
		II	III	IV	I	II	III*
		Seasonally adjusted					
Index numbers, 1958=100							

Table 16.—Implicit Price Deflators for Gross National Product (8.1)

	1971	1972	1973	1974	1975	1976	1977
Gross national product	141.60	146.10	145.42	146.42	147.63	149.81	152.46
Personal consumption expenditures.....	134.4	137.9	137.4	138.2	139.2	141.0	143.8
Durable goods.....	112.3	112.8	112.9	113.5	112.5	113.0	114.3
Nondurable goods.....	131.7	135.7	135.0	136.0	137.6	140.8	144.8
Services.....	148.0	153.2	152.5	153.5	155.3	157.0	159.0
Gross private domestic investment.....	140.1	145.7	145.0	146.3	147.6	149.7	152.7
Fixed investment.....	140.1	145.7	145.0	146.3	147.6	149.7	152.7
Nonresidential.....	137.3	141.3	141.1	141.8	142.1	143.5	146.5
Structures.....	168.4	181.7	180.4	182.2	186.0	190.7	193.9
Producers' durable equipment.....	124.2	126.0	125.9	126.8	126.3	126.8	129.3
Residential structures.....	147.5	156.3	154.4	157.0	161.2	165.6	168.6
Nonfarm.....	147.5	156.4	154.5	157.1	161.3	165.6	168.6
Farm.....	141.9	150.8	149.0	151.5	156.0	159.2	162.7
Change in business inventories.....							
Net exports of goods and services.....	125.7	130.2	129.2	130.7	133.7	137.4	145.9
Exports.....	125.0	133.6	133.0	135.2	137.8	141.8	154.5
Imports.....	169.2	178.3	176.6	179.6	181.6	186.0	189.6
Government purchases of goods and services.....	160.9	171.7	169.8	173.9	175.5	181.2	184.4
Federal.....	175.8	183.2	181.9	183.7	185.9	189.2	193.1
State and local.....							

Table 17.—Implicit Price Deflators for Gross National Product by Major Type of Product (8.2)

	1971	1972	1973	1974	1975	1976	1977
Gross national product	141.60	146.10	145.42	146.42	147.63	149.81	152.46
Final sales.....	141.8	146.2	145.5	146.6	147.8	149.9	152.5
Goods output.....	125.5	127.7	127.3	128.1	128.6	130.4	133.1
Durable goods.....	118.5	119.0	118.9	119.5	118.8	119.2	120.5
Nondurable goods.....	130.4	134.4	133.5	134.6	136.4	139.6	143.7
Services.....	159.7	166.5	165.9	167.0	168.6	171.3	173.5
Structures.....	160.4	170.6	168.6	170.9	175.4	180.1	183.6
Addendum: Gross auto product.....	112.4	111.7	111.9	113.4	110.1	111.1	112.6

Table 18.—Implicit Price Deflators for Gross National Product by Sector (8.4)

	1971	1972	1973	1974	1975	1976	1977
Gross national product	141.60	146.10	145.42	146.42	147.63	149.81	152.46
Private.....	135.88	139.78	139.12	140.07	141.27	143.25	145.88
Business.....	134.4	138.0	137.4	138.3	139.5	141.4	143.9
Nonfarm.....	135.1	138.0	137.5	138.1	139.1	140.5	142.4
Farm.....	117.1	139.5	134.8	143.6	151.3	167.6	193.0
Households and institutions.....	198.9	212.1					
Rest of the world.....							
General government.....	206.2	221.5	220.8	222.6	224.6	230.8	233.9
Federal.....	206.6	230.5	229.9	231.4	232.8	243.2	244.3
State and local.....	206.0	216.5	215.6	217.8	220.2	224.2	228.4

Table 19.—Gross National Product: Change from Preceding Period (7.7)

	Percent		Percent at annual rate					
	1971	1972	1973	1974	1975	1976	1977	
Gross national product:	8.0	9.4	11.2	8.7	11.7	15.2	9.9	
Current dollars.....	3.2	6.1	9.5	5.8	8.1	8.7	2.4	
Constant dollars.....	4.7	3.2	1.6	2.8	3.3	6.1	7.3	
Implicit price deflator.....	5.1	3.6	2.6	3.2	3.9	7.1	7.0	
Chain price index.....								
Gross private product:	7.9	9.6	12.1	8.7	12.2	15.5	10.3	
Current dollars.....	3.5	6.5	10.4	5.8	8.4	9.3	2.5	
Constant dollars.....	4.3	2.9	1.6	2.7	3.5	5.7	7.6	
Implicit price deflator.....	4.5	3.1	2.2	2.7	3.9	6.5	7.2	
Chain price index.....								

Regional and State Personal Income: Second Quarter Developments

Table A.—Percent Change in Total Personal Income and Income Excluding Selected Components, I—1973—II—1973

Rank		Total personal income	Total personal income, excl. manufacturing wage and salary	Total personal income, excl. construction wage and salary	Total personal income, excl. farm income	Total personal income, excl. rent	Total personal income, excl. manufacturing, farm, construction, and rent
	United States	2.3	2.1	2.3	2.3	2.3	2.2
	Regions						
1	Great Lakes.....	3.7	3.9	3.6	3.5	3.7	3.6
2	Rocky Mountain.....	3.6	3.4	2.9	4.2	3.7	3.4
3	Southeast.....	3.0	2.6	2.8	3.2	3.1	2.7
4	New England.....	2.7	2.6	2.9	2.6	2.7	2.7
5	Southwest.....	1.8	1.6	2.0	2.0	1.9	2.0
6	Plains.....	1.6	1.5	1.3	2.5	1.6	2.4
7	Far West.....	1.3	1.1	1.4	1.2	1.3	1.0
8	Mideast.....	1.3	1.1	1.5	1.3	1.4	1.5
	States						
1	Colorado.....	7.2	6.7	5.6	7.9	7.4	5.8
2	Florida.....	6.4	6.3	5.9	6.4	6.6	5.9
3	Maine.....	6.4	7.1	6.5	4.8	6.5	5.1
4	North Carolina.....	6.2	5.0	5.4	6.7	6.3	4.5
5	Oklahoma.....	5.5	5.8	5.5	2.1	5.8	1.7
6	Idaho.....	5.0	5.7	4.9	1.9	5.1	2.0
7	Illinois.....	4.2	4.4	3.9	4.2	4.3	4.3
8	South Carolina.....	4.0	2.4	3.6	3.7	4.1	1.2
9	Michigan.....	3.9	3.2	3.8	3.9	4.0	3.0
10	Tennessee.....	3.4	2.5	3.3	3.5	3.5	2.5
11	Wisconsin.....	3.4	3.7	3.3	3.4	3.5	3.6
12	Indiana.....	3.4	5.0	3.4	2.3	3.5	3.5
13	New Hampshire.....	3.4	3.1	2.8	3.3	3.4	2.3
14	Massachusetts.....	3.2	2.9	3.3	3.1	3.2	3.1
15	Vermont.....	3.1	2.6	4.3	3.2	3.2	4.1
16	Ohio.....	3.0	3.4	3.2	2.9	3.1	3.5
17	Georgia.....	2.9	2.6	2.4	3.0	2.9	2.1
18	Nevada.....	2.2	2.3	2.5	2.0	2.2	2.5
19	Arizona.....	2.2	1.9	1.9	2.5	2.2	2.0
20	South Dakota.....	2.1	1.6	1.8	6.1	2.1	5.8
21	Minnesota.....	2.1	2.0	1.9	2.2	2.1	1.9
22	Kansas.....	2.0	2.0	1.9	2.6	2.1	2.4
23	Rhode Island.....	1.9	1.7	2.4	1.9	1.9	2.3
24	North Dakota.....	1.8	1.8	1.8	1.3	1.9	1.2
25	Pennsylvania.....	1.8	1.5	2.0	1.7	2.1	2.1
26	New Jersey.....	1.8	1.5	2.4	1.8	1.9	2.2
27	Washington.....	1.7	1.3	1.8	1.8	1.7	1.5
28	Arkansas.....	1.6	.7	1.7	1.0	1.9	.1
29	Nebraska.....	1.6	1.1	1.4	2.1	1.6	1.4
30	Alabama.....	1.5	1.4	1.5	1.4	1.5	1.2
31	California.....	1.4	1.3	1.5	1.2	1.4	1.0
32	Missouri.....	1.4	.8	1.0	3.2	1.6	2.7
33	Texas.....	1.3	.9	1.5	2.1	1.3	2.2
34	Virginia.....	1.3	1.2	1.3	1.4	1.3	1.5
35	West Virginia.....	1.2	.8	1.9	1.0	1.2	1.4
36	New York.....	1.1	1.2	1.3	1.2	1.2	1.5
37	Connecticut.....	1.1	1.0	1.4	1.1	1.1	1.3
38	Iowa.....	.6	1.4	.5	1.4	.5	2.8
39	Louisiana.....	.6	.0	1.5	.6	.8	1.5
40	Maryland.....	.5	.4	.5	.5	.5	.4
41	Kentucky.....	.4	1.0	.9	-.6	.4	.3
42	Delaware.....	.1	-.6	.5	-.6	.1	-1.2
43	Hawaii.....	-.2	.2	-.8	-.3	-.3	-.4
44	Oregon.....	-.3	-1.0	-.1	.5	-.3	.1
45	Utah.....	-.6	-.4	-.1	-.6	-.6	.1
46	Montana.....	-.8	-.9	-1.2	2.2	-.9	2.1
47	New Mexico.....	-1.2	-1.0	-.9	-.7	-1.3	0
48	District of Columbia.....	-1.3	-1.2	-1.5	-1.3	-1.3	-1.4
49	Mississippi.....	-3.1	-4.1	-3.1	2.0	-2.6	3.3
49	Wyoming.....	-3.5	-3.6	-2.9	.5	-3.8	1.8
50	Alaska.....	-4.9	-5.6	-4.3	-5.0	-4.9	-5.2

NOTE.—Percentages are based on seasonally adjusted unrounded data.

NOTE.—The quarterly estimates of State personal income were prepared in the Regional Economics Division by Steven E. Johnson under the supervision of Q. Francis Dallavalle.

PERSONAL income rose from the first to the second quarter of 1973 in all eight regions and in 41 States. The national increase was 2¼ percent. The increase was at least as large as that in four regions (Great Lakes, Rocky Mountain, Southeast, and New England) and in 19 States. It ranged from 1½ to 2 percent in the Plains and Southwest regions and in 11 States, and was well below average (less than 1½ percent) in the Far West and Mideast and in another 11 States. In three States income was little changed, and in six States and the District of Columbia it was off moderately.

Consumer prices, as measured by the implicit price deflator for personal consumption expenditures, rose 2 percent in the second quarter. For the Nation as a whole, therefore, the rise in personal income kept pace with the price rise.

For the Nation as a whole, gains in most major income components were between 1½ and 3 percent, fairly close to the increase in total personal income, but rental income and farm proprietors' earnings were about unchanged. The rise in these components was held back by losses in floods on the Mississippi River and its major tributaries in the spring of 1973, and by the termination of Government assistance payments to homeowners and businesses which had suffered losses in Tropical Storm Agnes in June 1972. These payments had been substantial in the first quarter of 1973. The impact of their termination was most evident in Pennsylvania, where rental income fell more than 20 percent, and New York, where it fell more than 5 percent.

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The Shift to Services and the Rate of Productivity Change

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Part I. Introduction

Organization of the Article

Exploration of the question raised is not simple. It requires detailed calculations, review of output measurement practices, various rearrangements of employment data, and discussion of concepts. As will quickly and increasingly become apparent, I believe analysis of future productivity trends is not advanced by simply introducing a two-way division of the economy between "commodity-producing" and "service" industries. The commodity-service distinction will nevertheless be retained throughout the article in order to permit consideration of the question initially posed.

Part II of this article will deal with parts of the economy that have unusual characteristics which make it useful to examine their weights and behavior separately. General government, non-profit organizations, and private households are in this category both because the net output of each component of this grouping is so measured in the national accounts that productivity cannot change over time and because the value of output in base year prices is confined to employee compensation. Two parts of the economy are of special interest because they provide output with no current use of labor. One is

"EMPLOYMENT in service industries is growing rapidly. Productivity in the services are small. Will not the shift to services therefore retard productivity advance in the economy as a whole?" This question is heard wherever productivity is discussed. It is almost always clear that the inquirer believes the answer to be yes and the amount of retardation to be large.

The question stems from employment data like those shown in table 1. Four industry divisions are called commodity production: agriculture, forestry, and fisheries; mining; contract construction; and manufacturing. All other industry divisions are called services. The share of the service industries in total employment is then found to have risen from 50 in 1929 and 54 in 1948 to 64 by 1969.

The effect of the "shift to the service industries" upon future productivity growth is explored in this article. The results suggest that the concern about retardation of productivity advance is exaggerated.

Table 1.—Persons Engaged in Production in the Whole Economy: Percentage Distribution Between Commodity-Producing and Service Industries

	1929	1948	1969
Whole economy	100.0	100.0	100.0
Commodity production	50.2	46.4	36.2
Agriculture, forestry, fisheries.....	19.9	11.9	4.3
Mining, manufacturing, construction..	30.3	34.5	31.9
Services	49.8	53.6	63.8
Government, government enterprises..	6.9	11.6	18.1
All other.....	42.9	42.0	45.7

Source: Computed from Bureau of Economic Analysis data.

NOTE.—Mr. Denison is a Senior Fellow of The Brookings Institution, Washington, D.C. The views expressed are those of the author and do not purport to represent the views of the other staff members, officers, or trustees of The Brookings Institution, or of the Bureau of Economic Analysis.

Very helpful comments from Jack Alterman, Solomon Fabricant, George Jaszi, Jerome Mark, Beatrice Vaccara, and Allan Young are gratefully acknowledged. They share no responsibility for views expressed nor any errors committed.

the net flow of property income from abroad. The other, much bigger, is the services that are provided by the existing stock of dwellings. Gross housing services appear in personal consumption expenditures as monetary or imputed space rent; I shall mean by the "services of dwellings" the portion of space rent that corresponds to the value added by dwellings themselves. Within the remainder of the economy, which may be called nonresidential business, one industry, farming, requires special consideration. This is because reduction in the overallocation of labor to farming has contributed importantly to past productivity growth and prospects are for a smaller contribution in the future. For similar reasons nonfarm self-employment is of separate interest.

Part III considers the internal composition of nonresidential nonfarm business (other than the importance of self-employment). Within this sector, shifts in the employment shares of commodity-producing and service industries have not changed much nor persistently, and such small changes as have occurred stem from changes in detailed industry composition that have no special implications for future productivity trends. These empirical findings eliminate the shift to the service industries as a factor in the productivity trend within nonresidential business. But I make some more general points. I first argue that the data by industry really are not appropriate for appraisal of future productivity trends in the sector. An end-product classification avoids some problems, and calculations are made which show that, given productivity trends for production of commodities and services, past changes in relative weights of commodities and services could scarcely alter the trend of productivity. I conclude with reasons to believe that examination of *past* trends for either industry or end-product components can add nothing to an appraisal of *future* productivity changes in nonresidential nonfarm business that is not obtained by simply dealing with the sector as a whole.

Part III in fact argues both that changes in commodity-service composition of nonresidential business output

would have no implications for future productivity trends even if important changes occurred, and that even if this view is rejected the compositional changes that have occurred would have no implications for future productivity change. This double approach may amount to "overkill" but it permits presentation of data and analytical points that are of broader interest.

Estimates Used

Bureau of Economic Analysis series for output by sector and for "persons engaged in production" provide most of the data used in this article. Persons engaged in production are the sum of the numbers of full-time equivalent employees and active proprietors of unincorporated businesses. Appendix table A-1 presents detailed data cross-classified by sector and industry for the high employment years 1929, 1948, and 1969. The detail is combined in various ways for the analysis in the article. Use is also made of estimates drawn from two studies by the present writer which, unfortunately, are not yet in print and available for appraisal.¹ Those for the past are from a new book titled *Accounting for United States Economic Growth, 1929 to 1969*, which will be published by The Brookings Institution. Projections for the future are from a paper titled "Sources of Growth Accounting as the Basis for Long-Term Projections."²

Output and Productivity

One cannot consider the effects of the "shift to the services" on productivity without reference to both the numerator and denominator of the productivity calculation. Data limitations force me to be somewhat eclectic in this article.

The numerator, output, can be measured gross or net of depreciation, and the components of a constant-price output series can be valued at either their market prices or their factor cost

1. Use in this article of "persons engaged in production" introduces minor inconsistencies with employment data used in these sources, which include unpaid family workers and do not convert part-time workers to full-time equivalence.

2. Delivered at a December 1972 Moscow meeting of, and to be published by, the International Economic Association.

in the base year selected. The choice affects the results. My own preference for growth or productivity analysis is net national product valued at factor cost. That is the series I use in my own studies of growth and that I shall use here whenever possible. Net national product valued at factor cost is usually called "national income" and I shall follow that practice here. The estimates of national income in constant prices are my own (though derived from BEA data) and were prepared for all the segments of the economy listed earlier but not for detailed industrial or end-product components of nonfarm nonresidential business. In one section I shall use gross national product at market prices as a substitute to examine end-product components of the sector. It must be noted that the effects on output and productivity of some compositional shifts are sensitive not only to the choice of output measure but also to the date selected as the base year for valuation of components of output. I follow BEA in the use of 1958.

As denominator for the calculation of productivity, persons engaged in production will sometimes be used; I shall then refer to "output per person engaged." Alternatively, I shall use total input of labor, capital, and land, with labor input so measured as to take account not only of employment but also of hours worked, the distribution of total hours among age-sex groups, and the distribution of full-time equivalent employment among persons with differing amounts of education; I shall then refer to "output per unit of input."³ The estimates are available in the same detail as those for national income in constant prices.

"Level" and "intra-period change"

Two aspects of the composition of employment (or any other "input" measure) must often be considered separately, and the distinction will be illustrated now. Suppose some component of employment is 40 percent of the total at the beginning of some time

3. The concept is similar to that described in Edward F. Denison, assisted by Jean-Pierre Poullet, *Why Growth Rates Differ: Postwar Experience in Nine Western Countries* (Brookings Institution, 1967). Data used, however, are from the unpublished studies cited earlier.

period, rises smoothly to 50 percent at the end of that period (so that it averages 45 percent during the period), then again rises smoothly but by smaller increments to 54 percent at the end of the next period (so that it averages 52 percent during the period). The *average level* of the share will have *increased* from the first period to the second by 7 percentage points (from 45 percent to 52). The *intraproduct rise* in the share will have *fallen* by 6 percentage points from the first period to the second, from 10 points in the first period (50 less 40) to 4 in the second (54 less 50). To try to ascertain whether employment composition was more or less favorable to productivity growth in the second than in the first period, the effects of both the 7 point *increase* in average level of employment share and the 6 point *decrease* in the intraperiod rise in the share must be considered. Failure to consider both aspects may yield a wholly wrong result.

The Distribution of Economy-Wide Employment Between Commodity-Producing and Service Industries

If one wishes to examine whether the economy is shifting toward or away from components that have any particular characteristic—great cyclical sensitivity, high growth, high wages, use of highly educated labor, or whatever it may be—components are best grouped by reference to that characteristic itself. I have yet to find any characteristic, except possibly the holding of inventories, to which a commodity-service classification corresponds at all closely. For example, a classification of industries among five groups in accordance with amount of cyclical fluctuation in national income from 1929 to 1947 showed that commodity-producing industries and service industries (broadly defined) appeared in all five groups.⁴ Similarly, it is self-evident that a commodity-service breakdown does not provide a classification that distinguishes between industries that have gained or lost

employment share nor between industries that have high or low rates of productivity advance.

It is necessary to note at the outset what the massive “shift to the services” that is shown by the division of employment data in table 1 really means, for it is only this arrangement of the data that has caused the subject of this paper to receive such great attention.

The statement that the service share of employment has risen from 50 to 64 creates the impressions that barber-shops and laundries have replaced manufacturing as the mainstay of the economy and that the shift has been a general one. Actually, agriculture and government determine the result. Employment in the agriculture, forestry, and fisheries industry division fell from 20 percent of the total in 1929 to 4 percent in 1969. Employment in government and government enterprises rose from 7 percent to 18 percent. If employment is divided by any criterion whatsoever or none at all into two parts—let us call them parts A and B—and

agriculture is put in part A while government is put in part B, the share of part A will have fallen. To call part A “commodity production” and part B “services” and then refer to a long-term “shift to the services” adds no information.

Note what happens if one simply interchanges agriculture and government. If part A is redefined to include mining, manufacturing, contract construction, and government, and part B to include everything else, the share of part A rises from 37 percent in 1929 to 46 in 1948 and to 50 in 1969. The 13 point increase in the share of part A from 1929 to 1969 is almost the same as the 14 point increase in the share of part B by the usual division.

To divide the whole economy between “commodity-producing” and “service” industries has no analytical utility. Farming must be examined and so must government, but in place of the “government and government enterprises” industrial division a more appropriate grouping of activities—general government, households, and institutions—will be examined.

Part II. Selected Components of the Economy

This part of the article investigates the segments of the economy, previously enumerated, that I find repay separate consideration. The first segment—general government, households, and institutions—requires the most complex analysis and the most space.

General Government, Households, and Institutions

Persons engaged in production are divided in table 2 between those employed in nonresidential business, on the one hand, and those employed in general government, households, and institutions (nonprofit organizations primarily serving individuals) on the other. All employment falls into these two categories because there is no employment corresponding to the output of other sectors (the services of dwellings and net property income

Table 2.—Persons Engaged in Production in the Whole Economy: Percentage Distribution Between Nonresidential Business and General Government, Households, and Institutions

	1929	1948	1969
Whole economy.....	100.0	100.0	100.0
Nonresidential business.....	87.0	84.2	76.5
General government, households, and institutions, total ^a	13.0	15.8	23.5
General government.....	6.0	10.4	16.5
Military.....	.6	2.5	4.3
Federal civilian.....	.6	2.4	2.6
Public education.....	2.3	2.4	5.1
State and local, nonschool.....	2.5	3.0	4.6
Private households.....	5.1	2.7	1.7
Nonprofit organizations.....	1.9	2.7	5.3
Medical and other health services ^b.....	.5	.9	2.1
Education.....	.5	.7	1.3
Nonprofit membership organizations.....	.7	1.0	1.6
Other.....	.1	.2	.3

a. Includes “rest of the world” employment, trivial in size.

b. Mainly hospitals.

Source: Computed from table A-1 except that detail within “General government” is computed directly from published data of the Bureau of Economic Analysis.

4. Edward F. Denison, “Industrial Composition of National Income,” *Survey of Current Business*, Vol. 28 (December 1948).

from abroad.⁵ The percentage of "persons engaged" who were employed in nonresidential business fell from 87 in 1929 to 84 in 1948 and only 76.5 in 1969. The percentage in general government, households, and institutions rose correspondingly, from 13 in 1929 to 16 in 1948 and 23.5 in 1969. As shown in table 2, employment in general government, in institutions, and in all their major components increased in relative importance. In contrast, private household employment, which once dominated the sector except in wartime, continued the decline which had been in evidence for many decades.

The final output of nonresidential business is sold on the market for a price. Its value in constant as well as current prices therefore can be, and is, measured independently of employment or other input data. When constant-price output is divided by employment or total input to obtain a series for productivity, productivity is found to rise over time. General government, households, and institutions, in contrast, do not sell output so no independent measure of output can be constructed. In its absence net output, i.e., the amount that does not correspond to purchases from business, is measured by use of the convention that net output moves like full-time equivalent employment. Hence, net output per full-time equivalent employee never changes in individual components of this sector: its value in 1958 prices in all years is the same as it was in current prices in 1958. This difference between the sectors is so fundamental that the two-way division of employment just described provides a logical starting place for the analysis of effects of employment composition upon productivity change in the economy as a whole.⁶

There is, however, an additional measurement difference. In general government, households, and institutions no return to capital and land and no depreciation is counted, and no indirect taxes are levied on the compensation

5. Apartment houses actually have employment and account for a trivial proportion of the employment total, but I confine the measurement of the output of the "services of dwellings" to the amount attributable to capital and land and count both employees of apartment houses and the value of their output in nonresidential business.

of employees. Consequently, labor earnings are used to measure national income, net national product, and gross national product and all four of these figures are the same.⁷ Labor earnings per person engaged in current dollars usually have been moderately higher in nonresidential business than in general government, households, and institutions, and this was so in the base year 1958. National income per person engaged in nonresidential business exceeds the same measure in general government, households, and institutions by a much bigger amount because it includes property earnings. The difference is still greater for net national product at market prices because indirect business taxes are included in nonresidential business, and greater yet for gross national product at market prices because of the inclusion of capital consumption. Values of these measures per person engaged are compared in the following table for the base year 1958 (which happened to be a recession year in which property earnings were unusually small).

	General government, households, and institutions	Nonresidential business*	Ratio
Earnings from labor.....	\$4,027	\$4,836	1.20
National income.....	4,027	5,814	1.44
Net national product.....	4,027	6,387	1.59
Gross national product.....	4,027	7,041	1.76

a. The estimates of earnings from labor include an allocated portion of proprietors' income. Depreciation is revalued at current prices and with consistent use of straight-line depreciation. Estimates are by the author (but based largely on B.E.A. data).

It will be evident that the weight in total output of general government, households, and institutions, and therefore the effect on total output of the distribution of employment between

6. We can, of course, only examine output as measured and productivity series that are obtained by use of measured output. The national accounts measure the quantities of goods and services that are purchased by individuals and by nonprofit organizations and government acting in their behalf. We know nothing about changes in the "amount" of "end products" (national defense, education, etc.) that governments and nonprofit organizations really provide to individuals by use of the resources (purchases from business and hired labor) that they buy, nor of the satisfactions that individuals obtain from their own purchases (including purchase of private household employment) and those of governments and institutions.

7. I ignore a small amount of depreciation on institutional structures which is classified in the business sector in the national accounts.

the two sectors distinguished, depends on whether output is measured by national income, by net national product, or by gross national product. I shall examine national income.

The fact that national income per person differs between the sectors not only because of the difference in labor earnings but also because of the inclusion of property earnings in only one of the two sectors raises a problem which will be encountered shortly: that of interpreting the implications of a difference in the distribution of employment for the amount or distribution of nonlabor resources.

Average level and intraperiod change in employment share, 1948-69 and 1969-80

I shall compare the effect on productivity change of the difference between employment distributions in the 1948-69 period and the 1969-80 period. I choose the latter timespan to illustrate the "future" and a period that ends with 1969 to illustrate the "past" because this choice permits me to draw on previous research.

The first requirement is an estimate of the percentage distribution of "persons engaged" in 1980. There is little likelihood that the large rise in the employment share of general government, households, and institutions that occurred from 1948 to 1969 will be repeated from 1969 to 1980. Military employment is already more than one million below 1969 and unlikely to recover in the absence of a new military crisis; defense-related civilian government employment is also moving down. These declines will offset changes in other components that continue to rise. Moreover, employment in public and nonprofit education, which was responsible for much of the past increase, is not likely again to increase faster than the labor force. A detailed projection of employment components in 1980, assumed to be a high employment year, yielded about the same percentage division of employment between nonresidential business and general government, households, and institutions in

1980 as in 1969.⁸ If this is correct, and for the following calculations I shall suppose that it is, the percentage distributions are:

	1948	1969	1980
General government, households, institutions.....	15.78	23.55	23.55
Nonresidential business.....	84.22	76.55	76.55

Appropriate "average levels" of these shares in each period can be obtained by averaging the terminal years because I shall use only the terminal years in calculating effects of different employment distributions. The average levels and the intraperiod changes in the employment shares of general government, households, and institutions are therefore as follows:

	1948-69	1969-80	Difference (1969-80 less 1948-69)
Average level.....	19.66	23.55	3.89
Intraperiod change.....	7.77	.00	-7.77

Per year, the difference between the periods in intraperiod change is 0.48 percentage points. The average level for the employment share of nonresidential business will, of course, be 3.89 points lower and the intraperiod change 7.77 points higher in the future period than in the past.

The question to which I now turn is: What are the implications for productivity growth of the fact that, if the employment projection is correct, (1) the average level of the general government-households-institutions employment share will be 3.89 percentage points higher in 1969-80 than in 1948-69 and (2) the intraperiod increase in the share will be 7.77 percentage points smaller? The two aspects must be considered separately, and I shall do so by examining 1948-69 experience.

8. My projection, in turn, was based on the details of projections published by the Bureau of Labor Statistics in 1970, but on the basis of later information I raised the BLS 1980 figure for total labor force and lowered the figures for military and private household employment. The original BLS projections were published in *Special Labor Force Report 119*, Sophia C. Travis, "The U.S. Labor Force: Projections to 1985," Reprint 2673 from *Monthly Labor Review*, Vol. 93 (February 1970), pp. 3-12, with supplementary tables added; *Special Labor Force Report 122*, Denis F. Johnston, "Education of Adult Workers: Projections to 1985," Reprint 2685 from *Monthly Labor Review*, Vol. 93 (August 1970), pp. 43-56; *Patterns of U.S. Economic Growth: 1980 Projections of Final Demand, Interindustry Relationships, Output, Productivity, and Employment*, Bulletin 1672 (1970); *The U.S. Economy in 1980: A Summary of BLS Projections*, Bulletin 1673 (1970).

Consequences of the level of the employment share

The difference between the average levels of the employment shares in 1969-80 and in 1948-69 is exactly half as large as the difference between the shares in 1948 and in 1969. If we can tell by how much the 1948-69 growth rate of productivity would have differed between two hypothetical situations, one in which the share of employment in general government, households, and institutions was constant at the 1948 percentage of 15.78, the other in which the share was constant at the 1969 percentage of 23.55, then one-half of this difference will measure the amount by which the 1969-80 levels of the shares will be less favorable to productivity growth than the 1948-69 levels. That they will be less favorable is self-evident because the sector with faster growth of productivity will receive less weight. From 1948 to 1969 output per person had an annual growth rate of 2.69 percent in nonresidential business and only 0.18 percent in general government, households, and institutions. The latter figure exceeded zero only because of shifts in employment composition within the sector.

To estimate the 1948-69 growth rate of output per person in the whole economy under the two hypothetical situations, actual employment and output in 1948 and 1969 are first divided into three parts: the services of dwellings and net income from abroad, which have no employment, and each of the two sectors with employment. These data, and output per person employed where employment exists, are shown in columns 1 and 4 of table 3. (Entries in parentheses should be temporarily ignored.) In column 2 of table 3, the 1948 employment total is allocated among sectors by use of 1969 proportions. A calculation is then made of what 1948 national income would have been with this 1969 employment distribution if the difference between the actual and the hypothetical employment distributions in 1948 left unchanged total output in sectors with no employment, and output per person engaged in each of the two sectors with employment. The hypo-

thetical figure for output per person engaged is then computed. Column 5 shows a similar calculation for 1969 output when employment is distributed by 1948 proportions.

A comparison of the actual 1948 and hypothetical 1969 figures provides an estimate based on the stated assumptions of how output per person engaged would have changed with constant 1948 employment shares. Similarly, a comparison of the hypothetical 1948 and actual 1969 figures yields a similar estimate of what the change would have been with constant 1969 employment shares. The figures follow:

	1948	1969	Growth rate
Constant 1948 employment shares.....	\$4,504	\$7,789	2.55
Constant 1969 employment shares.....	4,548	7,488	2.41

Under the stated assumptions the 1948-69 growth rate of national income per person engaged in the whole economy would have been 0.14 percentage points lower if the employment distribution had been constantly at the 1969 proportions than if it had been constantly at the 1948 proportions.

A valid objection may be made to one assumption of this procedure ("Variant 1" in the table), but the result is not altered by changing that assumption. The objection stems from the fact that output in nonresidential business at any date is dependent on the amount of capital and land available to the sector as well as on the amount of labor. Employment in the sector would have been constantly 9.2 percent smaller with the 1969 employment distribution than with the 1948 distribution, and "Variant 1" assumes that the amount of capital and land in the sector also would constantly have been 9.2 percent smaller (implying either that it would have been used in government, etc., or that it would not have existed at all). Alternatively, one might assume that the amount of capital and land in nonresidential business would have been the same in the two situations. To test the effect of such a change in assumption, I apply analysis based on income shares even though differences between the two situations exceed those to which

Table 3.—Actual and Hypothetical Employment and Output, by Sector, 1948 and 1969

	1948			1969		
	Actual	With 1969 employment distribution		Actual	With 1948 employment distribution	
		Variant 1	Variant 2		Variant 1	Variant 2
	(1)	(2)	(3)	(4)	(5)	(6)
Persons engaged (in thousands)	58,800	58,800	58,800	80,076	80,076	80,076
Dwellings, foreign income.....	0	0	0	0	0	0
General government, households, and institutions.....	9,280	13,846	13,846	18,856	12,638	12,638
Nonresidential business.....	49,520	44,954	44,954	61,220	67,438	67,438
Output^a (billions of 1958 dollars)	270.1	267.4	271.4	599.6	623.7	613.7
Dwellings, foreign income.....	7.7	7.7	7.7	34.3	34.3	34.3
General government, households, and institutions.....	36.6	54.6	54.6	77.2	51.7	51.7
Nonresidential business.....	225.9	205.1	209.1	488.1	537.7	527.7
(Labor).....	(180.7)		(164.0)	(390.5)		430.1
(Property).....	(45.1)		(45.1)	(97.6)		97.6
Output^a per person engaged (1958 dollars)	4,594	4,548	4,616	7,488	7,789	7,664
Dwellings, foreign income.....						
General government, households, and institutions.....	3,944	3,944	3,944	4,094	4,094	4,094
Nonresidential business.....	4,562	4,562	4,562	7,973	7,973	7,973
(Labor).....	(3,649)		3,649	(6,379)		6,379
(Property).....						

a. As measured by national income.

Sources: Bureau of Economic Analysis and Edward F. Denison.

the technique, designed for smaller marginal changes, is most appropriate. Labor has persistently earned about 80 percent of national income originating in nonresidential business in reasonably prosperous years. Suppose we set aside 20 percent of the sector's total output in constant prices as output ascribable to capital and land and regard this portion of output as unaffected by the employment distribution, and identify only the remaining 80 percent as varying at a point in time in proportion to the number of persons engaged. When the calculations are repeated on this basis ("Variant 2" in table 3), the following figures are obtained for national income per person engaged:

	1948	1969	Growth rate
Constant 1948 employment shares.....	\$4,594	\$7,664	2.47
Constant 1969 employment shares.....	4,616	7,488	2.33

Although the growth rates differ from those obtained by "Variant 1," the difference between them is again 0.14 percentage points. Thus it does not matter for this calculation which assumption is made, and I conclude that the 1969 employment share levels were less favorable to growth of output per person engaged than the 1948 levels by 0.14 percentage points.

The growth rate of output per unit of input is affected less by employment shares because the gap (1.80 percentage points) between the 1948-69 growth rate of output per unit of input in nonresidential business (1.80) and the rate in general government, households, and institutions (zero) is smaller.⁹ The gap is 72 percent as large as the gap (2.51 points) between sector growth rates of output per person engaged (2.69 and 0.18, as previously stated). If the effect of different employment weights on the growth rate in the whole economy is also 72 percent as large, output per unit of input would have increased 0.10 points less (72 percent of 0.14) with constant 1969 employment shares than with constant 1948 shares.

As previously noted, the difference in share levels between the 1948-69 and 1969-80 periods is one-half the difference between 1948 and 1969 shares. Consequently, the average levels of the employment shares in 1969-80 are 0.07 percentage points per year less favorable than the average levels in 1948-69 to growth of output (national income) per person engaged and 0.05 percentage points less favorable to growth of output per unit of input.

9. The growth rate of output per unit of input in the whole economy is, aside from a trivial interaction term, the same as the contribution of output per unit of input to the growth rate of total output. The rates are from the new book cited earlier.

Consequences of intraperiod changes in employment share

I turn now to the intraperiod change in employment shares. The intraperiod change from 1969 to 1980 is projected at zero, so we need to know only the effect of the intraperiod change in 1948-69 in order to compare the two periods.

The drop of 7.7 percentage points in the nonresidential business share of employment that occurred from 1948 to 1969 affected the growth rate of output per person engaged in two quite different ways. The first has to do with the difference between the values of the contribution of labor, per person engaged, in the two sectors at a point in time. The second refers to the effect of the intraperiod employment change upon the growth of output per worker within nonresidential business.

1. If 80 percent of output in nonresidential business is ascribed to labor, as in "Variant 2" of table 3, then in 1958 prices the average value of the output of workers in nonresidential business was \$295 lower than the comparable figure in general government, households, and institutions in 1948 but \$2,285 above it in 1969 and \$995 above it on the average of the 2 years. Based on average weights, the intraperiod change in employment composition away from nonresidential business consequently lowered output per worker in the whole economy. By how much? Previous calculations ("Variant 2") showed that the growth rate of output per worker in the whole economy would have been 2.47 percent with a constant 1948 employment distribution and 2.33 with a constant 1969 distribution; hence it would have been 2.40 (their average) with the average of the 1948 and 1969 distributions. The actual growth rate, however, was 2.35. The difference of 0.05 percentage points is an estimate of the depressing effect on output per worker of the movement of labor from nonresidential business to government, households, and institutions where labor had a lower value of output.¹⁰

2. Output per worker within nonresidential business is governed by

10. This result could be greatly changed if a year other than 1958 were used as the base for price deflation. The sign would be reversed if a late year were substituted.

many determinants. We must go beyond mechanical calculations and ask whether these determinants would have changed in a different way in the absence of an intraperiod drop in the sector's share of employment. I believe changes in at least three probably or certainly would have been different in that situation, and that this would have changed the 1948-69 increase in output per worker within nonresidential business. The three are the education of employed persons, capital, and the size of markets served. I shall suggest some amounts, despite great difficulties, in order to illustrate the considerations.

(a) Among the determinants of nonresidential business output is the education of the labor it employs. A special characteristic of the shift of employment away from nonresidential business in the 1948-69 period retarded the upward movement in the educational distribution of the workers within nonresidential business: general government and nonprofit organizations absorbed (particularly, into teaching) a proportion of the *increase* in highly educated manpower that was much bigger than their average share of such manpower. When an index of the "educational quality" of employment in nonresidential business is constructed by weighting persons with different amounts of education, the 1948-69 growth rate of the index is lower—by 0.08 percentage points—than the growth rate of a similarly weighted index constructed for all employed persons. To estimate the effect on the growth rate of output in the sector, this 0.08 must be multiplied by the 80 percent weight of labor input in the sector. The product, 0.06, must then be multiplied by the average percentage of constant-price national income that originated in the sector, 82.6 percent, in order to obtain the estimated amount by which the growth rate in the whole economy was curtailed. It is 0.05 percentage points.

(b) Another important determinant of nonresidential business output per worker is the amount of capital per worker in the sector. If the sector's employment had risen more than it did, the amount of capital in the sector would probably also have risen more

than it did to equip the extra workers. If the sector's percentage share of total employment had been constant, at any level, the growth rate of employment in the sector would have been 0.46 percentage points higher than it actually was (the same as the growth rate of employment in the whole economy). If one assumes that the growth rate of capital input in the sector would also have been 0.46 points higher than it was, and that the extra investment required would not have replaced investment in housing or net foreign investment but rather would have represented an addition to total investment, neither capital *per worker* in nonresidential business nor the total output of the sectors without employment would have been changed by the absence of an intraperiod change in employment shares. In that case we could ignore capital in this calculation.

If, at the other extreme, faster growth of employment in nonresidential business would have called forth no extra capital at all, the growth rate of total capital in nonresidential business would have been unchanged by the absence of an employment shift but that of capital per worker would have been 0.46 percentage points lower. With capital receiving an input weight of about 16 percent, it can be estimated that this would have lowered the growth rate of output per worker by 0.07 percentage points in the sector and (with a sector weight in total output of 82.6 percent) by 0.06 points in the whole economy.

One's judgment as to the relative merits of these two assumptions must depend upon his views as to the forces governing investment and the size of the capital stock. The first assumption seems to me the more reasonable but a bit extreme. I shall suppose that the intraperiod shift in employment shares did somewhat raise the growth rate of capital per worker in nonresidential business but only enough to raise the growth rate of output per worker by 0.02 percentage points in the sector, and therefore, rounding the result, in the whole economy.

(c) The size of markets served by nonresidential business is another important determinant of the sector's

output because of the presence of economies of scale of many types. I have estimated that in this sector economies of scale realized as markets expand are substantial, sufficient to raise by 15 percent the growth rate of the sector's output that changes in other output determinants would provide under constant returns to scale. This is, of course, a very rough estimate but I shall use it in the absence of a better one.

I have already pointed out that in the absence of an intraperiod shift in the distribution of employment, the 1948-69 growth rate of the employment component of labor input in nonresidential business would have been 0.46 percentage points higher and the growth rate of the education component 0.08 points higher so the growth rate of labor input would have been 0.54 points higher. Based on an 80 percent weight for labor, the growth rate of total output in the sector would then have been 0.43 percentage points higher than it was. The assumptions of the preceding subsection (b) imply that total capital input in the sector would also have risen more, enough to have raised the growth rate of total output in the sector by 0.05 points.¹¹ These estimates of the effects of faster growth of labor and capital on the growth rate of total output, which amount to 0.48 points, do not allow for gains from economies of scale. According to the estimate cited in the previous paragraph, gains from economies of scale as a consequence of the more rapid growth of markets for nonresidential business output would then have added 15 percent of 0.48 points, or 0.07 percentage points, to the growth rate of the sector's total output and of its output per worker. This would have added 0.06 percentage points to the growth rate of output per worker in the whole economy.

Summarizing, I conclude that in the absence of any intraperiod change in the percentage division of employment between nonresidential business and general government, households, and institutions in 1948-69 output per

11. The figure would have been 0.07 points if the growth rate of capital input had been higher by the same amount (0.46 points) as that of labor. My allowance for some effect on capital per worker cuts the figure to 0.05.

person engaged in nonresidential business might have risen enough more than it actually did to have added 0.09 percentage points to the growth rate of output per person engaged in the whole economy: 0.05 points because of education, -0.02 points because of capital, and 0.06 points because of economies of scale. There can be no offset to these amounts in general government, households, and institutions because of the way output is measured there.

When this estimate of 0.09 points for the effect upon the growth rate of output per worker within nonresidential business is combined with the 0.05 points obtained as the direct effect of moving labor between sectors, an estimate is secured that the intraperiod shift in employment shares subtracted 0.14 percentage points from the 1948-69 growth rate of output per person employed in the whole economy. The parts of this total that are related to the education of workers and to capital do not affect output per unit of input because they are measured in total input. Hence, the intraperiod shift in employment shares subtracted only 0.11 points from the growth rate of output per unit of input. Because no intraperiod shift is projected for 1969-80, the situation with respect to intraperiod shifts will be more favorable in 1969-80 than it was in 1948-69 by the same amounts.

Combined effects of level and intraperiod change

The effects of level and intraperiod change may now be combined. The 1969-80 distribution of employment will be less favorable than the 1948-69 distribution to growth of output per person employed by 0.07 percentage points because the average level of the employment share of general government, households, and institutions will be higher, but the 1969-80 situation will be more favorable by 0.14 points because the intraperiod increase that occurred in the employment share of that sector from 1948 to 1969 will not be repeated. On balance, the 1969-80 situation will be *more* favorable than the 1948-69 situation by 0.07 percentage points.

For output per unit of input the 1969-80 situation will be less favorable than the 1948-69 situation by 0.05 percentage points because of the difference in average share levels but 0.11 points more favorable because of intraperiod shifts. On balance the 1969-80 situation will be the more favorable by 0.06 percentage points.

The failure to examine intraperiod changes has led most observers to an opposite conclusion. The effect of the intraperiod change, it must be stressed, will be favorable to productivity growth in a "future period" as compared to a past period so long as the average annual intraperiod change in employment shares is smaller in the future period than in the past period. The result is not dependent upon its disappearing entirely.

It is hardly necessary to call to the reader's attention that the exact numbers given refer only to the particular periods compared, to productivity measured by use of national income as the output series, and to output valued in 1958 prices, and that even for this comparison they are highly uncertain estimates. They rest on the projection that employment shares will not change from 1969 to 1980, on the use of 1948-69 experience to judge the relative productivity performance of the sectors, and on some difficult estimates of the amount by which the growth rate of output per worker or unit of input in nonresidential business would have differed in the absence of a shift in employment shares. But I have introduced no decisions nor judgments that could be avoided if the question raised was to be analyzed. The results at the very least suffice to show that there is no good reason to accept the widely common view that the future situation will be less favorable than the previous situation with respect to this important aspect of employment composition.

Composition of employment within general government, households, and institutions

All employment in general government, households, and institutions falls within industries usually classified as services, so the division of employment

between this sector and nonresidential business is part of the "shift to the services." Changes in the composition of employment *within* general government, households, and institutions are not, but it is useful also to consider this aspect of employment composition.

I have already noted that shifts in this distribution raised output per person engaged in the sector as a whole from 1948 to 1969. As shown in table 3, the increase was from \$3,944 to \$4,094. If output per person engaged in this sector had remained unchanged, the 1948-69 growth rates of total output and output per person engaged in the *whole* economy would have been 0.02 percentage points lower than they actually were. A similar calculation for 1969-80, based on my projection, shows that if output per worker in the sector remained at the 1969 level, growth rates for the whole economy would be only 0.01 percentage points lower than when compositional effects are counted. This is so despite the greater weight of the sector in this period. The 1969-80 internal composition of the sector, counting both level and intraperiod change, will thus be less favorable to growth of output per person engaged in the whole economy than the 1948-69 composition by 0.01 percentage points. Employment composition within general government, households, and institutions does not affect my output per unit of input series because their effects are measured in labor input.

Services of Dwellings and Income From Abroad

The services of dwellings and income from abroad are obtained without use of labor, but they account for a very large proportion of capital and land inputs. Table 3 shows that they represented 2.85 percent of total output, as measured by constant-price national income, in 1948 and twice as much, 5.72 percent, in 1969.

From 1948 to 1969 the percentage increase in output was so much bigger in these sectors than in the sectors with employment that the growth rate of national income per person employed in the economy as a whole exceeded the corresponding rate for the sectors with

employment by 0.14 percentage points. The numbers for output per person engaged, taken or computed from columns 1 and 4 of table 3, are as follows:

	1948	1969	Growth rate
Whole economy	\$4,594	\$7,488	2.35
Nonresidential business, general government, households, and institutions	4,463	7,060	2.21

The weight of housing and income from abroad has so increased that these sectors would add much more to the growth rate of output per person employed in 1969-80 if their output per worker were to continue to grow at its past (1948-69) rate, the usual assumption in calculations of shift effects.

This is unlikely for two reasons. The less important is that a lower growth rate of total output in these sectors is projected: 6.6 percent per year as against 7.4 in 1948-69. Despite this deceleration the projection implies that, with their weight increased, the increase in the output of these sectors will contribute 0.43 percentage points to the 1969-80 growth rate of total national income as compared with 0.32 points in 1948-69. (The gain from the past to the future period would be even greater if output were measured by GNP.) More important, the effect on output per worker depends not only on output changes in these sectors but also on the unrelated growth rate of total employment, and this too will be higher. The projection implies that in 1969-80 the growth rate of national income per worker in the whole economy will exceed that in the sectors with employment by 0.16 points, more than in 1948-69 but by only 0.02 points.

The output of these sectors is customarily classified as output of service industries. Thus this aspect of the "shift to the services," which has no counterpart in employment data, is favorable to the future growth of output per person employed in the economy as a whole. It hardly affects the growth rate of output per unit of input because it is matched by a change in input.¹²

12. The effect is slightly unfavorable because the weight of the nonresidential business sector, in which productivity change occurs, is reduced.

The Farm Share of Business Employment

The massive reduction in the farm share of nonresidential business employment, shown in table 4, reduced misallocation of resources and raised productivity in the sector.

The industrial distribution of labor that would maximize national income has long been moving away from farming. The actual allocation has followed only with a timelag, and far too much

Table 4.—Persons Engaged in Production and Output in Nonresidential Business: Percentage Distribution Between Farm and Nonfarm Industries

	Persons engaged in production			Output ^a		
	1929	1948	1969	1929	1948	1969
Nonresidential business.....	100.0	100.0	100.0	100.0	100.0	100.0
Farm.....	22.3	13.6	5.1	11.4	7.8	4.2
Nonfarm.....	77.7	86.4	94.9	88.6	92.2	95.8

a. National income in 1958 prices.

Sources: For persons engaged in production, table A-1. For output, estimates by Edward F. Denison based on BEA data.

labor has persistently been allocated to farming. Failure of employment to respond more promptly to declining labor requirements resulted partly from reluctance of farmers to abandon their "way of life" and from geographic isolation of farms from industries of expanding labor demand, but the crucial factor was agriculture's heavy reliance on self-employment and unpaid family labor. This permitted inefficient farm enterprises to continue in existence and, use labor counted as employed, and thus to depress aggregate productivity, long after enterprises forced to meet a cash payroll for hired labor would have been driven out of existence—with their hired workers either becoming unemployed or finding employment in other industries. This circumstance distinguishes farming from other industries which have suffered a large decline in labor demand—particularly coal mining, which shared with farming the characteristics of geographic isolation and independence of the worker from supervision.

Even if the proportion of *farm* employment which was excessive had not changed over the past few decades,

the proportion of *all* nonresidential business employment that was misallocated to or underutilized or inefficiently utilized in farming would have declined as the farm share of employment fell, and this would have raised national income. The average worker employed in farming has contributed far less to the value of the Nation's output than the average worker employed in nonfarm industries. Transfer of labor from farm to nonfarm activities consequently would have raised total output even if farm output attributable to labor had dropped in proportion to labor input devoted to farming and the nonfarm output attributable to labor had increased in proportion to the increase in nonfarm labor input.

But this is not the whole story. Farms with very little output used much of the farm labor. Their complete elimination, with their land consolidated into remaining farms, cut employment without a major effect on farm output and consequently raised productivity in farming itself.

Under these conditions, additions to nonfarm employment resulting from the transfer of labor from farming have added nearly as much to the value of *total* output in 1958 prices as addition of a similar number of workers by labor force expansion would have done. Drawing on the pool of farm labor had a very beneficial effect on output per worker and output per unit of input because it raised the numerator in both calculations without changing the denominator.¹³

The intraperiod drop in the farm percentage of nonresidential business employment will be much smaller in 1969-80 than it was in 1948-69; it is projected to be only two-fifths as large. Employment data used in my other studies show an intraperiod drop of 0.47 percentage points a year from 1948 to 1969 and a projected drop of only 0.19 points a year from 1969 to 1980.¹⁴

13. The effect on output per man-hour was even bigger because the denominator was reduced, a consequence of the long reported hours in farming.

14. The total drop of 9.8 percentage points from 1948 to 1969 compares with a drop of 8.5 percentage points in persons engaged in production, obtained from table 4. Unpaid family workers and part-time workers are responsible for the difference.

My estimates show that the reduction in the overallocation of labor to farming resulting from the drop contributed about 0.23 percentage points to the 1948-69 growth rates of national income per person employed and output per unit of input in the economy as a whole. (The estimate for nonresidential business alone is larger.) The projected figure for 1969-80 is 0.07 percentage points, some 0.16 points less.¹⁵

The average level of the farm percentage of business employment, as distinguished from the intraperiod change, is not of much importance except in the sense that the lowering of the level has reduced the potential for further reductions. Once the gains in farm productivity which resulted from reduction in surplus labor are eliminated, growth rates of output per worker or unit of input in the farm and nonfarm portions of domestic nonresidential business probably are so similar that differences in their weights do not affect their combined growth rate appreciably.

Reduction in Nonfarm Self-Employment

This section has only a little to do with industrial composition but it does refer to employment composition and may affect the usual mechanical type of industry shift calculation.

Many proprietors and unpaid family workers in nonfarm industries have been in enterprises in which they comprised all or almost all of the labor force. A considerable fraction of these enterprises were so small as to be highly inefficient in a modern economy and (like many farm enterprises) survived only because they had little or no out-of-pocket expense for labor. Individuals

15. The estimates rest on two others: that if labor input (which allows for the composition of employment by education, sex, and percent of part-time employment as well as employment itself) in nonfarm nonresidential business is raised by any given percentage as a result of the shift from farming, the percentage increase in the national income which originates in nonfarm nonresidential business is 80 percent as large (approximately the labor share); and that if labor input in farming is reduced by any given percentage, the percentage reduction in nonresidential farm national income is only 30 percent as large. Fairly substantial changes in the latter estimate, which allows for the fact that labor has been drawn mainly from farms with little output, would not change the results very much.

working in such enterprises have comprised a declining fraction of nonfarm business employment. It is estimated that the reduction contributed about 0.07 percentage points to the growth rates of total national income, national income per worker, and output per unit of input in the whole economy in 1948-69 but will contribute only 0.03 points in 1969-80. Thus the 1969-80 situation is less favorable by 0.04 points.¹⁶

This estimate is related to industrial composition only because inefficiently used labor of nonfarm proprietors and unpaid family workers has been concentrated in certain industries. The presence of such labor lowers the value of output per worker or unit of input in these industries, compared to others, at a point in time while its elimination contributes to the rise in productivity in these industries over time.

Summary of Significant Changes

When the results obtained in the preceding sections are combined, as in the following summary, the 1969-80 situation appears to be less favorable than the 1948-69 situation by 0.12 percentage points for the growth rate of output per person engaged and by

0.14 points for the growth rate of output per unit of input.

	Output per person engaged	Output per unit of input
Total.....	-0.12	-0.14
General government, households, institutions:		
Employment share.....	.07	.06
Internal employment composition.....	-.01	.00
Dwellings, foreign income.....	.02	.00
Farm employment.....	-.16	-.16
Nonfarm self-employment.....	-.04	-.04

Curiously, only the two lines with positive entries, those in which the 1969-80 situation is the more favorable, clearly belong to the service-commodity dichotomy. Most of the adverse effect of the farm employment entry will be reflected in the growth rate of productivity in the commodity-producing industries themselves. Much of the adverse impact of the nonfarm self-employment entry and all of the adverse impact of internal employment composition within general government, households, and institutions will be reflected in the growth rate of productivity in the service industries themselves.

Whether the amounts shown should be regarded as large or small I leave to the reader to judge. But clearly they are not so large as to be the dominant factor in productivity trends.

Part III. The Internal Composition of Nonfarm Nonresidential Business

Nonfarm nonresidential business employed 73 percent of all persons engaged in production in 1969 and contributed 78 percent of all output (as measured by national income valued in 1958 prices). The remainder of this article will consider its internal composition.¹⁷ The "shift to the services" would have to refer to changes within this dominant sector if it were to have any generality.

16. The estimate cannot easily be related to the "persons engaged" data used here because they exclude unpaid family workers.

17. Changes in the importance of nonfarm self-employment within this sector have already been discussed and require no additional attention.

Composition by Industry

This section will be concerned with industrial composition. It is necessary to dispose of a common misconception about output measurement before the implications of changes in employment composition are considered.

A common misconception about measurement error

There is a common supposition that an increase in the employment weight of the service industries within nonresidential business would artificially reduce the growth rate of productivity

because of measurement errors. The supposition derives from a belief that difficulties of measuring output cause increases in productivity in the service industries to be understated relative to increases in commodity-producing industries. I believe the supposition about the sector as a whole to be quite wrong even if the belief about biases in industry data from which it derives happens to be correct.

The first fact to be noted is that the deflated value of the output of nonresidential business is obtained by summing deflated components of its end product, not industry components. I have some background in this type of estimation, and I do not believe that the deflation of those end products of nonresidential business which are called services encounters greater difficulties than the deflation of those that are called commodities. All are sold on the market for a price. Defining and pricing a "product" in order to obtain deflated values in the face of changes in the characteristics of products raises no greater difficulties for service components than for commodity components, and coverage of final product prices appears to be as complete (although this may not have been true before the late 1930s). There are problem areas, such as financial services, in the services category but most of the really difficult end-product groups, such as construction, producers' durables, defense procurement, and foreign trade, are found among the commodities. Service expenditures have at least their proportional share of the best price series, including those for the principal communications and public utilities components. Most of the service components of personal consumption expenditures for which price data are especially weak (or based on input prices), such as hospital and educational services or imputed rent, are not products of nonresidential business.

Second, there is almost no correspondence between a division of the sector's final products between commodities and services and a division of industries between commodities and services. For example, expenditures for commodities contain the bulk of the value added by wholesale and retail

trade, the biggest of the service industry divisions, and much of the value added by most other service industries, including transportation, communications, public utilities, banking, business services, and miscellaneous professional services. For only a few small industries is it possible to identify even most of output with a corresponding service expenditure component.

Under these circumstances the possibility (which arises mainly from lack of satisfactory data for interindustry sales) that productivity measures for service industries are downward biased relative to commodity-producing industries is simply irrelevant to accuracy of measurement of output and productivity change in the sector as a whole, and so, therefore, is the proportion of employment in service industries.

There is an interesting corollary. With total output obtained by adding end-product components which are unrelated to industry components, output cannot be measured more accurately in commodity-producing industries than in service industries so long as the sum of output in these two groups of industries equals the independently derived output total. An error of one dollar in constant-price output in one group is compensated by an offsetting error of one dollar in the output of the other.¹⁸ If such errors are big, comparisons between productivity trends in the two groups of industries are invalid but the trend for the two groups combined is unaffected.

Levels of industry employment shares

Persons engaged in production in nonfarm nonresidential business in past years are divided according to the usual classification of commodity-producing and service industries in table 5; no projection is attempted. Commodity production includes manufacturing, mining, contract construction, and agricultural services, forestry, and fisheries. Services include everything else. The shift to the service industries simply is not pronounced or persistent once nonbusiness employment and farms are eliminated. The service percentage was

Table 5.—Persons Engaged in Production in Nonresidential Nonfarm Business: Percentage Division Between Commodity-Producing and Service Industries

	1929	1948	1969
Nonfarm nonresidential business.....	100.0	100.0	100.0
Commodity-producing industries....	45.6	48.0	44.6
Service industries.....	54.4	52.0	55.4

Source: Table A-1.

actually lower in 1948, at 52.0 percent, than in 1929 when it was 54.0, and by 1969 when the percentage reached 55.4 the services had little more than recovered their previous loss. Only by measuring from 1948 to 1969 is there a shift from commodity-producing to service industries big enough—3.4 percentage points—even to allow examination in more detail.

Nonfarm business employment is distributed by a moderately detailed industry classification in table 6; greatest detail is shown within the "services" division proper. Three aspects need explanation. (1) BEA does not distribute government enterprise employment by industry but nearly all is in communications or electric, gas, and sanitary services. Government enterprises were combined with "telephone and telegraph" and "electric, gas, and sanitary services" to approximate "other communications and public utilities." ("Other" refers to omission of radio broadcasting and television.) (2) "Miscellaneous professional services" in the business sector consist almost entirely of firms serving business (consulting engineers, architects, accountants, etc.). I have combined this industry with "miscellaneous business services."¹⁹ (3) "Automobile repair, automobile services, and garages" cannot be distinguished in a really meaningful way from filling stations and automobile dealers, which are part of retail trade. However, the BEA division of the two industries is shown for 1948 and 1969; no division is attempted for 1929.

Table 6 shows that the 3.4 percentage point decline from 1948 to 1969 in the employment share of commodity-producing industries was really a drop in four industries whose combined

18. Of course, the error may be a larger percentage of the change in output, and result in a larger percentage error in productivity change, in one group than in the other.

19. Appendix table A-1 shows that both industries expanded greatly from 1948 to 1969. Separate estimates for 1929 are not available.

Table 6.—Persons Engaged in Nonresidential Nonfarm Business, by Industry

	Number in thousands			Percent of total		
	1929	1948	1969	1929	1948	1969
Total	31,256	42,796	58,091	100.0	100.0	100.0
Agricultural services, forestry, fisheries.....	236	276	324	.8	.6	.6
Coal mining.....	627	544	144	2.0	1.3	.2
Other mining.....	390	489	515	1.2	1.1	.9
Contract construction.....	2,306	3,262	4,323	7.4	7.6	7.4
Food, kindred products.....	1,078	1,841	1,816	3.4	4.3	3.1
Textile mill products.....	1,264	1,333	1,012	4.0	3.1	1.7
Other nondurables manufacturing.....	2,999	4,201	5,598	9.6	9.8	9.6
Lumber, wood products, except furniture.....	5,349	{ 943	612	17.1	{ 2.2	1.1
Other durables manufacturing.....		{ 7,652	11,641		{ 17.9	19.9
Transportation.....	3,034	3,008	2,647	9.7	7.0	4.6
Radio, television broadcasting.....	4	48	120	.0	.1	.2
Other communications and public utilities (including government enterprises).....	1,439	1,966	2,862	4.6	4.6	4.9
Wholesale trade.....	1,744	2,664	3,767	5.6	6.2	6.5
Retail trade.....	6,077	{ 8,085	11,136	19.4	{ 18.9	19.2
Automobile services.....		{ 340	500		{ .8	.9
Banking.....		{ 408	962		{ 1.0	1.7
Other finance, insurance, real estate.....	1,189	1,526	2,610	3.8	3.6	4.5
Hotels and other lodging places.....	518	629	778	1.7	1.5	1.3
Personal services.....	1,008	1,241	1,468	3.2	2.9	2.5
Miscellaneous business and professional services.....	292	681	2,270	.9	1.5	3.9
Amusements.....	383	480	608	1.2	1.1	1.0
Medical and other health services.....	500	622	1,618	1.6	1.5	2.6
Legal services.....	194	217	383	.6	.5	.6
Educational services.....	87	91	170	.3	.2	.3
Nonprofit membership organizations.....	22	46	95	.1	.1	.2
Miscellaneous repair services.....	130	253	312	.4	.6	.5

Source: Table A-1.

shares dropped by 4.7 points, much more than the total. They were coal mining (1.0 point), food and kindred products (1.2 points), textile mill products (1.4 points), and lumber and wood products, except furniture (1.1 points). To believe that the loss of share by commodity-producing industries will impair future productivity growth within nonfarm business as a whole, one must think that these four industries will achieve above-average productivity gains in the future, not that "commodity production" will do so.²⁰ Offhand, they do not seem to represent the most dynamic portion of the economy.

The share of other durables manufacturing increased by 2.0 percentage points. The share of agricultural services, forestry, and fisheries was unchanged, and the shares of other mining, other nondurables manufacturing, and contract construction fell by only 0.2 percentage points each. Even from 1948 to 1969 there was no pervasive decline in the importance of commodity-producing industries.

20. I assume here that the whole approach of examining past productivity trends and employment shifts by industry in order to appraise future trends in the sector as a whole is useful. I shall argue subsequently that it is not.

To facilitate closer examination of employment changes in the service industries, table 7 compares actual 1969 employment with what 1969 employment would have been if each industry's percentage share of nonfarm business employment had been the same as in 1948. Employment in service industries as a group was 2.0 million larger in 1969 than it would have been at its 1948 percentage of nonfarm business employment; this compares with total nonfarm business employment of 58.1 million. By the grouping shown, twelve service industries or industry groups employed a total of 3.8 million more persons in 1969 than they would have if they had maintained their 1948 shares while five employed 1.9 million fewer persons. In addition to showing great diversity, the table reveals several points of interest about individual industries.

1. When people characterize service industries as having little potential for productivity increase, they usually describe them as consisting of small establishments, which directly serve individuals, and which use little capital per worker, and they imagine that this

description typifies the "shift to services." It is difficult to think of important industries with all these characteristics but the examples usually mentioned are such industries as personal services, amusements, hotels and other lodging places, and miscellaneous repair services. All four of these industries in fact reduced their share of nonfarm business employment from 1948 to 1969, by a total of 368,000 persons engaged. If credence can be given to the classification, automobile services increased their share but by only 38,000.

2. The next group exemplifies one of my objections on economic, as distinct from statistical, grounds to the use of industry data to relate compositional shifts to productivity change. It contains three industries which are almost exclusively engaged in providing services for firms in a wide variety of other industries. Their 1969 employment was bigger by 1,499,000, or 152 percent, than it would have been with 1948 employment shares. The 1.5 million increase in the share of these industries is three-fourths as large as the increase in the shares of all service industries combined. Miscellaneous business and

Table 7.—Persons Engaged in the "Services" Portion of the Nonfarm Business Sector in 1969: Comparison of Actual with Hypothetical Figures Assuming 1948 Share Was Maintained, by Industry Groups

[Data in thousands]

	Actual 1969 employment	1969 employment at 1948 share	Excess of actual 1969 employment
Total "services".....	32,206	30,211	1,995
Transportation.....	2,647	4,083	-1,436
Radio and television broadcasting.....	120	65	55
Other communications and public utilities (including government enterprises).....	2,862	2,669	193
Wholesale trade.....	3,767	3,616	151
Retail trade.....	11,136	10,975	161
Automobile services.....	500	462	38
Banking.....	962	554	408
Other finance, insurance, and real estate.....	2,610	2,071	539
Hotels and other lodging places.....	778	854	-76
Personal services.....	1,468	1,685	-217
Miscellaneous business and professional services.....	2,270	857	1,413
Amusements.....	608	652	-44
Medical and other health services.....	1,518	844	674
Legal services.....	383	295	88
Educational services.....	170	124	46
Nonprofit membership organizations.....	95	62	33
Miscellaneous repair services.....	312	343	-31

Source: Calculated from table A-1.

professional services account for 1,413,000 of the combined 1,499,000 employment increase. The other two industries are nonprofit membership organizations (which in the business sector are chambers of commerce, trade associations, and the like) and radio and television broadcasting (whose product is entirely intermediate in the national accounts).

Expansion in these industries can result only from decisions by business firms in other industries to contract out work. This may be work that they previously performed themselves, functions (such as computer services) newly incorporated into their production activities which they might have performed themselves, or (as in the cases of certified public accounting firms, broadcasting, and nonprofit membership organizations) added work which for legal or institutional reasons they could not perform themselves. I see no possible sense in which the employment shift to the service industries which resulted from these decisions and which would not have occurred if enterprises had decided to do their own work can be construed as an indication that the rate of productivity increase in nonfarm business will decline—not even if perfectly accurate productivity measures by industry were to show a lower growth rate of productivity in the business service industries than in the industries they serve. In most cases contracting work out rested on the belief that vertical specialization was more efficient than vertical integration, and it presumably contributed to the rise in productivity in the sector as a whole.

3. Retail trade, wholesale trade, and "other" communications and public utilities together accounted for 56.4 percent of all service industry employment in 1969 (retail trade alone for 35.9 percent). Their employment shares had scarcely increased from 1948. Each of these three big groups employed only 151,000 to 191,000 more persons in 1969 than it would have employed at its 1948 share of nonfarm business employment. Changes in employment share were so small that it is not necessary to ask why each changed its share, or how its productivity

performance has compared or will compare with other industries.

4. Medical and other health services and educational services in the business sector of course exclude nonprofit organizations. They are dominated by independent professionals and their employees and may correspond to the usual vision of a service industry about as well as the group first considered if "human capital" is ignored. Numbers of persons engaged in these industries in 1969 were bigger by 674,000 and 46,000, respectively, than they would have been with 1948 shares. The increase in medical services was in the employee category. The number of full-time equivalent employees per active proprietor rose from 2.7 in 1948 to 7.2 in 1969. Expansion of proprietary hospitals and increased paper work imposed on physicians by insurance carriers presumably account for some of this change, but to a major extent it must have resulted from the attempt to conserve the time of skilled professionals—by adding to the number of less skilled employees and by contracting work to laboratories—in order to raise efficiency. In such circumstances a count of people is not a good indicator of the increase in the use of resources and output per worker is a particularly inadequate measure of productivity change.

5. The four remaining service industries, transportation, banking, other finance, and legal services, sell to other businesses and are affected by changes in vertical integration but also serve individuals directly. Their combined share fell by 401,000. The biggest change appears in transportation, where 1969 employment fell 1,436,000 *below* what it would have been with the 1948 share because businesses increasingly found it efficient and individuals attractive to buy and operate their own motor vehicles rather than to purchase freight and passenger transportation from common carriers. Partially offsetting increases were 408,000 in banking, 539,000 in the very heterogeneous "other finance, insurance, and real estate" group, and 88,000 in legal services.

This review revealed no differences between employment shares in 1948 and

1969 that have any apparent implication for the future rate of productivity change in the sector.

Composition of Total Input by End Product

The purpose of production is to provide end products, and an end-product classification avoids some difficulties encountered when an industry classification is used.²¹ It is not affected by the degree of vertical integration and specialization that business finds to be efficient (or at any rate adopts) under conditions prevailing at various points in time. It avoids the problem that some changes in productivity do not belong to any industry because the change in productivity results from redistribution of functions among industries in order to raise their combined productivity in the provision of end products. Intermediate product price indexes are not needed so the sparsity of such data is not a handicap.

The biggest problem with industry productivity data is that of interpreting their significance for the purpose at hand when "unmeasured quality change" occurs in intermediate products—raw materials, supplies, containers, and capital goods. The productivity gain is not credited to the industry responsible for the improvement. Instead, it appears as a productivity advance in some industry closer to the final purchaser. For example, if a paint that can be applied in less time is discovered and developed by a paint company, by a contract research firm, or by anyone else, the productivity increase will appear in the industry employing the painter who applies the paint. If instead a paint that lasts longer so repainting is needed less frequently is developed, the productivity increase will appear in the industry on whose walls the paint is applied. A new machine invented or developed in the machinery industry or anywhere else raises productivity in the industry using the machine. There is consequently little

21. Nothing in this discussion implies that industry output and productivity measures within nonresidential business lack valid uses. Included among such uses are those in which interest focuses upon interrelationships among changes in inputs, output, productivity, costs, and prices for individual industries and among industries.

correspondence between the industry (if any) responsible for a change in productivity and the industry whose productivity increases.

Although an end-product classification does not avoid a fundamental difficulty encountered in the use of any type of component analysis to judge future productivity trends, the difficulty with which I shall conclude this article, it is sufficiently superior to an industry classification to warrant some attention. With this type of classification, one speaks of productivity in the provision of an end product, and the question then becomes whether the composition of end products has shifted toward or away from products that have been provided with the largest increases in productivity.

I shall consider only commodities as a group and services as a group. The output of the nonfarm nonresidential business sector, as measured by constant-price GNP, can readily be divided between goods and services if industry-type series for farms and housing services are considered sufficiently satisfactory for use in deriving the sector data from those for all business GNP.²² For selected years table 8 provides this division, as well as the division of current-price GNP and the corresponding implicit price deflators.

Absence of directly computed productivity series for the production of commodities and services is not an insuperable obstacle to analysis. If earnings of the factors are the same in the production of commodities and services, or even if any differential in favor of one or the other is the same in 2 years, then the difference between the change in output per unit of input for commodities and services is the same (with sign reversed) as the difference between price movements of commodities and services. This rule can be used to approximate differentials in productivity change if comparisons are confined to years that are far apart and reasonable care is taken to avoid very unrepresentative years.

22. I do not wish to conceal the fact that some of the difficulties with an industry classification apply to any grouping smaller than the whole economy—indeed, smaller than the world economy because deflated imports enter the calculation. But nonfarm nonresidential business is sufficiently consolidated for the difficulties to be relatively minor.

Service prices were far lower relative to commodity prices in 1948 than in earlier or later years in the table, and I believe this is because service prices tend to lag commodity prices in periods of big price change. Data for 1948, shown only because 1948 was used in previous sections, are therefore discarded for the present analysis.

My index of output per unit of input in nonresidential nonfarm business is shown in row 19 of table 8. National income rather than GNP was used to measure output in its derivation, but this is not likely to make much difference in this analysis. Row 20 shows a similar series for production of commodities in the sector, obtained by multiplying row 19 by the ratio of the price index for commodities to that for commodities and services combined (row 17). Row 21 shows the similar index for production of services.

These series indicate that the increase in output per unit of input was moderately greater in the production of services than of commodities from 1929 to 1953, about the same from 1929 to 1958 (when all indexes are 100.0) but considerably smaller from 1953 or 1958 to 1969. Growth rates of output per unit of input in certain

periods, as estimated by this procedure, follow.²³

Period	Com- modities and services	Com- modities	Services	Difference: commodities less services
1929-69	1.57	1.63	1.41	0.22
1929-53	1.31	1.29	1.43	-.14
1953-69	1.96	2.13	1.37	.76
1953-64	2.12	2.28	1.49	.79
1964-69	1.61	1.80	1.11	.69

The service price ratio probably was still somewhat out of line on the high side in 1953 so that the relative performance of the services shown here is very likely too favorable in 1929-53 and too unfavorable from 1953 to 1969 (although the 1969 ratio may also have been a little high after the preceding inflation), but the estimates are not too weak for the use to which I now put them: to show that changes in the weights of commodity and service inputs within the range experienced could have only a minor offset on the growth rate of productivity.

In any year in which earnings of comparable inputs are the same in the provision of commodities and services

23. The series are not adjusted for cyclical fluctuations because separate estimates of cyclical effects are not available for commodity and service production. It is because of cyclical fluctuations that all of the productivity series rise less in 1964-69 than in 1953-64; a decline in the rate of cyclically adjusted productivity advance is not implied.

Table 8.—Domestic Nonresidential Nonfarm Business GNP Divided by Commodities and Services, Together With Derived Estimates

	1929	1948	1953	1964	1969
1 GNP in current prices (billions of dollars).....	76.7	198.9	283.0	481.8	700.3
2 Commodities.....	58.7	159.8	227.1	369.5	527.1
3 Services.....	18.0	39.1	55.9	112.3	173.2
4 GNP in current prices (percent of total).....	100.0	100.0	100.0	100.0	100.0
5 Commodities.....	76.5	80.3	80.2	76.7	75.3
6 Services.....	23.5	19.7	19.8	23.3	24.7
7 GNP in 1958 prices (billions of dollars).....	154.8	251.6	318.1	449.5	564.9
8 Commodities.....	118.7	196.7	253.9	349.5	434.9
9 Services.....	36.1	54.9	64.2	100.0	130.0
10 GNP in 1958 prices (percent of total).....	100.0	100.0	100.0	100.0	100.0
11 Commodities.....	76.7	78.2	79.8	77.8	77.0
12 Services.....	23.3	21.8	20.2	22.2	23.0
13 Implicit price deflator, 1958 = 100, sector.....	49.5	79.1	89.0	107.2	124.0
14 Commodities.....	49.5	81.2	89.4	105.7	121.2
15 Services.....	49.9	71.2	87.1	112.3	133.2
16 Ratio of implicit deflator to sector deflator.....	1.000	1.000	1.000	1.000	1.000
17 Commodities.....	1.000	1.027	1.004	0.986	0.977
18 Services.....	1.008	0.900	0.979	1.048	1.074
19 Index of output per unit of input, 1958 = 100, sector.....	69.75	87.88	95.28	119.96	129.94
20 Commodities.....	69.75	(*)	94.90	121.66	133.00
21 Services.....	69.20	(*)	97.32	114.47	120.99

a. Not calculated because price ratios were severely abnormal.
Sources: Rows 1-3 and 7-9 from table A-2. Rows 4-6, 10-12, and 13-15 calculated from rows 1-3 and 7-9. Rows 16-18 calculated from rows 13-15. Row 19 estimated by the writer. Row 20, row 17 times row 19. Row 21, row 18 times row 19.

the shares of total factor input devoted to production of commodities and services are the same as the commodity and service shares of output when output is measured by national income (that is, net, at factor cost) and in current prices. The distribution of final output in current prices is measured in table 8 by GNP (gross, at market prices). Although commodity and service shares of GNP in the sector differ from their shares of national income, changes in the shares are not likely to be much different. The percentage of total factor input entering into services is therefore estimated to have been 1.2 percentage points larger in 1969 than in 1929 and 4.9 percentage points larger in 1969 than in 1953.

If within nonresidential nonfarm business the growth rate of output per unit of input was 0.22 percentage points higher in production of commodities than of services, the calculated 1929-69 experience, a difference of 1.2 percentage points in the service share of total input, the difference between 1929 and 1969 shares, would change the growth rate of output per unit of input in nonfarm nonresidential business by 0.003 percentage points. If the growth rate of output per unit of input was 0.76 points higher in commodity production than in services production, the calculated 1953-69 experience, a difference of 4.9 percentage points in the service share of total input, the difference between 1953 and 1969 shares, would change the growth rate in nonfarm nonresidential business by 0.037 percentage points. Nonfarm nonresidential business is about three-fourths of the whole economy. Hence the effect on output per unit of input in the whole economy of the differences postulated would be about 0.00 points for the first calculation and less than 0.03 percentage points for the second calculation. These results stem only from effects on the numerator (output) of the productivity calculation and consequently apply equally to output per person engaged.

These calculations capture only differences between the average productivity experience of commodities and services as a whole. To investigate whether changes in the composition

of input were toward or away from components with fast productivity growth, one would need to classify detailed components by rate of productivity change itself, or calculate directly for detailed components, but the necessary detailed data have not been developed for this sector's output.

A Fundamental Difficulty With Component Analysis in Domestic Nonresidential Nonfarm Business

This brings me, finally, to a fundamental objection to the procedure of analyzing the behavior of components in the past in order to judge future productivity trends within nonfarm nonresidential business. This objection is to the implicit assumption that components which gain or lose share of employment or total input, and which have about average or below average productivity gains in one period, will have the same characteristics in the next period.

Suppose we classify nonfarm nonresidential business or a major portion of it by detailed components, whether by industry or by end product. Available evidence suggests that over any time span that is long and terminated by years that are representative we are likely to find that employment and other input measures increased by an above average amount in components whose productivity increased by an above average amount.²⁴ This is not really surprising. One reason is that components toward which demand shifts secure the greatest productivity gains from economies of scale. Another is that new components typically both increase their shares and have large productivity gains. A third is that demand appears typically to be so elastic that declining relative prices resulting from above average productivity gains raise

volume more than enough to offset the saving in employment and other inputs that results from above average productivity gains.²⁵

If this relationship holds, components with above average productivity gains during a period will be found to have bigger shares of employment or total input at the end of a period than at its beginning. Does this mean we should expect ever-rising rates of productivity growth in the sector as a whole? Of course not. Such a tendency would be present only if at every date the components which had high rates of productivity gain and increased their shares of input or employment in previous periods will again have high rates of productivity gain, and increase or at least not reduce their shares, in the period to come. There is no such continuity. Industries rise and fall.

Suppose, instead, that in some period or by some classification the relationship is the opposite: that components with fast-rising productivity in a period systematically lose their shares of inputs. Would this mean an ever-falling rate of productivity increase? No, for the same reason.²⁶

A look at the four commodity-producing industries whose combined shares dropped more than the total share of commodity-producing industries from 1948 to 1969 is suggestive. Coal mining lost in employment share from 1929 to 1948 and again from 1948 to 1969, and appears to have had a strong productivity performance in both periods. But its productivity performance may well be poor in 1969-80, not only because major opportunities for gain have been exploited but also because of new safety and environmental legislation. Is it obvious that productivity would rise more in the future if the share of coal mining

24. Studies available in 1962 were summarized in Edward F. Denison, "Changes in Output per Man and Employment: Is the Relationship among Industries Positive or Negative?" (Committee for Economic Development, October 1962; processed). The main studies cited are W. E. G. Salter, *Productivity and Technical Change*, Cambridge Department of Applied Economics Monograph No. 6 (Cambridge University Press, 1960); John W. Kendrick, assisted by Maude R. Pech, *Productivity Trends in the United States* (Princeton University Press for National Bureau of Economic Research, 1961); and Solomon Fabricant, *Employment in Manufacturing, 1899-1939: An Analysis of Its Relation to the Volume of Production* (National Bureau of Economic Research, 1942).

25. Both Salter and Kendrick found that industries that reduced factor input per unit of output most also reduced materials input per unit of output most. This is important in explaining the finding, because factor inputs are only part of the total costs of an industry and a given percentage reduction in factor input costs alone would yield a much smaller percentage reduction in price.

26. The two-way division of the end products of nonresidential business did yield a declining share of total input and an above average increase in output per unit of input for services in 1929-53, and for commodities in 1953-69. This result may reflect only the aggregative character of the calculation. It does, however, illustrate lack of continuity both in changes in shares and in productivity performance.

Table A-1.—Persons Engaged, by Industry: Total and by Sector

[Numbers in thousands]

	Total			General government, households, institutions			Business sector		
	1929	1948	1969	1929	1948	1969	1929	1948	1969
All industries.....	46,216	58,800	80,076	5,991	9,280	18,856	40,225	49,520	61,220
Farms.....	8,989	6,724	3,129	0	0	0	8,989	6,724	3,129
Agricultural services, forestry, fisheries.....	236	276	324	0	0	0	236	276	324
Coal mining.....	627	544	144	0	0	0	627	544	144
Other mining.....	390	489	515	0	0	0	390	489	515
Contract construction.....	2,306	3,262	4,323	0	0	0	2,306	3,262	4,323
Food, kindred products.....	1,078	1,841	1,816	0	0	0	1,078	1,841	1,816
Textile mill products.....	1,264	1,333	1,012	0	0	0	1,264	1,333	1,012
Other nondurables manufacturing.....	* 2,999	4,201	5,598	0	0	0	2,999	4,201	5,598
Lumber, wood products, except furniture.....	* 5,349	{ 943	612	0	0	0	5,349	{ 943	612
Other durables manufacturing.....		{ 7,652	11,541	0	0	0		{ 7,652	11,541
Transportation.....	3,034	3,008	2,647	0	0	0	3,034	3,008	2,647
Telephone and telegraph.....	535	695	924	0	0	0	535	695	924
Radio, television broadcasting.....	4	48	120	0	0	0	4	48	120
Electric, gas, sanitary.....	495	538	685	0	0	0	495	538	685
Wholesale trade.....	1,744	2,664	3,767	0	0	0	1,744	2,664	3,767
Retail trade.....	6,077	{ 8,087	11,157	0	* 2	* 21	6,077	{ 8,085	11,136
Automobile services.....		{ 340	500	0	0	0		{ 340	500
Banking.....	386	408	962	0	0	0	386	408	962
Other finance, insurance, real estate.....	1,189	1,526	2,610	0	0	0	1,189	1,526	2,610
Hotels and other lodging places.....	518	636	793	0	* 7	* 15	518	629	778
Personal services.....	1,008	1,241	1,468	0	0	0	1,008	1,241	1,468
Miscellaneous business services.....	* 292	{ 385	1,573	0	0	0	* 292	{ 385	1,573
Miscellaneous professional services.....		{ 275	814	0	* 29	* 117		{ 246	697
Miscellaneous repair services.....	* 130	{ 253	312	0	0	0	* 130	{ 253	312
Motion pictures.....	153	234	193	0	0	0	153	234	198
Other amusements.....	295	298	505	* 65	* 52	* 90	230	246	415
Medical and other health services.....	750	1,132	3,176	250	510	1,658	500	622	1,518
Legal services.....	194	217	383	0	0	0	194	217	353
Educational services.....	* 311	482	1,247	224	391	1,077	87	91	170
Nonprofit membership organizations.....	351	649	1,358	* 329	* 603	* 1,263	22	46	95
Private households.....	2,348	1,574	1,384	2,348	1,574	1,384	0	0	0
Government, government enterprises.....	3,184	6,840	14,480	2,775	6,107	13,227	409	733	1,253
Rest of the world.....	0	5	4	0	5	4	0	0	0

a. The 1929 employment in miscellaneous repair services was assumed to be the same fraction of employment in "miscellaneous repair services and hand trades" as in 1948. The remaining 130,000 in the latter industry were equally divided between "other nondurables manufacturing" and "other durables manufacturing."

b. Estimated from full-time and part-time employment by application of the ratio of full-time equivalent employment to full-time and part-time employment in the industry.

c. Sum of "business services, n.e.c." and "engineering and other professional services, n.e.c."

d. Sum of "educational services, n.e.c." and "commercial and trade schools and employment agencies."

Sources: First six columns from Bureau of Economic Analysis. Last three columns obtained by subtraction.

were larger? ²⁷ Textile mill products also lost employment share in each past period, but both food manufacturing and lumber and wood products increased their employment shares from 1929 to 1948 and reduced them from 1948 to 1969.²⁸ Lack of continuity is evident without considering productivity.

Data for industrial and end-product components of output and input are useful for many purposes but are not particularly helpful in explaining why total output rises. An increase in labor skills or in the amount of capital used in production will contribute to growth regardless of the particular industry or end product to which the changing requirements of society may cause labor and capital to be allocated; similarly, the impact of inventive and innovative activities, improved management techniques, the growth of markets, and many other changes may be felt in almost any activity. Future productivity growth will depend on the strength of such characteristics of the economy, not on the particular end products that business is called upon to provide nor the organization of industries that is found most efficient in providing them.

Appendix

Table A-1 shows the breakdowns of persons engaged in production which, in various combinations, are used in the text tables. Aside from minor adjustments noted in the footnotes, the data are from BEA.

BEA uses the same industry classification for 1948 and 1969. Its 1929 data are presented by a slightly different classification. Only the most obviously required adjustments and combinations have been introduced here. However, remaining differences between the 1929 and 1948-69 classifications are not likely to be of sufficient size to affect comparisons appreciably.

Table A-2 shows the derivation of domestic nonresidential nonfarm business GNP and its division between commodities and services.

²⁷ Coal, of course, also illustrates the point that some productivity gains belong to no industry. It lost its share because other fuels were more satisfactory in many uses.

²⁸ For lumber and wood products somewhat different industries must be used in the two periods to secure a comparison.

Table A-2.—Derivation of Commodities and Services Output of the Domestic Nonresidential Nonfarm Business Sector

[GNP at market prices, in billions of dollars]

Prices and year	Whole economy			Farm GNP (BEA definition)	Residential GNP		Government, households, institutions GNP	International assets GNP	Non-farm business GNP	Domestic nonresidential nonfarm business GNP		
	Goods output	Structures output	Services output		Farm	Non-farm				Commodities (1+2-4+5)	Services (3-5-6-7-8)	Total (10+11 or 9-6)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Current prices												
1929.....	56.1	11.4	35.6	9.7	0.9	8.7	7.2	0.8	85.4	58.7	18.0	76.7
1948.....	154.2	27.7	75.7	23.3	1.2	11.3	23.1	1.0	210.2	159.8	39.1	198.9
1953.....	204.1	41.7	118.8	20.3	1.6	20.3	39.7	1.3	303.3	227.1	55.9	283.0
1964.....	319.4	68.8	244.2	20.6	1.9	45.8	80.3	3.9	527.6	369.5	112.3	481.8
1969.....	457.5	94.9	377.9	27.9	2.6	65.9	131.9	4.3	766.2	527.1	173.2	700.3
Constant (1958) prices												
1929.....	103.9	30.3	69.3	17.0	1.5	10.2	20.1	1.4	165.1	118.7	36.1	154.8
1948.....	178.4	36.1	109.3	19.0	1.2	15.4	36.6	1.2	267.0	196.7	54.9	251.6
1953.....	225.4	47.0	140.3	20.0	1.5	22.5	50.8	1.3	340.7	253.9	64.2	318.1
1964.....	308.6	61.6	210.8	22.3	1.6	42.5	62.8	3.9	492.1	349.5	100.0	449.5
1969.....	390.0	67.3	268.2	24.1	1.7	55.5	77.0	4.0	620.5	434.9	130.0	564.9

Sources: Columns 1 to 4 and 7 to 9 from Bureau of Economic Analysis, national accounts tables 1.3, 1.5, 1.7, and 1.8. Columns 5 and 6 estimated by writer from national accounts data. Columns 10 to 12 derived from preceding columns, as indicated.

Employment and Payroll Costs of U.S. Multinational Companies

THIS article analyzes 1966 and 1970 employment and payroll cost data for a sample of 298 U.S. multinational companies (MNC's) responding to a special voluntary survey taken by the Bureau of Economic Analysis. The data reflect the employment and payroll costs of these 298 firms and their 5,237 majority-owned foreign affiliates (those owned 50 percent or more) in the actual circumstances of 1966 and 1970, i.e., given the existence of U.S. direct investment abroad. No attempt has been made to determine what the situation might have been with a different level or in the total absence of such investment. For example, the data show that the employment growth of U.S. parent companies exceeded that of all U.S. firms from 1966 to 1970 but do not indicate whether this growth would have been faster or slower if these companies' investments abroad had been smaller or nonexistent. The data presented here are no more than a starting point toward answers to the complex question of the effects of U.S. direct investment abroad on U.S. employment and wages.

Problems of comparability exist in the data used in this article, particularly in regard to industry classification. These problems have been resolved to the extent possible; where comparability could not be achieved, it is so indicated in the text.

After a brief description of the sample, the next two sections of this article review data on employment and payroll costs per employee in the United States, relating the U.S. parents in the sample to overall U.S. industry. The following two sections compare employment and payroll costs per employee of the foreign affiliates with those of their parent companies in the United States and to those of other firms in their foreign host countries. Some of the

major findings presented in these four sections are:

1. Employment in the United States of the 298 MNC's grew considerably faster from 1966 to 1970 than domestic employment of all U.S. firms in each of the three major industry groups examined—manufacturing, petroleum, and all other. Some of the growth in MNC employment may have been the result of mergers with and acquisitions of non-multinational companies since 1966. However, even after allowance is made for such mergers and acquisitions, MNC employment growth evidently exceeded that of all U.S. firms in the same industry.

For all industries combined, domestic employment of the 298 MNC's grew from 1966 to 1970 at a rate of 2.7 percent per year, compared with 1.8 percent for all U.S. firms. In individual industries, however, MNC employment growth generally exceeded the U.S. total for the industry by a much wider margin.

2. Comparisons of domestic payroll costs per employee of the MNC's and of all U.S. firms, by industry, show mixed results: costs of the MNC's were higher in some industries and lower in others. For all industries combined, payroll costs per employee of the MNC's were significantly above the national average, mainly because of the heavier weight in the MNC sample than in all U.S. private industry of manufacturing, where payroll costs per employee tend to be relatively high.

3. Employment abroad by the majority-owned foreign affiliates in 1970 was equal to one-third of the domestic employment of their U.S. parents. From 1966 to 1970, employment of these affiliates grew twice as fast as domestic employment of their 298 U.S. parents. In most individual industries as well,

growth in employment of the foreign affiliates was considerably faster than that of their U.S. parents. However, the growth of the parent companies was somewhat retarded by the 1970 business recession in the United States.

In most major foreign countries, employment of the foreign affiliates grew faster from 1966 to 1970 than total employment in the same country. Over this period, the rate of growth in employment of affiliates was 6.4 percent annually in developed countries and 1.9 percent in developing countries.

4. In every major industry and area, payroll costs per employee of the foreign affiliates were substantially below payroll costs per employee of the U.S. parents. However, available data for developed countries indicate that, at least in manufacturing, payroll costs per employee of the affiliates exceeded those for the industry as a whole in the same foreign country.

Payroll costs per employee of the foreign affiliates and of the U.S. parents both increased at about 6 percent per year from 1966 to 1970.

The sample data

The data on MNC employment and payroll costs used in this article were drawn primarily from the BEA special survey. The survey provides data on the number of employees and total payroll costs of the 298 U.S. parent companies in 1966 and 1970 and of their 5,237 majority-owned foreign affiliates in 1970. The 1966 employment and payroll data for the foreign affiliates in the sample were drawn from BEA's 1966 benchmark survey of the universe of all MNC's.¹ No attempt was made to

1. These data and other information on the domestic and international operations of U.S. multinational companies were released by BEA in a publication entitled *Special Survey of U.S. Multinational Companies, 1970*; it can be purchased from the National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia 22151. Price \$3. Quote accession number COM-72-11392 when ordering.

compute universe estimates for 1970.

For the foreign affiliates in the sample, the data on payroll costs were reported to BEA in U.S. dollars. The exchange rates used for conversion from foreign currencies to dollars were those normally used by the reporters in their own books. For the payroll cost data, these were probably the rates in effect at the time the affiliates' income statements were drawn, i.e., the end of the calendar year or the nearest fiscal year.

The relative importance of the sample of 298 firms in the MNC universe is suggested by a comparison of the sample with all 3,300 MNC's reporting in the 1966 benchmark survey. The 298 U.S. parent firms in the sample accounted for 29 percent of the U.S. assets of all MNC's in 1966, and their 5,237 majority-owned foreign affiliates held 55 percent of the assets and employed 62 percent of the workers of all majority-owned foreign affiliates in 1966.

In 1966, according to the benchmark survey data, the 298 parent firms in the sample included a significantly higher proportion of manufacturing and integrated petroleum companies—measured in terms of both numbers of firms and amount of assets—and a correspondingly lower proportion of firms of

other types, than the MNC universe. The reported U.S. assets of these 298 firms in 1966 were distributed 57 percent in manufacturing (excluding petroleum), 19 percent in petroleum, and 24 percent in other industries. The distribution of U.S. assets of all MNC's in 1966 was 34 percent in manufacturing (excluding petroleum), 9 percent in petroleum, and 57 percent in other industries. The reason for this difference is that the 1970 special survey focused on the larger nonfinancial MNC's, which tend to have a heavier concentration in manufacturing and petroleum than the total of MNC's.

Domestic Employment

Employment in the United States of the 298 parent companies in the MNC sample grew considerably faster from 1966 to 1970 than domestic employment of all U.S. firms in each of three major industry groups—manufacturing, petroleum, and all other—shown in table 1. In manufacturing, domestic employment of the MNC parents increased at an average of 1.9 percent per year, compared with 0.2 percent per year for all U.S. manufacturing firms. In two industries within manufacturing,

chemicals and transportation equipment, the growth rates for the sample and for the entire domestic industry were identical—2.2 and -1.7 percent per year, respectively. In all other manufacturing industries shown in table 1, the MNC employment growth rate from 1966 to 1970 exceeded the all-U.S. rate.

Domestic employment of MNC parents in the petroleum industry increased 2.2 percent per year while that of all U.S. petroleum firms declined slightly. In "other industries"—principally mining, trade, and other services—domestic employment of MNC's grew 5.6 percent per year, more than twice the growth rate for the comparable all-U.S. aggregate.

For all industries combined, the growth rate of domestic employment of the MNC sample was 2.7 percent annually from 1966 to 1970, compared with 1.8 percent for all U.S. private industry. This difference is considerably narrower than that in most of the component industries shown in table 1. The reason is the difference in industrial composition of the MNC sample as compared with all U.S. industry. The sample is more heavily weighted toward manufactur-

Table 1.—Employment of All U.S. Firms and of MNC's in Sample, by Industry¹

Line	Industry ²	U.S. firms						Majority-owned foreign affiliates of U.S. reporters								
		All U.S. firms			U.S. reporters in 1970 sample survey			All areas ³		Developed areas		Developing areas				
		1966	1970	Average annual rate of growth, 1966-70	1966	1970	Average annual rate of growth, 1966-70	1966	1970	Average annual rate of growth, 1966-70	1966	1970	Average annual rate of growth, 1966-70	1966	1970	Average annual rate of growth, 1966-70
	(Thousands)	(Percent)	(Thousands)	(Percent)	(Thousands)	(Percent)	(Thousands)	(Percent)	(Thousands)	(Percent)	(Thousands)	(Percent)	(Thousands)	(Percent)		
1	All private industry.....	57,259	61,486	1.8	7,968	8,851	2.7	2,412	2,970	5.3	1,797	2,300	6.4	599	647	1.9
2	Manufacturing.....	19,095	19,224	.2	5,885	6,335	1.9	1,704	2,156	6.1	1,408	1,747	5.5	297	409	8.3
3	Food products.....	1,779	1,784	.1	235	260	2.6	119	141	4.3	82	102	5.6	37	39	1.4
4	Chemicals and allied products.....	966	1,054	2.2	665	725	2.2	220	250	3.2	154	174	3.1	66	76	3.6
5	Primary and fabricated metals.....	2,702	2,698	0	709	724	.5	86	103	4.6	67	79	4.2	20	23	3.6
6	Machinery.....	3,831	3,906	.5	1,617	1,860	3.6	555	731	7.1	486	615	6.1	69	116	13.9
7	Transportation equipment.....	2,210	2,063	-1.7	1,681	1,568	-1.7	421	546	6.7	382	474	5.5	39	72	16.6
8	Other.....	7,607	7,719	.4	978	1,198	5.2	303	385	6.2	237	302	6.2	66	83	5.9
9	Petroleum ⁴	486	480	-.2	479	522	2.2	296	271	-2.2	159	158	0	124	98	-5.7
10	Other industries.....	37,678	41,782	2.6	1,604	1,994	5.6	411	542	7.2	229	395	14.6	179	140	-6.0
11	Mining.....	349	357	.6	(D)	91	(D)	79	74	-1.6	28	45	12.6	51	29	-13.2
12	Trade.....	13,329	15,108	3.2	516	589	3.4	169	308	16.2	122	252	19.9	46	54	4.1
13	Other.....	24,000	26,317	2.3	(D)	1,314	(D)	163	161	(*)	79	98	5.5	82	58	-8.3

(D) Suppressed to avoid disclosure of data for individual reporters. *Less than 0.05 percent. (±).

1. Employment of all U.S. firms is defined as the average number of full-time and part-time employees as calculated by BEA in conjunction with the annual national income and product accounts. These data are from SURVEY OF CURRENT BUSINESS, July 1970, page 39, and July 1973, page 41. Data for reporters in survey are from basic data table 1, line 22 and data for foreign affiliates are from basic data table set 3, line 23, from the *Special Survey of U.S. Multinational Companies, 1970*.

2. Data for all U.S. firms are classified by industry of the individual establishment. Data

for reporters in survey are classified by the major industry of the consolidated U.S. enterprise. Foreign affiliates are classified by industry of the foreign affiliate.

3. Data for affiliates classified as international are included in figures for all areas but excluded from figures for developed and developing areas.

4. The petroleum industry is defined on an integrated basis, the usual practice for direct investment statistics; data for all U.S. firms have been adjusted to this basis to the extent possible.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division and National Income and Wealth Division.

ing, where domestic employment growth in 1966-70 was relatively slow; this slowed the growth in total domestic employment of the MNC's relatively more than it did that of all U.S. firms. If the distribution of employment among manufacturing, petroleum, and "other industries" had been the same for the 298 MNC's as for total U.S. private industry, domestic employment growth of the MNC's from 1966 to 1970 would have been 4.4 percent annually instead of 2.7 percent.

The slower-than-average growth in U.S. manufacturing employment from 1966 to 1970 was at least partly due to the fact that 1970 was a recession year in the United States, and the recession had a greater adverse impact on employment in manufacturing than in other industries.

Employment growth of the 298 MNC's in the sample from 1966 to 1970 stemmed partly from construction of new plants or expansion of domestic operations which were already in existence in 1966, and partly from the inclusion in the 1970 sample of reporters which were not direct investors abroad in 1966 or which were direct investors then but which had since merged with or acquired domestic companies which were not direct investors in 1966. Of the companies reporting in the 1970 survey, only a very small fraction were not themselves direct investors in 1966, but a considerable number had merged with or acquired companies which were not direct investors in 1966. There is little evidence to indicate how much of the 1966-70 domestic employment growth of the 298 companies reflects such mergers or acquisitions. However, another study suggests that mergers and acquisitions probably account for no more than one-fourth of the growth in employment of the 298 companies.²

The employment data for the 298 MNC's, broken down by industry, are not strictly comparable to those for all U.S. firms, since in the MNC data the entire consolidated domestic enterprise is classified in the industry of its major product, while in the national

totals each establishment within an enterprise is classified separately. Thus, if an enterprise had three establishments each producing a different product, its employment in the all-U.S. figures would be distributed among the three industries involved; in the MNC data, all of its employment would be shown in just one of the three industries—the one in which the consolidated enterprise had the largest sales.

There is no way to directly determine what effect the difference in classification systems has on the employment data. However, an indirect method of estimating the magnitude of the effect was attempted (see Appendix). The results indicate that classification problems, while fairly sizable in some individual industries, are probably not large enough to upset the major conclusion to be drawn from table 1—that employment was growing at a faster rate in the MNC's than in the United States as a whole in nearly every industry examined.

The petroleum industry presented especially difficult problems of comparability related to the establishment-enterprise classification problem. This is reflected in table 1, where domestic employment of the petroleum firms in the MNC sample is shown as slightly larger than the total for all U.S. petroleum firms in 1970. The discrepancy arises because, in the MNC data, the petroleum industry is defined on an integrated basis, including all stages of production—exploration and development, extraction, refining, transportation, and marketing—in a single industry category whereas in the data for all U.S. firms each of these operations is normally classified separately. For table 1, an attempt was made to construct data for the entire domestic industry on the same integrated basis as in the MNC sample. However, the all-U.S. employment data by industry that are used in this article, which were calculated by BEA in conjunction with its national income data,³ are not

sufficiently detailed to permit this. Thus, the figures for all U.S. petroleum firms shown in table 1 include only crude petroleum and natural gas extraction, pipeline transportation, and petroleum refining; estimates for gasoline stations, petrochemicals, and tanker transportation were not available in the BEA data.

As noted earlier, the employment estimate for all U.S. petroleum firms in table 1 declined very slightly from 1966 to 1970. However, detailed employment data from the Bureau of Labor Statistics, which are not completely comparable to the data in table 1, indicate that employment in industrial organic chemicals (primarily petrochemicals) and gasoline service stations rose substantially from 1966 to 1970.⁴ If the BLS data for these two industries were added to BLS data for the industries included in the U.S. petroleum industry in table 1, employment in the U.S. petroleum industry thus integrated would have risen at an annual rate of 1.8 percent—not far from the 2.2 percent rate for the petroleum companies in the MNC sample.

Domestic Payroll Costs

Comparisons of domestic payroll costs per employee of the 298 MNC's with those of all U.S. firms, by industry, give mixed results (table 2). For manufacturing as a whole, domestic payroll costs per employee of the MNC's were considerably above those of all U.S. firms in both 1966 and 1970. Within manufacturing, however, the MNC's in 1970 had lower payroll costs than the all-U.S. figure in three of the industries shown in table 2—foods, chemicals, and transportation equipment—but considerably higher payroll costs in the other three industries. In petroleum and mining, domestic payroll costs per employee of the MNC's were substantially below the all-U.S. figures, in trade they were about the same, while in other industries taken together they were higher.

3. The BEA employment data are used in preference to employment estimates of the BLS because they agree conceptually with the annual payroll data for all U.S. firms used in this article. The BEA annual payroll data for all U.S. firms, in turn, are the most comparable definitionally to the payroll data of the MNC's in the special survey sample.

4. U.S. Department of Labor, Bureau of Labor Statistics, Bulletin 1312-9, *Employment and Earnings in the United States, 1969-72*, pp. 474 and 577.

2. See *Special Survey of U.S. Multinational Companies, 1970*, pages 9-10.

For all industries combined, domestic payroll costs per employee of the MNC's exceeded the all-U.S. average in 1970 by \$1,860 or nearly 25 percent. This substantial difference in the overall totals, compared with the mixed results for individual industries, at least partly reflects differences in industry composition between the MNC sample and all private U.S. industry: if the MNC employment total had the same industry distribution as all U.S. private employment, the difference in total payroll costs, although not for the individual industries comprising the totals, would largely disappear. Earnings of manufacturing employees are above the general average in both the MNC's and all U.S. firms; however, manufacturing accounted for nearly three-quarters of the employment of the 298 parents but for only about one-third of all U.S. private employment. Moreover, within manufacturing, the proportion of employment in the high-wage metal goods industries was considerably greater in the MNC's than in the United States as a whole.

After adjustment for problems of industry composition in the overall totals, differences in payroll costs between the MNC's and all U.S. firms, for some of the individual industries shown in table 2, still remain. These differences may result partly from the classification problem—the fact that MNC employment and payroll cost data are classified on the basis of the industry of the entire domestic enterprise, while the all-U.S. data are classified on the basis of each establishment. However, as discussed in the Appendix, this factor probably accounts for only a minor part of the differences, except perhaps in petroleum. The MNC data for the integrated petroleum industry include employees engaged in wholesale and retail distribution of oil and gasoline—activities paying much lower wages than extraction, transportation, and refining of petroleum, which are the only activities included in the data for all U.S. petroleum firms. However, no attempt has been made to estimate how much impact this factor may have. A more important explanation for the differences between the MNC and

all-U.S. figures, by industry, probably lies in the fact that the industries shown in table 2 are quite broad and within each industry the MNC's can be engaged in very different types of activity from other U.S. firms, with very different levels of average pay. Within the chemical industry, for instance, data for all U.S. firms indicate that average cash weekly earnings of production workers in 1970 ranged from \$190 in soaps and detergents down to \$124 in fertilizers. In nonelectrical machinery, the range was from \$168 in internal combustion engines to \$125 in textile machinery.⁵ Finally, differences between payroll costs per employee between the MNC and all U.S. firms for individual industries may have resulted from the varying impact on these two groups of the many complex factors which affect wage rates, including, among others, technological efficiency, profitability, or the rate of expansion of the company. Since multinational companies tend to be among the largest, fastest growing,

⁵ *Ibid.* pp. 177-221 and 473-496.

Table 2.—Payroll Costs Per Employee of All U.S. Firms and MNC's in Sample, by Industry^{1 2}

Line	Industry ³	U.S. firms						Majority-owned foreign affiliates of U.S. reporters								
		All U.S. firms			U.S. reporters in 1970 sample survey			All areas ⁴			Developed areas			Developing areas		
		1966	1970	Average annual rate of growth, 1966-70	1966	1970	Average annual rate of growth, 1966-70	1966	1970	Average annual rate of growth, 1966-70	1966	1970	Average annual rate of growth, 1966-70	1966	1970	Average annual rate of growth, 1966-70
(Dollars)		(Percent)	(Dollars)		(Percent)	(Dollars)		(Percent)	(Dollars)		(Percent)	(Dollars)		(Percent)		
1	All private industry.....	6,130	7,760	6.1	7,750	9,620	5.5	3,920	4,900	5.7	4,230	5,350	6.0	2,950	3,250	2.5
2	Manufacturing.....	7,490	9,340	5.7	8,290	10,300	5.6	3,820	4,820	6.0	4,120	5,290	6.5	2,400	2,810	4.0
3	Food products.....	6,800	8,590	6.0	6,740	8,160	4.9	3,210	3,780	4.2	3,760	4,350	3.8	2,030	2,280	3.0
4	Chemicals and allied products.....	9,040	11,380	5.9	8,460	10,420	5.4	3,690	4,940	7.6	4,190	5,650	7.8	2,520	3,320	7.2
5	Primary and fabricated metals.....	8,420	10,180	4.9	8,410	10,250	5.1	3,560	4,370	5.3	4,040	5,040	5.6	1,750	2,260	6.6
6	Machinery.....	8,010	10,050	5.8	8,260	10,760	6.9	3,770	4,870	6.6	4,010	5,330	7.4	2,070	2,440	4.2
7	Transportation equipment.....	9,790	12,500	6.3	8,820	11,120	6.0	4,260	5,250	5.4	4,350	5,520	6.1	3,410	3,510	7
8	Other.....	6,140	7,730	5.9	7,580	8,910	4.1	3,710	4,520	5.1	4,070	5,040	5.5	2,420	2,640	2.1
9	Petroleum ⁵	9,520	12,490	7.0	8,680	10,780	5.6	5,050	6,530	6.6	5,140	7,130	8.5	5,050	5,620	2.7
10	Other industries.....	5,390	6,980	6.7	5,530	7,140	6.6	3,500	4,390	5.8	4,350	4,880	2.9	2,400	2,900	4.8
11	Mining.....	8,050	10,530	6.9	(D)	9,840	(D)	3,700	5,320	9.6	4,610	6,910	10.7	3,200	2,860	-2.7
12	Trade.....	5,180	6,370	5.3	4,850	6,340	6.9	3,840	3,890	3	4,250	4,080	-1.1	2,630	2,830	1.9
13	Other.....	5,470	7,270	7.4	(D)	7,320	(D)	3,070	4,900	12.4	4,420	6,020	8.0	1,780	2,930	13.3

(D) Suppressed to avoid disclosure of data for individual reporters.
 1. For all U.S. firms, average payroll costs were calculated by dividing total compensation of employees in a given industry group by the average number of full-time and part-time employees in that industry group; data are from SURVEY OF CURRENT BUSINESS, July 1970, page 39, and July 1973, page 41. Data for reporters in survey were calculated from employment data in basic data table 1, line 22, and from data on total payroll costs in basic data table 1, line 23, of the *Special Survey of U.S. Multinational Companies, 1970*. Data for foreign affiliates were calculated from employment data in basic data table set 3, line 23, and from data on total payroll costs in basic data table set 3, line 24, of the *Special Survey*.
 2. All data are rounded because the last digit of each figure was not significant.
 3. In employee compensation data for all U.S. firms, the wage and salary component is classified by industry of the individual establishment whereas the supplementary benefits

component is classified by major industry of the U.S. firm. Reporters in survey are classified by the major industry of the consolidated U.S. enterprise. Foreign affiliates are classified by industry of the foreign affiliate.
 4. Data for affiliates classified as international are included in figures for all areas but excluded from figures for developed and developing areas.
 5. The petroleum industry is defined on an integrated basis, the usual practice for direct investment statistics; data for all U.S. firms have been adjusted to this basis to the extent possible.
 Source: U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division and National Income and Wealth Division.

and most technologically advanced firms in the United States, one might expect them to pay higher wages to their employees than other firms in the same industry. However, this is not the case for some of the individual industries shown in table 2, nor is it necessarily true for the all-industry totals if differences in industry composition between the MNC sample and all U.S. firms are taken into account.

Foreign Employment

Employment in the 5,237 majority-owned foreign affiliates of the 298 MNC's totaled 3 million in 1970 (table 1). Nearly three-quarters of the total was in manufacturing and most of the rest was in petroleum and trade—about 10 percent each. Within manufacturing, 34 percent was in machinery (electrical and nonelectrical), 25 percent in transportation equipment, and 12 percent in chemicals.⁶

Total foreign employment of the affiliates in the sample in 1970 was equal to one-third of their U.S. employment. Ratios of foreign to U.S. employment were highest in mining, at 81 percent, and in trade and petroleum, each almost 52 percent. The ratio in manufacturing was 34 percent.

Employment of the majority-owned foreign affiliates in the sample increased an average 5.3 percent annually from 1966 to 1970, double the growth rate of employment of the 298 parent companies in the United States. This reflects the much faster expansion in

the foreign operations of the MNC's than in their domestic operations during this period. For instance, the 1970 survey data indicate that plant and equipment expenditures in the United States by the 298 parent companies increased at an average annual rate of about 6 percent from 1966 to 1970, while data from a separate semiannual BEA survey indicate that plant and equipment expenditures abroad by the universe of all foreign affiliates increased at almost twice that rate. (Plant and equipment expenditure data for just the 5,237 majority-owned foreign affiliates in the 1970 survey sample are not available.)

Also contributing to the sharp difference in growth rates between the MNC parent companies and their foreign affiliates was the 1970 business recession in the United States, which had no counterpart in major foreign countries. While MNC data for 1969 are not available, total U.S. employment grew on the average by 2.5 percent annually from 1966 to 1969 and only 1.8 percent annually from 1966 to 1970; in manufacturing the average growth rates were 2 percent annually from 1966 to 1969 and only 0.4 percent from 1966 to 1970.

The 1966-70 growth rate of employment of foreign affiliates exceeded that of U.S. parent companies in nearly all major industries shown in table 1. Industries showing the largest differences were trade, with a 16.2 percent annual growth rate for affiliates compared to only 3.4 percent for U.S. parent companies; transportation equipment, with a 6.7 percent rate abroad and a moderate decline domestically; and primary and fabricated metals, with a 4.6 percent growth rate abroad and only slight growth domestically. The large differences in transportation equipment and metals manufacturing partly reflect the heavy adverse impact of the 1970 recession on domestic employment in durable goods manufacturing. At the opposite extreme, employment of foreign affiliates in petroleum declined about 2 percent annually while that of U.S. parent companies increased 2 percent annually. Employment of foreign mining affiliates also declined. It is not clear how much

of these reductions may have been due to expropriations by foreign governments or selloffs under pressure from foreign governments.

It should be noted that, in foreign countries, as in the United States, the growth in employment of the MNC sample from 1966 to 1970 partly reflected mergers with and acquisitions of other firms after 1966. The data do not indicate how much of the employment increase was attributable to such mergers and acquisitions.

The distribution of employment in the foreign affiliates, classified by major industry of the affiliates, is roughly in line with the distribution of domestic employment in the 298 U.S. parent firms, classified by major industry of the parent (table 3). The proportion of employment in manufacturing is virtually the same for parents and affiliates, both in total and in most of the component manufacturing industries; the proportion of employment in petroleum is greater, and in other non-manufacturing industries smaller, for the foreign affiliates than for the 298 U.S. parent firms, but the differences are not large.

By area, about four-fifths of the employment in the foreign affiliates of the 298 MNC's in 1970 was in developed countries. The major difference in the industrial composition of employment in developed versus developing countries was the greater importance of mining and petroleum in the latter. In 1970, these two industries accounted for 20 percent of the foreign affiliates' employment in developing areas, compared with only 9 percent in developed countries. Manufacturing, on the other hand, accounted for 76 percent of the affiliates' employment in developed countries, compared to 63 percent in developing areas. The share of affiliates' employment in trade was also larger in developed than in developing countries.

The average annual growth of employment in foreign affiliates from 1966 to 1970 was 6.4 percent in developed countries and 1.9 percent in developing countries (table 1). There were sharp declines in petroleum and mining employment in developing nations, and employment of trade affiliates increased

6. A foreign affiliate is assigned to the industry in which its sales are most concentrated, even though it may have establishments operating in other industries. However, the incidence of multi-industry foreign affiliates is probably lower than that of multi-industry U.S. parents, because a much lesser degree of consolidation was permitted on the reporting forms for affiliates. Thus the affiliate data classified by industry are probably somewhat closer to being on an establishment basis than are the parent data. It should be noted that a foreign affiliate may be classified in an industry different from the industry in which its U.S. parent is classified if the largest proportion of its sales is in a different industry. For example, table 1 shows employment in foreign affiliates which are themselves classified in manufacturing; it does not show employment in affiliates which, regardless of their own industry, have U.S. parents classified in manufacturing. If the foreign affiliate employment data were broken down by industry of the U.S. parents, the proportion of affiliate employment in manufacturing would be somewhat higher, the proportion in petroleum virtually unchanged, and the proportion in all other industries lower than shown in table 1. This reflects the fact that U.S. parent companies in manufacturing often have affiliates in the "other industries" category—primarily mining and trade—rather than in manufacturing.

Table 3.—Industry Distribution of Employment of Sample MNC's

Industry	U.S. reporters in 1970 sample survey		Majority-owned foreign affiliates of U.S. reporters					
			All areas		Developed areas		Developing areas	
	1966	1970	1966	1970	1966	1970	1966	1970
All private industry	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Manufacturing.....	73.9	71.6	70.6	72.6	78.4	76.0	49.6	63.2
Food products.....	2.9	2.9	4.9	4.7	4.6	4.4	6.2	6.0
Chemicals and allied products.....	8.3	8.2	9.1	8.4	8.6	7.6	11.0	11.7
Primary and fabricated metals.....	8.9	8.2	3.6	3.5	3.7	3.4	3.3	3.6
Machinery.....	20.3	21.0	23.0	24.6	27.0	26.7	11.5	17.9
Transportation equipment.....	21.1	17.7	17.5	18.4	21.3	20.6	6.5	11.1
Other.....	12.3	13.5	12.6	13.0	13.2	13.1	11.0	12.8
Petroleum.....	6.0	5.9	12.3	9.1	8.8	6.9	20.7	15.1
Other industries.....	20.1	22.5	17.0	18.2	12.7	17.2	30.0	21.6
Mining.....	(D)	1.0	3.3	2.5	1.6	2.0	8.5	4.5
Trade.....	6.5	6.6	7.0	10.4	6.8	11.0	7.7	8.3
Other.....	(D)	14.8	6.8	5.4	4.4	4.3	13.7	9.0

^D Suppressed to avoid disclosure of data for individual reporters.

NOTE.—Calculated from data in table 1. Details may not add to totals because of rounding.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division.

only 4 percent per year in those nations compared to 20 percent per year in developed countries. On the other hand, employment in manufacturing affiliates grew 8.3 percent annually in the developing countries, compared to 5.5 percent in the developed areas. The growth of manufacturing employment in developing countries was especially strong in machinery and transportation equipment.

In most major foreign countries where the 298 MNC's were operating, employment in the foreign affiliates grew faster than total employment (including both government and private) in the same country (table 5). In the 6-nation European Economic Community, as it was constituted prior to 1973, total employment increased at an annual rate of 0.4 percent from 1966 to 1970 compared with a 6.7 percent rate for the MNC affiliates in those countries. Employment gains for the MNC affiliates were large everywhere in the EEC, but particularly in Belgium and the Netherlands. The very slow average employment rise in the EEC appears to be due mainly to tight supplies of labor—unemployment has been very low for much of the postwar period—combined with slow population growth. The surprisingly sharp gains of employment in MNC foreign affiliates in the face of tight labor supplies probably reflects the fact that the MNC's were situated in the most rapidly growing industries. In addition, some part of the expansion in foreign affiliates was probably due to acquisitions of existing firms as opposed to internal expansion, although data on this point are lacking.

In Europe outside the 6-nation EEC, employment growth of the affiliates was even faster—9.6 percent annually—while total employment remained virtually unchanged. In Australia and Japan, among the other major developed countries examined, employment of affiliates grew about 6 percent per year, compared with growth rates of only 2.9 and 1.5 percent a year, respectively, for total employment.

In manufacturing, the increase in employment of the affiliates from 1966 to 1970 was very rapid in every major European nation, ranging from 4.9

Table 4.—Employment and Payroll Costs Per Employee of MNC's in Sample, by Area¹

Line	Area and industry	Employment			Payroll costs per employee ²		
		1966	1970	Average annual rate of growth, 1966-70	1966	1970	Average annual rate of growth, 1966-70
		(Dollars)		(Percent)	(Dollars)		(Percent)
	All industries:						
1	United States.....	7,968	8,851	2.7	7,750	9,620	5.5
2	All foreign areas ³	2,412	2,970	5.3	3,920	4,900	5.7
3	Developed areas.....	1,797	2,300	6.4	4,230	5,350	6.0
4	Canada.....	440	474	1.9	6,000	7,990	7.4
5	United Kingdom.....	420	587	8.7	3,460	3,760	2.2
6	European Economic Community						
7	Six.....	593	770	6.7	4,030	5,440	7.8
8	Other Europe.....	134	214	12.4	3,610	4,460	5.4
9	Japan.....	39	49	5.9	2,690	4,290	12.3
10	Australia, New Zealand, South						
11	Africa.....	171	206	4.8	3,170	4,580	9.6
12	Developing areas.....	599	647	1.9	2,950	3,250	2.5
13	Latin America.....	423	452	1.7	3,080	3,630	4.2
14	Other.....	177	196	2.6	2,630	2,370	-2.6
	Manufacturing:⁴						
15	United States.....	5,885	6,335	1.9	5,290	10,300	5.6
16	All foreign areas ³	1,704	2,156	6.1	3,820	4,820	6.0
17	Developed areas.....	1,408	1,747	5.5	4,120	5,290	6.5
18	Canada.....	329	319	-0.8	6,030	8,460	8.8
19	United Kingdom.....	367	444	4.9	3,410	3,940	3.7
20	European Economic Community						
21	Six.....	475	651	8.2	3,950	5,320	7.7
22	Other Europe.....	79	145	16.4	3,030	3,680	5.0
23	Japan.....	33	37	2.9	2,520	4,160	13.4
24	Australia, New Zealand, South						
25	Africa.....	125	151	4.8	2,900	4,240	10.0
26	Developing areas.....	297	409	8.3	2,400	2,810	4.0
27	Latin America.....	249	319	6.4	2,600	3,240	5.6
28	Other.....	48	90	17.0	1,350	1,290	-1.2

1. Employment of U.S. parent is from basic data table 1, line 22, and employment of foreign affiliates is from basic data table set 3, line 23, in the *Special Survey of U.S. Multinational Companies, 1970*. Average payroll costs of MNC's were calculated using these employment data and data on total payroll costs as shown in basic data table 1, line 23, for U.S. parents and basic data table set 3, line 24, for foreign affiliates, in the *Special Survey*.

2. Data on average payroll costs were rounded because the last digit of each figure was not significant.

3. Data for affiliates classified as international are included in figures for all foreign areas but excluded from figures for developed and developing areas.

4. U.S. reporters are classified by major industry of the consolidated U.S. enterprise; foreign affiliates are classified by industry of the foreign affiliate.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division.

percent per year in the United Kingdom to 10.1 percent in Belgium and 16.6 percent in the Netherlands (table 6). These growth rates were substantially

higher than those for each country's total manufacturing employment. This was also true in Australia, where employment of the manufacturing affiliates

Table 5.—Total Employment and Employment of Foreign Affiliates in Sample, Selected Countries, 1966 and 1970

Area	Total employment		Employment of foreign affiliates		Percent of foreign affiliates in total		Average annual rate of growth 1966-70	
	1966	1970	1966	1970	1966	1970	Total	Foreign affiliates
	(Thousands)				(Percent)			
EEC Six, total	73,062	74,278	593	770	0.8	1.0	0.4	6.7
Belgium.....	3,623	3,734	57	81	1.6	2.2	.8	9.2
France.....	19,684	20,410	145	178	.7	.9	.9	5.3
Germany.....	26,601	26,705	273	351	1.0	1.3	.1	6.5
Netherlands.....	4,413	4,567	33	52	.7	1.1	.9	12.0
Other EEC.....	18,741	18,862	85	108	.5	.6	.2	6.2
Other Europe, total	60,879	60,915	554	800	.9	1.3	(1)	9.6
United Kingdom.....	25,476	24,709	420	587	1.6	2.4	-.8	8.7
Selected major non-European developed countries:								
Australia.....	4,761	5,329	114	144	2.4	2.7	2.9	6.0
Canada.....	7,152	7,879	440	474	6.2	6.0	2.4	1.9
New Zealand.....	1,014	1,077	10	10	1.0	.9	1.5	0
Japan.....	47,210	50,150	39	49	.1	.1	1.5	5.9

1. Less than 0.05 percent. (±)

Sources: Employment estimates for individual countries are unpublished data furnished by U.S. Department of Labor, Bureau of Labor Statistics, Office of Productivity, Division of Foreign Labor Statistics and Trade. Employment data for foreign affiliates by country are unpublished data from U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division.

Table 6.—Total Manufacturing Employment and Employment of Manufacturing Foreign Affiliates in Sample, Selected Countries, 1966 and 1970

Area	Total manufacturing employment		Employment of manufacturing foreign affiliates		Percent of foreign affiliates in total		Average annual rate of growth, 1966-70	
	1966	1970	1966	1970	1966	1970	Total	Foreign affiliates
	(Thousands)				(Percent)			
EEC Six, total	23,811	24,746	475	651	2.0	2.6	1.0	8.2
Belgium.....	1,272	1,276	47	69	3.7	5.4	.1	10.1
France.....	5,433	5,551	118	148	2.2	2.7	.5	5.8
Germany.....	10,255	10,603	221	306	2.2	2.9	.8	8.5
Netherlands.....	1,326	1,318	20	37	1.5	2.8	-.2	16.6
Other EEC.....	5,525	5,998	68	91	1.2	1.5	2.1	7.6
Other Europe, total	19,119	19,096	446	590	2.3	3.1	(1)	7.2
United Kingdom.....	9,283	9,053	367	444	4.0	4.9	-.6	4.9
Selected major non-European developed countries:								
Australia.....	1,307	1,407	89	112	6.8	8.0	1.9	5.9
Canada.....	1,744	1,790	329	319	18.9	17.8	.7	-.8
New Zealand.....	278	304	5	5	1.8	1.6	2.3	0
Japan.....	11,730	13,730	33	37	.3	.3	4.0	2.9

1. Less than 0.05 percent. (±)

Sources: Employment estimates for individual countries are unpublished data furnished by U.S. Department of Labor, Bureau of Labor Statistics, Office of Productivity, Division of Foreign Labor Statistics and Trade. Employment data for foreign affiliates by country are unpublished data from U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division.

Table 7.—Payroll Costs Per Employee: Foreign Affiliates As a Percent of U.S. Parent Companies¹

	All foreign areas		Developed areas		Developing areas	
	1966	1970	1966	1970	1966	1970
All private industry	50.6	50.9	54.6	55.6	38.1	33.8
Manufacturing.....	46.1	46.8	49.7	51.4	29.0	27.3
Food products.....	47.6	46.3	55.8	53.3	30.1	27.9
Chemicals and allied products.....	43.6	47.4	49.5	54.2	29.8	31.9
Primary and fabricated metals.....	42.3	42.6	48.0	49.2	20.8	22.0
Machinery.....	45.6	45.3	48.6	49.5	25.1	22.7
Transportation equipment.....	48.3	47.2	49.3	49.6	38.7	31.6
Other.....	48.9	50.7	53.7	56.6	31.9	29.6
Petroleum.....	58.2	60.6	59.2	66.1	58.2	52.1
Other industries.....	63.3	61.5	78.7	68.4	43.4	40.6
Mining.....	(D)	54.1	(D)	70.2	(D)	29.1
Trade.....	79.2	61.4	87.6	64.4	54.2	44.6
Other.....	(D)	66.9	(D)	82.2	(D)	40.0

(D) Suppressed to avoid disclosure of data for individual reporters.

1. Average payroll costs of foreign affiliates are classified by industry of foreign affiliate; average payroll costs of U.S. parents are classified by industry of consolidated domestic enterprise.

NOTE.—Percents are calculated from data in table 2.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division.

grew at an annual rate of 5.9 percent, triple the growth rate for total Australian manufacturing. However, in most other major developed countries outside Europe, the growth rate of employment in manufacturing affiliates fell short of the corresponding national rate of increase. In Canada, employment of the manufacturing affiliates actually declined from 1966 to 1970 while total manufacturing employment expanded moderately.

Of the major developed countries examined, Canada had the heaviest concentration of employment by the foreign affiliates in the sample. Approximately 6 percent of total Canadian employment in 1970 was accounted for by these foreign affiliates. The figure was nearly 3 percent for Australia and about 1 percent both in the 6-nation EEC and in other Europe. It should be noted that the percentages cited here reflect only the majority-owned foreign affiliates of the 298 MNC's in the sample; the percentages could be considerably larger—perhaps as much as double in Canada and one-third higher in Europe—for the universe of all foreign affiliates.

The foreign affiliates of the 298 MNC's accounted for a considerably larger share of manufacturing employment than of total employment in every major country examined. The highest proportion was in Canada, where in 1970 nearly 18 percent of the manufacturing workers were employed by foreign affiliates in the MNC sample. The proportion was 8 percent in Australia and almost 5 percent in the United Kingdom and Belgium. The proportion in Japan was only 0.3 percent, mostly due to Japanese restrictions on entry by foreign firms. Again, these percentages reflect only the foreign affiliates in the sample and could be substantially higher for the universe of all foreign affiliates.

Payroll Costs of Foreign Affiliates

Payroll costs per employee were substantially lower in the foreign affiliates than in the 298 U.S. parents for every major industry and every major foreign area (tables 2 and 4). Payroll costs per employee of affiliates in Canada were

the closest to those of the U.S. parent companies, but even here the gap was sizable. These differences are basically due to the generally lower wage levels in foreign countries, although in individual cases they may also reflect differences in the mix of high-wage versus low-wage industries in the averages. Another factor may be the greater proportion of higher-salaried executives employed by MNC's domestically than abroad. On the average, payroll costs per employee in 1970 were about half as large for the foreign affiliates as for the 298 U.S. parent firms, not only for the all-industry total but also for all manufacturing and for the component manufacturing industries (table 7). Outside of manufacturing, payroll costs per employee of the foreign affiliates averaged 61 percent of the level of parent firms in the same industry, with mining at 54 percent, petroleum and trade each at 61 percent, and other industries at 67 percent.

In interpreting the payroll cost data used here and elsewhere in this article, it must be kept in mind that lower (or higher) payroll costs per employee do not of themselves mean lower (or higher) labor costs per unit of output. Unit labor costs also depend on output per man-hour, and such data are not available at this time.

In developed countries, payroll costs per employee of the foreign affiliates were substantially higher, and thus closer to the average in U.S. parent firms, than in developing countries. Payroll costs per employee of foreign affiliates in developed countries averaged 56 percent of the level for U.S. parent firms in 1970, while in developing areas the figure was only 34 percent. In manufacturing, payroll costs per employee of affiliates in developed countries were 50 percent of the level for U.S. parent manufacturing firms, compared with 27 percent in developing countries. The smallest difference in payroll costs as between the developed and the developing countries was in the petroleum industry; in both groups of countries, affiliates in the petroleum industry had higher payroll costs per employee than in any other industry.

Payroll costs per employee of the foreign affiliates increased from 1966 to

1970 at an annual rate of 5.7 percent, virtually the same as the increase for the 298 U.S. parent firms and for all private U.S. industry (tables 2 and 4). Rates of increase varied substantially among major areas, but this may have partly reflected differences in industry mix. One surprising development was the actual decline of payroll costs per employee of affiliates in trade in the developed countries (table 2). This decline may have resulted from a proportionately larger expansion in retail operations, where wages are relatively low, than in wholesale operations in these countries. Although separate employment data for retail trade are not now available, employment in trade as a whole more than doubled from 1966 to 1970.

Available evidence indicates that payroll costs per employee of affiliates in manufacturing were significantly above the all-manufacturing averages

in the same foreign country. While data problems may be especially serious here, the Bureau of Labor Statistics⁷ was able to compile roughly comparable figures on compensation per employee in manufacturing for selected foreign countries. Comparison of these data with the BEA sample data indicates that in 1970, for example, foreign affiliates in manufacturing paid approximately \$700 more per employee in the United Kingdom, \$1,200 more in Canada, \$1,000 more in Germany, \$800 more in France, \$1,300 more in Italy, and \$1,700 more in Japan than the average for all manufacturing firms in the country. However, these comparisons may be considerably affected by differences in the industry mix of the foreign affiliates as compared with the nation as a whole.

7. U.S. Department of Labor, Bureau of Labor Statistics, Office of Productivity, Division of Foreign Labor Statistics and Trade.

Appendix

On an industry-by-industry basis, the domestic employment data for the 298 MNC's in the sample are not strictly comparable to the data for all U.S. firms because of unavoidable differences in industry classification between the two data sets. As indicated earlier, the domestic data for the MNC's are classified in the major industry of the entire consolidated U.S. enterprise, while the all-U.S. firm data are broken down by the industry of each individual establishment within the enterprise.

There is no direct way to determine the magnitude of the classification problems in the domestic employment data. However, rough estimates of the magnitude can be obtained

Table 8.—U.S. Reporters' Domestic Sales by Industry: Percentage in Dominant Industry and in Other Industries¹
(Percent)

Industry	Sales in dominant industry	Sales in other specified industries	Sales in unspecified industries
Total	92.5	0	7.5
Manufacturing.....	85.5	4.7	9.8
Food products.....	78.4	12.5	9.1
Chemicals and allied products.....	62.3	27.0	10.7
Primary and fabricated metals.....	76.2	12.4	11.4
Machinery.....	62.9	23.1	14.0
Transportation equipment.....	82.2	12.6	5.2
Other.....	70.0	20.1	9.9
Petroleum.....	85.6	12.0	2.4
Other industries, total..	87.1	9.8	3.1
Mining.....	55.7	35.0	6.3
Trade.....	88.3	9.7	2.0
Other.....	83.4	13.1	3.5

1. Based on unpublished data from the 1970 special survey.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division.

indirectly by taking sales data broken down by product, which was supplied by the 298 parent firms in the special survey, and then manipulating them to obtain estimates of employment broken down by product, using the procedure described below.

In the 1970 special survey, U.S. parent firms were asked to list their major products and to indicate the percent of their total sales in each product class. They were asked to account for at least 75 percent of their total sales in this way. Thus, a rough regrouping of sales—and then of employment, based on the regrouping of sales—by product becomes possible. The resulting employment figures by product class for the MNC's are then roughly comparable in terms of industry classification to the all-U.S. figures which are based on establishment reporting.

The steps for estimating employment from sales data were as follows:

1. For each MNC parent company, the sales total was distributed among the major industries shown in table 1, using the figures on percent of sales by product class reported by the firm.

2. The redistributed sales figures for each firm were then added up by industry, to give new industry sales totals. Since companies were not asked to classify more than 75 percent of their sales by industry, these totals necessarily omitted the portion of sales not classified. Table 8 shows the percentage of sales which were in the dominant MNC industry, the percentage of sales actually in other industries, and the percentage not specified by industry.

3. Average sales per employee by industry were computed, using the original MNC data on sales and employment. When these were compared with the amount of shipments per employee for the same industries from the Census Bureau's Annual Survey of Manufactures, they agreed very closely in nearly all cases.

4. The total of sales actually specified for each industry, as redistributed in step (2), were divided by the sales per employee from step (3), in order to obtain new estimates of employment redistributed by product class.

5. Because of the mechanics of the reweighting process, and because only those sales specified by industry could be

used, the new employment estimates by industry differed from the actual total of employment for all reporting MNC parent firms, which was 8,851,000 as shown in table 1. Therefore, it was necessary to "force" the new industry employment figures to equal this actual employment total. This was done by computing the percentage distribution of the new employment estimates by industry (using their own total) and applying this distribution to the 8,851,000 employment total. One effect of this step was to distribute the unspecified portion of sales (and hence of employment) in the same way as the specified portion.

Table 9 shows the end results of this estimating procedure. The first two columns show the effect of the redistribution of sales. In the redistribution process, a given industry both gained sales from, and lost sales to, other industries. In table 9, the losses and gains in each industry tend to balance out, and the revised distribution of sales does not differ markedly from the original distribution.

Table 9 also shows employment by industry as originally calculated and after the redistribution process. The differences in the original and redistributed employment are fairly large—both absolutely and in percentage terms—in machinery and in the miscellaneous "other" category. In most other industries, however, the differences are relatively small. None of the differences are large enough to upset the major conclusion that employment was growing faster in the MNC's than in the United States as a whole in nearly every industry examined.

It should be emphasized that the procedure described here is very rough, but does give an approximate idea of the magnitude of the differences resulting from use of the enterprise as against the establishment system of classification.

It should be noted that the mere fact that a given MNC industry included a large number of establishments (and hence employment) actually engaged in other industries is not in

Table 9.—U.S. Reporters' Domestic Sales and Employment by Industry in 1970, as Originally Reported and as Redistributed

Industry	Sales		Employment			
	Original	Redistributed ¹	Original		Redistributed ²	
	(Percent)	(Percent)	(Percent)	(Number)	(Percent)	(Number)
Total	100.0	100.0	100.0	8,851	100.0	8,851
Manufacturing	67.1	64.7	71.6	6,335	67.5	5,963
Food products.....	4.5	6.0	2.9	260	3.9	345
Chemicals and allied products.....	9.1	8.1	8.2	725	7.3	643
Primary and fabricated metals.....	7.3	7.9	8.2	724	8.9	785
Machinery.....	15.7	12.9	21.0	1,860	17.2	1,521
Transportation equipment.....	18.1	17.7	17.7	1,568	17.2	1,518
Other.....	12.5	12.1	13.5	1,198	13.0	1,151
Petroleum	15.4	14.6	5.9	522	5.6	493
Other industries	17.5	20.6	22.5	1,994	27.0	2,395
Mining.....	1.1	1.0	1.0	91	.9	80
Trade.....	7.2	7.7	6.7	589	7.1	624
Other.....	9.2	11.9	14.8	1,314	19.1	1,691

1. Redistributed according to percent of sales by industry supplied by reporting companies.

2. Obtained by dividing sales by employment in the original data to get sales per employee, and then sales per employee into the redistributed estimates of sales to get redistributed employment estimates.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division.

itself evidence of substantial bias in its employment trends. The degree of bias would depend, not simply on the amount of employment in establishments engaged in other industries, but also on the degree of difference in trend between these

other industries and the dominant industry in which the MNC firms are classified. If the dominant industry and these "other" industries were expanding their employment at the same rate there would be no bias.

(Continued from page 18)

The Mississippi River floods had their largest direct impact on personal income through losses of residential property and of plant and equipment and inventory of business proprietors, mainly farmers. The write-offs of these losses in the second quarter of 1973 are currently estimated by the Bureau of Economic Analysis at nearly \$0.4 billion at an annual rate. The largest flood-related losses in rental income and in farm proprietors' income were in Mississippi (where rental income dropped nearly 20 percent), Missouri, Louisiana, Arkansas, Illinois, Tennessee, and Kentucky. Regionally, these losses had a noticeable impact only in the Southeast.

Apart from flood effects, differences among regions and States in the percentage change in total personal income in the second quarter were mainly the result of regional and State differences in the behavior of three basic income components—manufacturing payrolls (especially in durable goods), construction payrolls, and farm income—and of net rental income. In addition, most regions and States

with large gains in income from basic industries also registered large increases in service-type industries, and vice versa. Table A shows percentage change in total income and in income excluding these components in various combinations. These figures reflect the combined effect of the percent change in a component and of its importance in an area's income structure.

The regions with the largest income gains were the Great Lakes, Rocky Mountain, and Southeast. Construction payrolls rose sharply in each, and manufacturing payrolls in the Southeast and Rocky Mountain regions rose much more than in the Nation. Increases in income from nearly all service-type activities in these regions were greater than the national average. However, in part because of the floods, net rental income and farm income declined somewhat in the Southeast.

The Mideast and Far West had the smallest income gains. Manufacturing and construction payrolls were weak in both regions and the gains in most service-type industries were below the national average. Rental income was off sharply in the Mideast because of

the termination of assistance payments to homeowners for 1972 flood losses.

The States with the largest gains, ranging from 5 to 7¼ percent, were Colorado, Florida, Maine, North Carolina, Oklahoma, and Idaho. Farm income was sharply higher in Florida, Maine, Oklahoma, and Idaho. The rise in manufacturing payrolls was well above the national average in all States except Idaho, and the rise in construction payrolls was strong in all six. In addition, there were large gains in service-type industries in four of the six States; the exceptions were Oklahoma and Idaho.

Personal income declined in the second quarter in Alaska, Wyoming, Mississippi, New Mexico, Montana, Utah, and the District of Columbia, and was little changed in Oregon, Hawaii, and Delaware. Farm income and manufacturing and construction payrolls were weak in seven of these nine States. A decline in Federal payrolls was an important factor in income weakness in the District of Columbia and Alaska; in Alaska, a drop in mining also contributed to the income decline. In most of these areas, there were only small gains or actual losses in income from service-type activities.

Unless otherwise stated in footnotes below, data through 1970 and descriptive notes are as shown in the 1971 edition of BUSINESS STATISTICS	1971	1972	1972					1973								
	Annual	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
CONSTRUCTION AND REAL ESTATE—Continued																
CONSTRUCTION CONTRACTS																
Construction contracts in 50 States (F. W. Dodge Division, McGraw-Hill):																
Valuation, total.....mil. \$..	80,188	* 91,398	* 8,773	8,197	8,225	7,248	6,464	6,795	6,839	8,644	8,814	9,428	9,910	9,228	10,303	
Index (mo. data seas. adj.).....1967=100	145	165	180	187	171	177	163	181	191	193	177	173	183	177	206	
Public ownership.....mil. \$..	23,927	* 24,035	* 2,451	2,017	1,669	1,785	1,650	1,918	1,717	2,046	2,071	2,359	2,995	2,581	2,968	
Private ownership.....do.....	56,261	* 67,325	* 6,323	6,181	6,557	5,462	4,814	4,877	5,122	6,599	6,743	7,069	6,916	6,647	7,335	
By type of building:																
Nonresidential.....do.....	25,590	* 27,151	* 2,433	2,378	2,384	2,184	2,212	2,420	2,229	2,707	2,634	2,629	2,976	2,991	3,241	
Residential.....do.....	34,714	* 45,262	* 4,608	4,135	4,298	3,663	3,120	3,195	3,277	4,643	4,512	4,754	4,612	4,224	4,233	
Non-building construction.....do.....	19,883	* 18,984	* 1,732	1,684	1,544	1,402	1,132	1,180	1,333	1,294	1,668	2,045	2,323	2,013	2,828	
New construction planning (Engineering News-Record) ○.....do.....	65,578	68,001	5,315	4,470	6,489	8,032	7,679	6,102	6,014	7,600	5,710	6,602	4,026	5,070	8,373	
HOUSING STARTS AND PERMITS																
New housing units started:																
Unadjusted:																
Total (private and public).....thous.	2,084.5	2,378.5	231.0	204.4	218.2	187.1	152.7	147.3	139.5	201.1	205.4	234.2	* 203.4	* 203.2	* 197.3	
Inside SMSA's.....do.....	1,518.5	1,732.7	168.2	142.9	158.0	137.1	116.2	113.0	106.1	152.7	154.5	171.7	* 147.5	* 141.6	* 144.4	
Privately owned.....do.....	2,062.2	2,356.6	228.6	203.0	216.5	185.7	150.5	146.6	138.0	200.0	205.0	234.0	* 202.6	* 202.6	* 194.7	
One-family structures.....do.....	1,161.0	1,309.2	131.3	120.5	117.0	97.4	73.2	77.1	73.6	105.1	120.5	131.6	* 114.8	* 114.7	* 105.8	
Seasonally adjusted at annual rates:†																
Total privately owned.....do.....			2,424	2,426	2,446	2,395	2,369	2,497	2,456	2,260	2,123	2,413	* 2,128	* 2,191	* 2,066	
One-family structures.....do.....			1,373	1,382	1,315	1,324	1,207	1,450	1,372	1,245	1,202	1,271	* 1,124	* 1,247	* 1,116	
New private housing units authorized by building permits (14,000 permit-issuing places):																
Monthly data are seas. adj. at annual rates:																
Total.....thous.	* 1,952	* 2,219	* 2,281	* 2,366	* 2,318	* 2,226	2,399	2,233	2,201	2,129	* 1,939	1,838	2,030	1,780	* 1,750	
One-family structures.....do.....	* 923	* 1,033	* 1,065	* 1,029	* 1,138	* 1,013	1,001	1,032	1,079	1,022	* 945	954	934	904	805	
Manufacturers' shipments of mobile homes:																
Unadjusted.....do.....	496.6	575.9	52.1	49.1	54.4	50.7	38.0	40.7	42.9	57.0	61.6	57.3	57.3	50.3	53.7	
Seasonally adjusted at annual rates.....do.....			537	497	551	670	610	648	642	737	680	661	616	569	546	
CONSTRUCTION COST INDEXES																
Dept. of Commerce composite.....1967=100	130	139	139	140	142	143	144	144	145	147	* 149	* 150	* 151	* 152	153	
American Appraisal Co., The:																
Average, 30 cities.....1913=100	1,268	1,369	1,379	1,383	1,399	1,405	1,407	1,426	1,464	1,496	1,512	1,517	1,522			
Atlanta.....do.....	1,411	1,563	1,577	1,581	1,588	1,590	1,592	1,670	1,696	1,728	1,752	1,752	1,753			
New York.....do.....	1,359	1,436	1,440	1,440	1,441	1,443	1,443	1,456	1,513	1,569	1,584	1,581	1,582			
San Francisco.....do.....	1,174	1,285	1,315	1,319	1,319	1,319	1,319	1,349	1,406	1,434	1,437	1,440	1,497			
St. Louis.....do.....	1,219	1,286	1,286	1,286	1,318	1,320	1,320	1,335	1,372	1,413	1,430	1,441	1,441			
Associated General Contractors of America, Inc., The (the building only) ♂.....1967=100																
Boeckh indexes:																
Average, 20 cities:																
Apartments, hotels, office buildings.....1967=100	135.0	145.4		147.5		148.3		148.6		151.6		153.7		154.5	157.8	
Commercial and factory buildings.....do.....	133.9	144.8		146.9		147.9		148.3		152.6		155.1		155.3	157.7	
Residences.....do.....	132.8	145.8		148.6		149.5		149.8		156.3		160.1		160.7	163.9	
Engineering News-Record:																
Building.....1967=100	140.5	155.2	156.4	157.9	158.4	160.1	161.4	163.2	164.9	167.3	168.0	168.9	168.5	168.3	169.4	
Construction.....do.....	146.7	163.0	165.4	166.2	167.0	168.3	169.0	171.1	172.2	173.7	174.4	175.0	176.5	177.0	179.7	
Federal Highway Adm.—Highway construction: Composite (avg. for year or qtr.).....1967=100	131.7	138.2		141.2			144.4			137.8			145.9			
CONSTRUCTION MATERIALS																
Output index:																
Composite, unadjusted ♀.....1947-49=100	175.7	189.7	213.4	195.1	207.8	185.4	167.8	170.5	169.5	199.7	193.8	209.0				
Seasonally adjusted.....do.....			195.7	191.0	187.0	193.7	180.3	180.9	193.0	207.0	189.5	192.0				
Iron and steel products, unadjusted.....do.....	163.8	175.0	197.3	183.7	193.2	175.8	156.7	168.1	168.5	206.2	192.4	208.2				
Lumber and wood products, unadj.....do.....	182.7	193.9	208.5	194.8	211.7	192.0	163.4	190.6	186.9	213.0	202.8	210.1	196.9			
Portland cement, unadjusted.....do.....	209.0	219.3	304.5	264.2	275.4	198.6	144.2	143.3	148.5	201.0	* 217.1	277.9	282.2			
REAL ESTATE †																
Mortgage applications for new home construction:																
FHA net applications.....thous. units	366.8	225.2	19.5	14.0	12.3	12.6	9.7	9.4	8.2	9.2	6.3	8.4	9.1	7.4	6.6	
Seasonally adjusted annual rates.....do.....			207	166	147	162	131	124	100	93	68	89	103	93	70	
Requests for VA appraisals.....do.....	217.9	209.2	19.2	15.9	15.7	16.4	12.0	15.5	15.3	18.4	15.9	15.1	14.9	12.4	* 13.5	
Seasonally adjusted annual rates.....do.....			202	192	189	207	194	222	217	201	169	161	166	135	* 143	
Home mortgages insured or guaranteed by—																
Fed. Hous. Adm.: Face amount.....mil. \$.	10,374.54	8,067.06	750.10	585.28	598.00	592.11	435.11	577.47	396.44	462.88	374.25	385.90	381.62	393.05	295.11	
Vet. Adm.: Face amount\$.....do.....	6,066.83	8,419.86	771.98	758.57	737.74	791.77	731.77	687.68	630.43	599.05	618.02	655.67	650.60	665.86	560.30	
Federal Home Loan Banks, outstanding advances to member institutions, end of period.....mil. \$.	7,936	7,979	6,295	6,736	7,045	7,245	7,979	7,831	7,944	8,420	9,429	10,156	11,142	12,365	13,511	
New mortgage loans of all savings and loan associations, estimated total.....mil. \$.	39,485	51,405	5,379	4,689	4,522	4,393	4,591	3,702	3,710	4,990	4,989	5,477	5,738	* 5,059	4,791	
By purpose of loan:																
Home construction.....do.....	6,835	8,553	803	739	761	714	667	590	614	887	886	931	903	* 851	801	
Home purchase.....do.....	18,810	26,615	3,087	2,587	2,423	2,307	2,167	1,970	2,019	2,685	2,762	3,141	3,469	* 3,079	3,059	
All other purposes.....do.....	13,840	16,240	1,489	1,363	1,338	1,372	1,757	1,142	1,077	1,418	1,341	1,405	1,366	* 1,129	1,111	
Foreclosures.....number.....	116,704	132,335	11,124	10,735	10,834	10,857	10,382	11,755	18,458	12,222	11,718	12,719	11,509			
Fire losses (on bldgs., contents, etc.) †.....mil. \$.	2,316	2,304	184	178	182	164	194	218	213	218	229	224	223	218	221	

† Revised. ‡ Preliminary. § Computed from cumulative valuation total. ¶ Index as of Oct. 1, 1973; Building, 172.3; construction, 180.0. ○ Data for Aug. and Nov. 1972 and Mar., May, and Aug. 1973 are for 5 weeks; other months, 4 weeks. ♀ Includes data for items not shown separately. ♂ Data include guaranteed direct loans sold. ♀ New base; com-

parable data for earlier periods will be shown later. ¶ Home mortgage rates (conventional 1st mortgage) are under money and interest rates on p. S-17. † Beginning Jan. 1970, data include estimates for uninsured fire losses and are not comparable with those for earlier periods. Revised monthly data back to 1970 are available upon request.

Unless otherwise stated in footnote below, data through 1970 and descriptive notes are as shown in the 1971 edition of BUSINESS STATISTICS

Table with columns for years 1971, 1972, and 1973. 1972 and 1973 are split into months (Annual, Aug, Sept, Oct, Nov, Dec, Jan, Feb, Mar, Apr, May, June, July, Aug, Sept).

FINANCE-Continued

CONSUMER CREDIT -Continued

Main table section for Consumer Credit. Rows include Outstanding credit (Noninstallment, Single-payment, Commercial banks), Charge accounts, Installment credit extended and repaid (Unadjusted, Repaid, Seasonally adjusted).

FEDERAL GOVERNMENT FINANCE

Main table section for Federal Government Finance. Rows include Budget receipts and outlays, Budget surplus or deficit, Budget financing, Gross amount of debt outstanding, Budget receipts by source and outlays by agency.

Table section for Receipts and expenditures (national income and product accounts basis), qtrly. totals seas. adj. at annual rates. Rows include Federal Government receipts and expenditures, Federal Government expenditures.

LIFE INSURANCE

Table section for Institute of Life Insurance. Rows include Assets, total, all U.S. life insurance cos.; Government securities; Corporate securities; Mortgage loans; Real estate; Policy loans and premium notes; Cash; Other assets.

* Revised. # Preliminary. c Corrected. See similar note on p. S-17. Data shown in 1971 and 1972 annual columns are for fiscal years ending June 30 of the respective years; they include revisions not distributed to months. Includes data for items not shown separately.

Unless otherwise stated in footnotes below, data through 1970 and descriptive notes are as shown in the 1971 edition of BUSINESS STATISTICS	1971	1972	1972					1973								
	Annual		Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.

FINANCE—Continued

LIFE INSURANCE—Continued																
Institute of Life Insurance—Continued																
Payments to policyholders and beneficiaries in U.S., total.....mil. \$.																
	17,177.2	18,574.1														
Death benefits.....do.																
	7,423.3	8,007.0														
Matured endowments.....do.																
	990.2	1,000.4														
Disability payments.....do.																
	266.8	271.2														
Annuity payments.....do.																
	1,944.4	2,213.2														
Surrender values.....do.																
	2,881.6	3,027.4														
Policy dividends.....do.																
	3,680.9	4,054.9														
Life Insurance Agency Management Association:																
Insurance written (new paid-for insurance):†																
Value, estimated total.....mil. \$.																
	189,484	208,497	16,726	16,544	17,371	17,531	23,526	15,285	16,265	20,604	18,793	19,244	19,680	18,861	18,984	
Ordinary (incl. mass-marketed ord.).....do.																
	132,803	146,116	12,145	11,218	12,686	12,855	13,838	11,316	12,048	14,905	13,733	14,362	13,858	13,115	13,555	
Group.....do.																
	49,407	55,054	4,024	4,788	4,118	4,116	9,181	3,443	3,691	5,077	4,458	4,274	5,242	5,204	4,851	
Industrial.....do.																
	7,274	7,327	557	538	567	560	507	526	526	622	602	608	580	542	578	
MONETARY STATISTICS																
Gold and silver:																
Gold:																
Monetary stock, U.S. (end of period).....mil. \$.																
	10,132	10,410	10,410	10,410	10,410	10,410	10,410	10,410	10,410	10,410	10,410	10,410	10,410	10,410	10,410	10,410
Net release from earmark\$.....do.																
	-889	-1,715	12	-1	0	1	0	4	4	3	6	2	25	22	9	
Exports.....thous. \$.																
	51,249	63,053	16,339	4,705	4,257	983	3,322	2,786	2,015	2,405	2,899	3,056	21,503	24,958	4,012	
Imports.....do.																
	283,948	357,689	52,656	31,502	29,216	44,535	42,212	19,745	32,487	27,526	41,127	33,070	34,990	27,134	17,061	
Production:																
South Africa.....mil. \$.																
	1,098.7	1,109.8	94.1	93.9	94.2	91.5	84.3	88.2	86.5	88.5	86.6	86.0	87.6	88.3		
Canada.....do.																
	77.3	77.2	5.9	6.3	6.3	6.0	6.3	6.2	6.1	6.3	6.2	6.8	6.4	5.6		
United States.....do.																
Silver:																
Exports.....thous. \$.																
	19,499	31,592	9,040	774	1,515	1,640	2,331	616	436	1,960	856	1,718	876	5,627	4,563	
Imports.....do.																
	49,507	59,357	2,963	5,431	5,911	5,735	4,765	8,287	6,993	8,664	6,838	7,490	15,231	32,988	27,569	
Price at New York.....dol. per fine oz.																
	1.546	1.685	1.846	1.777	1.811	1.832	1.976	2.017	2.236	2.309	2.207	2.401	2.621	2.706	2.636	2.675
Production:																
Canada.....thous. fine oz.†																
Mexico.....do.																
United States.....do.																
	41,030	39,727	3,244	3,697	2,865	2,420	3,212	3,275	3,629	2,953	4,615	4,118	3,036	2,089	3,385	
Currency in circulation (end of period).....bil. \$.																
	61.1	66.5	62.7	62.6	63.6	65.1	66.5	64.3	64.7	65.2	66.1	67.2	67.8	68.2	68.4	
Money supply and related data (avg. of daily fig.):⊕																
Unadjusted for seasonal variation:																
Total money supply.....bil. \$.																
	231.2	246.2	245.5	248.7	251.2	254.3	262.9	262.6	254.0	254.1	259.5	256.0	261.2	263.2	260.7	262.1
Currency outside banks.....do.																
	51.1	54.6	55.1	55.2	55.7	56.7	57.8	56.7	56.7	57.3	58.2	58.7	59.4	59.9	60.0	60.0
Demand deposits.....do.																
	180.1	191.6	190.5	193.5	195.5	197.7	205.0	205.9	197.3	196.7	201.5	197.3	201.8	203.2	200.8	202.1
Time deposits adjusted†.....do.																
	254.0	293.4	299.5	302.7	305.9	307.7	311.7	316.6	322.5	331.4	336.1	340.9	342.7	345.8	354.7	357.2
U.S. Government demand deposits†.....do.																
	6.5	7.3	5.3	5.9	6.6	6.2	7.3	8.0	9.6	10.1	8.2	8.4	6.9	6.3	4.0	5.1
Adjusted for seasonal variation:																
Total money supply.....do.																
		248.6	250.1	251.6	252.7	255.5	255.4	256.7	256.6	258.2	260.5	263.2	264.3	263.9	263.6	
Currency outside banks.....do.																
		54.8	55.3	55.7	56.2	56.8	57.0	57.5	57.9	58.7	59.0	59.4	59.5	59.7	60.1	
Demand deposits.....do.																
		193.8	194.8	195.9	196.5	198.7	198.4	199.3	198.7	199.5	201.6	203.9	204.9	204.2	203.5	
Time deposits adjusted†.....do.																
		298.9	301.9	304.8	308.4	312.8	317.0	322.6	330.9	336.7	341.8	344.1	347.7	353.6	355.6	
Turnover of demand deposits except interbank and U.S. Govt., annual rates, seas. adjusted:†																
Total (233 SMSA's)⊙ ratio of debits to deposits.....do.																
		87.6	88.7	86.7	93.5	90.7	94.0	97.8	96.9	95.9	97.7	99.8	102.5	106.2		
New York SMSA's⊙.....do.																
		206.9	214.9	208.3	229.2	215.7	224.0	238.0	228.3	228.9	235.1	245.0	247.5	252.5		
Total 232 SMSA's (except N.Y.).....do.																
		60.2	60.1	59.2	62.1	61.8	64.3	65.9	67.6	66.4	67.2	68.6	71.2	73.7		
6 other leading SMSA's⊙.....do.																
		90.2	89.8	89.2	93.9	95.6	98.5	102.6	104.0	102.3	103.4	107.2	111.5	113.5		
226 other SMSA's.....do.																
		48.8	48.8	47.8	50.0	48.9	51.2	51.9	53.7	52.7	53.5	54.0	55.7	58.5		
PROFITS AND DIVIDENDS (QTRLY.)																
Manufacturing corps. (Fed. Trade and SEC):																
Net profit after taxes, all industries.....mil. \$.																
	31,038	36,467		8,776			10,125			10,506			12,972			
Food and kindred products.....do.																
	2,754	3,021		770			807			766			897			
Textile mill products.....do.																
	558	659		163			196			190			256			
Lumber and wood products (except furniture).....mil. \$.																
	603	1,012		312			234			370			574			
Paper and allied products.....do.																
	501	941		223			279			291			402			
Chemicals and allied products.....do.																
	3,780	4,499		1,149			1,157			1,337			1,473			
Petroleum refining.....do.																
	5,829	5,151		1,296			1,478			1,406			1,690			
Stone, clay, and glass products.....do.																
	853	1,060		355			252			168			376			
Primary nonferrous metal.....do.																
	621	687		145			168			252			363			
Primary iron and steel.....do.																
	748	1,022		208			327			336			458			
Fabricated metal products (except ordnance, machinery, and transport. equip.).....mil. \$.																
	1,070	1,569		437			374			465			608			
Machinery (except electrical).....do.																
	2,489	3,481		916			877			1,091			1,340			
Elec. machinery, equip., and supplies.....do.																
	2,563	2,999		716			956			851			994			
Transportation equipment (except motor vehicles, etc.).....mil. \$.																
	585	780		188			175			223			288			
Motor vehicles and equipment.....do.																
	3,097	3,639		342			1,115			1,393			1,461			
All other manufacturing industries.....do.																
	4,990	5,944		1,555			1,730			1,369			1,811			
Dividends paid (cash), all industries.....do.																
	15,252	16,110		3,570			4,553			4,122			4,263			
Electric utilities, profits after taxes (Federal Reserve).....mil. \$.																
SECURITIES ISSUED																
Securities and Exchange Commission:																
Estimated gross proceeds, total.....mil. \$.																
	106,430	96,481	7,136	5,635	9,505	10,987	8,210	6,523	7,325	9,030	6,567	11,219	7,821			
By type of security:																
Bonds and notes, total.....do.																
	92,289	83,420	6,187	4,566	8,051	9,953	7,440	5,472	6,320	7,213	5,809	10,403	7,011			
Corporate.....do.																
	31,883	28,896	1,945	1,651	2,336	2,343	2,625	1,276	957	2,117	1,739	1,722	2,646			
Common stock.....do.																
	10,459	9,694	743	765	1,033	880	498	913	832	984	558	627	595			
Preferred stock.....do.																
	3,683	3,367	206	305	421	154	272	137	172	833	200	187	216			

† Revised. † Preliminary. † Beginning Jan. 1972 valued \$38 per fine ounce.
 † Or increase in earmarked gold (-). † Effective February 1973 SURVEY, data revised to reflect: Annual review of seasonal factors; regular benchmark adjustment; effect of changes in check collection procedures (Regulation J); and adjustments to include new figures from internationally oriented banking institutions. Monthly revisions back to 1959 are in the Feb. 1973 Federal Reserve Bulletin.
 † At all commercial banks. † Series revised to reflect recalculation of seasonal factors; revisions back to 1964 are shown in the July 1972 Federal Reserve Bulletin, p. 634. † Total SMSA's include some cities and counties not designated as SMSA's. † Includes Boston, Philadelphia, Chicago, Detroit, San Francisco-Oakland, and Los Angeles-Long Beach. † Corrected.

Unless otherwise stated in footnotes below, data through 1970 and descriptive notes are as shown in the 1971 edition of BUSINESS STATISTICS	1971	1972	1972					1973							
	Annual		Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.

FINANCE—Continued

SECURITIES ISSUED—Continued																
Securities and Exchange Commission—Continued																
Estimated gross proceeds—Continued																
By type of issuer:																
Corporate, total ⁹ mil. \$	46,025	41,957	2,893	2,720	3,791	3,377	3,396	2,327	1,962	3,933	2,497	2,537	3,456	-----	-----	
Manufacturing..... do.....	11,645	6,629	452	603	383	476	589	176	213	490	282	399	722	-----	-----	
Extractive (mining)..... do.....	1,261	2,010	255	93	278	338	176	90	68	91	141	109	50	-----	-----	
Public utility..... do.....	11,752	11,357	635	1,247	1,280	794	861	900	596	931	519	765	1,532	-----	-----	
Transportation..... do.....	2,411	3,048	96	61	165	69	238	121	100	103	92	245	183	-----	-----	
Communication..... do.....	5,818	4,817	237	33	371	658	50	33	174	1,008	258	374	332	-----	-----	
Financial and real estate..... do.....	8,662	10,580	823	232	1,074	730	1,165	903	751	1,222	971	581	491	-----	-----	
Noncorporate, total ⁹ do.....	60,406	54,523	4,243	2,915	5,714	7,610	4,814	4,196	5,363	5,096	4,070	8,681	4,365	-----	-----	
U.S. Government..... do.....	17,325	17,080	606	474	2,530	3,590	2,553	1,199	1,603	606	564	3,353	559	-----	-----	
State and municipal..... do.....	24,370	23,028	1,898	1,701	1,970	1,817	1,760	1,889	1,445	2,304	1,688	1,870	2,046	-----	-----	
State and municipal issues (Bond Buyer):																
Long-term..... do.....	24,370	22,941	1,898	1,701	1,970	1,814	1,801	1,887	1,445	2,297	1,688	1,870	2,031	1,992	* 1,474	1,609
Short-term..... do.....	26,281	25,222	1,840	2,475	1,587	2,764	1,640	1,622	1,130	1,638	2,062	2,492	2,517	1,924	* 1,744	2,733
SECURITY MARKETS																
Stock Market Customer Financing*																
Margin credit at brokers and banks, end of month, total..... mil. \$																
At brokers..... do.....	1,653	1,904	9,092	9,091	9,024	9,068	9,045	8,840	8,620	8,344	8,165	7,650	7,287	-----	-----	
At banks..... do.....	15,700	18,180	8,060	8,083	8,081	8,166	8,180	7,975	7,753	7,465	7,293	6,784	6,416	6,243	-----	
Other security credit at banks..... do.....	1,835	1,865	1,032	1,008	943	902	865	865	867	879	872	866	871	-----	-----	
Free credit balances at brokers:																
Margin accounts..... do.....	1,387	1,414	384	380	389	390	414	413	431	442	389	413	396	379	-----	
Cash accounts..... do.....	1,837	1,957	1,733	1,677	1,708	1,828	1,957	1,883	1,770	1,719	1,636	1,564	1,472	1,542	-----	
Bonds																
Prices:																
Standard & Poor's Corporation:																
High grade corporate:																
Composite ¹ dol. per \$100 bond	65.0	65.9	65.8	65.6	65.5	65.9	66.0	66.0	65.5	65.2	64.9	64.7	64.4	63.8	61.0	61.2
Domestic municipal (15 bonds)..... do.....	80.0	84.4	84.2	83.4	85.2	87.1	87.1	86.9	86.1	84.1	85.7	86.1	85.8	83.2	82.2	86.2
U.S. Treasury bonds, taxable ¹ do.....	67.73	68.71	69.55	68.06	68.09	69.87	68.68	65.89	64.09	63.59	64.39	63.43	62.61	60.87	58.71	61.81
Sales:																
Total, excl. U.S. Government bonds (SEC):																
All registered exchanges:																
Market value..... mil. \$	8,803.91	9,515.67	723.49	525.26	676.38	935.61	807.45	841.21	734.02	783.47	781.70	645.90	615.35	604.89	766.20	-----
Face value..... do.....	16,157.90	10,077.35	775.83	580.92	747.69	989.33	866.54	952.20	790.10	869.21	923.56	738.59	725.34	701.33	852.43	-----
New York Stock Exchange:																
Market value..... do.....	8,009.57	8,717.24	669.41	481.76	629.34	886.17	740.76	786.18	692.06	740.12	747.12	606.45	585.14	579.43	744.67	-----
Face value..... do.....	9,680.68	9,168.52	712.97	527.60	692.12	928.53	790.08	837.91	738.43	828.62	810.76	684.98	679.35	663.75	807.02	-----
New York Stock Exchange, exclusive of some stopped sales, face value, total..... mil. \$																
	6,563.82	5,444.12	415.73	309.72	370.69	463.55	417.92	448.44	362.93	392.08	351.32	379.95	335.55	354.44	351.15	355.60
Yields:																
Domestic corporate (Moody's)..... percent.																
By rating:																
Aaa..... do.....	7.39	7.21	7.19	7.22	7.21	7.12	7.08	7.15	7.22	7.29	7.26	7.29	7.37	7.45	7.68	7.63
Aa..... do.....	7.78	7.48	7.43	7.41	7.45	7.39	7.36	7.37	7.47	7.49	7.49	7.55	7.64	7.84	7.86	7.86
A..... do.....	8.03	7.66	7.64	7.64	7.64	7.58	7.50	7.53	7.60	7.66	7.64	7.71	7.86	8.11	8.11	8.11
Baa..... do.....	8.56	8.15	8.19	8.09	8.03	7.99	7.93	7.90	7.97	8.03	8.09	8.06	8.13	8.24	8.53	8.63
By group:																
Industrials..... do.....	7.57	7.35	7.35	7.36	7.36	7.28	7.22	7.27	7.34	7.43	7.43	7.41	7.49	7.59	7.91	7.89
Public utilities..... do.....	8.13	7.74	7.69	7.63	7.63	7.55	7.48	7.51	7.61	7.64	7.64	7.63	7.69	7.81	8.06	8.09
Railroads..... do.....	8.38	7.98	7.99	7.97	7.97	7.95	7.91	7.87	7.92	7.94	7.98	8.01	8.07	8.17	8.32	8.37
Domestic municipal:																
Bond Buyer (20 bonds)..... do.....	5.46	5.25	5.38	5.30	5.04	4.99	5.11	5.16	5.22	5.26	5.10	5.22	5.25	5.59	5.34	5.00
Standard & Poor's Corp. (15 bonds)..... do.....	5.70	5.27	5.29	5.36	5.20	5.03	5.03	5.05	5.12	5.30	5.16	5.12	5.15	5.39	5.47	5.11
U.S. Treasury bonds, taxable ¹ do.....	5.74	5.63	5.54	5.70	5.69	5.50	5.53	5.94	6.14	6.20	6.11	6.22	6.32	6.53	6.81	6.42
Stocks																
Dividend rates, prices, yields, and earnings, common stocks (Moody's):																
Dividends per share, annual rate, composite dollars.....																
Industrials..... do.....	8.81	8.92	8.97	8.97	8.98	9.21	9.22	9.29	9.32	9.34	9.38	9.39	9.41	9.53	9.59	9.62
Public utilities..... do.....	9.50	9.61	9.60	9.60	9.62	9.97	9.97	10.06	10.09	10.10	10.17	10.18	10.19	10.45	10.53	10.58
Railroads..... do.....	4.77	4.87	4.88	4.89	4.89	4.90	4.92	4.95	4.98	4.99	4.99	4.99	5.00	5.01	5.02	5.03
N.Y. banks..... do.....	3.78	3.73	3.78	3.78	3.79	3.83	3.92	3.95	3.96	3.96	4.00	4.00	3.97	3.97	4.06	4.06
Property and casualty insurance cos..... do.....	7.28	7.32	7.31	7.31	7.31	7.31	7.39	7.39	7.39	7.54	7.54	7.54	7.54	7.54	7.54	7.54
Price per share, end of mo., composite..... do.....	10.62	10.99	11.02	11.02	11.02	11.02	11.10	11.38	11.53	11.53	11.53	11.64	12.89	13.20	13.23	11.88
Industrials..... do.....	261.43	290.65	295.79	294.25	295.56	309.50	313.81	311.61	298.69	298.30	286.63	281.78	280.68	289.38	279.26	287.99
Public utilities..... do.....	318.75	362.44	369.60	366.24	365.83	383.21	389.48	388.63	373.23	374.61	358.35	352.21	351.31	363.50	350.38	357.90
Railroads..... do.....	84.16	80.20	78.25	78.48	83.36	86.86	83.61	79.43	77.54	75.20	74.73	74.69	72.89	69.70	67.87	72.38
Yields, composite..... percent.....	85.12	91.00	90.16	85.86	83.85	83.33	91.26	86.38	81.39	84.58	77.95	71.60	71.40	74.55	71.44	77.35
Industrials..... do.....	3.37	3.07	3.03	3.05	3.04	2.98	2.94	2.98	3.12	3.13	3.27	3.33	3.35	3.29	3.43	3.34
Public utilities..... do.....	2.98	2.65	2.60	2.62	2.63	2.60	2.56	2.59	2.70	2.70	2.84	2.89	2.90	2.87	3.01	2.96
Railroads..... do.....	5.67	6.07	6.24	6.23	5.87	5.64	5.58	6.23	6.42	6.64	6.68	6.68	6.86	7.19	7.40	6.95
N.Y. banks..... do.....	4.44	4.10	4.19	4.40	4.52	4.10	4.30	4.57	4.87	4.68	5.13	5.59	5.56	5.33	5.68	5.25
Property and casualty insurance cos..... do.....	4.14	3.35	3.03	3.02	3.05	3.17	3.06	3.07	3.26	3.30	3.49	3.46	3.20	2.91	2.83	2.75
Earnings per share (indust., qtrly. at ann. rate; pub. util. and RR., for 12 mo. ending each qtr.):																
Industrials..... dollars.....	17.55	20.28	-----	17.44	-----	-----	24.42	-----	-----	23.95	-----	-----	27.15	-----	-----	-----
Public utilities..... do.....	7.14	7.73	-----	7.72	-----	-----	7.73	-----	-----	7.78	-----	-----	7.63	-----	-----	-----
Railroads..... do.....	3.93	6.71	-----	5.28	-----	-----	6.71	-----	-----	7.17	-----	-----	7.10	-----	-----	-----

* Revised. ¹ Preliminary. ² End of year. ³ New series; more detailed information appears in the February 1972 Federal Reserve Bulletin.
⁴ Includes data not shown separately. ⁵ Beginning April 1971 SURVEY, data related to include "other transportation" in addition to railroad data formerly shown.

⁶ Number of bonds represented fluctuates; the change in the number does not affect the continuity of the series.
⁷ Prices are derived from average yields on basis of an assumed 3 percent 20-year bond.
⁸ For bonds due or callable in 10 years or more.

Unless otherwise stated in footnotes below, data through 1970 and descriptive notes are as shown in the 1971 edition of BUSINESS STATISTICS	1971	1972	1972					1973							
	Annual		Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.

FINANCE—Continued

SECURITY MARKETS—Continued																
Stocks—Continued																
Dividend yields, preferred stocks, 10 high-grade (Standard & Poor's Corp.).....percent..	6.75	6.89	6.90	7.00	7.03	6.93	6.92	6.87	6.91	7.03	7.11	7.13	7.25	7.35	7.43	7.38
Prices:																
Dow-Jones averages (65 stocks).....	298.12	319.36	315.22	310.15	321.92	322.19	332.15	325.94	308.40	300.94	297.65	286.34	274.32	275.35	267.36	277.54
Industrial (30 stocks).....	884.76	950.71	958.34	950.58	944.10	1,001.19	1,020.32	1,026.82	974.04	957.35	944.10	922.41	893.90	903.61	883.73	909.98
Public utility (15 stocks).....	117.22	112.83	109.07	109.76	113.06	121.33	121.47	118.06	113.08	109.52	108.02	107.38	105.34	101.38	95.72	99.96
Transportation (20 stocks).....	217.20	241.44	233.53	222.86	215.88	227.89	232.74	216.58	202.04	194.60	194.22	175.53	159.79	162.70	157.72	166.82
Standard & Poor's Corporation: [♂]																
Industrial, public utility, and railroad:																
Combined index (500 stocks).....1941-43=10..	98.29	109.20	111.01	109.39	109.56	115.05	117.50	118.42	114.16	112.42	110.27	107.22	104.75	105.83	103.80	105.61
Industrial, total (425 stocks) ♀.....do.....	108.35	121.79	124.35	122.33	122.39	128.29	131.08	132.55	127.87	126.05	123.56	119.95	117.20	118.65	116.75	118.62
Capital goods (116 stocks).....do.....	102.80	119.39	124.47	121.63	119.50	122.11	124.57	127.04	125.56	124.53	120.38	116.48	114.75	116.31	115.98	116.60
Consumers' goods (184 stocks).....do.....	99.78	113.90	116.17	113.19	112.94	119.51	122.26	122.57	117.54	116.41	111.24	107.44	104.83	105.94	104.35	105.16
Public utility (55 stocks).....do.....	59.33	56.89	54.66	55.36	56.66	61.16	61.73	60.01	57.52	55.94	55.34	55.43	54.37	53.81	50.14	52.31
Railroad (20 stocks).....do.....	41.94	44.11	43.28	42.37	41.20	42.41	44.62	42.87	40.61	39.29	35.88	36.14	34.35	35.22	33.76	35.49
Banks:																
New York City (9 stocks).....do.....	46.31	57.37	61.28	62.11	63.99	63.45	62.48	65.03	59.30	61.21	59.50	59.79	58.28	66.05	66.62	71.08
Outside New York City (16 stocks).....do.....	87.06	105.81	112.21	116.62	118.20	117.74	114.24	113.88	103.73	105.59	100.49	97.72	97.45	102.23	102.43	107.24
Property-liability insurance (16 stocks).....do.....	115.04	132.58	131.71	129.86	133.04	149.68	144.16	134.69	124.23	124.67	119.77	109.50	113.36	122.09	114.02	115.33
New York Stock Exchange common stock indexes:																
Composite.....12/31/65=50.....	54.22	60.29	61.07	60.05	59.99	62.99	64.26	64.38	61.52	60.15	58.67	56.74	55.14	56.12	55.33	56.71
Industrial.....do.....	57.92	65.73	67.25	65.72	65.35	68.29	69.96	70.55	67.67	66.20	64.41	62.22	60.52	61.53	31.09	62.25
Transportation.....do.....	44.35	50.17	48.97	46.49	44.95	47.50	48.44	45.14	42.34	40.92	40.57	36.66	33.72	34.22	33.48	35.82
Utility.....do.....	39.44	38.48	36.87	37.82	38.93	41.81	42.28	41.72	39.95	39.13	38.97	39.01	37.95	37.68	35.40	36.79
Finance.....do.....	70.38	78.35	78.27	78.41	79.64	84.57	83.45	81.62	74.47	72.32	69.42	65.33	63.52	68.95	68.26	72.23
Sales:																
Total on all registered exchanges (SEC):																
Market value.....mil. \$.....	185,027	204,032	17,596	12,183	14,810	18,540	17,856	18,926	15,062	16,486	12,878	14,931	12,065	11,927	12,659	-----
Shares sold.....millions.....	5,916	6,299	525	367	461	556	547	565	446	519	408	475	409	399	424	-----
On New York Stock Exchange:																
Market value.....mil. \$.....	147,098	159,700	13,828	9,669	11,930	15,047	14,473	15,407	12,323	13,449	10,591	12,343	9,852	9,717	10,342	-----
Shares sold (cleared or settled).....millions.....	4,265	4,496	378	264	346	414	398	414	330	382	301	357	308	306	330	-----
New York Stock Exchange:																
Exclusive of odd-lot and stopped stock sales (sales effected).....millions.....	3,891	4,138	357	246	317	406	345	394	318	342	278	337	269	308	271	329
Shares listed, N.Y. Stock Exchange, end of period:																
Market value, all listed shares.....bil. \$.....	741.83	871.54	821.15	816.22	824.96	863.52	871.54	854.13	816.96	809.76	775.81	758.59	752.58	792.06	765.77	807.24
Number of shares listed.....millions.....	17,500	19,159	18,773	18,875	19,002	19,063	19,159	19,323	19,403	19,525	19,686	20,066	20,327	20,466	20,521	20,548

FOREIGN TRADE OF THE UNITED STATES

FOREIGN TRADE																
Value of Exports																
Exports (mid-se.), incl. reexports, total.....mil. \$.....	44,129.9	49,788.2	3,979.8	4,006.6	4,508.5	4,613.5	4,722.7	4,789.1	4,900.6	5,975.7	5,595.8	6,064.0	5,896.9	5,387.7	5,810.4	-----
Excl. Dept. of Defense shipments.....do.....	43,548.6	49,218.6	3,934.0	3,963.4	4,441.0	4,582.9	4,690.6	4,747.2	4,864.0	5,922.8	5,560.5	6,023.0	5,858.4	5,321.6	5,778.5	-----
Seasonally adjusted.....do.....	-----	-----	4,196.5	4,176.4	4,316.3	4,472.9	4,558.0	4,977.1	5,064.6	5,379.5	5,487.0	5,602.8	5,778.1	5,868.5	6,004.3	-----
By geographic regions:																
Africa.....do.....	1,694.3	1,572.0	134.1	111.5	146.6	150.9	142.3	154.8	149.1	188.4	167.4	200.4	232.0	171.3	172.2	-----
Asia.....do.....	9,855.3	11,275.7	893.3	855.2	1,016.8	1,072.5	1,130.6	1,161.1	1,216.8	1,536.9	1,417.7	1,444.2	1,444.2	1,466.3	1,574.0	-----
Australia and Oceania.....do.....	1,168.4	1,034.9	104.3	83.9	93.9	93.9	82.8	128.5	107.2	96.0	109.3	150.5	134.0	125.5	158.1	-----
Europe.....do.....	14,662.3	16,098.4	1,246.5	1,282.7	1,407.2	1,535.8	1,629.6	1,649.5	1,705.5	2,132.3	1,827.4	2,022.5	1,899.0	1,729.6	1,825.8	-----
Northern North America.....do.....	10,367.4	12,419.0	1,008.9	1,062.9	1,158.3	1,138.6	1,060.0	1,080.3	1,090.4	1,283.3	1,314.1	1,422.1	1,334.3	1,049.3	1,080.9	-----
Southern North America.....do.....	3,154.5	3,564.2	298.1	304.0	349.6	325.6	327.0	308.9	324.2	383.8	363.1	415.9	410.5	430.9	460.2	-----
South America.....do.....	3,327.7	3,711.4	306.3	308.1	337.7	296.1	353.0	303.9	307.5	352.2	356.8	353.6	375.2	363.8	436.0	-----
By leading countries:																
Africa:																
Egypt.....do.....	62.9	76.1	12.1	4.4	3.0	8.8	2.9	7.4	12.5	29.9	12.7	26.2	34.4	20.7	13.2	-----
Republic of South Africa.....do.....	622.3	597.1	64.0	48.6	70.1	50.9	53.9	61.3	55.1	52.5	57.6	56.5	60.3	59.8	60.8	-----
Asia; Australia and Oceania:																
Australia, including New Guinea.....do.....	1,018.3	857.0	90.3	69.2	75.3	76.1	67.5	86.7	89.2	80.3	90.5	130.2	108.6	107.6	135.2	-----
India.....do.....	648.1	350.0	20.8	20.9	21.0	25.3	27.6	23.8	28.7	39.4	35.1	31.4	35.5	37.3	49.7	-----
Pakistan.....do.....	211.4	183.0	15.1	8.2	16.0	8.9	14.2	15.7	21.0	10.3	16.6	16.0	15.7	24.9	9.1	-----
Malaysia.....do.....	71.6	128.0	16.9	21.0	18.7	8.5	9.1	8.1	11.7	11.2	8.6	12.8	10.4	12.3	14.3	-----
Indonesia.....do.....	263.0	307.6	11.3	21.5	21.1	24.0	44.0	46.3	34.1	21.8	27.2	30.6	35.7	34.4	30.2	-----
Philippines.....do.....	340.2	365.6	27.8	32.8	29.5	29.4	32.0	25.3	29.1	32.4	41.4	39.0	44.6	45.6	41.4	-----
Japan.....do.....	4,054.8	4,941.2	405.3	378.5	463.7	488.5	511.6	547.8	565.3	771.7	657.5	697.9	706.2	621.9	747.8	-----
Europe:																
France.....do.....	1,373.2	1,609.6	108.8	117.6	150.6	151.2	160.9	187.4	180.2	240.6	191.4	200.1	160.5	154.0	165.2	-----
East Germany.....do.....	25.4	14.9	.6	.2	.2	.3	3.0	.3	2.4	.8	2.0	1.2	.6	.8	11.0	-----
West Germany.....do.....	2,831.1	2,811.2	199.0	206.9	247.3	262.9	272.0	246.5	259.1	314.0	306.9	293.6	322.1	280.9	308.4	-----
Italy.....do.....	1,313.9	1,425.2	93.3	105.2	100.9	129.4	138.9	129.6	143.3	183.5	188.7	172.6	225.3	182.3	166.9	-----
Union of Soviet Socialist Republics.....do.....	160.9	546.7	75.1	67.8	64.0	56.1	101.4	98.3	99.8	111.6	103.1	137.7	142.9	103.8	97.3	-----
United Kingdom.....do.....	2,369.2	2,658.2	184.9	236.2	215.2	275.3	241.0	249.7	238.0	310.4	248.9	340.5	282.5	272.5	267.9	-----
North and South America:																
Canada.....do.....	10,365.4	12,415.4	1,008.2	1												

Unless otherwise stated in footnotes below, data through 1970 and descriptive notes are as shown in the 1971 edition of BUSINESS STATISTICS	1971	1972	1972					1973								
	Annual		Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
FOREIGN TRADE OF THE UNITED STATES—Continued																
FOREIGN TRADE—Continued																
Value of Exports—Continued																
Exports (mdse.), incl. reexports—Continued																
By leading countries—Continued																
North and South America—Continued																
Latin American Republics, total \varnothingmil. \$	5,666.5	6,471.2	541.2	550.4	617.9	548.7	604.9	547.4	554.4	648.7	644.4	688.1	705.7	706.3	812.9	-----
Argentina.....do.....	390.9	400.1	74.9	43.1	45.1	26.8	27.1	28.0	30.8	27.3	34.9	30.6	29.4	25.2	25.2	-----
Brazil.....do.....	966.3	1,242.9	106.9	100.4	118.5	104.2	119.7	113.7	101.4	123.0	118.4	139.3	149.0	151.3	160.8	-----
Chile.....do.....	223.7	187.0	15.0	12.1	15.5	9.6	14.4	14.0	14.1	15.4	15.6	11.2	19.4	10.2	15.2	-----
Colombia.....do.....	377.5	317.3	21.3	23.9	26.9	26.4	32.9	23.6	30.3	34.9	32.1	27.0	39.0	38.2	47.5	-----
Mexico.....do.....	1,620.0	1,982.2	171.4	171.2	207.6	184.4	188.9	180.2	180.6	215.6	214.8	240.4	235.8	253.0	268.1	-----
Venezuela.....do.....	787.1	923.7	73.0	78.1	73.1	76.2	96.6	74.4	92.5	81.0	94.9	77.9	71.4	81.9	84.8	-----
Exports of U.S. merchandise, total.....do	43,491.8	48,978.6	3,909.5	3,936.6	4,447.2	4,527.2	4,649.2	4,719.5	4,831.1	5,878.7	5,491.8	5,967.7	5,793.4	5,305.9	5,706.5	-----
Excluding military grant-aid.....do	42,910.5	48,419.1	3,863.9	3,893.4	4,379.7	4,496.6	4,617.1	4,677.7	4,794.5	5,825.8	5,456.4	5,926.7	5,754.9	5,239.8	5,674.6	-----
Agricultural products, total.....do	7,698.0	9,409.6	684.0	709.9	908.0	1,079.9	1,110.8	1,136.1	1,179.4	1,407.7	1,264.1	1,364.9	1,376.0	1,218.1	1,469.5	-----
Nonagricultural products, total.....do	35,793.7	39,466.6	3,226.0	3,228.1	3,540.9	3,447.2	3,540.9	3,583.5	3,651.7	4,471.0	4,227.7	4,602.8	4,417.4	4,087.8	4,236.9	-----
By commodity groups and principal commodities:																
Food and live animals \varnothingmil. \$	4,366.6	5,660.8	469.3	517.2	550.6	615.7	658.0	688.6	669.4	802.3	767.9	834.7	949.6	901.9	1,207.5	-----
Meats and preparations (incl. poultry).....do	192.0	252.0	18.7	19.6	29.9	23.9	23.1	21.7	26.2	48.4	45.6	45.1	38.5	27.5	32.4	-----
Grains and cereal preparations.....do	2,449.1	3,505.0	318.4	333.6	337.4	384.8	441.4	476.7	485.5	531.1	510.0	565.1	660.3	660.5	920.2	-----
Beverages and tobacco.....do	709.2	908.5	66.2	76.3	85.8	94.8	90.5	62.9	74.5	78.4	74.8	68.4	73.3	72.1	77.3	-----
Crude materials, inedible, exc. fuels \varnothingdo	4,328.6	5,030.5	353.2	311.4	500.0	566.0	566.4	586.4	663.1	840.7	718.0	779.7	676.6	562.7	558.9	-----
Cotton, raw, excl. linters and waste.....do	583.2	602.8	10.1	13.8	30.4	55.9	85.7	103.2	82.0	104.7	92.5	69.8	81.5	58.6	52.1	-----
Soybeans, exc. canned or prepared.....do	1,324.8	1,607.7	84.5	53.0	186.2	214.8	185.5	254.6	304.4	248.1	290.4	187.0	187.0	112.0	93.4	-----
Metal ores, concentrates, and scrap.....do	486.7	607.9	49.3	43.1	51.2	44.2	61.6	55.8	59.3	90.8	67.5	101.3	93.3	129.0	129.4	-----
Mineral fuels, lubricants, etc. \varnothingdo	1,497.4	1,552.5	157.2	130.3	137.1	146.9	127.4	105.3	106.7	121.2	142.0	141.0	137.8	132.3	153.6	-----
Coal and related products.....do	950.7	1,019.1	113.9	89.1	91.1	95.3	67.5	62.0	55.5	71.4	95.1	95.9	91.1	81.3	102.8	-----
Petroleum and products.....do	478.9	445.0	38.2	35.6	37.2	41.8	41.4	36.2	36.3	38.2	40.2	40.7	39.8	44.2	41.8	-----
Animal and vegetable oils, fats, waxes.....do	615.2	508.0	38.3	36.3	35.2	47.8	35.9	44.0	44.8	61.0	38.0	54.4	58.9	59.9	60.2	-----
Chemicals.....do	3,836.0	4,132.9	349.1	335.9	392.9	331.9	386.0	403.8	384.7	441.8	443.6	460.0	475.8	468.0	516.6	-----
Manufactured goods \varnothingdo	4,413.4	4,904.1	421.8	405.7	445.7	426.4	440.6	478.2	457.6	534.0	564.9	578.4	587.0	556.6	607.1	-----
Textiles.....do	632.1	778.8	66.2	64.9	74.2	72.0	75.5	78.3	71.6	85.9	91.8	94.2	96.4	89.0	94.9	-----
Iron and steel.....do	791.6	825.9	73.8	75.0	70.9	66.2	71.2	85.5	75.2	98.0	98.6	109.7	102.2	103.2	107.3	-----
Nonferrous base metals.....do	595.6	666.8	38.6	44.6	51.5	47.1	51.2	57.8	54.1	59.7	69.0	64.3	71.2	78.7	87.1	-----
Machinery and transport equipment, total.....mil. \$	19,459.8	21,532.7	1,673.8	1,739.7	1,885.9	1,904.1	1,937.2	1,956.4	2,026.9	2,527.8	2,250.0	2,569.7	2,317.7	2,050.3	2,067.6	-----
Machinery, total \varnothingdo	11,560.9	13,244.4	1,063.2	1,034.6	1,132.6	1,185.2	1,199.0	1,222.6	1,233.0	1,444.5	1,360.9	1,474.2	1,428.8	1,383.2	1,402.1	-----
Agricultural.....do	596.7	749.6	58.8	56.7	62.8	59.3	61.8	64.3	63.0	105.0	92.6	97.0	86.6	79.0	69.0	-----
Metalworking.....do	404.5	410.0	30.4	32.4	35.6	30.6	44.4	42.1	31.4	32.5	37.2	37.0	35.8	38.7	39.2	-----
Construction, excav. and mining.....do	1,404.2	1,601.1	130.2	119.3	124.1	148.1	130.4	135.0	151.0	180.7	176.3	179.8	182.9	169.1	178.2	-----
Electrical.....do	3,066.7	3,697.8	296.5	309.6	334.8	341.3	337.5	369.7	352.4	409.7	389.6	439.5	413.8	397.9	414.1	-----
Transport equipment, total.....do	7,899.0	8,296.6	610.8	675.1	754.8	721.8	738.2	733.8	803.9	1,083.4	889.1	1,095.5	889.0	667.1	665.4	-----
Motor vehicles and parts.....do	4,157.1	4,796.4	357.4	433.2	474.2	448.5	426.7	455.8	477.5	551.0	527.8	543.6	521.7	407.7	389.5	-----
Miscellaneous manufactured articles.....do	2,734.1	3,189.7	264.7	263.3	282.8	264.9	276.3	275.1	270.8	325.7	324.3	334.7	345.4	308.9	331.0	-----
Commodities not classified.....do	1,531.4	1,559.4	116.0	120.5	131.0	128.7	131.0	118.9	132.6	145.7	168.4	146.7	171.1	193.2	126.8	-----
Value of Imports																
General imports, total.....do	45,562.7	55,563.4	4,727.0	4,491.4	5,008.5	5,201.4	4,795.7	5,423.0	4,944.6	5,595.6	5,347.3	6,032.0	5,900.8	5,651.8	5,997.4	-----
Seasonally adjusted.....do	-----	-----	4,726.0	4,612.2	4,737.5	5,147.9	5,002.3	5,280.9	5,540.8	5,432.1	5,290.7	5,760.7	5,793.6	5,762.4	6,020.9	-----
By geographic regions:																
Africa.....do	1,236.3	1,595.2	137.8	124.5	165.5	141.4	164.7	155.4	182.5	216.4	184.2	226.3	187.5	201.2	245.9	-----
Asia.....do	11,779.5	15,111.5	1,488.6	1,339.8	1,398.7	1,404.1	1,217.6	1,364.3	1,245.0	1,413.3	1,352.4	1,515.7	1,549.1	1,567.0	1,789.0	-----
Australia and Oceania.....do	894.9	1,145.4	127.8	128.0	123.4	101.0	83.4	101.2	90.1	90.1	108.5	120.3	123.0	124.0	175.0	-----
Europe.....do	12,881.1	15,740.3	1,341.6	1,122.0	1,355.3	1,491.7	1,306.4	1,555.3	1,406.2	1,587.9	1,529.7	1,723.2	1,629.9	1,668.8	1,769.1	-----
Northern North America.....do	12,695.4	14,915.3	1,027.3	1,206.1	1,372.9	1,456.8	1,302.4	1,477.9	1,337.8	1,546.9	1,443.4	1,667.1	1,673.7	1,395.7	1,177.7	-----
Southern North America.....do	3,000.5	3,536.3	308.7	248.7	287.7	305.5	310.9	368.4	277.7	411.6	428.3	419.2	418.4	366.0	452.6	-----
South America.....do	3,033.7	3,460.0	292.0	312.5	299.6	283.9	314.3	393.4	301.8	324.3	297.4	356.4	316.0	324.0	386.3	-----
By leading countries:																
Africa:																
Egypt.....do	19.1	16.9	1.9	1.3	1.1	1.6	1.6	3.7	.5	1.2	2.6	1.4	2.2	1.0	4.9	-----
Republic of South Africa.....do	286.6	324.7	26.4	26.7	33.9	26.5	23.1	25.2	37.2	30.1	32.3	31.7	28.4	38.5	27.0	-----
Asia; Australia and Oceania:																
Australia, including New Guinea.....do	636.1	819.9	92.0	91.3	89.1	79.9	61.9	72.3	62.3	61.9	70.7	76.9	82.5	84.0	123.8	-----
India.....do	329.1	426.6	37.3	30.2	27.3	34.0	29.1	35.2	29.0	38.4	29.7	35.9	39.2	33.1	40.8	-----
Pakistan.....do	77.1	40.2	5.1	2.2	2.5	2.3	2.6	3.3	3.3	3.6	2.5	2.3	1.7	3.4	4.2	-----
Malaysia.....do	269.0	301.2	21.5	17.6	33.9	24.9	21.8	23.3	23.6	30.9	25.4	40.7	40.0	38.5	38.0	-----
Indonesia.....do	207.2	277.8	26.1	29.5	28.2	24.2	26.1	29.4	25.0	34.2	30.1	43.8	48.4	32.5	51.4	-----
Philippines.....do	495.6	483.5	50.8	52.7	34.9	41.5	56.0	35.0	31.3	50.3	44.6	56.1	55.0	80.9	75.6	-----
Japan.....do	7,258.8	9,064.3	911.1	805.5	819.0	863.9	724.6	800.8	708.7	792.2	779.9	812.6	810.9	821.1	944.1	-----
Europe:																
France.....do	1,087.7	1,368.5	132.5	94.3	113.8	127.1	121.6	138.1	123.1	128.3	140.9	153.3	145.7	162.3	168.7	-----
East Germany.....do	10.1	10.3	.9	.6	.7	1.0	.8	.9	.5	.7	.6	1.1	1.2	1.1	.9	-----
West Germany.....do	3,650.5	4,248.7	380.6	282.0	364.5	380.9	357.5	421.2	379.7	436.8	415.3	482.8	460.1	470.9	482.1	-----
Italy.....do	1,405.7	1,755.8	173.1	134.6	124.4	156.2	147.9	170.2	162.6	167.0	138.9	156.6	166.8	166.7	208.2	-----
Union of Soviet Socialist Republics.....do	57.2	95.4	9.7	14.0	9.5	11.1	12.8	18.4	12.5							

Unless otherwise stated in footnotes below, data through 1970 and descriptive notes are as shown in the 1971 edition of BUSINESS STATISTICS	1971	1972	1972					1973							
	Annual	Annual	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.

FOREIGN TRADE OF THE UNITED STATES—Continued

FOREIGN TRADE—Continued																
Value of Imports—Continued																
General imports—Continued																
By commodity groups and principal commodities:																
Food and live animals	5,528.6	6,369.9	576.2	555.1	585.1	545.1	539.4	616.7	568.4	630.1	658.2	732.7	627.1	598.9	696.9	
Cocoa or cacao beans	181.3	150.7	7.6	4.0	8.0	6.8	23.6	25.7	24.1	20.1	21.6	24.0	15.5	14.4	10.1	
Coffee	1,166.6	1,181.7	111.7	130.1	128.8	103.5	83.7	132.9	121.5	141.1	145.2	180.1	126.1	117.0	127.6	
Meats and preparations	1,050.1	1,222.8	128.4	125.4	127.0	111.9	89.6	108.8	99.7	96.6	119.8	135.9	120.8	125.7	175.1	
Sugar	763.6	824.1	91.0	64.4	62.0	52.4	62.7	71.9	48.9	72.1	80.3	85.5	69.3	75.5	100.5	
Beverages and tobacco	875.5	1,009.5	55.7	72.4	107.1	117.3	99.3	109.2	76.3	83.5	98.9	102.5	97.3	94.4	91.2	
Crude materials, inedible, exc. fuels	3,382.0	3,859.8	316.9	334.9	347.3	383.1	324.9	388.5	341.2	383.8	398.3	444.3	453.1	431.3	408.7	
Metal ores	1,043.9	1,021.6	90.3	85.6	87.8	112.5	88.5	84.4	62.6	69.8	92.7	103.6	121.9	128.4	128.5	
Paper base stocks	502.3	509.9	41.4	43.4	45.9	49.0	38.5	56.7	48.1	52.2	50.0	57.5	51.9	55.3	45.0	
Textile fibers	158.4	195.9	19.6	14.6	15.7	16.9	14.9	21.9	21.0	21.8	19.2	23.2	21.0	22.1	20.6	
Rubber	216.0	196.2	16.4	14.3	18.0	17.6	18.3	19.5	18.0	23.3	20.0	27.0	29.2	22.3	38.9	
Mineral fuels, lubricants, etc.	3,714.8	4,798.9	400.2	409.3	412.4	417.0	475.7	532.7	494.9	595.1	502.2	609.4	604.3	554.9	776.4	
Petroleum and products	3,323.3	4,299.6	365.8	369.7	371.0	374.4	431.1	488.1	452.4	553.7	463.2	565.2	566.7	515.5	728.8	
Animal and vegetable oils and fats	171.6	179.6	11.1	11.5	15.5	10.1	21.7	8.8	16.8	14.7	13.6	15.8	19.8	18.9	23.5	
Chemicals	1,612.3	2,014.8	168.1	159.0	165.8	177.4	166.4	189.1	190.2	202.7	221.9	213.1	208.7	185.8	206.2	
Manufactured goods	9,545.8	11,421.5	994.1	939.7	1,086.4	1,072.5	968.4	1,107.8	983.8	1,078.2	992.8	1,178.7	1,114.0	1,192.7	1,135.2	
Iron and steel	2,725.2	2,926.4	291.9	263.1	314.9	303.8	286.6	240.7	232.0	220.1	204.4	296.2	243.5	279.5	273.4	
Newsprint	988.5	1,053.9	83.3	87.0	96.5	96.4	87.9	110.6	90.6	107.3	100.5	104.8	109.4	97.4	80.9	
Nonferrous metals	1,551.6	1,933.2	141.3	151.2	173.0	179.8	161.5	224.7	178.2	199.5	159.1	186.2	178.9	211.2	188.8	
Textiles	1,391.2	1,528.4	140.2	116.3	125.8	141.6	114.4	144.2	124.1	143.5	133.5	137.8	128.3	128.9	136.5	
Machinery and transport equipment	13,873.2	17,400.6	1,370.6	1,273.8	1,523.6	1,713.6	1,492.3	1,675.9	1,560.0	1,813.0	1,710.1	1,954.3	1,918.2	1,700.7	1,683.7	
Machinery, total	5,967.8	7,786.9	667.1	613.1	687.4	737.5	647.4	698.4	702.0	812.3	806.8	853.8	865.0	855.3	907.2	
Metalworking	106.8	140.4	12.0	9.0	11.4	17.4	12.8	14.4	11.8	13.3	10.9	16.5	14.5	17.3	19.1	
Electrical	2,555.1	3,375.4	315.8	299.1	331.4	332.0	284.6	275.0	317.0	363.8	344.4	377.4	391.2	387.0	421.6	
Transport equipment	7,905.5	9,613.2	703.4	652.0	836.0	965.2	844.5	977.5	858.0	1,000.6	903.3	1,100.5	1,053.2	845.4	776.5	
Automobiles and parts	6,776.4	7,945.9	552.8	527.8	699.6	797.7	697.3	805.0	715.8	841.0	748.3	941.7	896.2	706.7	608.3	
Miscellaneous manufactured articles	5,372.9	6,910.6	698.8	603.0	618.2	621.4	563.0	631.5	584.2	643.2	609.8	649.7	697.1	720.4	820.0	
Commodities not classified	1,475.6	1,598.0	135.6	132.7	147.1	143.9	144.6	162.8	128.7	151.3	141.4	131.6	160.9	153.8	155.7	
Indexes																
Exports (U.S. mds., excl. military grant-aid)																
Unit value	114.4	117.6	116.7	118.0	118.4	122.8	122.6	123.5	126.8	127.2	128.4	132.4	134.5	137.6		
Quantity	122.4	134.3	130.0	129.2	145.0	143.3	144.6	147.5	148.0	179.3	166.3	176.3	167.5	149.1		
Value	140.0	158.0	151.7	152.5	171.6	176.1	177.3	182.1	187.7	228.0	213.6	232.1	225.3	205.2		
General imports:																
Unit value	117.4	126.1	127.3	128.3	129.8	130.4	130.3	133.3	134.3	137.5	145.1	146.9	147.8	150.3		
Quantity	144.5	163.8	165.8	156.0	172.1	177.5	164.3	181.5	164.3	181.6	164.5	183.3	178.2	167.8		
Value	169.6	206.6	211.0	200.1	223.5	231.6	214.0	242.0	220.7	249.7	238.6	269.2	263.3	252.2		
Shipping Weight and Value																
Waterborne trade:																
Exports (incl. reexports):																
Shipping weight	204,132	230,176	21,938	20,432	21,680	21,913	20,720	19,814	18,865	22,218	22,741	24,391				
Value	22,610	25,520	2,088	2,025	2,338	2,449	2,531	2,600	2,633	3,144	2,946	3,177				
General imports:																
Shipping weight	313,167	350,845	31,753	28,377	30,923	32,531	33,428	33,411	29,981	34,408	31,522	35,259				
Value	26,993	33,617	3,154	2,825	3,107	3,076	2,853	3,207	2,919	3,319	3,171	3,680				

TRANSPORTATION AND COMMUNICATION

TRANSPORTATION																
Air Carriers (Scheduled Service)																
Certificated route carriers:																
Passenger-miles (revenue)	135.66	152.41	15.65	12.47	12.29	11.52	13.08	12.50	11.05	12.94	13.24	13.16	14.95	16.00		
Passenger-load factor	48.5	53.0	62.7	53.8	50.9	50.0	53.1	49.1	47.9	50.2	51.8	50.3	55.0	54.9		
Ton-miles (revenue), total	18,685	20,746	2,034	1,705	1,725	1,687	1,842	1,696	1,534	1,814	1,796	1,822	2,008	2,088		
Operating revenues	10,046	11,163		3,010			2,812			2,785			3,111			
Passenger revenues	8,220	9,271		2,535			2,308			2,322			2,599			
Freight and express revenues	826	938		236			268			241			260			
Mail revenues	288	271		62			76			66			67			
Operating expenses	9,717	10,579		2,675			2,705			2,808			2,923			
Net income after taxes	30	222		165			34			-46			88			
Domestic operations:																
Passenger-miles (revenue)	106.44	118.14	11.93	9.22	9.50	9.25	10.42	9.80	8.80	10.26	10.44	10.11	11.55	12.00		
Express and freight ton-miles	2,278	2,567	229	223	235	253	237	208	203	246	226	255	258	235		
Mail ton-miles	708	686	55	53	55	57	75	56	52	61	55	58	55	51		
Operating revenues	7,753	8,652		2,278			2,212			2,207			2,433			
Operating expenses	7,496	8,158		2,045			2,093			2,267			2,267			
Net income after taxes	31	196		108			52			-29			77			
International and territorial operations:																
Passenger-miles (revenue)	29.22	34.27	3.72	3.25	2.79	2.27	2.66	2.69	2.24	2.68	2.80	3.05	3.39	4.00		
Express and freight ton-miles	1,518	1,738	147	145	164	169	155	136	133	166	148	150	157	162		
Mail ton-miles	617	515	38	38	42	55	68	46	42	47	43	43	43	40		
Operating revenues	2,292	2,512		732			600			579			678			
Operating expenses	2,221	2,420		630			613			602			656			
Net income after taxes	-1	26		57			-18			-17			11			
Local Transit Lines																
Fares, average cash rate	26.6	27.4	27.8	27.8	27.8	27.8	27.8	27.8	27.8	27.8	27.8	27.8	27.8	27.8	27.7	
Passengers carried (revenue)	5,497	5,272	414	427	451	440	424	438	424	512	465	418	420	391	413	

* Revised. † Preliminary.
 ‡ Includes data not shown separately.
 § Applies to passengers, baggage, cargo, and mail carried.

§ Passenger-miles as a percent of available seat-miles in revenue service; reflects proportion of seating capacity actually sold and utilized. © Total revenues, expenses, and income for all groups of carriers also reflect nonscheduled service.

	1971	1972	1972					1973						
	Annual	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.

TRANSPORTATION AND COMMUNICATION—Continued

TRANSPORTATION—Continued															
Motor Carriers (Intercity)															
Carriers of property, class I: Δ															
Number of reporting carriers.....	1 1,475	1 1,475					1,475	94	94		94	94			
Operating revenues, total..... mil. \$	12,693	14,270					8 7,194	11 1,720	2,007		1 1,824	2,109			
Expenses, total..... do.	11,907	13,434					8 6,786	10 1,477	10 51		10 5 69	10 64			
Freight carried (revenue)..... mil. tons.	596	642					8 321	11 39	44		5 42	47			
Freight carried, volume indexes, class I and II (ATA):															
Common and contract carriers of property (qtrly.) ♂..... average same period, 1967=100.	119.0	128.0	129.0				124.0		140.0						
Common carriers of general freight, seas. adj. 1967=100.	124.5	136.4	134.4	137.6	144.9	150.2	154.8	153.1	160.1	166.0	162.5	163.4	162.2	159.6	
Carriers of passengers, class I:															
Number of reporting carriers.....	172	172													
Operating revenues, total..... mil. \$	759.9	768.1													
Expenses, total..... do.	665.4	682.5													
Passengers carried (revenue)..... mil.	166.7	156.8													
Class I Railroads															
Financial operations, qtrly. (AAR):															
Operating revenues, total ♀..... mil. \$	7 12,697	7 13,411			7 3,302		7 3,475		7 3,523			7 3,727			
Freight..... do.	11,793	12,571			3,088		3,255		3,305			3,484			
Passenger ♂..... do.	7 294	7 257			7 66		7 60		7 59						
Operating expenses ♂..... do.	10,058	10,550			2,616		2,716		2,761			2,925			
Tax accruals and rents..... do.	1,939	2,026			508		509		562			592			
Net railway operating income..... do.	700	835			178		250		200			211			
Net income (after taxes) ♂..... do.	351	500			88		184		119			151			
Traffic:															
Ton-miles of freight (net), revenue and nonrevenue..... bil.	752.2	800.8													
Revenue ton-miles, qtrly. (AAR)..... do.	739.7	780.7			190.4		204.4		204.1			213.0	2 60.8	2 64.8	2 83.1
Revenue per ton-mile..... cents.	1,594	1,616													
Passengers (revenue) carried 1 mile..... mil.	8,901	8,560													
Travel															
Hotels and motor-hotels: §															
Average sale per occupied room..... dollars.	18.74	19.21	19.83	19.54	20.43	19.38	18.88	19.52	19.85	20.32	20.06	20.53	20.39	20.25	20.93
Rooms occupied..... % of total.	60	62	68	64	71	60	48	57	60	65	67	69	68	65	70
Restaurant sales index..... same mo. 1951=100.	114	123	117	125	125	111	122	105	118	143	129	153	143	130	128
Foreign travel:															
U.S. citizens: Arrivals..... thous.	7,591	4,908	1,180	844	771	664	543	663	589	713	780	775	790		
Departures..... do.	7,059	4,812	856	736	625	542	606	548	583	686	746	787	941		
Aliens: Arrivals..... do.	4,325	5,193	586	542	434	368	407	452	346	426	451	427	474		
Departures..... do.	3,567	4,310	539	416	383	324	382	342	272	343	359	376	418		
Passports issued..... do.	2,399	2,728	235	174	140	132	119	183	230	322	345	335	306	255	213
National parks, visits ¶..... do.	48,863	54,087	10,393	5,651	3,896	2,055	1,716	1,656	1,848	2,252	3,356	4,826	7,618	10,030	10,296
COMMUNICATION (QTRLY.)															
Telephone carriers (63 carriers except as noted):															
Operating revenues ♀..... mil. \$	20,410	23,079	5,155	5,854		5,297	6,033			12 6,214					
Station revenues..... do.	9,970	11,261	2,513	2,860		2,593	2,923			12 2,985					
Tolls, message..... do.	7,945	8,984	2,012	2,264		2,082	2,371			12 2,467					
Operating expenses (excluding taxes)..... do.	13,253	14,869	3,415	3,754		3,504	3,867			12 3,928					
Net operating income (after taxes)..... do.	3,487	4,032	842	1,033		906	1,088			12 1,108					
Phones in service, end of period..... mil.	111.6	117.3	110.3	115.7		111.6	117.3			12 119.1					
Telegraph carriers:															
Domestic:															
Operating revenues..... mil. \$	396.8	428.7		102.6			108.1			110.8			113.7		
Operating expenses..... do.	337.0	349.7		89.0			81.3			90.4			93.4		
Net operating revenues (before taxes)..... do.	31.7	52.1		8.0			18.5			12.0			15.7		
International:															
Operating revenues..... do.	206.0	226.0		56.0			58.5			61.2			63.8		
Operating expenses..... do.	150.8	163.7		40.4			44.1			43.5			44.2		
Net operating revenues (before taxes)..... do.	44.3	49.4		12.5			11.0			14.3			16.2		

CHEMICALS AND ALLIED PRODUCTS

CHEMICALS															
Inorganic chemicals, production:															
Acetylene †..... mil. cu. ft.	12,349	11,568	961	912	984	983	993	965	855	717	661	659	633	617	
Ammonia, synthetic anhydrous †..... thous. sh. tons.	14,029	14,302	1,223	1,133	1,167	1,151	1,183	1,197	1,135	1,319	1,316	1,353	1,324	1,235	
Carbon dioxide, liquid, gas, and solid †..... do.	1,344	1,481	140	132	128	119	106	102	98	108	102	112	120	126	
Chlorine gas (100% Cl ₂) †..... do.	9,352	9,869	857	809	851	843	851	849	779	862	848	886	838	875	
Hydrochloric acid (100% HCl) †..... do.	2,099	2,201	190	179	194	195	197	198	180	211	202	209	196	193	
Nitric acid (100% HNO ₃) †..... do.	6,742	7,022	524	552	608	587	597	582	608	616	644	661	622	605	
Oxygen (high and low purity) ○..... mil. cu. ft.	319,171	353,190	29,064	29,269	31,796	30,992	32,065	31,084	29,286	32,945	31,627	32,203	31,273	32,228	
Phosphoric acid (100% P ₂ O ₅) †..... thous. sh. tons.	6,240	6,263	507	512	557	510	528	469	524	567	567	586	525	493	
Sodium carbonate (soda ash), synthetic (58% Na ₂ O) †..... thous. sh. tons.	4,275	4,301	380	331	376	376	366	333	328	350	330	337	297	304	
Sodium bichromate and chromate..... do.	138	137	13	11	12	12	12	12	11	13	12	12	12	13	
Sodium hydroxide (100% NaOH) †..... do.	9,667	10,263	892	840	886	873	885	879	808	895	882	928	870	903	
Sodium silicate, anhydrous †..... do.	628	663	49	55	65	70	58	42	53	65	64	72	60	60	
Sodium sulfate, anhydrous †..... do.	1,356	1,358	109	109	117	113	108	103	110	141	138	120	110	129	
Sulfuric acid (100% H ₂ SO ₄) †..... do.	29,035	31,300	2,667	2,509	2,672	2,669	2,713	2,501	2,518	2,672	2,634	2,840	2,573	2,540	

† Revised. ‡ Preliminary. 1 Number of carriers filing complete reports for the year. 2 For month shown. 3 For 4th qtr. 1971. 4 Annual total reflects revisions not distributed to the monthly or quarterly data. 5 For 2d qtr. 1972. 6 Before extraordinary and prior period items. 7 Reporting roads only; excludes AMTRAK operations. 8 For six months ending in month shown. 9 For 3d qtr. 1971. 10 Beginning 1973, data refer to net income after extraordinary and prior period charges and credits and not to expenses. 11 For 1st qtr. 1972. 12 For 66 carriers. hauled refers to common and contract services. Ⓜ Indexes are comparable for the identical quarter of each year (and from year to year). Ⓝ Natl. Railroad Passenger Corp. (AMTRAK) 1972 operations (not included in AAR data above), mil. dol.: Passenger revenues, 138.2; expenses, 286.3; net income, -147.5 (IOC). ♀ Includes data not shown separately. † Revised monthly data back to 1969 will be shown later. Ⓞ Not comparable with data in 1971 BUSINESS STATISTICS. Ⓟ Corrected. Ⓠ Effective Jan. 1972, data reflect an expanded sample that includes many motor-hotels. Ⓡ Data include visits, effective Jan. 1972, to Arches and Capitol Reef National Parks, and effective July 1973 to Voyageurs Natl. Park.

	1971	1972	1972					1973							
	Annual		Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.

CHEMICALS AND ALLIED PRODUCTS—Continued

CHEMICALS—Continued																
Organic chemicals, production: [Ⓐ] Ⓢ																
Acetic anhydride.....mil. lb.	1,545.8	1,560.6	124.2			130.1			(⁹)							
Acetysalicylic acid (aspirin).....do	31.7	34.6	2.5	3.0	2.9	2.5	2.3	3.0	2.8	3.0	2.4	2.4	3.0	2.5	2.4	
Creosote oil.....mil. gal.	119.2	119.1	11.3	9.8	11.0	8.9	8.7	7.8	11.4	10.7	8.9	9.1	8.7	8.5	9.1	
Ethyl acetate (85%).....mil. lb.	159.8	217.2	21.3	19.6	19.8	18.4	20.3	18.1	14.7	23.8	24.5	17.1	18.7	15.0	21.3	
Formaldehyde (37% HCHO).....do	4,373.1	5,600.0	519.8	430.8	458.8	458.5	460.0	479.5	465.7	519.2	527.7	511.3	524.5	506.9	528.4	
Glycerin, refined, all grades:																
Production.....do	339.8	353.0	32.1	29.1	30.8	25.7	30.9	31.5	28.1	30.8	29.5	29.8	30.0	29.9	31.4	
Stocks, end of period.....do	28.2	25.6	26.1	30.1	24.5	24.3	25.6	24.7	23.8	21.6	22.6	17.1	15.0	18.2	15.6	
Methanol, synthetic.....mil. gal.	1,754.7	1,897.0	85.3	81.0	64.7	87.5	84.4	83.5	79.4	93.1	88.7	79.7	94.3	85.6	94.5	
Phthalic anhydride.....mil. lb.	1,766.4	1,936.0	74.2	73.6	75.5	71.2	77.7	75.5	71.4	89.8	81.9	91.6	87.3	80.1	92.2	
ALCOHOL																
Ethyl alcohol and spirits: [‡]																
Production.....mil. tax gal.	552.9	621.4	57.7	64.0	59.3	51.5	53.4	57.1	52.5	57.1	58.4	58.1	55.9			
Stocks, end of period.....do	132.8	76.9	98.9	103.8	105.4	96.2	76.9	95.9	90.7	87.8	97.6	87.7	89.6			
Used for denaturation.....do	432.7	453.0	39.0	36.4	40.7	37.3	35.3	41.3	37.5	41.3	36.7	38.8	37.8			
Taxable withdrawals.....do	88.0	82.5	6.1	6.1	7.3	7.0	5.8	6.1	4.9	6.2	5.7	6.6	6.4			
Denatured alcohol: [‡]																
Production.....mil. wine gal.	234.1	245.9	21.2	19.4	21.9	20.1	19.1	22.2	20.2	22.2	19.8	21.6	20.3			
Consumption (withdrawals).....do	234.6	246.7	21.4	19.5	22.0	19.9	19.5	21.8	20.4	22.5	19.6	21.5	20.2			
Stocks, end of period.....do	2.9	2.0	2.7	2.7	2.6	2.8	2.0	2.8	2.6	2.5	2.7	2.8	2.9			
FERTILIZERS																
Exports, total: [Ⓢ]																
Nitrogenous materials.....thous. sh. tons.	17,106	19,612	1,643	1,802	1,702	1,358	1,599	1,666	1,451	1,830	1,770	1,518	1,540	1,785	1,899	
Phosphate materials.....do	1,050	1,123	104	61	135	88	107	81	52	91	109	110	68	88	95	
Potash materials.....do	13,431	14,953	1,217	1,292	1,209	1,013	1,103	1,259	1,054	1,438	1,391	1,141	1,109	1,295	1,376	
Potash materials.....do	1,033	1,353	124	217	140	75	111	95	136	129	83	114	146	184	125	
Imports:																
Ammonium nitrate.....do	374	378	15	17	20	20	17	27	28	39	74	37	25	15	11	
Ammonium sulfate.....do	229	264	16	13	23	22	14	26	23	46	46	22	12	11	12	
Potassium chloride.....do	4,549	4,855	298	410	507	303	274	442	431	761	713	547	305	261	295	
Sodium nitrate.....do	203	111	23	0	1	9	5	16	3	1	0	3	9	0	0	
Potash deliveries (K ₂ O).....do	5,026	4,913	307	369	494	246	330	384	511	782	706	581	308	220	335	416
Superphosphate and other phosphatic fertilizers (100% P ₂ O ₅):																
Production.....thous. sh. tons.	4,966	5,482	415	449	461	477	469	491	477	491	494	495	446	438		
Stocks, end of period.....do	389	433	369	369	347	418	433	455	437	333	233	233	298	370		
MISCELLANEOUS PRODUCTS																
Explosives (industrial), shipments, quarterly: [§]																
Total shipments.....mil. lb.	2,120.0	2,108.7		534.0				479.1			476.0			528.5		
Paints, varnish, and lacquer, factory shipments:																
Total shipments.....mil. \$	2,830.9	3,009.2	286.4	269.0	254.0	224.7	190.0	225.5	235.0	264.0	270.0	294.4	297.5	277.3		
Trade products.....do	1,562.8	1,659.3	167.2	152.0	135.4	113.8	95.0	114.5	124.7	140.1	147.4	161.6	166.3	163.1		
Industrial finishes.....do	1,268.2	1,349.8	119.1	116.9	118.6	110.8	95.0	111.0	110.3	123.9	122.6	132.8	131.2	114.2		
Sulfur, native (Frasch) and recovered:																
Production.....thous. lg. tons.	8,620	9,218	796	776	805	775	785	790	697	812	802	844	830	791		
Stocks (producers'), end of period.....do	4,120	3,794	4,127	4,008	4,019	4,003	3,956	3,832	3,807	3,783	3,779	3,762	3,802	3,752		
PLASTICS AND RESIN MATERIALS																
Production:																
Thermosetting resins:																
Alkyd resins.....mil. lb.	(⁹)															
Polyester resins.....do	1,637.7	(⁹)														
Phenolic and other tar acid resins.....do	1,141.8	1,080.1	124.1	146.5	173.3	156.9	155.4	215.7	162.9	182.6	159.1	172.6	169.4	149.5	163.0	
Urea and melamine resins.....do	1,683.4	(⁹)														
Thermoplastic resins:																
Cellulose plastic materials.....do	(⁹)															
Coumarone-indene and petroleum polymer resins.....do	(⁹)															
Styrene-type materials (polystyrene).....mil. lb.	3,749.8	4,602.0	389.9	385.1	404.4	406.9	413.0	421.6	403.1	443.6	407.3	418.4	420.5	411.6	414.2	
Vinyl resins (resin content basis) [¶]do	4,075.8	4,288.9	349.0	357.9	384.1	377.1	396.7	384.2	363.2	395.0	385.9	388.8	358.7	354.1	349.8	
Polyethylene.....do	6,395.8	7,629.5	658.0	662.2	686.2	669.0	689.8	679.5	638.5	721.0	693.8	705.8	682.2	699.7	696.9	

ELECTRIC POWER AND GAS

ELECTRIC POWER																
Production (utility and industrial), total: [†]																
mil. kw.-hr.	1,717,520	1,853,390	171,861	156,028	152,759	152,625	163,329									
Electric utilities, total.....do	1,613,936	1,747,323	162,822	147,358	143,742	143,867	154,350									
By fuels.....do	1,347,616	1,474,589	140,075	128,291	124,401	122,473	129,557									
By waterpower.....do	266,320	272,734	22,747	19,067	19,341	21,394	24,793									
Privately and municipally owned util.....do	1,322,540	1,435,599	133,735	121,992	118,971	118,425	126,636									
Other producers (publicly owned).....do	291,396	301,724	29,087	25,366	24,771	25,443	27,714									
Industrial establishments, total.....do	103,585	106,067	9,040	8,670	9,018	8,758	8,979									
By fuels.....do	100,325	102,678	8,756	8,428	8,747	8,460	8,669									
By waterpower.....do	3,260	3,389	284	242	271	298	310									

[Ⓐ] Revised. [Ⓢ] Preliminary.
[†] Reported annual total reflecting revisions not distributed to the monthly data. [‡] Series discontinued. [§] Less than 500 short tons. [¶] Annual total reflects sulfur content, whereas monthly data are gross weight. ^{¶¶} Beginning Jan. 1972, data exclude polyvinyl acetate, polyvinyl alcohol, and other vinyl resins.

[Ⓢ] Except for glycerin, scattered revisions have been made in the annual data back to 1965; monthly revisions are not available.
[‡] Data are reported on the basis of 100 percent content of the specified material unless otherwise indicated. [¶] Includes data not shown separately.
^{¶¶} Data exclude black blasting powder.
^{¶¶¶} Revised monthly data for 1970 will be shown later.

Unless otherwise stated in footnotes below, data through 1970 and descriptive notes are as shown in the 1971 edition of BUSINESS STATISTICS	1971	1972	1972					1973							
	Annual		Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.

ELECTRIC POWER AND GAS—Continued

ELECTRIC POWER—Continued															
Sales to ultimate customers, total (Edison Electric Institute).....mil. kw.-hr.	1,466,441	1,577,714	141,473	141,720	135,133	131,021	134,957	143,115	139,596	136,747	131,897	131,814	139,014	149,064	
Commercial and industrial:															
Small light and power.....do.	333,752	361,859	33,874	33,784	31,384	29,781	30,021	31,665	31,124	30,646	29,848	30,838	33,745	36,733	
Large light and power.....do.	592,699	639,467	55,020	55,575	56,259	55,404	54,111	55,111	54,619	55,627	55,753	56,784	57,542	57,091	
Railways and railroads.....do.	4,537	4,440	376	341	347	358	395	390	379	397	325	322	330	324	
Residential or domestic.....do.	479,080	511,423	47,232	46,882	41,929	40,253	45,137	50,700	48,428	45,126	41,142	39,102	42,451	49,781	
Street and highway lighting.....do.	11,673	12,193	950	985	1,075	1,124	1,165	1,187	1,092	1,092	1,078	1,021	978	951	966
Other public authorities.....do.	39,819	43,190	3,617	3,715	3,704	3,687	3,705	3,641	3,534	3,447	3,381	3,316	3,501	3,687	
Interdepartmental.....do.	4,880	5,142	442	438	435	415	424	422	420	426	426	473	494	482	
Revenue from sales to ultimate customers (Edison Electric Institute).....mil. \$	24,725.2	27,921.1	2,529.1	2,544.2	2,417.1	2,333.4	2,402.1	2,540.6	2,511.3	2,472.6	2,403.4	2,423.5	2,592.6	2,800.9	
GAS†															
Total utility gas, Quarterly (American Gas Association):															
Customers, end of period, total.....thous.	42,706	43,307		42,728			43,307			43,826			43,451		
Residential.....do.	39,189	39,716		39,280			39,716			40,171			39,902		
Commercial.....do.	3,264	3,332		3,198			3,332			3,366			3,290		
Industrial.....do.	206	209		194			209			208			213		
Other.....do.	46	50		56			50			81			46		
Sales to customers, total.....tril. Btu.	16,680	* 17,010		3,250			4,266			5,286			3,930		
Residential.....do.	5,040	* 5,170		464			1,402			2,256			1,088		
Commercial.....do.	2,156	* 2,323		267			638			966			508		
Industrial.....do.	8,643	* 8,601		2,262			2,000			1,850			2,128		
Other.....do.	841	* 916		257			225			213			205		
Revenue from sales to customers, total.....mil. \$	11,355	* 12,499		1,985			3,292			4,563			3,039		
Residential.....do.	5,635	* 6,131		699			1,671			2,552			1,415		
Commercial.....do.	1,829	* 2,072		235			566			892			491		
Industrial.....do.	3,568	* 3,867		953			949			1,005			1,017		
Other.....do.	323	* 429		98			106			114			115		

FOOD AND KINDRED PRODUCTS; TOBACCO

ALCOHOLIC BEVERAGES																
Beer:																
Production.....mil. bbl.	137.36	141.28	13.09	11.41	11.15	9.92	9.59	10.98	10.72	13.14	12.86	13.83	13.09	13.76		
Taxable withdrawals.....do.	127.40	131.81	12.89	10.88	10.61	9.92	9.27	9.87	9.43	12.01	11.65	12.87	12.55	12.77		
Stocks, end of period.....do.	12.23	12.44	13.75	13.54	13.36	12.77	12.44	13.07	13.70	14.00	14.42	14.48	14.20	14.30		
Distilled spirits (total):																
Production.....mil. tax gal.	183.27	190.27	8.04	12.79	16.08	16.33	15.52	15.25	15.75	18.44	16.14	18.31	17.49			
Consumption, apparent, for beverage purposes.....mil. wine gal.	* 382.35	* 393.37	29.34	30.68	33.73	39.52	48.34	28.20	26.73	33.79	30.44	33.64	33.65			
Taxable withdrawals.....mil. tax gal.	182.07	200.43	16.73	18.65	22.14	20.75	16.46	15.14	13.87	17.98	16.00	19.36	17.39			
Stocks, end of period.....do.	996.62	971.70	991.93	984.85	977.70	972.30	971.70	970.43	971.96	972.74	971.86	970.31	971.05			
Imports.....mil. proof gal.	102.14	100.16	6.13	7.10	11.61	11.64	12.65	7.77	6.78	8.37	7.58	9.30	8.17	7.12	7.73	
Whisky:																
Production.....mil. tax gal.	119.38	116.56	3.63	6.62	9.32	10.52	9.94	10.47	11.00	11.89	11.18	11.93	10.78			
Taxable withdrawals.....do.	116.54	130.09	10.94	12.75	15.86	14.29	10.22	9.64	8.90	11.33	10.23	11.96	10.44			
Stocks, end of period.....do.	945.80	924.41	944.46	937.44	929.65	924.70	924.41	924.02	926.03	926.32	926.58	925.34	926.11			
Imports.....mil. proof gal.	* 189.29	87.69	5.26	6.19	10.17	10.29	11.33	6.68	5.70	7.21	6.55	7.95	6.98	6.07	6.68	
Rectified spirits and wines, production, total.....mil. proof gal.	116.12	120.32	9.26	9.51	12.59	12.29	9.21	9.24	7.51	9.77	9.11	10.78	9.70			
Whisky.....do.	63.05	62.64	4.43	4.75	6.69	6.35	4.14	3.86	3.53	4.40	4.42	5.27	4.62			
Wines and distilling materials:																
Effervescent wines:																
Production.....mil. wine gal.	23.83	21.13	2.83	1.37	1.91	1.98	2.30	1.41	1.42	1.93	1.91	1.72	.85	1.26		
Taxable withdrawals.....do.	21.64	20.36	1.35	1.63	2.51	2.80	2.74	1.11	1.10	1.24	1.06	1.54	1.58	.90		
Stocks, end of period.....do.	8.57	8.09	10.65	10.36	9.64	8.71	8.09	8.19	8.44	9.07	9.88	10.00	9.17	9.45		
Imports.....do.	1.88	1.98	.12	.10	.20	.24	.31	.18	.15	.18	.14	.15	.14	.12		
Still wines:																
Production.....do.	357.36	301.16	26.39	75.58	84.87	42.62	19.87	12.26	10.28	12.19	10.54	10.01	8.83	8.42		
Taxable withdrawals.....do.	246.97	269.89	19.95	22.98	25.04	25.09	25.39	22.13	20.90	26.26	22.87	24.54	22.60	18.19		
Stocks, end of period.....do.	366.31	350.88	255.37	305.25	356.65	366.39	350.88	331.79	314.70	294.31	277.34	257.93	236.95	221.03		
Imports.....do.	* 34.28	45.07	4.02	3.33	3.90	4.94	4.66	4.38	3.52	4.30	4.42	5.10	4.93	4.86	4.26	
Distilling materials produced at wineries.....do.	402.38	261.10	50.22	123.59	50.38	6.96	7.84	1.97	3.05	4.25	1.10	3.41	4.18	1.32		
DAIRY PRODUCTS																
Butter, creamery:																
Production (factory).....mil. lb.	1,143.7	1,101.9	75.0	66.4	75.2	73.5	81.6	96.1	84.4	90.6	93.7	100.3				
Stocks, cold storage, end of period.....do.	96.8	107.5	198.4	178.4	154.7	132.5	107.5	108.7	109.5	116.6	125.8	140.8	149.4	143.4	114.3	92.4
Price, wholesale, 92-score (N.Y.).....\$ per lb.	.693	.696	.704	.710	.708	.703	.715	.687	.687		.624	.620	.619	.639		
Cheese:																
Production (factory), total.....mil. lb.	* 2,380.4	2,611.8	220.0	199.7	197.3	184.9	204.7	202.9	193.7	226.5	238.8	261.5				
American, whole milk.....do.	1,511.5	1,644.3	142.7	124.2	119.5	107.9	119.5	123.5	120.1	142.7	151.3	171.7				
Stocks, cold storage, end of period.....do.	304.3	331.4	409.7	404.0	379.3	353.6	331.4	322.1	321.1	302.4	303.4	330.6	376.3	393.3	* 396.4	374.7
American, whole milk.....do.	238.9	269.4	341.9	335.8	314.2	291.7	269.4	260.4	260.1	244.9	247.3	271.1	309.6	320.6	* 321.5	301.0
Imports.....do.	95.5	179.4	14.1	15.6	17.8	20.3	19.9	15.2	11.4	14.9	12.2	16.1	20.2	31.2	14.5	
Price, wholesale, American, single daisies (Chicago).....\$ per lb.	.671	.714	.709	.709	.718	.736	.744	.745	.746	.765	.783	.792	.802	.801	.847	.898

* Revised. † Reported annual total; revisions are not distributed to the monthly data.

‡ Includes Hawaii; no monthly data available for Hawaii.

§ Data are not wholly comparable on a year to year basis because of changes from one

classification to another. † Data restated to represent the total gas utility industry, 99 percent of which is natural gas; also, sales are expressed in B.t.u. instead of therms.

‡ Revised data for months prior to May 1971 will be shown later.

Unless otherwise stated in footnotes below, data through 1970 and descriptive notes are as shown in the 1971 edition of BUSINESS STATISTICS	1971	1972	1972					1973							
	Annual		Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.

FOOD AND KINDRED PRODUCTS; TOBACCO—Continued

DAIRY PRODUCTS—Continued																
Condensed and evaporated milk:																
Production, case goods [♂]mil. lb.	1,268.1	1,174.2	109.5	85.7	83.8	69.6	80.8	75.8	73.5	92.4	97.4	114.2				
Stocks, manufacturers', case goods, end of month or year [♂]mil. lb.	88.6	74.7	140.2	143.8	138.8	104.1	74.7	60.2	55.2	35.6	56.2	85.4				
Exports:																
Condensed (sweetened).....do.	35.1	14.4	.1	(1)	.1	.2	.3	.2	.1	.2	(1)	.1	.2	.1	.1	
Evaporated (unsweetened).....do.	32.7	40.5	5.0	3.6	2.9	4.4	3.2	3.8	3.5	4.8	4.0	3.1	3.0	3.0	4.6	
Fluid milk:																
Production on farms.....do.	118,532	120,278	9,982	9,443	9,460	8,987	9,401	9,630	9,055	10,321	10,488	11,078	10,706	10,105	9,598	9,044
Utilization in mfd. dairy products.....do.	60,369	60,930	5,551	4,447	4,330	3,962	4,284	4,713	4,475	5,176	5,386	5,980	5,923	5,261	4,779	
Price, wholesale, U.S. average.....\$ per 100 lb.	5.87	6.07	5.99	6.21	6.38	6.52	6.54	6.55	6.56	6.52	6.40	6.37	6.37	6.52	7.17	7.63
Dry milk:																
Production:																
Dry whole milk.....mil. lb.	777.8	78.9	4.8	5.4	6.8	6.3	6.1	6.7	5.9	6.9	8.6	9.3				
Nonfat dry milk (human food).....do.	1,417.6	1,223.5	92.4	69.1	63.6	57.2	72.1	85.2	79.9	95.1	97.3	121.5				
Stocks, manufacturers', end of period:																
Dry whole milk.....do.	4.0	3.4	6.0	5.4	4.8	4.7	3.4	4.4	4.1	3.4	5.2	5.1				
Nonfat dry milk (human food).....do.	77.0	37.9	86.3	64.7	47.9	34.9	37.9	34.5	36.9	38.3	56.8	75.4				
Exports:																
Dry whole milk.....do.	25.0	38.3	2.2	4.5	3.0	2.4	2.0	3.7	4.3	4.1	4.6	5.2	6.2	3.8	3.7	
Nonfat dry milk (human food).....do.	124.2	164.1	12.5	17.0	10.8	7.9	3.7	3.6	.4	1.4	1.0	.2	1.5	.2	.2	
Price, manufacturers' average selling, nonfat dry milk (human food).....\$ per lb.	.307	.331	.322	.330	.342	.359	.376	.394	.398	.422	.440	.445				
GRAIN AND GRAIN PRODUCTS																
Exports (barley, corn, oats rye, wheat).....mil. bu.																
1,204.5	1,789.3	170.9	181.5	168.8	181.2	202.1	211.2	192.2	216.2	217.4	243.0	282.7	257.8	301.0		
Barley:																
Production (crop estimate).....do.	2,463.6	2,423.5														10 429.1
Stocks (domestic), end of period, total.....do.	392.4	361.8		453.6			361.8			263.7			164.2			
On farms.....do.	255.5	246.2		321.7			246.2			166.4			88.8			
Off farms.....do.	136.9	115.6		132.0			115.6			97.3			75.4			
Exports, including malt [§]do.	53.2	60.6	2.2	1.2	3.4	2.1	7.3	2.7	5.4	7.7	7.5	10.4	7.6	9.8	8.8	
Prices, wholesale (Minneapolis):																
No. 2, malting.....\$ per bu.	1.21	1.23	1.18	1.25	1.32	1.32	1.43	1.57	1.54	1.60	1.62	1.64	1.72	1.79	2.47	2.62
No. 3, straight.....do.	1.20	1.23	1.18	1.25	1.32	1.32	1.42	1.56	1.53	1.59	1.61	1.64	1.69	1.80	2.44	2.60
Corn:																
Production (crop estimate, grain only).....mil. bu.	5,641	5,553														10 5,763
Stocks (domestic), end of period, total.....do.	4,700	4,815		1,126			4,815			3,330			1,931			
On farms.....do.	3,551	3,674		751			3,674			2,375			1,366			
Off farms.....do.	1,149	1,141		375			1,141			955			564			
Exports, including meal and flour.....do.	511.7	886.2	97.1	108.7	79.8	91.0	84.2	102.5	92.0	104.6	92.0	92.2	136.6	124.3	138.1	
Prices, wholesale:																
No. 3, yellow (Chicago).....\$ per bu.	1.39	1.30	1.30	1.36	1.31	1.31	1.53	1.55	1.57	1.57	1.57	1.63	2.01	2.43	2.59	2.39
Weighted avg., 5 markets, all grades.....do.	1.36	1.26	1.21	1.28	1.28	1.30	1.54	1.57	1.57	1.56	1.65	2.02	2.30	2.33	2.70	2.40
Oats:																
Production (crop estimate).....mil. bu.	881	695														10 702
Stocks (domestic), end of period, total.....do.	943	780		932			780			586			414			
On farms.....do.	693	559		663			559			380			231			
Off farms.....do.	251	220		249			220			207			183			
Exports, including oatmeal.....do.	7.1	25.2	.4	.4	.6	.7	.7	.5	.5	.9	4.0	7.0	6.9	5.8	5.7	
Price, wholesale, No. 2, white (Chicago).....\$ per bu.	1.75	1.85	.79	.82			1.00			.95	1.03					
Rice:																
Production (crop estimate).....mil. bags ♀	85.8	85.2														10 95.5
California mills:																
Receipts, domestic, rough.....mil. lb.	2,004	1,774	328	82	174	102	120	186	215	252	272	151	120	93	78	
Shipments from mills, milled rice.....do.	1,446	1,266	259	112	46	71	112	97	182	141	311	123	83	47	80	
Stocks, rough and cleaned (cleaned basis), end of period.....mil. lb.	98	86	104	46	117	114	86	135	120	174	80	62	61	77	52	
Southern States mills (Ark., La., Tenn., Tex.):																
Receipts, rough, from producers.....mil. lb.	5,567	7,472	1,128	1,814	1,728	645	270	252	124	90	57	67	41	37	645	
Shipments from mills, milled rice.....do.	4,206	5,133	332	456	528	503	453	438	384	367	313	234	227	259	233	
Stocks, domestic, rough and cleaned (cleaned basis), end of period.....mil. lb.	1,737	1,967	858	1,643	2,275	2,217	1,967	1,713	1,429	1,138	876	672	499	240	435	
Exports.....do.	3,252	4,447	360	242	313	444	407	329	299	478	423	271	159	204	132	
Price, wholesale, Nato, No. 2 (New Orleans).....\$ per lb.	.087	.098	.091	.100	.105	.125	.125	.129	.129	.129	.153	.153	.153	.153	.163	.185
Rye:																
Production (crop estimate).....mil. bu.	49.3	29.5														10 25.5
Stocks (domestic), end of period.....do.	54.6	54.1		62.6			54.1			48.9			33.3			
Price, wholesale, No. 2 (Minneapolis).....\$ per bu.	1.06	1.07	1.00	1.02	1.08	1.15	1.18	1.17	1.20	1.12	1.18	1.27	1.35	1.52	2.23	2.92
Wheat:																
Production (crop estimate), total.....mil. bu.	1,618	1,545														10 1,727
Spring wheat.....do.	2,474	2,359														10 435
Winter wheat.....do.	1,144	1,186														10 1,291
Distribution.....do.	1,482	1,697		543			470			470			499			
Stocks (domestic), end of period, total.....do.	1,547	1,396		1,866			1,396			927			428			
On farms.....do.	694	507		725			507			316			125			
Off farms.....do.	853	889		1,141			889			611			303			

♂ Revised. ♀ Preliminary. 1 Less than 50 thousand pounds. 2 Crop estimate for the year. 3 Previous years' crop; new crop not reported until beginning of new crop year (July for barley, oats, rye, and wheat; Oct. for corn). 4 Effective May 1971, weighted average, 4 markets, all grades. 5 Average for Jan.-April, June-Oct., and Dec. 6 Average for July-Sept., and Dec. 7 Annual total reflects revisions not distributed to the months. 8 Revised monthly data for Jan. 1970-June 1972 will be shown later. 9 Effective May 1972, price is for No. 2 (Southwest Louisiana). 10 Oct. 1 estimate of 1973 crop. 11 Condensed milk included with evaporated to avoid disclosing operations of individual firms. 12 Excludes pearl barley. 13 Bags of 100 lbs.

Unless otherwise stated in footnotes below, data through 1970 and descriptive notes are as shown in the 1971 edition of BUSINESS STATISTICS	1971	1972	1972					1973								
	Annual		Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
FOOD AND KINDRED PRODUCTS; TOBACCO—Continued																
GRAIN AND GRAIN PRODUCTS—Con.																
Wheat—Continued																
Exports, total, including flour..... mil. bu.	627.1	1 817.0	71.2	71.2	85.0	87.4	109.7	105.5	94.3	101.9	111.4	130.6	128.4	113.2	143.6	
Wheat only..... do.....	588.3	1 778.5	69.1	69.0	82.6	83.5	107.3	101.9	92.9	98.1	108.8	128.3	126.1	110.1	139.9	
Prices, wholesale:																
No. 1, dark northern spring (Minneapolis)																
\$ per bu.....	1.77	1.86	1.91	2.03	2.12	2.23	2.42	2.42	2.28	2.32	2.39	2.61	2.75	3.06	4.49	4.84
No. 2, hd. and dk. hd. winter (Kans. City)..... do.....	1.60	1.86	1.86	2.10	2.18	2.29	2.60	2.67	2.48	2.50	2.55	2.64	2.79	2.84	4.71	5.09
Weighted avg., 6 markets, all grades..... do.....	1.72	1.87	1.88	2.05	2.12	2.20	2.42	2.46	2.36	2.40	2.45	2.62	2.77	3.22	4.92	5.34
Wheat flour:																
Production:																
Flour..... thous. sacks (100 lb.)	249,810	250,441	21,293	21,347	22,403	21,072	20,799	21,346	20,023	21,051	19,310	20,603	19,771	20,068	21,893	
Offal..... thous. sh. tons	4,279	4,303	369	369	384	361	358	375	346	358	327	354	342	348	380	
Grindings of wheat..... thous. bu.	555,092	557,801	47,459	47,713	50,121	46,822	46,380	47,529	44,475	46,777	42,792	45,808	43,765	44,681	48,889	
Stocks held by mills, end of period																
thous. sacks (100 lb.).....	4,362	4,746	4,886	4,886	4,746	4,746	4,746	5,581	5,581	5,581	5,581	5,581	5,393	5,393	5,393	
Exports..... do.....	16,637	16,549	930	965	1,049	1,665	1,049	1,653	611	1,626	1,134	977	993	1,352	1,596	
Prices, wholesale:																
Spring, standard patent (Minneapolis)																
\$ per 100 lb.....	6.145	6.534	6.525	6.888	6.850	6.938	7.625	7.613	7.138	7.263	7.325	7.313	7.875	7.738	10.280	10.600
Winter, hard, 95% patent (Kans. City)..... do.....	5.446	5.867	6.163	6.363	6.413	6.500	7.500	7.375	6.813	6.875	7.163	7.038	7.738	7.538	9.388	10.463
LIVESTOCK																
Cattle and calves:																
Slaughter (federally inspected):																
Calves..... thous. animals	2,807	2,421	208	197	211	209	202	200	169	188	139	131	117	118	115	
Cattle..... do.....	31,419	32,266	2,925	2,789	2,909	2,705	2,615	2,807	2,422	2,618	2,167	2,692	2,560	2,441	2,363	
Prices, wholesale:																
Beef steers (Omaha)..... \$ per 100 lb.	32.03	35.49	35.18	34.69	34.68	33.38	36.58	40.25	42.76	44.98	44.61	45.83	46.66	47.77	53.13	45.05
Steers, stocker and feeder (Kansas City)..... do.....	32.09	38.89	38.20	41.29	40.87	40.66	42.61	44.25	48.06	50.90	50.67	50.79	49.38	53.23	56.40	49.73
Calves, vealers (Natl. Stockyards, Ill.)..... do.....	38.58	46.88	48.10	49.00	49.00	49.00	49.00	49.00	54.00	56.00	57.80	57.50	61.40	59.30	67.50	56.40
Hogs:																
Slaughter (federally inspected)..... thous. animals	86,667	78,759	6,512	6,420	7,048	6,988	6,197	6,641	5,712	6,652	5,992	6,637	5,711	4,996	5,569	
Prices:																
Wholesale, average, all grades (St. Louis City)																
\$ per 100 lb.....	18.41	26.58	27.87	28.41	27.37	26.91	29.33	31.28	35.47	37.62	36.12	35.82	37.66	45.69	55.28	42.96
Hog-corn price ratio (bu. of corn equal in value to 100 lb. live hog).....	14.5	22.2	24.3	23.0	23.0	22.3	20.8	22.3	25.3	28.0	24.7	21.9	18.7	20.2	21.1	20.4
Sheep and lambs:																
Slaughter (federally inspected)..... thous. animals	10,256	9,905	840	866	937	828	751	835	700	710	690	858	727	807	844	
Price, wholesale, lambs, average (Omaha)																
\$ per 100 lb.....	27.43	30.13	31.25	30.00	26.75	27.00	29.25	33.62	39.25	40.75	34.50	36.25	38.00	39.25	41.50	33.38
MEATS AND LARD																
Total meats:																
Production (carcass weight, leaf lard in), inspected slaughter..... mil. lb.	36,209	35,632	3,082	2,968	3,228	3,130	2,893	3,077	2,658	2,911	2,511	2,992	2,747	2,561	2,567	
Stocks (excluding lard), cold storage, end of period..... mil. lb.	796	670	599	554	642	702	670	680	661	687	706	700	675	590	508	520
Exports (meat and meat preparations)..... do.....	1,647	614	49	47	67	57	57	48	52	81	75	74	66	49	57	
Imports (meat and meat preparations)..... do.....	1,789	2,012	216	206	202	174	138	165	148	133	149	166	143	153	209	
Beef and veal:																
Production, inspected slaughter..... do.....	19,697	20,523	1,849	1,760	1,876	1,762	1,693	1,801	1,552	1,645	1,363	1,696	1,624	1,566	1,482	
Stocks, cold storage, end of period..... do.....	375	380	294	308	337	363	380	395	383	369	374	349	333	309	264	
Exports..... do.....	44	54	4	4	7	7	6	5	4	6	5	7	8	6	6	
Imports..... do.....	1,265	1,461	168	169	156	131	101	121	108	94	104	119	102	116	167	
Price, wholesale, beef, fresh, steer carcasses, choice (600-700 lbs.) (New York)..... \$ per lb.	.547	.577	.568	.553	.548	.533	.590	.645	.690	.712	.719	.710	.728	.749	.713	
Lamb and mutton:																
Production, inspected slaughter..... mil. lb.	522	515	41	43	49	44	40	45	38	39	38	47	38	42	42	
Stocks, cold storage, end of period..... do.....	19	16	21	19	18	17	16	13	11	11	13	15	16	14	13	
Pork (including lard), production, inspected slaughter..... mil. lb.	15,989	14,594	1,192	1,165	1,303	1,325	1,160	1,232	1,068	1,227	1,110	1,250	1,086	953	1,040	
Pork (excluding lard):																
Production, inspected slaughter..... do.....	113,452	12,551	1,023	1,013	1,132	1,144	1,015	1,077	938	1,074	976	1,079	940	839	924	
Stocks, cold storage, end of period..... do.....	330	214	204	192	209	242	214	207	204	242	248	259	253	202	180	
Exports..... do.....	72	105	5	8	17	7	7	6	12	33	31	29	14	6	4	
Imports..... do.....	357	395	29	24	35	35	31	34	30	29	37	37	35	30	34	
Prices, wholesale:																
Hams, smoked composite..... \$ per lb.	.534	.625	.581	.594	.641	.703	.752	.730	.705	.798	.764	.722	.745	.794	1.045	.839
Fresh loins, 8-14 lb. average (New York)..... do.....	.498	.645	.654	.668	.682	.644	.720	.768	.799	.756	.737	.737	.730	.883	1.167	.866
Lard:																
Production, inspected slaughter..... mil. lb.	1,830	1,465	121	108	123	130	103	111	92	109	95	122	105	83	82	
Stocks, dry and cold storage, end of period..... do.....	100	51	52	44	44	58	51	52	44	50	49	50	40	34	32	
Exports..... do.....	282	164	5	14	12	32	4	19	5	7	11	5	17	4	7	
Price, wholesale, refined (Chicago)..... \$ per lb.	.147	.148	.147	.149	.153	.164	.157	.156	.178	.205	.203	.215	.238	.240	.245	
POULTRY AND EGGS																
Poultry:																
Slaughter (commercial production)..... mil. lb.	10,357	10,883	1,113	981	1,091	977	833	855	721	781	725	886	949	920	1,070	
Stocks, cold storage (frozen), end of period, total mil. lb.	378	324	422	521	590	413	324	294	251	204	179	174	229	292	357	467
Turkeys..... do.....	223	208	314	408	473	297	208	187	153	116	90	88	138	200	262	357
Price, in Georgia producing area, live broilers \$ per lb.	.128	.133	.135	.145	.135	.130	.130	.155	.190	.235	.255	.220	.240	.260	.420	.305

* Revised.

1 Annual total reflects revisions not distributed to the months.

2 Effective May 1971, data are for 5 markets; beginning April 1972, for 4 markets.

3 Beginning Jan. 1972, price for East Coast (New York and Philadelphia average).

Unless otherwise stated in footnotes below, data through 1970 and descriptive notes are as shown in the 1971 edition of BUSINESS STATISTICS

	1971	1972	1972					1973							
	Annual		Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.

FOOD AND KINDRED PRODUCTS; TOBACCO—Continued

POULTRY AND EGGS—Continued																
Eggs:																
Production on farms.....mil. cases	194.9	193.1	16.0	15.3	15.8	15.3	15.9	15.8	14.4	16.1	15.7	16.0	15.1	15.2	15.0	14.6
Stocks, cold storage, end of period:																
Shell.....thous. cases	60	41	200	247	173	85	41	116	87	97	37	41	72	51	65	79
Frozen.....mil. lb.	74	68	88	84	80	76	68	58	53	49	46	45	46	49	50	50
Price, wholesale, large (delivered; Chicago) \$ per doz.	.332	.338	.327	.373	.344	.402	.498	.526	.431	.499	.500	.486	.562	.650	.756	.688
MISCELLANEOUS FOOD PRODUCTS																
Cocoa (cacao) beans:																
Imports (incl. shells).....thous. lg. tons	315.8	282.2	13.4	6.8	13.1	10.0	36.1	38.1	34.2	27.7	29.0	29.3	17.0	15.8	9.9	-----
Price, wholesale, Accra (New York) \$ per lb.	.268	.322	.341	.360	.385	.376	.384	.369	.389	.414	.525	.614	.674	.870	.790	.758
Coffee (green):																
Inventories (roasters', importers', dealers'), end of period.....thous. bags	4,000	3,663	-----	3,852	-----	-----	3,663	-----	-----	3,920	-----	-----	4,298	-----	-----	-----
Roastings (green weight).....do	19,607	20,075	-----	4,660	-----	-----	5,127	-----	-----	5,203	-----	-----	4,795	-----	-----	-----
Imports, total.....do	21,669	20,757	1,947	2,149	2,057	1,643	1,285	1,996	1,844	2,101	2,040	2,494	1,710	1,573	1,731	-----
From Brazil.....do	5,991	6,152	383	969	454	430	319	696	250	266	321	475	424	211	411	-----
Price, wholesale, Santos, No. 4 (N.Y.) \$ per lb.	3.461	3.544	.625	.590	.580	.560	.570	.620	.655	.650	.650	.650	.670	.700	.700	.725
Confectionery, manufacturers' sales.....mil. \$	1,974	1,976	177	221	195	199	172	184	172	182	154	143	135	114	183	-----
Fish:																
Stocks, cold storage, end of period.....mil. lb.	302	415	352	398	419	416	415	382	344	298	263	270	291	324	336	-----
Sugar (United States):																
Deliveries and supply (raw basis): [§]																
Production and receipts:																
Production.....thous. sh. tons	4,585	4,938	130	188	783	1,028	996	650	397	305	281	212	168	112	-----	-----
Entries from off-shore, total [¶]do	6,601	6,700	617	542	481	391	396	547	379	536	617	592	648	707	408	-----
Hawaii and Puerto Rico.....do	1,230	1,262	90	160	179	30	43	55	49	90	120	137	140	103	92	-----
Deliveries, total [¶]do	11,439	11,531	1,167	1,106	865	855	1,043	787	743	1,058	892	988	1,063	1,027	-----	-----
For domestic consumption.....do	11,288	11,420	1,155	1,099	853	849	1,035	780	738	1,049	886	984	1,058	1,025	-----	-----
Stocks, raw and ref., end of period.....do	2,687	2,757	1,532	1,204	1,638	2,217	2,757	2,941	3,038	2,777	2,831	2,604	2,291	2,040	1,398	-----
Exports, raw and refined.....sh. tons	481	778	55	100	67	61	104	35	1,454	64	134	137	313	239	286	-----
Imports:																
Raw sugar, total [¶]thous. sh. tons	5,262	5,154	579	401	352	317	381	435	288	441	475	506	418	448	566	-----
From the Philippines.....do	1,544	1,246	217	187	45	117	143	104	47	127	139	168	153	262	215	-----
Refined sugar, total.....do	48	76	1	3	35	2	5	1	5	3	2	1	(*)	5	5	-----
Prices (New York):																
Raw, wholesale.....\$ per lb.	.085	.091	.094	.094	.094	.090	.092	.094	.092	.094	.097	.100	.103	.102	.108	.109
Refined:																
Retail (incl. N.E. New Jersey).....\$ per 5 lb.	.695	.704	.695	.699	.704	.711	.713	.713	.725	.734	.736	.751	.767	.775	.779	-----
Wholesale (excl. excise tax).....\$ per lb.	.117	.123	.124	.124	.124	.122	.122	.122	.132	.132	.133	.127	.127	.132	.137	.137
Tea, imports.....thous. lb.	175,432	151,495	11,581	12,830	14,348	11,460	10,731	15,481	14,295	15,399	14,107	17,423	12,425	13,660	12,614	-----
FATS, OILS, AND RELATED PRODUCTS																
Baking or frying fats (incl. shortening):																
Production.....mil. lb.	3,515.0	3,532.5	314.9	295.6	329.2	316.1	288.5	295.5	275.5	317.6	275.3	291.6	262.5	240.4	296.5	-----
Stocks, end of period [¶]do	127.6	127.3	114.2	120.8	118.7	127.8	127.3	140.5	128.8	125.1	136.8	120.6	137.3	120.4	84.0	-----
Salad or cooking oils:																
Production.....do	3,500.0	3,904.8	344.7	307.8	320.2	307.5	317.0	320.6	314.1	367.9	306.2	354.3	352.3	287.1	334.1	-----
Stocks, end of period [¶]do	76.1	85.6	88.2	78.2	84.5	92.0	85.6	92.9	88.8	88.8	92.6	90.9	112.2	72.3	51.2	-----
Margarine:																
Production.....do	2,290.0	2,361.2	194.5	197.1	203.5	215.8	228.4	232.5	191.5	198.4	184.3	200.1	168.3	151.7	189.2	-----
Stocks, end of period [¶]do	57.1	69.3	71.0	68.9	69.8	67.7	69.3	80.6	80.2	70.1	66.6	68.2	69.7	57.4	46.2	-----
Price, wholesale (colored; mfr. to wholesaler or large retailer; delivered) \$ per lb.	.308	.313	.313	.313	.313	.313	.313	.313	.313	.313	.317	.324	.327	.327	.348	.367
Animal and fish fats:^Δ																
Tallow, edible:																
Production (quantities rendered).....mil. lb.	541.6	544.8	47.6	46.2	52.9	51.5	48.1	44.4	34.2	40.5	32.4	39.5	39.6	34.9	28.0	-----
Consumption in end products.....do	593.6	633.6	57.8	53.9	59.1	53.9	47.3	54.1	54.3	61.8	44.9	44.3	41.7	36.2	37.2	-----
Stocks, end of period [¶]do	41.3	45.3	36.7	35.7	37.2	38.3	45.3	50.8	43.9	31.8	28.3	26.9	22.8	22.2	20.6	-----
Tallow and grease (except wool), inedible:																
Production (quantities rendered).....do	4,967.7	4,834.3	408.2	394.0	423.6	424.9	404.2	408.1	341.1	365.5	312.3	375.9	352.0	345.5	333.7	-----
Consumption in end products.....do	2,622.7	2,761.6	241.8	236.7	240.3	222.5	204.5	232.6	205.7	234.7	205.3	231.1	206.8	191.4	201.3	-----
Stocks, end of period [¶]do	379.7	346.1	326.5	346.1	330.7	323.5	346.1	343.0	392.0	363.7	336.3	313.4	326.2	370.3	361.0	-----
Fish and marine mammal oils:																
Consumption in end products.....do	57.1	41.9	4.5	3.3	3.5	3.3	3.2	3.7	2.0	1.8	1.8	2.1	2.1	2.4	3.1	-----
Vegetable oils and related products:																
Coconut oil:																
Production: Crude.....mil. lb.																
Refined.....do	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
Consumption in end products.....do	553.3	593.0	48.3	50.6	54.2	48.0	44.9	58.7	50.1	56.5	54.2	62.5	54.0	44.2	47.3	-----
Stocks, crude and ref., end of period [¶]do	740.4	824.9	75.1	71.4	69.7	70.9	66.5	80.5	69.4	79.4	71.0	82.1	78.2	64.7	66.4	-----
Imports.....do	191.1	229.1	127.8	126.6	182.1	186.1	229.1	232.5	240.4	218.8	181.0	183.4	166.6	148.4	136.3	-----
Imports.....do	628.6	677.0	47.0	31.7	67.0	37.3	50.4	69.8	112.5	70.9	36.7	61.3	43.7	41.9	64.1	-----
Corn oil:																
Production: Crude.....do																
Refined.....do	485.1	507.2	43.5	43.2	44.1	40.3	40.1	42.6	41.7	46.3	40.6	46.2	45.9	45.8	45.2	-----
Consumption in end products.....do	440.3	464.5	38.2	40.4	43.0	42.8	38.1	45.3	34.7	51.2	40.4	41.0	44.1	44.1	41.2	-----
Stocks, crude and ref., end of period [¶]do	446.3	463.7	41.3	38.0	39.6	41.6	41.1	41.6	39.7	45.5	40.2	39.5	41.7	37.4	45.2	-----
Imports.....do	57.0	76.8	67.3	69.8	73.3	72.7	76.8	69.7	65.9	79.5	88.4	91.2	92.1	70.5	-----	

* Revised. † Preliminary. ‡ Data withheld to avoid disclosure of operations of individual firms. § Reflects revisions not available by months. ¶ Average for Jan.-Nov. † Average for Apr.-June and Aug.-Dec. ‡ Less than 500 sh. tons.

⊙ Cases of 30 dozen. ⊕ Bags of 132.276 lb. § Monthly data reflect cumulative revisions for prior periods. ¶ Includes data not shown separately; see also note "§". Δ For data on lard, see p. S-28. ⊗ Producers' and warehouse stocks. † Factory and warehouse stocks.

Unless otherwise stated in footnotes below, data through 1970 and descriptive notes are as shown in the 1971 edition of BUSINESS STATISTICS	1971	1972	1972					1973							
	Annual		Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.

FOOD AND KINDRED PRODUCTS; TOBACCO—Continued

FATS, OILS, AND RELATED PRODUCTS—Continued															
Vegetable oils and related products—Continued															
Cottonseed cake and meal:															
Production.....thous. sh. tons	1,720.6	1,923.8	87.2	78.4	200.4	242.4	228.4	238.7	218.0	236.8	208.9	195.7	158.8	131.0	124.4
Stocks (at oil mills), end of period.....do	93.1	50.0	67.7	32.9	37.5	44.5	50.0	48.7	51.7	73.2	100.6	114.8	122.1	108.9	82.3
Cottonseed oil:															
Production: Crude.....mil. lb.	1,209.4	1,355.2	61.2	53.4	139.3	165.5	157.3	163.3	152.0	163.4	172.0	136.3	108.4	92.9	87.1
Refined.....do	985.7	1,133.5	74.6	41.8	95.4	121.9	140.1	124.9	135.0	140.7	128.9	126.0	99.1	76.8	101.6
Consumption in end products.....do	728.5	712.0	70.6	50.9	65.7	68.7	63.5	61.2	55.4	58.4	73.7	88.1	80.5	69.5	65.1
Stocks, crude and refined (factory and warehouse), end of period.....mil. lb.	188.3	187.4	137.9	114.2	142.5	161.5	187.4	215.4	239.1	212.7	220.6	232.5	215.8	190.0	180.9
Exports (crude and refined).....do	2,400.7	475.4	58.3	13.0	18.9	70.6	32.2	57.9	56.6	78.7	40.7	63.7	55.3	39.0	23.8
Price, wholesale (N.Y.).....\$ per lb.	.190	.159	.150	.147	.160	.139	.141	.141	.166	.185	.190	.210	.223		
Linseed oil:															
Production, crude (raw).....mil. lb.	412.2	439.7	40.4	41.1	34.0	35.0	28.2	31.3	25.1	26.5	28.5	30.2	39.9	29.6	33.4
Consumption in end products.....do	213.6	243.7	23.2	20.9	21.7	18.5	17.1	15.8	14.5	18.7	17.3	20.2	21.1	19.8	20.1
Stocks, crude and refined (factory and warehouse), end of period.....mil. lb.	224.8	253.7	253.3	259.1	258.4	246.3	253.7	225.3	224.1	177.3	153.4	127.1	113.0	86.4	73.4
Price, wholesale (Minneapolis).....\$ per lb.	.089	.092	.095	.095	.095	.095	.095	.095	.095	.095	.095	.095	.140	.150	.150
Soybean cake and meal:															
Production.....thous. sh. tons	17,104.2	16,993.1	1,335.4	1,198.5	1,519.2	1,612.0	1,571.5	1,611.9	1,479.7	1,461.6	1,324.3	1,406.2	1,189.1	1,009.0	1,080.5
Stocks (at oil mills), end of period.....do	119.8	180.5	174.6	150.6	148.3	133.7	180.5	162.3	177.8	167.1	169.4	156.5	158.5	166.0	168.2
Soybean oil:															
Production: Crude.....mil. lb.	8,081.5	8,083.7	645.7	581.0	713.3	742.4	716.6	723.5	676.8	680.8	618.3	655.8	553.1	470.1	500.8
Refined.....do	6,298.0	6,464.0	550.4	528.1	561.1	558.0	553.9	570.1	519.4	575.2	511.8	538.9	514.2	428.9	539.8
Consumption in end products.....do	6,322.9	6,748.7	571.6	500.6	595.1	584.7	588.1	589.2	538.9	589.0	521.2	581.8	534.3	464.2	577.8
Stocks, crude and refined (factory and warehouse), end of period.....mil. lb.	802.2	896.5	841.6	785.2	806.2	839.1	896.5	948.6	966.5	920.5	1,004.8	900.1	822.7	748.7	623.3
Exports (crude and refined).....do	21,611.7	1,148.7	57.5	68.3	58.4	109.7	50.7	52.7	120.9	132.3	49.3	111.8	90.3	81.5	39.7
Price, wholesale (refined; N.Y.).....\$ per lb.	.151	.131	.128	.125	.120	.117	.124	.117	.150	.166	.174	.189	.226		
TOBACCO															
Leaf:															
Production (crop estimate).....mil. lb.	1,705	1,749													1,770
Stocks, dealers' and manufacturers' end of period.....mil. lb.	4,828	4,700		4,405			4,700			4,459		4,039			
Exports, incl. scrap and stems.....thous. lb.	2,474,209	606,176	40,455	48,264	54,114	63,105	56,151	43,050	45,276	45,597	43,573	46,140	45,321	40,122	40,593
Imports, incl. scrap and stems.....do	2,248,529	240,509	23,934	21,040	20,924	17,123	19,637	21,516	24,416	20,052	20,904	25,603	19,045	19,069	21,650
Manufactured:															
Consumption (withdrawals):															
Cigarettes (small):															
Tax-exempt.....millions	49,206	47,171	4,676	4,172	2,907	4,136	4,079	4,070	4,917	5,219	4,821	3,988	4,237	4,469	
Taxable.....do	528,858	551,016	53,566	45,038	51,321	46,937	36,762	48,230	45,576	49,346	44,693	52,042	50,757	43,525	
Cigars (large), taxable.....do	6,506	5,891	563	485	561	520	344	464	402	463	485	507	483	403	
Exports, cigarettes.....do	31,802	34,602	2,923	2,921	3,544	3,476	3,089	2,343	3,546	3,834	4,226	2,642	2,917	3,133	4,391

LEATHER AND PRODUCTS

HIDES AND SKINS															
Exports:															
Value, total.....thous. \$	155,821	292,023	23,993	24,376	36,113	40,816	37,255	35,887	45,483	44,199	30,863	33,474	25,441	23,731	24,077
Calf and kip skins.....thous. skins	2,222	2,064	180	153	164	156	172	223	177	209	131	209	113	117	135
Cattle hides.....thous. hides	15,962	17,589	1,324	1,290	1,893	1,733	1,524	1,461	1,837	1,802	1,340	1,411	1,266	1,155	1,100
Imports:															
Value, total.....thous. \$	52,100	65,200	5,700	4,400	5,700	4,200	3,800	7,000	7,500	9,700	9,400	8,700	7,900	8,600	6,900
Sheep and lamb skins.....thous. pieces	19,283	16,832	1,993	1,075	704	326	406	910	1,437	1,883	1,547	1,219	804	1,598	1,157
Goat and kid skins.....do	1,956	3,355	268	206	425	159	166	256	253	152	237	272	52	83	113
Prices, wholesale, f.o.b. shipping point:															
Calfskins, packer, heavy, 9/4/15 lb.....\$ per lb.	.294	.563	.650	.650	.650	.650	.660	.660	.660	.660	.610	.610	.610	.610	.610
Hides, steer, heavy, native, over 53 lb.....do	.145	.296	.340	.335	.405	.430	.320	.340	.335	.283	.383	.363	.338	.363	.355
LEATHER															
Production:															
Calf and whole kip.....thous. skins	1,621	1,603	148	118	133	143	106	114	88	99	77	117	124	81	
Cattle hide and side kip.....thous. hides and kips	20,477	20,084	1,804	1,693	1,712	1,546	1,387	1,504	1,446	1,637	1,515	1,627	1,582	1,141	
Goat and kid.....thous. skins	3,148	3,522	334	292	309	291	330	278	215	246	251	257	248	141	
Sheep and lamb.....do	21,385	20,191	1,869	1,545	1,663	1,727	1,514	1,312	1,268	1,422	1,374	1,418	1,380	968	
Exports:															
Upper and lining leather.....thous. sq. ft.	82,944	117,556	10,935	11,781	11,413	10,323	8,223	8,746	7,872	9,254	11,311	12,618	10,873	8,154	10,353
Prices, wholesale, f.o.b. tannery:															
Sole, bends, light.....index, 1967=100	114.4	157.5			194.2	194.2	194.2	194.2	194.2	194.2	194.2	194.2	166.8	166.8	187.0
Upper, chrome calf, B and C grades.....index, 1967=100	81.8	106.7	111.7	115.3	117.9	117.9	117.9	117.9	117.9	117.9	124.2				
LEATHER MANUFACTURES															
Shoes and slippers:															
Production, total.....thous. pairs	535,777	525,665	47,246	44,243	46,243	41,056	38,547	42,574	41,555	46,495	41,678	41,669	41,513	31,939	43,865
Shoes, sandals, and play shoes, except athletic.....thous. pairs	425,875	417,604	36,546	33,749	34,615	30,663	31,298	34,301	33,265	36,761	32,584	31,395	32,301	25,536	33,025
Slippers.....do	98,147	98,272	9,760	9,526	10,818	9,305	6,364	7,249	7,343	8,701	8,059	9,094	8,169	5,745	9,723
Athletic.....do	8,440	8,726	729	772	810	861	705	861	802	884	860	943	842	569	880
Other footwear.....do	3,815	2,053	211	196	155	227	180	163	145	149	175	237	201	89	237
Exports.....do	2,106	2,253	222	206	218	231	220	190	226	254	264	284	335	312	357
Prices, wholesale, f.o.b. factory:															
Men's and boys' oxfords, dress, elk or side upper, Goodyear welt.....index, 1967=100	117.5	128.6	131.4	131.4	131.4	135.0	135.0	135.0	138.9	138.9	140.1	140.1	140.1	140.1	140.1
Women's oxfords, elk side upper, Goodyear welt.....index, 1967=100	120.1	125.7	127.9	127.9	127.9	129.2	129.2	129.2	131.2	131.2	135.5	135.5	135.5	135.5	135.5
Women's pumps, low-medium quality.....do	121.2	127.0	130.4								130.4	121.1	121.1	121.1	121.1

† Revised. † Crop estimate for the year. † Corrected.
 † Annual total reflects revisions not distributed to the monthly data.
 † Average for Jan.-July and Oct.-Dec.

† Jan.-Aug. average.
 † Oct. 1 estimate of 1973 crop.
 † Includes data for items not shown separately.

Unless otherwise stated in footnotes below, data through 1970 and descriptive notes are as shown in the 1971 edition of BUSINESS STATISTICS	1971	1972	1972					1973							
	Annual		Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.

LUMBER AND PRODUCTS

LUMBER—ALL TYPES [?]																
National Forest Products Association:																
Production, total.....mil. bd. ft.	36,693	38,867	3,417	3,303	3,528	3,193	2,664	3,012	3,074	3,456	3,272	3,290	3,207	3,038	3,456	
Hardwoods.....do.....	6,949	7,244	600	595	627	615	430	535	545	567	510	491	549	580	631	
Softwoods.....do.....	29,744	31,622	2,817	2,708	2,901	2,578	2,234	2,477	2,529	2,890	2,763	2,799	2,658	2,458	2,825	
Shipments, total.....do.....	37,769	40,070	3,468	3,387	3,520	3,203	2,776	3,153	3,102	3,474	3,386	3,351	3,264	3,044	3,402	
Hardwoods.....do.....	7,455	7,731	609	630	627	615	479	678	606	642	620	563	544	534	582	
Softwoods.....do.....	30,314	32,339	2,859	2,757	2,893	2,588	2,297	2,475	2,496	2,832	2,766	2,788	2,720	2,511	2,820	
Stocks (gross), mill, end of period, total.....do.....	5,288	4,086	4,184	4,097	4,149	4,094	4,086	3,954	3,926	3,802	3,896	3,835	3,765	3,758	3,813	
Hardwoods.....do.....	999	512	479	441	441	438	512	369	307	224	222	150	152	198	248	
Softwoods.....do.....	4,289	3,574	3,705	3,656	3,708	3,656	3,574	3,586	3,619	3,677	3,674	3,686	3,613	3,561	3,565	
Exports, total sawmill products.....do.....	1,081	1,390	132	129	139	104	103	125	130	176	194	201	174	152	181	
Imports, total sawmill products.....do.....	7,599	9,428	690	820	815	886	689	935	760	883	837	931	899	823	623	
SOFTWOODS																
Douglas fir:																
Orders, new.....mil. bd. ft.	8,507	9,242	720	942	776	638	636	759	720	864	783	692	813	803	736	
Orders, unfilled, end of period.....do.....	666	617	583	684	686	577	617	666	695	752	731	643	636	726	622	
Production.....do.....	8,283	8,983	714	861	784	742	552	743	736	877	814	769	792	682	814	
Shipments.....do.....	8,398	9,191	747	841	774	747	596	710	691	807	804	780	820	713	840	
Stocks (gross), mill, end of period.....do.....	943	735	754	774	784	779	735	768	813	883	893	882	854	823	797	
Exports, total sawmill products.....do.....	329	405	35	37	34	35	25	46	45	53	76	79	53	47	56	
Sawed timber.....do.....	88	111	12	9	17	4	4	16	14	6	27	39	13	10	16	
Boards, planks, scantlings, etc.....do.....	240	294	24	28	18	31	21	31	31	47	49	40	40	37	40	
Prices, wholesale:																
Dimension, construction, dried, 2" x 4", R. L. \$ per M bd. ft.	117.68	144.27	149.72	150.30	150.70	151.28	151.28	152.46	168.46	193.96	197.22	209.91	192.13	180.93	180.19	190.27
Southern pine:																
Orders, new.....mil. bd. ft.	7,942	8,539	824	798	794	706	634	677	703	763	644	726	656	609	690	
Orders, unfilled, end of period.....do.....	421	435	508	510	504	494	435	472	536	561	525	556	546	528	550	
Production.....do.....	7,734	8,337	802	770	815	710	697	659	640	731	643	705	649	628	689	
Shipments.....do.....	7,894	8,525	826	796	800	716	693	640	639	738	680	695	666	627	668	
Stocks (gross), mill and concentration yards, end of period.....mil. bd. ft.	1,216	1,028	1,041	1,015	1,030	1,024	1,028	1,047	1,048	1,041	1,004	1,014	997	998	1,019	
Exports, total sawmill products.....M bd. ft.	64,923	64,456	5,044	4,852	7,728	4,429	6,618	4,877	4,715	6,508	10,020	8,803	9,580	7,946	9,696	
Prices, wholesale, (Indexes):																
Boards, No. 2 and better, 1" x 6", R. L. 1967=100	133.7	154.7	158.5	159.6	159.9	159.9	159.9	160.4	168.5	176.5	188.4	195.0	204.9	201.4	214.1	217.6
Flooring, B and better, F. G. 1" x 4", S. L. 1967=100	132.8	140.8	140.7	141.5	141.8	143.4	143.4	143.4	150.3	162.7	169.9	178.6	200.1	185.9	192.4	211.0
Western pine:																
Orders, new.....mil. bd. ft.	10,299	10,756	944	1,037	929	731	803	820	877	950	877	901	885	949	957	
Orders, unfilled, end of period.....do.....	362	555	540	591	555	494	555	569	616	629	602	552	551	631	627	
Production.....do.....	10,019	10,395	929	970	956	812	723	745	818	933	934	971	882	857	970	
Shipments.....do.....	10,271	10,563	938	986	965	792	742	806	830	937	904	951	886	869	961	
Stocks (gross), mill, end of period.....do.....	1,382	1,214	1,238	1,222	1,213	1,233	1,214	1,153	1,141	1,137	1,167	1,187	1,183	1,171	1,180	
Price, wholesale, Ponderosa, boards, No. 3, 1" x 12", R. L. (6" and over) \$ per M bd. ft.	96.44	130.91	139.34	138.78	138.44	138.05	136.37	139.85	154.21	183.12	212.59	243.95	228.13	197.73	160.65	155.33
HARDWOOD FLOORING																
Oak:																
Orders, new.....mil. bd. ft.	323.3	268.2	26.1	21.6	20.2	17.3	14.6	18.4	14.8	16.3	13.3	15.1	16.2	13.2	17.4	
Orders, unfilled, end of period.....do.....	8.1	11.6	14.6	14.0	13.4	12.2	11.6	9.2	7.9	7.3	5.0	4.0	6.0	6.3	5.5	
Production.....do.....	206.6	244.8	25.1	20.5	20.4	19.3	15.4	16.8	14.9	16.3	15.1	15.8	14.6	12.6	18.9	
Shipments.....do.....	320.9	261.1	25.7	22.1	20.8	20.0	14.8	18.6	15.8	17.1	15.9	16.6	15.3	11.6	18.1	
Stocks (gross), mill, end of period.....do.....	22.0	6.6	8.8	7.2	6.8	6.8	6.6	5.7	5.1	4.6	3.8	3.7	3.2	3.6	4.4	

METALS AND MANUFACTURES

IRON AND STEEL															
Exports:															
Steel mill products.....thous. sh. tons.	2,827	2,873	301	304	252	207	245	288	221	323	340	372	323	343	324
Scrap.....do.....	6,256	7,383	595	611	653	695	895	900	836	1,090	771	1,217	1,057	1,130	1,234
Pig iron.....do.....	34	15	(*)	(*)	2	2	3	(*)	1	1	2	1	2	1	1
Imports:															
Steel mill products.....do.....	18,304	17,681	1,787	1,570	1,910	1,824	1,609	1,381	1,306	1,170	1,051	1,604	1,229	1,380	1,316
Scrap.....do.....	325	373	24	31	26	32	35	36	25	31	33	46	51	39	36
Pig iron.....do.....	320	653	43	68	68	49	116	27	7	11	59	71	53	45	36
Iron and Steel Scrap															
Production.....thous. sh. tons.	49,169	51,184	4,334	4,336	4,542	4,342	4,408	4,731	4,465	5,071	5,013	5,099	4,810	4,551	
Receipts, net.....do.....	33,987	42,599	3,087	3,142	3,480	3,351	3,187	3,459	3,328	3,899	3,693	3,856	3,668	3,378	
Consumption.....do.....	82,567	94,300	7,279	7,591	8,149	7,877	7,848	8,381	7,866	8,915	8,846	9,039	8,495	7,866	
Stocks, end of period.....do.....	8,494	8,169	8,792	8,644	8,593	8,390	8,134	7,878	7,918	7,973	7,843	7,792	7,789	7,880	
Prices, steel scrap, No. 1 heavy melting:															
Composite (5 markets).....\$ per lg. ton.	33.19	34.65	35.68	35.76	36.62	37.09	39.08	43.53	48.27	46.37	44.57	49.65	52.92	52.95	52.95
Pittsburgh district.....do.....	36.80	38.00	40.50	40.50	38.50	40.50	43.00	48.50	48.00	48.00	44.50	52.50	55.50	55.50	56.00

* Revised. * Preliminary. ¹Annual data; monthly revisions are not available. ²Beginning Jan. 1971, data reflect changes in size specifications, and are not comparable with

those for earlier periods. ³Less than 500 tons. ⁴Totals include data for types of lumber not shown separately

Unless otherwise stated in footnotes below, data through 1970 and descriptive notes are as shown in the 1971 edition of BUSINESS STATISTICS	1971	1972	1972					1973							
	Annual	Annual	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.

METALS AND MANUFACTURES—Continued

IRON AND STEEL—Continued															
Ore															
Iron ore (operations in all U.S. districts):															
Mine production..... thous. lg. tons	1 80,762	75,285	7,886	7,985	6,536	5,569	5,553	5,551	5,260	5,931	5,987	9,046	8,940	8,617	-----
Shipments from mines..... do	1 77,692	78,201	10,535	9,277	9,062	7,677	5,883	2,035	2,492	2,367	6,635	10,414	10,404	11,066	-----
Imports..... do	40,124	35,761	4,141	3,267	3,695	4,501	2,757	1,783	1,685	1,529	2,863	3,977	4,577	4,353	5,071
U.S. and foreign ores and ore agglomerates:															
Receipts at iron and steel plants..... do	114,051	112,303	13,581	12,541	13,174	11,094	9,037	4,018	4,561	4,334	9,058	14,419	14,363	15,657	14,940
Consumption at iron and steel plants..... do	108,966	119,937	9,933	9,632	10,294	10,205	10,729	11,156	10,423	11,542	11,404	11,771	11,408	11,636	11,645
Exports..... do	3,061	2,095	329	325	275	91	213	84	46	65	215	164	331	371	425
Stocks, total, end of period..... do	78,815	66,962	67,669	60,656	70,159	60,063	66,962	63,232	59,565	55,267	52,347	53,499	55,301	57,006	-----
At mines..... do	17,653	14,289	19,731	17,019	14,893	14,289	17,973	20,626	24,174	23,537	22,096	20,642	20,642	18,196	-----
At furnace yards..... do	57,738	50,061	45,071	47,980	50,862	51,751	50,001	42,923	37,061	29,853	27,582	30,230	33,204	37,231	40,524
At U.S. docks..... do	3,424	2,612	1,576	1,945	2,278	2,419	2,612	2,336	1,878	1,240	1,228	1,173	1,455	1,579	1,766
Manganese (mn. content), general imports..... do	1,019	949	97	88	90	74	50	106	72	52	101	99	58	85	72
Pig Iron and Iron Products															
Pig Iron:															
Production (excluding production of ferroalloys)..... thous. sh. tons	81,299	88,952	7,385	7,116	7,606	7,475	7,960	8,199	7,756	8,627	8,490	8,809	8,468	8,516	8,282
Consumption..... do	1 81,178	1 89,140	7,362	7,175	7,684	7,438	7,682	8,242	7,778	8,762	8,526	8,981	8,571	8,527	-----
Stocks, end of period..... do	1 1,779	1,660	1,841	1,787	1,745	1,711	1,656	1,655	1,542	1,450	1,415	1,358	1,295	1,378	-----
Prices:															
Composite..... \$ per lg. ton	76.03	80.33	81.70	81.70	81.70	81.70	81.70	(4)	-----	-----	-----	-----	-----	-----	-----
Basic (furnace)..... \$ per sh. ton	67.70	71.38	72.21	72.21	72.21	72.21	72.21	71.99	71.99	75.89	75.89	75.89	75.89	75.89	75.89
Foundry, No. 2, Northern..... do	68.75	-----	74.33	-----	74.33	-----	74.33	-----	-----	77.90	77.90	77.90	77.90	-----	-----
Castings, gray iron:															
Orders, unfilled, for sale, end of period..... thous. sh. tons	835	1,140	1,030	1,070	1,093	1,102	1,140	1,245	1,237	1,297	1,339	1,383	1,447	1,495	-----
Shipments, total..... do	13,839	15,320	1,242	1,292	1,415	1,319	1,206	1,425	1,362	1,542	1,437	1,550	1,500	1,308	-----
For sale..... do	7,606	8,293	715	707	771	692	641	709	690	781	746	815	815	726	-----
Castings, malleable iron:															
Orders, unfilled, for sale, end of period..... thous. sh. tons	88	96	88	84	87	88	96	98	110	115	116	118	124	132	-----
Shipments, total..... do	882	960	78	80	87	87	87	88	87	95	88	96	88	72	-----
For sale..... do	606	578	48	49	52	54	47	52	52	57	51	57	52	44	-----
Steel, Raw and Semifinished															
Steel (raw):															
Production..... thous. sh. tons	120,443	133,241	10,842	10,913	11,657	11,398	11,878	12,373	11,626	13,088	12,789	13,174	12,488	12,290	12,181
Index..... daily average 1967=100	94.7	104.5	100.4	104.4	107.9	109.0	109.9	114.5	119.1	121.1	122.3	121.9	119.4	113.8	112.7
Steel castings:															
Orders, unfilled, for sale, end of period..... thous. sh. tons	281	318	295	310	322	311	318	338	364	407	444	471	535	601	-----
Shipments, total..... do	1,589	1,609	119	134	153	135	144	148	150	168	157	162	164	122	-----
For sale, total..... do	1,295	1,321	97	108	128	111	120	123	124	140	131	136	140	103	-----
Steel Mill Products															
Steel products, net shipments:															
Total (all grades)..... thous. sh. tons	1 87,038	1 91,805	7,805	7,929	8,243	8,044	8,127	9,111	8,665	9,861	9,163	10,023	9,657	8,703	9,422
By product:															
Semifinished products..... do	4,962	4,917	395	455	483	469	466	463	460	529	460	540	477	424	479
Structural shapes (heavy), steel piling..... do	5,666	5,656	488	481	509	519	559	500	452	562	604	672	619	596	622
Plates..... do	7,939	7,553	609	646	664	671	816	702	679	821	785	847	806	786	853
Rails and accessories..... do	1,664	1,601	108	115	129	124	148	146	138	167	146	166	143	125	119
Bars and tool steel, total..... do	14,156	15,518	1,339	1,335	1,381	1,347	1,362	1,412	1,374	1,667	1,522	1,660	1,578	1,419	1,531
Bars: Hot rolled (incl. light shapes)..... do	8,179	9,299	775	791	819	825	873	850	845	1,033	937	977	952	829	890
Reinforcing..... do	4,521	4,454	419	395	400	367	398	350	359	434	396	451	434	418	445
Cold finished..... do	1,378	1,675	139	142	153	147	143	173	161	190	179	192	184	164	187
Pipe and tubing..... do	7,674	7,609	664	649	645	621	732	653	646	776	737	813	785	708	791
Wire and wire products..... do	2,791	2,952	258	263	264	243	235	275	251	318	293	292	286	240	273
Tin mill products..... do	6,811	6,135	577	491	445	445	436	772	845	495	483	586	629	594	626
Sheets and strip (incl. electrical), total..... do	35,574	39,882	3,367	3,493	3,674	3,606	3,342	4,188	3,820	4,535	4,134	4,463	4,334	3,812	4,128
Sheets: Hot rolled..... do	11,760	14,036	1,209	1,277	1,311	1,318	1,250	1,458	1,332	1,568	1,388	1,449	1,439	1,320	1,394
Cold rolled..... do	14,898	16,123	1,306	1,365	1,474	1,423	1,312	1,761	1,605	1,883	1,744	1,908	1,801	1,521	1,679
By market (quarterly shipments):															
Service centers and distributors..... do	1 16,184	118,598	-----	4,619	-----	-----	5,140	-----	-----	5,322	-----	-----	5,842	2 1,848	2 1,934
Construction, incl. maintenance..... do	1 9,541	9,299	-----	2,388	-----	-----	2,396	-----	-----	2,556	-----	-----	2,980	2 945	2 1,028
Contractors' products..... do	1 4,946	5,055	-----	1,310	-----	-----	1,346	-----	-----	1,459	-----	-----	1,721	2 545	2 584
Automotive..... do	1 17,483	18,217	-----	4,302	-----	-----	4,819	-----	-----	6,129	-----	-----	6,153	2 1,781	2 1,948
Rail transportation..... do	3,004	2,730	-----	592	-----	-----	728	-----	-----	771	-----	-----	842	2 248	2 264
Machinery, industrial equip., tools..... do	4,903	5,396	-----	1,314	-----	-----	1,514	-----	-----	1,607	-----	-----	1,628	2 468	2 525
Containers, packaging, ship. materials..... do	7,212	6,616	-----	1,696	-----	-----	1,511	-----	-----	2,186	-----	-----	1,870	2 630	2 683
Other..... do	1 23,765	25,893	-----	6,388	-----	-----	6,960	-----	-----	7,613	-----	-----	7,806	2 2,237	2 2,457
Steel mill products, inventories, end of period:															
Consumers' (manufacturers only)..... mil. sh. tons	10.0	8.8	9.1	9.0	8.9	8.9	8.8	8.9	9.0	8.9	9.0	9.5	9.7	9.9	10.0
Receipts during period..... do	67.6	68.0	5.6	5.9	6.5	6.0	5.4	6.7	6.7	7.1	6.7	7.5	7.2	6.5	7.1
Consumption during period..... do	67.0	69.2	5.7	6.0	6.6	6.0	5.5	6.9	6.6	7.2	6.6	7.0	7.0	6.3	7.0
Service centers (warehouses)..... do	7.4	8.6	7.8	7.5	7.2	7.8	8.6	8.1	7.6	8.0	8.5	8.4	8.0	8.0	-----
Producing mills:															
In process (ingots, semifinished, etc.)..... do	10.6	11.3	11.8	11.5	11.3	11.2	11.3	11.0	10.8	10.5	10.2	10.0	10.0	10.0	10.0
Finished (sheets, plates, bars, pipe, etc.)..... do	8.8	10.2	9.8	9.8	10.0	10.1	10.2	10.0	9.7	9.2	9.0	9.0	8.0	7.9	7.6
Steel (carbon), finished, composite price... \$ per lb.	1.089	1.189	1.191	1.191	1.191	1.191	1.191	(4)	-----	-----	-----	-----	-----	-----	-----

Revised. Preliminary. Annual data: monthly or quarterly revisions are not available. For month shown. Average for 11 months. Series discontinued.

Effective May 1973 SURVEY, prices are in terms of dollars per short ton.

Unless otherwise stated in footnotes below, data through 1970 and descriptive notes are as shown in the 1971 edition of BUSINESS STATISTICS	1971	1972	1972					1973								
	Annual		Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
NONFERROUS METALS AND PRODUCTS																
Aluminum:																
Production, primary (dom. and foreign ores) thous. sh. tons	3,925	4,122	349	347	363	357	364	372	351	389	371	380	373	382	-----	-----
Recovery from scrap (aluminum content) do	1,943	1,041	87	89	90	83	88	87	88	99	90	99	90	81	-----	-----
Imports (general):																
Metal and alloys, crude do	560.4	646.4	39.2	52.2	47.0	57.3	54.5	58.2	38.8	50.9	43.1	44.7	50.7	34.6	36.0	-----
Plates, sheets, etc. do	71.0	80.9	7.5	5.0	5.4	5.9	6.0	6.5	6.2	6.4	4.6	5.6	4.8	4.3	4.9	-----
Exports:																
Metal and alloys, crude do	112.3	108.3	7.3	9.1	14.2	10.0	14.0	12.4	11.5	10.6	12.4	11.1	10.3	14.1	16.4	-----
Plates, sheets, bars, etc.* do	149.0	154.0	9.7	11.9	14.4	14.8	13.7	18.5	13.1	18.5	19.4	17.0	17.3	15.1	15.7	-----
Price, primary ingot, 99.5% minimum... \$ per lb.	.2900	.2645	.2500	.2500	.2500	.2500	.2500	.2500	.2500	.2500	.2500	.2500	.2500	.2500	.2500	.2500
Aluminum products:																
Shipments:																
Ingot and mill prod. (net ship.) mil. lb.	10,258.2	11,821.8	998.8	983.1	1,015.4	1,038.8	1,024.0	1,157.0	1,101.8	1,257.1	1,178.7	1,262.2	1,228.7	-----	-----	-----
Mill products, total do	7,846.2	9,209.2	797.1	778.6	794.2	776.9	765.8	826.3	818.8	951.3	906.5	968.8	939.7	-----	-----	-----
Sheet and plate do	3,976.4	4,760.4	407.3	403.6	397.3	393.0	404.4	424.2	430.5	502.0	479.1	517.7	493.7	-----	-----	-----
Castings do	1,577.2	1,860.0	147.7	152.1	165.8	171.6	154.3	186.3	178.6	191.9	172.7	180.0	171.3	-----	-----	-----
Inventories, total (ingot, mill prod., and scrap), end of period mil. lb.	5,029	4,804	4,877	4,840	4,828	4,808	4,804	4,840	4,764	4,696	4,622	4,561	4,547	-----	-----	-----
Copper:																
Production:																
Mine, recoverable copper thous. sh. tons	1,522.2	1,664.8	136.7	138.2	140.6	135.3	137.4	137.3	135.7	151.9	150.4	152.1	147.5	131.5	-----	-----
Refinery, primary do	1,591.8	1,809.1	142.0	149.9	149.2	157.6	143.8	157.4	143.8	166.7	158.1	168.7	163.4	145.0	-----	-----
From domestic ores do	1,410.5	1,616.2	129.4	128.7	111.2	134.9	132.7	141.1	128.8	145.6	143.1	153.7	147.3	132.8	-----	-----
From foreign ores do	181.3	192.8	12.6	21.2	18.0	22.7	11.1	16.4	15.0	21.0	15.0	15.0	16.1	12.2	-----	-----
Secondary, recovered as refined do	371.0	383.0	-----	4.9	-----	-----	4.9	-----	-----	-----	-----	-----	-----	-----	-----	-----
Imports (general):																
Refined, unrefined, scrap (copper cont.) do	365.8	423.6	35.6	36.3	43.0	47.6	22.8	40.8	39.9	44.6	27.9	31.5	21.5	36.4	21.1	-----
Refined do	162.1	189.8	18.5	14.0	21.7	23.3	11.6	21.3	18.2	21.5	12.7	16.2	10.4	12.2	8.0	-----
Exports:																
Refined and scrap do	283.0	267.7	19.6	20.8	20.3	15.8	19.9	22.1	24.4	23.6	28.8	23.4	31.1	48.9	36.3	-----
Refined do	187.7	182.7	12.3	12.8	13.7	10.7	14.7	15.9	15.6	12.8	17.7	13.5	18.3	19.7	18.4	-----
Consumption, refined (by mills, etc.) do	2,014	2,230	-----	4,504	-----	-----	4,601	-----	-----	-----	-----	-----	-----	-----	-----	-----
Stocks, refined, end of period do	277	271	-----	294	-----	-----	271	-----	-----	-----	-----	-----	-----	-----	-----	-----
Fabricators' do	174	114	-----	136	-----	-----	114	-----	-----	-----	-----	-----	-----	-----	-----	-----
Price, electrolytic (wirebars), dom., delivered \$ per lb.	2.5201	.5124	.5061	.5061	.5061	.5061	.5061	.5239	.5457	.5978	.6008	.6008	.6008	.6008	.6008	.6008
Copper-base mill and foundry products, shipments (quarterly total):																
Brass mill products mil. lb.	2,711	2,985	-----	700	-----	-----	786	-----	-----	878	-----	-----	-----	-----	-----	-----
Copper wire mill products (copper cont.) do	2,354	2,647	-----	628	-----	-----	699	-----	-----	791	-----	-----	-----	-----	-----	-----
Brass and bronze foundry products do	705	767	-----	172	-----	-----	187	-----	-----	200	-----	-----	-----	-----	-----	-----
Lead:																
Production:																
Mine, recoverable lead thous. sh. tons	578.6	618.9	56.9	50.6	51.7	46.1	45.0	53.5	49.5	44.8	39.3	56.1	43.4	51.2	-----	-----
Recovered from scrap (lead cont.) do	1,598.8	595.1	49.6	51.4	49.5	51.6	45.4	55.3	56.2	56.4	56.8	59.1	56.3	45.7	-----	-----
Imports (general), ore (lead cont.), metal do	261.7	344.6	22.9	38.4	22.6	27.2	23.6	45.1	27.6	17.7	16.5	22.1	21.3	36.5	28.4	-----
Consumption, total do	1,431.5	1,485.3	123.4	122.2	127.6	126.8	116.0	128.8	124.1	134.4	121.7	123.7	124.0	99.7	-----	-----
Stocks, end of period:																
Producers', ore, base bullion, and in process (lead content), A.B.M.S. thous. sh. tons	154.7	168.0	161.4	165.3	169.4	173.0	168.0	165.9	151.9	141.7	127.4	126.3	134.3	154.2	-----	-----
Refiners' (primary), refined and antimonial (lead content) thous. sh. tons	52.1	64.5	67.5	69.1	63.7	64.2	64.5	57.3	51.6	39.7	32.9	34.7	33.1	21.8	-----	-----
Consumers' (lead content) do	125.6	113.2	128.6	125.8	119.4	117.2	113.2	115.1	109.8	115.6	117.1	118.7	120.3	131.0	-----	-----
Scrap (lead-base, purchased), all smelters (gross weight) thous. sh. tons	76.2	60.2	65.2	62.9	63.3	53.7	60.2	59.3	59.9	63.0	64.9	68.8	64.3	64.2	-----	-----
Price, common grade Δ do	1.1380	.1503	.1541	.1500	.1467	.1450	.1450	.1482	.1526	.1600	.1602	.1648	.1650	.1650	.1650	.1650
Tin:																
Imports (for consumption):																
Ore (tin content) lg. tons	3,060	4,216	0	529	599	91	496	504	709	452	16	564	489	0	0	-----
Metal, unwrought, unalloyed do	146,940	52,451	3,406	2,105	6,532	4,723	4,135	5,103	2,967	5,221	3,547	5,474	4,083	4,858	3,622	-----
Recovery from scrap, total (tin cont.) do	120,006	120,180	1,690	1,815	1,685	1,820	1,470	1,670	1,710	1,955	1,755	1,725	1,705	1,290	-----	-----
As metal do	12,324	12,199	220	195	215	180	135	175	145	150	155	190	160	150	-----	-----
Consumption, total do	169,950	169,033	5,660	5,405	5,700	5,365	5,525	5,870	5,945	6,370	6,310	6,465	6,230	5,210	5,630	-----
Primary do	151,980	153,506	4,335	4,210	4,345	4,115	4,180	4,735	4,625	5,040	5,025	5,185	4,850	4,255	4,460	-----
Exports, incl. reexports (metal) do	2,306	1,466	95	145	34	81	226	126	311	130	95	51	158	291	249	-----
Stocks, pig (industrial), end of period do	9,804	11,766	12,195	10,080	11,370	12,180	11,766	10,270	8,880	9,610	9,270	8,155	9,030	8,895	10,795	-----
Price, pig, Straits (N.Y.), prompt \$ per lb.	1.6734	1.7747	1.7912	1.8199	1.8040	1.7721	1.7625	1.7904	1.9197	2.0509	2.0244	2.0911	2.1227	2.3755	2.4345	2.4023
Zinc:																
Mine prod., recoverable zinc thous. sh. tons																
Imports (general):																
Ore (zinc content) do	342.6	254.9	8.9	16.2	21.8	14.4	11.8	22.0	19.8	20.4	18.0	20.6	19.0	12.1	16.2	-----
Metal (slab, blocks) do	319.6	522.6	40.6	56.5	46.9	60.4	37.8	69.8	46.2	52.1	38.8	40.7	50.3	53.4	49.8	-----
Consumption (recoverable zinc content):																
Ores do	1,119.3	1,118.3	8.5	9.3	12.1	13.2	13.3	13.7	12.7	13.9	15.1	14.9	12.5	13.4	-----	-----
Scrap, all types do	1,277.3	1,292.1	22.2	21.7	22.0	22.8	21.9	22.0	22.1	22.8	22.3	25.6	24.8	23.0	-----	-----
Slab zinc:																
Production (primary smelter), from domestic and foreign ores thous. sh. tons																
Secondary (redistilled) production do	1,766.4	1,639.4	56.3	53.1	57.1	56.6	51.8	56.0	50.7	56.8	54.1	53.2	47.3	49.8	-----	-----
Consumption, fabricators do	1,809.9	1,418.3	5.8	5.4	7.0	6.4	5.3	5.8	5.3	6.4	6.4	6.4	5.3	5.3	-----	-----
Exports do	1,254.1	1,418.3	125.4	121.8	129.0	123.6	112.8	129.6	123.7	134.7	128.3	134.0	122.3	111.4	1.5	-----
Exports do	13.3	4.3	(2)	(3)	0	(3)	(2)	(3)	(1)	(3)	(4)	(4)	(6)	(1)	-----	-----
Stocks, end of period:																
Producers', at smelter (ZI) do	141.3	121.2	23.5	28.0	31.2	32.3	31.8	32.7	31.3	30.4	28.1	24.6	22.2	25.1	27.4	33.0
Consumers' do	104.3	126.1	138.4	144.3	140.4	143.9	138.8	123.9	121.1	127.4	120.9	114.0	110.9	116.3	-----	-----
Price, Prime Western \$ per lb.	.1613	.1775	.1800	.1800	.1800	.1800	.1800	.1811	.1866	.1928	.1985	.2032	.2039	.2031	.2034	.2034

* Revised. † Preliminary. 1 Annual data; monthly revisions are not available. Δ Effective Dec. 1971, nationwide delivered price substituted for N.Y.-basis price.
 2 Average for 11 months. 3 Less than 50 tons. 4 For quarter ending in month shown. ⊕ Includes secondary smelters' lead stocks in refinery shapes and in copper-base scrap.
 • New series. ⊙ Producers' stocks elsewhere, end of Aug. 1973, 7,800 short tons.

Unless otherwise stated in footnotes below, data through 1970 and descriptive notes are as shown in the 1971 edition of BUSINESS STATISTICS	1971	1972	1972					1973							
	Annual	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
METALS AND MANUFACTURES—Continued															
MACHINERY AND EQUIPMENT															
Foundry equipment (new), new orders, net mo. avg. shipments 1967=100..	84.2	75.4	58.4	90.0	101.1	58.2	101.1	74.6	83.9	113.6	108.7	84.6	166.5	119.7	-----
Heating, combustion, atmosphere equipment, new orders (domestic), net, qtrly. mil. \$..	63.7	79.3	-----	18.3	-----	-----	21.1	-----	-----	27.0	-----	-----	32.8	-----	-----
Electric processing heating equip. do.....	7.5	12.8	-----	2.9	-----	-----	3.4	-----	-----	5.7	-----	-----	5.2	-----	-----
Fuel-fired processing heating equip. do.....	30.3	41.3	-----	9.7	-----	-----	11.4	-----	-----	13.0	-----	-----	18.9	-----	-----
Material handling equipment (industrial):															
Orders (new), index, seas. adjf. 1967=100..	99.6	128.4	153.7	136.5	132.9	155.0	149.4	157.4	164.1	180.6	186.7	174.0	168.0	186.5	-----
Industrial trucks (electric), shipments:															
Hand (motorized).....number.....	12,644	15,482	1,312	1,619	1,377	1,416	1,476	1,544	1,696	1,849	1,740	2,001	2,155	1,621	1,765
Rider-type.....do.....	14,621	16,902	1,385	1,544	1,457	1,518	1,701	1,525	1,626	1,978	1,860	2,055	1,947	1,361	1,737
Industrial trucks and tractors (internal combustion engines), shipments [†]number.....	36,645	40,698	2,940	3,832	3,589	3,995	4,000	3,828	3,797	4,809	4,260	4,654	4,865	3,568	3,869
Industrial supplies, machinery and equipment:															
New orders index, seas. adjusted*†. 1967=100..	99.1	116.3	118.4	121.4	123.7	127.8	129.5	130.4	134.6	139.1	144.2	147.7	148.0	154.0	-----
Industrial suppliers distribution:															
Sales index, seas. adjusted*.....1967=100..	104.7	120.3	120.7	120.4	118.9	123.5	121.5	130.5	129.4	129.9	135.4	140.0	143.4	144.8	154.4
Machine tools:															
Metal cutting type tools:															
Orders, new (net), total.....mil. \$..	608.75	1,008.95	77.60	97.50	94.45	112.70	118.30	124.80	130.40	170.80	159.95	164.85	133.20	131.30	126.20
Domestic.....do.....	524.10	877.25	69.45	76.80	84.35	103.45	104.20	103.25	117.80	149.10	145.90	139.55	110.00	108.20	110.40
Shipments, total.....do.....	672.30	714.45	48.45	76.25	63.85	66.20	92.40	66.15	74.40	98.80	76.30	100.60	102.90	72.65	78.00
Domestic.....do.....	554.20	627.15	44.05	65.00	56.05	58.80	83.45	58.60	67.40	83.95	68.80	84.55	90.40	63.15	65.45
Order backlog, end of period.....do.....	407.5	702.0	577.8	599.0	629.6	676.1	702.0	760.6	816.6	888.6	972.2	1,026.4	1,056.7	1,115.4	1,163.6
Metal forming type tools:															
Orders, new (net), total.....do.....	252.40	403.05	31.35	42.25	47.35	53.20	37.65	56.85	72.45	76.70	80.95	70.95	78.20	52.90	59.55
Domestic.....do.....	223.20	368.20	29.70	38.05	42.10	48.90	34.10	49.55	66.40	72.05	74.45	66.50	74.15	48.40	53.70
Shipments, total.....do.....	325.60	304.25	19.30	19.95	27.40	30.65	25.95	27.15	28.70	35.35	30.60	38.25	42.05	30.05	33.75
Domestic.....do.....	285.60	267.20	17.25	18.10	25.95	26.05	21.45	25.70	25.85	33.55	28.60	35.30	39.85	27.45	29.25
Order backlog, end of period.....do.....	161.8	260.5	184.0	206.3	226.2	248.8	260.5	290.2	334.0	375.4	425.8	458.5	494.6	517.4	543.2
Tractors used in construction:															
Tracklaying, total.....units.....	118,520	21,225	-----	5,157	-----	-----	4,591	-----	-----	6,405	-----	-----	6,467	1,793	-----
mil. \$.....	1,479.6	1,546.0	-----	135.7	-----	-----	120.1	-----	-----	190.9	-----	-----	192.8	54.4	-----
Wheel (contractors' off-highway).....units.....	1,434	1,056	-----	1,230	-----	-----	2,940	-----	-----	1,430	-----	-----	1,747	-----	-----
mil. \$.....	1,166.9	1,198.5	-----	49.4	-----	-----	35.1	-----	-----	55.0	-----	-----	67.7	-----	-----
Tractor shovel loaders (integral units only), wheel and tracklaying types.....units.....	127,145	46,052	-----	10,276	-----	-----	11,798	-----	-----	13,831	-----	-----	14,350	-----	-----
mil. \$.....	1,640.9	1,801.7	-----	184.3	-----	-----	205.8	-----	-----	222.6	-----	-----	255.0	-----	-----
Tractors, wheel (excl. garden and contractors' off-highway types).....units.....	1165,343	196,985	-----	40,845	-----	-----	50,466	-----	-----	55,087	-----	-----	61,111	11,829	-----
mil. \$.....	1,891.9	1,141.0	-----	254.8	-----	-----	321.5	-----	-----	345.6	-----	-----	382.6	83.0	-----
ELECTRICAL EQUIPMENT															
Batteries (auto. replacement), shipments.....thous..	39,144	43,220	4,086	4,538	4,553	4,507	4,473	4,226	3,108	2,837	2,503	2,631	2,807	2,915	4,120
Electronic components, factory sales: [♠]															
Semiconductors:															
Discrete devices.....mil. \$..	1,621	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Integrated circuits.....do.....	534	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Tubes, selected power and spec. purpose.....do.....	1,300	323	-----	-----	-----	-----	166.6	-----	-----	92.1	-----	-----	-----	-----	-----
Microwave.....do.....	124	150	-----	-----	-----	-----	79.4	-----	-----	42.0	-----	-----	-----	-----	-----
Electro-optical.....do.....	180	92	-----	-----	-----	-----	47.2	-----	-----	27.8	-----	-----	-----	-----	-----
High vacuum, gas, and vapor.....do.....	176	82	-----	-----	-----	-----	39.9	-----	-----	22.2	-----	-----	-----	-----	-----
Capacitors.....do.....	435	438	34.7	39.2	40.3	37.9	39.7	43.2	44.5	50.8	50.3	52.6	53.3	-----	-----
Motors and generators:															
New orders, index, qtrly.....1967=100..	87.1	99.3	-----	102.5	-----	-----	105.0	-----	-----	122.0	-----	-----	134.2	-----	-----
Radio sets, total, production [♠]thous..	18,579	20,086	1,543	2,194	1,786	1,658	2,132	4,025	5,209	5,211	2,916	3,860	4,390	3,067	3,935
Television sets (incl. combination), prod [♠]do.....	11,197	13,507	963	1,451	1,184	1,200	1,353	1,252	1,425	1,681	1,189	1,341	1,778	1,018	1,424
Household electrical appliances, factory sales:															
Air conditioners (room).....thous..	5,438	4,508	129.7	82.1	137.4	157.2	293.1	486.8	448.9	782.4	686.4	722.4	771.6	306.2	146.0
Dishwashers*.....do.....	2,477	3,199	293.8	288.8	333.1	308.9	267.7	284.9	252.3	322.7	296.9	325.2	304.1	272.4	318.2
Disposers (food waste)*.....do.....	2,292	2,772	258.0	267.2	243.7	236.4	232.8	215.4	224.5	254.0	245.6	260.6	268.2	236.0	252.5
Ranges.....do.....	2,714	3,232	297.4	278.5	312.7	297.0	258.9	285.2	240.0	293.8	286.4	311.9	292.6	304.0	295.2
Refrigerators.....do.....	5,691	6,315	629.2	521.5	606.5	502.2	409.5	472.3	452.8	579.8	554.1	623.8	618.5	703.2	707.8
Washers.....do.....	4,608	5,107	505.1	466.7	496.5	439.0	381.9	457.2	417.2	464.8	428.5	476.0	463.4	432.5	543.3
Dryers (incl. gas).....do.....	3,377	3,925	375.1	392.2	442.4	384.0	335.7	379.3	318.2	331.9	305.4	309.3	330.3	319.2	422.3
Vacuum cleaners.....do.....	7,973	8,337	689.5	727.7	838.1	764.0	625.4	727.9	775.3	795.9	710.5	677.6	671.7	632.5	755.2
GAS EQUIPMENT (RESIDENTIAL)															
Furnaces, gravity and forced-air, shipments* thous..	1,795	2,066	184.1	193.6	216.0	178.2	157.2	163.9	133.0	161.8	148.8	145.5	135.9	147.8	141.3
Ranges, total, sales*.....do.....	2,549	2,661	238.7	253.1	232.3	224.1	218.2	174.8	205.9	260.9	206.3	230.6	238.7	166.8	210.4
Water heaters (storage), automatic, sales*.....do.....	3,088	3,163	248.5	239.7	291.4	249.8	254.1	278.2	278.9	280.3	275.0	281.8	263.1	223.0	247.7

PETROLEUM, COAL, AND PRODUCTS

COAL															
Anthracite:	1971	1972	1972					1973							
Production.....thous. sh. tons..	6,872	6,637	688	585	653	623	531	516	560	633	574	633	601	429	580
Exports.....do.....	671	780	49	141	89	121	41	40	5	93	58	91	72	33	95
Price, wholesale, chestnut, f.o.b. car at mine \$ per sh. ton..	17.673	18.228	18.130	19.110	19.110	19.110	19.110	19.110	19.110	19.110	19.600	19.600	19.600	19.845	20.458
Bituminous:	1971	1972	1972					1973							
Production.....thous. sh. tons..	552,192	591,070	51,675	49,375	51,180	49,805	44,460	48,740	44,960	49,640	40,620	51,020	46,010	43,675	55,005

[†] Revised. [‡] Preliminary. ¹ Annual data; revisions are not available. ² Excludes figures for rubber-tired dozers. ³ For month shown. ⁴ Data cover 5 weeks; other periods, 4 weeks. ⁵ See note "♠". ⁶ Monthly revisions are available upon request. ⁷ For 6 months ending in month shown. ^{††} Revisions for Jan. 1970-Feb. 1972, comparable with indexes shown effective May 1973 SURVEY, appear at bottom of p. S-34, Sept. 1973 SURVEY. ^{†††} See "Q", p. S-35. [♠] Effective Jan. 1973, data reflect total market. Those produced in the United States, imports by U.S. manufacturers for sale under their brand name and, beginning 1973, also those imported directly for resale. ^{††††} Effective Mar. 1973 SURVEY, index revised back to 1968.

^{*} New series. *Industrial hardware supplies and machinery* (marketed through distributors)—orders index (Amer. Supply & Mach. Mfrs. Assn.) and *sales index* (Natl. & Southern Ind. Distributors Assns.) are based on 2-month moving average of selected members' operations and are adjusted for no. of working days. Effective June 1973 SURVEY, sales index revised back to 1970. *Dishwashers and disposers* (Assn. of Home Appliance Mfrs.) and *gas equipment* (Gas Appliance Mfrs. Assn.) reflect total industry sales. Monthly data prior to 1971 are available upon request.

Unless otherwise stated in footnotes below, data through 1970 and descriptive notes are as shown in the 1971 edition of BUSINESS STATISTICS	1971		1972					1973								
	Annual		Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
PETROLEUM, COAL, AND PRODUCTS—Continued																
COAL—Continued																
Bituminous—Continued																
Industrial consumption and retail deliveries, total ¹ thous. sh. tons	494,862	519,689	44,891	42,286	43,362	44,409	48,077	51,208	45,993	45,905	43,673	44,600	.....	.....	.....	.....
Electric power utilities..... do	326,280	348,725	31,470	28,800	28,967	29,691	32,286	34,175	30,425	30,533	28,868	29,655	.....	.....	.....	.....
Mfg. and mining industries, total..... do	157,024	159,253	12,627	12,342	13,164	13,994	14,328	15,486	14,322	14,450	14,262	14,448	.....	.....	.....	.....
Coke plants (oven and beehive)..... do	82,809	87,272	7,360	7,040	7,345	7,165	7,630	7,804	7,182	7,950	7,727	8,048	.....	.....	.....	.....
Retail deliveries to other consumers..... do	11,351	11,748	770	1,124	1,214	1,305	1,455	1,563	1,246	920	530	480	.....	.....	.....	.....
Stocks, industrial and retail dealers', end of period, total..... thous. sh. tons	89,985	^p 115,313	12,855	114,346	^p 117,668	^p 119,211	^p 115,313	^p 108,590	^p 106,422	^p 109,065	^p 110,861	^p 114,481	.....	.....	.....	.....
Electric power utilities..... do	76,987	^p 98,450	95,397	97,209	^p 100,650	^p 101,953	^p 98,450	^p 92,279	^p 89,516	^p 92,246	^p 92,971	^p 97,440	.....	.....	.....	.....
Mfg. and mining industries, total..... do	12,778	^p 16,573	17,128	16,787	^p 16,687	^p 16,958	^p 16,573	^p 15,996	^p 16,601	^p 17,550	^p 16,681	^p 16,681	.....	.....	.....	.....
Oven-coke plants..... do	7,199	^p 8,973	8,558	8,777	^p 9,052	^p 9,418	^p 8,973	^p 8,498	^p 8,381	^p 8,439	^p 8,500	^p 8,821	.....	.....	.....	.....
Retail dealers..... do	220	^p 290	340	350	^p 325	^p 300	^p 290	^p 315	^p 305	^p 320	^p 340	^p 360	.....	.....	.....	.....
Exports..... do	56,633	55,960	6,337	4,923	5,173	5,380	3,392	2,954	2,669	3,377	5,063	5,140	4,969	4,188	5,133	.....
Prices, wholesale:																
Screenings, indust. use, f.o.b. mine																
Domestic, large sizes, f.o.b. mine..... \$ per sh. ton	9.696	10.378	10.146	10.426	10.443	10.933	11.209	11.200	11.311	11.160	11.541	11.570	11.616	11.551	11.551	12.040
Domestic, large sizes, f.o.b. mine..... do	11.209	11.367	11.120	11.120	11.120	11.990	12.240	12.240	12.240	11.267	11.267	11.283	.....	.....	.....	.....
COKE																
Production:																
Beehive..... thous. sh. tons	772	654	54	54	53	62	70	53	62	(¹)	64	66	60	64	.....	.....
Oven (byproduct)..... do	56,664	59,853	5,088	4,822	5,026	4,914	5,183	5,364	4,891	5,356	5,262	5,454	5,325	5,307	.....	.....
Petroleum coke ² do	21,823	23,953	2,239	2,112	2,219	2,148	2,254	2,282	2,012	2,227	2,175	2,229	2,315	.....	.....	.....
Stocks, end of period:																
Oven-coke plants, total..... do	3,510	2,941	3,185	3,202	3,089	3,011	2,941	2,824	2,860	2,291	2,035	1,796	1,712	1,514	.....	.....
At furnace plants..... do	3,376	2,590	2,831	2,818	2,729	2,662	2,590	2,497	2,269	2,039	1,829	1,638	1,572	1,367	.....	.....
At merchant plants..... do	134	351	355	384	360	349	351	326	291	252	206	159	139	148	.....	.....
Petroleum coke..... do	1,489	1,563	1,613	1,548	1,570	1,485	1,563	1,720	1,795	1,948	1,895	1,922	1,965	2,057	.....	.....
Exports..... do	1,509	1,232	74	130	132	80	179	76	34	114	61	227	108	119	111	.....
PETROLEUM AND PRODUCTS																
Crude petroleum:																
Oil wells completed..... number	³ 11,858	11,348	946	1,065	792	860	985	758	777	953	699	749	767	912	724	.....
Price at wells (Oklahoma)..... \$ per bbl.	3.41	3.45	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.56	3.77	3.77	4.13	4.11	4.11	4.12
Runs to stills..... mil. bbl.	4,087.8	4,281.6	369.4	363.4	368.1	355.6	375.5	377.9	341.2	378.2	366.2	380.7	385.9	395.2	.....	.....
Refinery operating ratio..... % of capacity	86	88	89	91	89	89	91	91	90	90	90	90	94	.....	.....	.....
All oils, supply, demand, and stocks:																
New supply, total ¹ mil. bbl.	5,510.7	5,837.3	487.6	478.3	508.5	485.1	520.7	517.6	490.7	543.0	497.8	523.6	505.3	544.1	.....	.....
Production:																
Crude petroleum..... do	3,453.9	3,459.1	294.9	284.3	294.3	283.3	289.8	284.6	262.5	284.4	277.0	285.4	276.3	285.0	.....	.....
Natural-gas plant liquids..... do	623.9	643.0	54.5	52.8	55.3	53.4	54.0	52.9	49.8	54.8	53.2	54.9	52.6	54.8	.....	.....
Imports:																
Crude and unfinished oils..... do	658.6	856.8	69.1	74.9	82.2	72.8	87.4	88.0	82.9	102.2	96.2	103.7	101.3	113.0	.....	.....
Refined products..... do	774.3	878.4	69.1	66.3	76.6	75.6	89.6	92.2	95.5	101.6	71.4	76.7	75.1	78.3	.....	.....
Change in stocks, all oils (decrease, -)..... do	26.1	-85.0	1.9	20.9	4.4	-36.7	-54.9	-53.3	-38.8	20.5	25.9	20.4	24.3	26.7	.....	.....
Demand, total..... do	5,499.4	5,929.6	487.6	459.3	503.5	523.5	574.6	571.4	526.5	527.9	475.1	505.9	486.2	502.8	.....	.....
Exports:																
Crude petroleum..... do	.5	.2	0	0	0	0	0	0	0	0	0	.1	0	.2	.....	.....
Refined products..... do	81.3	81.3	7.2	6.9	7.3	7.4	7.5	6.5	7.3	6.9	8.3	7.2	6.4	7.2	.....	.....
Domestic demand, total ¹ do	5,417.6	5,848.1	480.4	452.4	496.2	516.1	567.1	564.9	519.2	520.9	466.9	498.6	479.7	495.4	.....	.....
Gasoline..... do	2,213.2	2,350.4	216.6	194.9	198.5	195.5	198.8	190.9	181.5	203.2	197.5	215.7	210.3	218.9	.....	.....
Kerosene..... do	90.9	85.9	5.3	5.9	7.4	8.6	11.4	12.6	10.8	6.2	4.9	4.1	3.5	4.6	.....	.....
Distillate fuel oil..... do	971.3	1,066.0	64.0	66.2	85.5	101.5	131.2	128.2	118.8	102.7	79.0	82.2	72.4	73.8	.....	.....
Residual fuel oil..... do	838.0	925.6	70.1	67.1	73.2	85.3	97.6	101.1	92.5	95.2	74.2	78.1	78.0	75.3	.....	.....
Jet fuel..... do	368.7	382.5	29.3	31.0	36.3	31.5	31.9	34.4	30.5	30.8	30.4	34.5	30.2	32.4	.....	.....
Lubricants..... do	49.3	52.8	4.7	4.3	4.6	4.6	3.9	4.6	4.6	4.9	4.4	5.1	4.5	5.4	.....	.....
Asphalt..... do	158.5	163.8	19.2	17.6	11.1	6.8	5.6	5.4	8.1	11.3	16.1	20.1	23.4	.....	.....
Liquefied gases..... do	456.8	515.3	38.2	37.0	46.9	52.6	60.0	61.8	52.0	43.6	38.9	39.3	34.5	34.2	.....	.....
Stocks, end of period, total..... do	1,043.9	959.0	1,025.3	1,046.2	1,050.6	1,013.9	959.0	905.7	866.9	887.4	913.3	933.7	958.0	984.7	.....	.....
Crude petroleum..... do	259.6	246.4	258.0	250.8	253.7	251.3	246.4	237.5	235.4	244.1	248.8	257.9	248.9	243.7	.....	.....
Unfinished oils, natural gasoline, etc..... do	106.8	100.8	111.9	113.1	110.2	107.5	100.8	94.0	93.7	103.6	111.6	112.7	111.0	109.4	.....	.....
Refined products..... do	677.5	611.7	655.4	682.3	686.6	655.1	611.7	574.3	537.8	539.7	552.9	563.1	598.2	631.6	.....	.....
Refined petroleum products:																
Gasoline (incl. aviation):																
Production..... do	2,202.6	2,320.0	206.2	199.8	204.6	194.9	200.7	197.9	173.0	192.2	192.9	209.8	211.3	.....	.....	.....
Exports..... do	1.6	1.0	(¹)	.1	.2	(¹)	(¹)	(¹)	.2	.1	.1	.2	(¹)	.1	.....	.....
Stocks, end of period..... do	223.8	217.1	196.8	203.7	211.7	213.2	217.1	226.0	220.0	211.1	208.2	205.3	211.6	215.0	.....	.....
Prices (excl. aviation):																
Wholesale, ref. (Okla., group 3)..... \$ per gal.	.120	.119	.120	.120	.120	.120	.120	.120	.125	.130	.130	.133	.145	.145	.145	.145
Retail (regular grade, excl. taxes), 55 cities (1st of following mo.)..... \$ per gal.	.252	.245	.261	.254	.250	.252	.253	.248	.259	.263	.265	.268	.268	.268	.267	.....
Aviation gasoline:																
Production..... mil. bbl.	18.5	17.0	1.6	1.4	1.7	1.5	1.2	1.0	.8	1.2	1.2	1.4	1.3	.....	.....	.....
Exports..... do	1.2	.5	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	.1	(¹)	(¹)	(¹)	(¹)	.....	.....
Stocks, end of period..... do	4.4	4.3	3.8	3.8	3.8	4.1	4.3	4.0	3.6	3.3	3.3	3.1	3.1	3.4	.....	.....
Kerosene:																
Production..... do	87.5	80.1	5.9	6.7	6.4	7.8	9.0	9.5	9.4	8.0	6.6	5.2	4.5	.....	.....	.....
Stocks, end of period..... do	24.4	19.1	22.1	22.9	22.0	21.4										

Unless otherwise stated in footnotes below, data through 1970 and descriptive notes are as shown in the 1971 edition of BUSINESS STATISTICS	1971	1972	1972					1973								
	Annual		Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
PETROLEUM, COAL, AND PRODUCTS—Continued																
PETROLEUM AND PRODUCTS—Continued																
Refined petroleum products—Continued																
Distillate fuel oil:																
Production.....mil. bbl.	912.1	963.6	80.2	78.8	84.5	81.7	91.2	94.0	82.3	82.8	75.4	78.9	84.8	-----	-----	-----
Imports.....do.	55.8	66.4	2.9	3.0	6.3	6.8	11.8	11.2	18.8	18.0	7.2	7.7	6.5	9.9	-----	
Exports.....do.	2.8	1.2	(²)	.1	(²)	(²)	.2	.3	.1	.1	.2	.1	.3	.1	-----	
Stocks, end of period.....do.	190.6	154.3	174.7	190.3	195.6	182.6	154.3	131.0	113.3	111.3	114.7	119.1	137.9	159.3	-----	
Price, wholesale (N.Y. Harbor, No. 2 fuel) \$ per gal.	.116	.117	.117	.117	.117	.117	.117	.117	.128	.128	.128	.128	.138	.138	.128	.128
Residual fuel oil:																
Production.....mil. bbl.	274.7	292.5	20.9	21.3	23.1	26.7	34.9	34.5	29.1	29.6	26.3	29.4	27.4	-----	-----	
Imports.....do.	577.7	637.4	51.2	48.7	51.3	53.1	61.0	61.3	58.0	67.7	51.1	51.7	52.7	49.5	-----	
Exports.....do.	13.2	12.1	1.2	.9	1.5	.9	1.0	1.0	.9	.8	1.2	1.2	.2	1.1	-----	
Stocks, end of period.....do.	59.7	55.2	61.4	63.7	63.8	57.7	55.2	49.2	43.1	44.7	47.0	49.2	51.8	53.4	-----	
Price, wholesale (Okla., No. 6) \$ per bbl.	2.37	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.60	2.60	2.60	2.60	2.60	2.60
Jet fuel:																
Production.....mil. bbl.	304.7	310.0	26.0	24.3	25.5	24.0	25.1	26.8	25.2	28.4	26.6	26.0	25.1	-----	-----	
Stocks, end of period.....do.	27.7	25.5	31.6	30.6	28.6	26.6	25.5	24.8	25.4	27.6	27.9	25.8	25.4	25.7	-----	
Lubricants:																
Production.....do.	65.5	65.3	5.8	5.3	5.6	5.4	5.5	5.7	5.4	5.9	5.5	5.8	5.4	-----	-----	
Exports.....do.	15.8	15.0	1.2	1.1	1.2	1.4	1.4	1.2	1.1	1.2	1.2	1.2	1.2	1.0	-----	
Stocks, end of period.....do.	15.0	13.3	13.3	13.3	13.2	12.9	13.3	13.4	13.3	13.3	13.4	12.9	12.8	12.2	-----	
Price, wholesale, bright stock (midcontinent, f.o.b., Tulsa) \$ per gal.	.270	.270	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	.260
Asphalt:																
Production.....mil. bbl.	157.0	155.3	17.5	16.6	15.1	11.4	9.1	7.9	8.3	10.1	12.1	14.7	16.8	-----	-----	
Stocks, end of period.....do.	21.2	21.6	20.7	18.8	17.2	18.4	21.6	24.3	27.6	30.0	31.0	30.2	27.3	22.9	-----	
Liquefied gases (incl. ethane and ethylene):																
Production, total.....mil. bbl.	547.9	575.1	48.4	46.8	49.1	47.7	49.0	48.6	45.5	50.4	48.9	51.5	48.4	-----	-----	
At gas processing plants (L.P.G.).....do.	417.6	444.7	37.0	36.0	38.4	37.6	38.2	37.4	35.4	38.7	37.7	38.4	36.8	36.5	-----	
At refineries (L.R.G.).....do.	130.2	130.4	11.4	10.8	10.7	10.1	10.8	11.2	10.1	11.7	11.2	13.0	11.6	-----		
Stocks (at plants and refineries).....do.	94.7	85.7	114.9	119.4	115.5	103.2	85.7	69.2	59.9	63.8	70.4	80.0	90.0	101.0	-----	
Asphalt and tar products, shipments:																
Asphalt roofing, total.....thous. squares	93,246	97,696	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Roll roofing and cap sheet.....do.	35,307	35,466	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Shingles, all types.....do.	57,939	62,230	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Asphalt siding.....do.	186	136	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Insulated siding.....do.	375	367	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Saturated felts.....thous. sh. tons	916	895	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

PULP, PAPER, AND PAPER PRODUCTS

PULPWOOD AND WASTE PAPER																
Pulpwood:																
Receipts.....thous. cords (128 cu. ft.)	67,220	67,680	6,031	5,795	5,944	5,597	5,294	5,458	5,693	5,994	5,603	6,027	6,234	5,998	-----	-----
Consumption.....do.	67,501	69,170	5,927	5,615	6,084	5,852	5,609	5,905	5,707	6,044	5,897	6,133	6,074	5,845	-----	
Stocks, end of period.....do.	5,371	5,165	5,651	5,779	5,697	5,453	5,165	4,701	4,734	4,636	4,343	4,291	4,330	4,421	-----	
Waste paper:																
Consumption.....thous. sh. tons	10,997	11,269	1,000	931	1,010	971	898	1,008	950	1,078	1,012	1,059	1,032	919	-----	
Stocks, end of period.....do.	558	626	566	564	585	604	626	608	575	546	509	495	472	491	-----	
WOODPULP																
Production:																
Total, all grades.....thous. sh. tons	43,933	46,341	3,991	3,668	4,123	3,876	3,662	4,054	3,743	4,217	3,983	4,189	4,058	3,928	-----	
Dissolving and special alpha.....do.	1,671	1,676	138	133	144	143	129	145	129	155	125	141	148	118	-----	
Sulfate.....do.	29,551	31,255	2,685	2,468	2,785	2,600	2,468	2,748	2,536	2,845	2,715	2,838	2,714	2,663	-----	
Sulfite.....do.	2,101	2,129	183	185	200	178	165	186	173	206	186	197	198	185	-----	
Groundwood.....do.	4,462	4,617	390	346	380	376	355	375	351	390	365	409	412	393	-----	
Defibrated or exploded.....do.	2,405	2,720	256	216	265	255	229	255	249	271	257	264	253	253	-----	
Soda, semichem., screenings, etc.....do.	3,743	3,943	337	320	345	325	317	343	305	351	335	339	333	317	-----	
Stocks, end of period:																
Total, all mills.....do.	1,093	803	914	866	862	839	803	797	791	788	777	782	807	797	-----	
Pulp mills.....do.	623	323	430	392	399	371	323	357	350	341	330	324	343	318	-----	
Paper and board mills.....do.	398	393	411	402	388	390	393	370	376	381	377	379	385	400	-----	
Nonpaper mills.....do.	71	86	73	73	75	78	86	69	65	66	70	78	79	79	-----	
Exports, all grades, total.....do.																
Dissolving and special alpha.....do.	1,275	1,253	175	196	195	229	150	174	187	198	214	184	210	181	196	-----
All other.....do.	790	793	67	72	72	73	51	70	61	74	65	68	60	62	47	-----
All other.....do.	1,385	1,460	108	125	123	155	99	104	126	124	149	116	150	119	149	-----
Imports, all grades, total.....do.																
Dissolving and special alpha.....do.	1,315	1,378	310	319	334	346	278	394	338	359	329	365	333	324	250	-----
All other.....do.	313	224	21	22	16	17	8	18	11	6	13	22	17	3	-----	
All other.....do.	1,302	1,304	331	342	319	363	271	376	327	363	316	343	315	307	247	-----
PAPER AND PAPER PRODUCTS																
Paper and board:																
Production (Bu. of the Census):																
All grades, total, unadjusted.....thous. sh. tons	55,032	59,310	5,232	4,734	5,258	5,065	4,612	5,149	4,856	5,416	5,171	5,505	5,196	4,909	-----	
Paper.....do.	23,817	25,320	2,205	2,003	2,227	2,178	2,039	2,226	2,076	2,312	2,191	2,363	2,213	2,121	-----	
Paperboard.....do.	26,103	28,637	2,532	2,285	2,552	2,449	2,171	2,485	2,338	2,605	2,487	2,633	2,509	2,325	-----	
Wet-machine board.....do.	137	136	12	12	11	11	10	12	11	11	11	12	12	10	-----	
Construction paper and board.....do.	4,975	5,217	483	434	467	428	392	425	432	488	482	497	462	453	-----	
Wholesale price indexes:																
Book paper, A grade.....1967=100	110.6	109.0	108.8	108.8	109.6	109.6	109.6	109.6	109.6	111.0	111.7	111.7	112.4	112.4	112.4	112.4
Paperboard.....do.	102.4	105.5	106.0	106.5	106.8	106.8	107.1	108.2	109.7	110.7	113.0	114.6	116.7	116.7	116.7	116.7
Building paper and board.....do.	103.0	106.4	107.2	107.3	107.3	107.2	107.2	107.1	108.1	108.5	109.3	110.8	111.7	112.2	112.8	115.9

* Revised.

† Reported annual total; revisions not allocated to the months.

‡ Less than 50 thousand barrels.

§ Monthly data no longer furnished.

¶ Average for May and June.

Unless otherwise stated in footnotes below, data through 1970 and descriptive notes are as shown in the 1971 edition of BUSINESS STATISTICS	1971	1972	1972					1973							
	Annual		Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.

PULP, PAPER, AND PAPER PRODUCTS—Continued

PAPER AND PAPER PRODUCTS—Con.																
Selected types of paper (API):																
Groundwood paper, uncoated:																
Orders, new.....thous. sh. tons..	1,216	1,405	125	121	133	134	118	126	102	134	132	112	125	140		
Orders, unfilled, end of period.....do.....	30	164	108	117	131	154	164	174	188	181	205	192	195	222		
Shipments.....do.....	1,229	1,317	118	113	120	115	107	115	99	121	107	124	123	117		
Coated paper:																
Orders, new.....do.....	3,255	3,630	316	325	335	310	298	332	348	354	329	344	318	304		
Orders, unfilled, end of period.....do.....	287	393	345	365	374	372	393	379	445	448	467	462	462	437		
Shipments.....do.....	3,251	3,522	315	299	321	314	291	314	302	346	316	342	327	325		
Uncoated book and writing and related papers: †																
Orders, new.....do.....	6,089	501	519	554	536	508	566	554	647	586	616	598	510			
Shipments.....do.....	6,023	518	507	540	528	503	560	516	581	539	590	565	530			
Unbleached kraft packaging and industrial converting papers:																
Orders, new.....do.....	3,868	4,039	346	318	368	342	324	303	316	366	331	355	319	323		
Orders, unfilled, end of period.....do.....	156	241	176	189	204	215	241	213	212	219	219	214	192	190		
Shipments.....do.....	3,755	3,916	333	303	337	339	326	322	317	347	327	354	331	322		
Tissue paper, production.....do.....	3,750	3,978	339	322	352	333	314	349	320	353	339	349	334	304		
Newsprint:																
Canada:																
Production.....do.....	8,297	8,661	774	694	784	750	735	767	722	811	773	813	803	763	672	
Shipments from mills.....do.....	8,210	8,740	721	775	832	796	804	729	730	788	801	825	799	770	646	
Stocks at mills, end of period.....do.....	323	244	489	407	359	313	244	283	274	297	270	258	267	260	286	
United States:																
Production.....do.....	3,296	3,422	294	260	293	293	278	297	275	312	292	309	282	278	288	
Shipments from mills.....do.....	3,288	3,437	298	277	303	300	286	293	271	310	290	313	281	278	292	
Stocks at mills, end of period.....do.....	41	27	68	51	41	35	27	31	35	36	38	34	35	35	30	
Consumption by publishers♯.....do.....	7,057	7,569	605	625	701	698	661	610	585	671	682	702	642	620	610	
Stocks at and in transit to publishers, end of period.....thous. sh. tons..	705	544	627	617	583	539	544	573	601	637	637	642	671	670	628	
Imports.....do.....	6,881	7,101	553	562	615	640	650	710	578	679	634	656	678	606	586	
Price, rolls, contract, f.o.b. mill, freight allowed or delivered.....\$ per sh. ton..	167.00	163.20	163.70	163.70	163.70	163.70	163.70	166.70	167.75	168.68	168.58	168.58	168.58	169.42	169.42	170.25
Paperboard (American Paper Institute):																
Orders, new (weekly avg.).....thous. sh. tons..	474	578	556	543	589	568	741	526	611	629	611	594	596	541	595	573
Orders, unfilled.....do.....	917	1,446	1,397	1,420	1,505	1,481	1,446	1,599	1,664	1,792	1,905	1,899	1,860	1,874	1,903	1,909
Production, total (weekly avg.).....do.....	601	549	563	533	575	573	537	495	576	592	584	588	583	518	587	548
Paper products:																
Shipping containers, corrugated and solid fiber, shipments.....mil. sq. ft. surf. area..	191,832	211,926	15,858	21,482	19,721	18,643	17,158	17,990	17,530	20,434	18,192	19,758	19,591	16,762	20,239	18,267
Folding paper boxes.....thous. sh. tons..	2,445.0	2,525.0	221.5	216.2	230.7	208.7	219.1	210.0	194.2	221.6	207.3	212.0	210.3	188.5	226.2	
.....mil. \$.....	1,250.0	1,330.0	117.4	115.2	123.6	111.5	118.2	113.4	105.6	120.6	112.9	116.3	117.2	104.4	126.8	

RUBBER AND RUBBER PRODUCTS

RUBBER																
Natural rubber:																
Consumption.....thous. lg. tons..	577.81	*640.40	55.25	54.08	58.47	52.57	52.88	† 58.08	56.83	63.15	59.43	57.34	54.46	48.97	57.73	
Stocks, end of period.....do.....	133.32	*116.72	112.25	109.47	109.59	112.30	116.72	*122.84	116.77	120.47	117.54	116.17	111.08	111.49	115.17	
Imports, incl. latex and guayule.....do.....	612.72	602.16	50.65	39.30	54.73	55.32	56.04	57.67	48.09	59.44	43.26	55.48	53.44	40.71	66.26	
Price, wholesale, smoked sheets (N.Y.)...\$ per lb..	.180	.181	.175	.180	.194	.205	.210	.223	.255	.286	.308	.310	.368	.413	*.413	.364
Synthetic rubber:																
Production.....thous. lg. tons..	2,241.00	*2,424.7	202.74	200.44	211.64	201.65	199.14	*217.35	209.17	218.54	223.63	222.59	199.86	210.04	220.38	
Consumption.....do.....	2,104.37	*2,291.5	191.90	195.26	210.19	193.95	193.45	*206.51	199.80	220.64	199.03	197.72	196.06	180.33	209.48	
Stocks, end of period.....do.....	488.17	*495.7	512.64	515.46	504.39	495.66	495.68	*471.86	473.14	454.83	461.63	469.41	469.93	499.28	505.91	
Exports (Bu. of Census).....do.....	269.82	257.10	22.10	16.47	24.04	21.92	23.99	23.65	22.20	22.99	22.36	24.18	23.58	20.86	18.96	
Reclaimed rubber:																
Production.....do.....	199.19	*194.45	15.87	15.48	16.41	14.87	15.20	* 19.08	20.52	22.29	19.39	19.02	18.46	16.79	15.30	
Consumption.....do.....	200.47	*187.58	15.12	15.35	16.44	14.45	14.71	* 15.92	16.30	17.40	14.35	13.42	13.81	11.38	11.78	
Stocks, end of period.....do.....	22.67	*19.91	20.74	19.87	19.17	19.29	19.91	* 19.33	19.49	19.42	20.55	22.40	23.16	25.04	23.86	
TIRES AND TUBES																
Pneumatic casings, automotive:																
Production.....thous.....	216,361	229,611	18,608	19,352	20,999	18,721	19,387	21,001	19,993	22,229	19,193	18,693	17,752	14,287	17,325	
Shipments, total.....do.....	214,539	227,965	19,628	21,339	21,840	17,647	15,677	17,769	17,780	22,352	23,429	21,646	21,994	19,433	19,658	
Original equipment.....do.....	58,941	63,870	4,685	5,793	6,201	5,922	5,178	6,513	6,054	7,114	6,211	6,360	6,562	4,671	4,473	
Replacement equipment.....do.....	155,646	161,766	14,781	15,308	15,415	11,564	10,263	11,005	11,521	14,907	16,950	14,969	15,099	14,482	14,892	
Exports.....do.....	1,953	2,328	162	238	224	161	236	251	204	330	288	317	332	300	293	
Stocks, end of period.....do.....	54,982	60,255	56,894	54,965	55,769	56,319	60,255	63,646	66,419	66,708	62,872	60,485	56,834	52,341	50,392	
Exports (Bu. of Census).....do.....	1,589	2,127	225	161	211	180	214	236	131	310	295	149	149	349	63	
Inner tubes, automotive:																
Production.....do.....	35,562	38,705	3,282	3,227	3,323	3,166	2,950	3,425	3,564	3,836	3,364	3,438	3,233	* 2,350	2,950	
Shipments.....do.....	40,476	41,774	3,615	3,498	3,878	3,392	2,977	3,804	3,616	4,085	3,912	3,568	3,919	3,348	3,688	
Stocks, end of period.....do.....	8,271	9,391	9,482	9,363	9,144	9,168	9,391	9,605	9,896	10,153	10,175	10,366	10,203	9,633	9,311	
Exports (Bu. of Census).....do.....	979	766	65	28	63	40	68	61	66	71	121	149	149	67		

* Revised. † Preliminary. ‡ Reported annual total; revisions not allocated to months.
 § Publication of monthly rubber statistics was discontinued by the Census Bureau effective with the Dec. 1972 report (Series M30A). Data beginning Jan. 1973 are from the Rubber Manufacturers Association and are not strictly comparable with earlier data.

† Represents the sum of book paper, uncoated and writing and related papers formerly shown separately; data for new orders no longer available for the individual items.

‡ As reported by publishers accounting for about 75 percent of total newspaper consumption.
 § Monthly data are averages for the 4-week period ending on Saturday nearest the end of the month; annual data are as of Dec. 31.

Unless otherwise stated in footnotes below, data through 1970 and descriptive notes are as shown in the 1971 edition of BUSINESS STATISTICS	1971	1972	1972					1973							
	Annual	Annual	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.

STONE, CLAY, AND GLASS PRODUCTS

PORTLAND CEMENT															
Shipments, finished cement.....thous. bbl.	1420,238	1440,064	50,447	44,436	46,048	33,197	24,112	23,915	24,824	33,606	36,106	46,452	47,181	47,633	53,138
CLAY CONSTRUCTION PRODUCTS															
Shipments:															
Brick, unglazed (common and face)															
mll. standard brick.....	7,569.7	8,402.2	836.2	725.1	752.0	699.6	569.8	616.8	610.2	782.4	783.6	861.7	862.1	867.1	
Structural tile, except facing.....thous. sh. tons.	157.0	100.5	8.1	7.0	7.2	6.1	5.2	5.1	5.8	7.3	6.4	7.2	8.3	9.2	
Sewer pipe and fittings, vitrified.....do.	1,720.6	1,718.0	177.6	162.0	158.2	136.9	101.3	99.5	96.1	136.3	138.5	151.8	161.9	158.3	
Facing tile (hollow), glazed and unglazed															
mll. brick equivalent.....	155.4	133.3	13.1	12.2	12.4	11.6	8.4	8.2	8.4	10.1	9.9	11.7	12.1	11.8	
Floor and wall tile and accessories, glazed and unglazed.....mll. sq. ft.	276.1	307.9	29.0	25.9	27.5	24.3	21.3	24.4	22.2	26.8	26.4	27.3	26.0	25.1	
Price index, brick (common), f.o.b. plant or N.Y. dock.....1967=100	117.4	122.1	122.1	122.1	123.7	124.1	124.5	127.4	129.1	130.1	130.8	130.9	131.3	131.3	131.5
GLASS AND GLASS PRODUCTS															
Flat glass, mfrs.' shipments.....thous. \$.	464,674	550,292		138,099				148,539			142,251				149,027
Sheet (window) glass, shipments.....do.	150,344	157,187		38,427				37,704			37,519				38,768
Plate and other flat glass, shipments.....do.	314,330	393,105		99,672				110,835			104,732				110,259
Glass containers:															
Production.....thous. gross.	263,780	267,347	24,589	21,155	24,351	21,014	18,622	22,253	22,320	25,089	23,076	24,772	24,456		
Shipments, domestic, total.....do.	255,261	264,869	25,233	22,145	22,119	20,754	20,058	21,281	19,537	23,567	21,881	26,458	23,816		
Narrow-neck containers:															
Food.....do.	24,310	24,333	2,638	2,510	1,766	1,645	1,475	1,876	1,983	2,290	1,987	2,296	1,857		
Beverage.....do.	67,552	71,053	6,859	5,557	5,257	5,201	5,558	5,236	4,756	5,880	5,506	7,030	7,094		
Beer.....do.	53,189	54,404	5,266	4,540	4,436	3,903	4,013	4,217	3,902	5,289	5,104	5,336	5,359		
Liquor and wine.....do.	21,146	22,425	1,870	1,806	2,132	2,052	1,837	1,865	1,652	2,104	1,861	2,218	1,886		
Wide-mouth containers:															
Food (incl. packer's tumblers, jelly glasses, and fruit jars).....thous. gross.	57,208	58,241	5,505	4,877	5,426	4,892	4,359	5,006	4,378	4,749	4,483	5,692	4,655		
Dairy products.....do.	305	238	23	22	26	21	21	20	14	16	16	25	13		
Narrow-neck and wide-mouth containers:															
Medicinal and toilet.....do.	27,645	29,892	2,680	2,485	2,683	2,692	2,492	2,694	2,496	2,856	2,536	2,925	2,582		
Household and industrial.....do.	3,906	4,283	392	348	393	348	303	367	356	383	388	436	370		
Stocks, end of period.....do.	35,652	35,842	36,604	35,470	37,474	37,424	35,842	36,705	39,208	40,282	41,006	38,727	39,200		
GYPSUM AND PRODUCTS (QTRLY)															
Production:															
Crude gypsum.....thous. sh. tons.	110,418	112,328		3,229				3,270			2,924				3,473
Calcined.....do.	19,526	112,005		3,115				3,020			3,081				3,182
Imports, crude gypsum.....do.	16,094	7,718		2,179				1,995			1,572				1,904
Sales of gypsum products:															
Uncalcined.....do.	14,305	4,719		1,353				1,202			862				1,580
Calcined:															
Industrial plasters.....do.	268	309		73				80			86				91
Building plasters:															
Regular basecoat.....do.	382	330		82				71			76				79
All other (incl. Keene's cement).....do.	534	513		140				124			123				128
Board products, total.....mll. sq. ft.	11,939	14,372		3,782				3,657			3,661				3,812
Lath.....do.	477	451		118				102			110				93
Veneer base.....do.	292	357		96				92			97				102
Gypsum sheathing.....do.	272	343		91				82			80				96
Regular gypsum board.....do.	9,014	10,738		2,824				2,733			2,719				2,784
Type X gypsum board.....do.	1,766	2,279		596				587			603				678
Predecorated wallboard.....do.	117	204		57				60			52				60

TEXTILE PRODUCTS

WOVEN FABRICS †															
Woven fabrics (gray goods), weaving mills:															
Production, total.....mll. linear yd.	10,913	11,098	858	21,059	869	21,121	832	1,178	933	966	1,168	948	942		
Cotton.....do.	6,148	5,666	429	2529	436	2549	399	561	429	453	556	445	444		
Manmade fiber.....do.	4,657	5,336	422	2522	425	2563	425	604	494	501	599	492	488	491	
Stocks, total, end of period.....do.	1,089	983	1,051	1,021	980	973	983	958	898	871	830	789	800		
Cotton.....do.	472	408	453	424	418	416	408	407	367	352	342	321	310		
Manmade fiber.....do.	608	567	590	590	555	550	567	545	524	518	483	462	484	477	
Orders, unfilled, total, end of period.....do.	2,657	4,164	3,371	3,460	3,653	3,986	4,164	4,193	4,334	4,673	4,840	4,666	4,489		
Cotton.....do.	1,494	2,111	1,837	1,844	1,944	2,100	2,111	2,140	2,192	2,338	2,492	2,280	2,174		
Manmade fiber.....do.	1,138	2,010	1,497	1,580	1,680	1,854	2,010	2,000	2,087	2,283	2,358	2,337	2,272	2,132	
COTTON															
Cotton (excluding linters):															
Production:															
Ginnings.....thous. running bales.	10,229	13,267	521	1,821	6,845	9,308	11,603	12,269	13,267						
Crop estimate, 480-pound bales, net weight.....do.	10,477	13,702	587	2,715	593	2,739	544	2,747	13,702						
Consumption.....thous. bales.	8,128	7,777							601	2,719	579	575	573	566	13,123
Stocks in the United States, total, end of period.....thous. bales.	10,054	12,333	16,050	15,364	14,967	13,696	12,333	10,890	9,883	8,781	7,351	6,203	5,200	3,779	15,982
Domestic cotton, total.....do.	10,035	12,319	16,030	15,345	14,979	13,680	12,319	10,874	9,866	8,766	7,336	6,191	5,187	3,766	15,972
On farms and in transit.....do.	2,389	3,346	13,338	12,333	8,490	5,739	3,346	2,420	2,041	1,895	1,376	1,065	878	200	13,160
Public storage and compresses.....do.	6,416	7,947	1,472	2,018	5,601	6,992	7,947	7,321	6,527	5,463	4,397	3,476	2,737	2,074	1,490
Consuming establishments.....do.	1,230	1,026	1,220	994	888	949	1,026	1,133	1,298	1,408	1,563	1,650	1,572	1,492	1,322
Foreign cotton, total.....do.	19	14	20	19	18	16	14	16	17	15	15	12	13	13	10

† Revised. † Reported annual total; revisions not allocated to the months or quarter.
 ‡ Data cover 5 weeks; other months, 4 weeks. ‡ Crop for the year 1971. ‡ Crop for the year 1972.
 § Excludes unglazed and salt glazed facing tile. § Oct. 1 estimate of 1973 crop.
 ¶ Data for total board products are available back to 1947. ¶ Monthly revisions (1968-72), reflecting recent benchmark adjustments, appear in "Woven Fabrics: Production, Stocks, and Unfilled Orders," M22A—Supplement (Dec. 1972) and Supplement 3 (Aug. 1973), Bureau of the Census. ¶ Includes data not shown separately.

⊕ Stocks (owned by weaving mills and billed and held for others) exclude bedsheeting, toweling, and blanketing, and billed and held stocks of denims.
 ¶ Unfilled orders cover wool apparel (including polyester-wool) finished fabrics; production and stocks exclude figures for such finished fabrics. Orders also exclude bedsheeting, toweling, and blanketing.

Δ Cumulative ginnings to end of month indicated.

Unless otherwise stated in footnotes below, data through 1970 and descriptive notes are as shown in the 1971 edition of BUSINESS STATISTICS

	1971	1972	1972					1973								
	Annual		Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.

TEXTILE PRODUCTS—Continued

COTTON—Continued																
Cotton (excluding linters)—Continued																
Exports.....thous. bales..	* 4,128	3,089	59	82	191	352	534	654	528	677	607	437	500	381	329	
Imports.....do.....	38	75	4	2	6	2	(*)	4	3	3	2	4	2	2	(*)	
Price (farm), American upland.....cents per lb..	128.1	* 26.6	30.7	26.7	26.7	27.4	25.2	22.4	22.8	26.2	27.1	30.2	29.5	30.4	36.7	44.6
Price, SLM (41) staple 34, 12 markets*.....do.....	133.0	* 35.6	33.1	27.9	25.7	27.2	29.3	32.3	33.2	35.0	40.2	45.2	46.0	52.1	66.9	80.5
COTTON MANUFACTURES																
Spindle activity (cotton system spindles):																
Active spindles, last working day, total.....mil.	18.4	18.3	18.2	18.2	18.2	18.4	18.3	18.4	18.1	18.1	18.1	18.1	18.1	17.8	17.8	
Consuming 100 percent cotton.....do.....	11.4	10.4	10.7	10.5	10.5	10.5	10.4	10.4	10.2	10.0	10.0	9.9	9.9	9.9	9.9	
Spindle hours operated, all fibers, total.....bil.	113.8	115.9	8.9	* 11.0	9.1	* 11.5	8.3	* 11.6	9.3	* 11.6	9.2	* 11.6	9.1	* 9.3	9.0	
Average per working day.....do.....	.438	.445	.444	.438	.455	.460	.416	.463	.464	.464	.462	.458	.456	.372	.448	
Consuming 100 percent cotton.....do.....	70.3	67.7	5.1	* 6.3	5.2	* 6.4	4.7	* 6.4	5.2	* 6.3	5.0	5.0	5.0	* 5.0	4.9	
Cotton yarn, price, 36/2, combed, knit.....\$ per lb.	1.061	* 1.105	1.121	1.117	* 1.107	1.103	1.105	1.107	1.127	1.147	1.174	1.225	* 1.235	1.225		
Cotton cloth:																
Cotton broadwoven goods over 12" in width:																
Production (qtrly.).....mil. lin. yd.	6,149	5,666		1,277			1,384			1,396			1,349			
Orders, unfilled, end of period, as compared with avg. weekly production.....No. weeks' prod.	16.9	22.7	18.6	18.8	19.3	20.5	22.7	22.0	22.6	23.2	24.0	22.5	21.4	26.2	19.3	
Inventories, end of period, as compared with avg. weekly production.....No. weeks' prod.	4.5	4.1	4.0	3.8	3.8	3.8	4.1	3.8	3.6	3.2	3.2	3.0	2.8	3.6	2.9	
Ratio of stocks to unfilled orders (at cotton mills), end of period.....do.....	.27	.18	.22	.20	.20	.18	.18	.17	.16	.14	.14	.13	.13	.14	.15	
Exports, raw cotton equiv.....thous. bales..	312.6	409.2	34.2	31.3	39.0	34.0	36.0	32.3	30.7	38.3	38.0	38.8	37.9	35.4	33.9	
Imports, raw cotton equiv.....do.....	569.5	735.5	67.9	51.7	64.6	63.6	46.0	68.0	46.4	59.4	56.0	59.2	56.2	54.2	58.1	
Mill margins:																
Carded yarn cloth average.....cents per lb.	* 45.10	52.12	53.81	58.64	61.65	60.52	59.10	56.91	57.27	59.28	59.78	58.39	62.51	62.63	48.85	36.37
Prices, wholesale:																
Print cloth, 38 1/2-inch, 64 x 54.....cents per yard..	15.8	18.1	18.3	18.3	18.3	* 18.3	18.3	18.3	19.5	19.5						
Sheeting, class B, 40-inch, 48 x 44-48.....do.....	22.2	* 25.0				* 25.0	25.0	25.5	28.0	28.5	33.0		33.0			
MANMADE FIBERS AND MANUFACTURES																
Fiber production (qtrly. total):																
Filament yarn (rayon and acetate).....mil. lb.	6,125.4	7,293.6		1,826.6			1,920.5			2,023.4			2,098.0			
Staple, incl. tow (rayon).....do.....	752.7	653.1		148.1			155.0			158.0			164.6			
Noncellulosic, except textile glass:.....do.....	611.7	713.2		174.8			174.3			168.6			168.2			
Yarn and monofilaments:																
Staple, incl. tow.....do.....	2,187.9	2,773.3		716.0			765.4			813.1			827.2			
Textile glass fiber.....do.....	2,104.9	2,582.4		644.0			673.3			720.3			765.9			
Exports: Yarns and monofilaments.....thous. lb.	130,511	117,405	10,533	8,429	10,034	10,054	13,463	14,122	14,205	18,196	20,794	19,451	21,773	19,802	17,099	
Imports: Yarns and monofilaments.....do.....	249,819	249,948	26,279	23,089	24,938	28,804	20,452	26,738	22,097	22,692	19,277	16,876	14,695	11,281	10,511	
Stocks, producers', end of period:																
Filament yarn (rayon and acetate).....mil. lb.	65.2	61.6		63.7			61.6			60.3			48.6			
Noncellulosic fiber, except textile glass:.....do.....	40.7	61.5		51.9			61.5			50.9			32.5			
Yarn and monofilaments.....do.....	297.6	293.7		297.4			293.7			279.9			250.0			
Textile glass fiber.....do.....	262.9	298.1		304.1			298.1			259.3			228.6			
Prices, manmade fibers, f.o.b. producing plant:																
Staple: Polyester, 1.5 denier.....\$ per lb.	.61	.62	.62	.62	.62	.62	.62	* .61	.61	.61	.61	.61	.61	.61	.61	.61
Yarn: Rayon (viscose), 150 denier.....do.....	1.03	1.03	1.04	1.04	1.05	1.05	1.05	1.05	1.02	1.02	1.03	1.05	1.05	1.05	1.05	1.05
Acrylic (spun), knitting, 2/20, 3-6D.....do.....	1.26	1.22	1.24	1.24	1.22	1.25	1.25	1.26	1.28	1.28	1.30	1.31	1.31	1.31	1.32	1.32
Manmade fiber and silk broadwoven fabrics:																
Production (qtrly.), total.....mil. lin. yd.	4,895.6	5,530.9		1,335.6			1,468.1			1,555.4			1,540.4			
Filament yarn (100%) fabrics.....do.....	1,433.1	1,723.0		410.4			452.9			480.0			466.8			
Chiefly rayon and/or acetate fabrics.....do.....	621.1	606.2		115.6			124.5			126.2			122.2			
Chiefly nylon fabrics.....do.....	296.1	377.0		94.8			98.2			99.7			93.9			
Spun yarn (100%) fab., exc. blanketing.....do.....	2,773.9	3,062.6		741.2			839.4			895.4			896.4			
Rayon and/or acetate fabrics and blends.....do.....	381.8	428.2		105.7			112.5			115.5			116.7			
Polyester blends with cotton.....do.....	1,998.5	2,190.1		535.5			602.6			641.0			639.0			
Filament and spun yarn fabrics (combinations and mixtures).....mil. lin. yd.	450.5	515.4		130.7			120.0			123.6			119.6			
WOOL																
Wool consumption, mill (clean basis):																
Apparel class.....mil. lb.	116.2	142.2	12.6	* 13.6	10.9	* 12.5	9.2	* 12.6	9.9	9.6	* 10.9	10.1	9.7	* 13.7	8.5	
Carpet class.....do.....	74.8	76.4	5.8	* 7.3	6.0	* 6.5	4.5	* 5.9	5.1	4.2	* 5.0	3.7	3.5	2.9	2.9	
Wool imports, clean yield.....do.....	126.6	98.6	10.7	6.2	5.8	6.7	5.7	7.7	7.2	5.7	5.6	6.4	6.8	5.6	4.7	
Duty-free (carpet class).....do.....	83.9	71.8	7.8	4.6	4.4	4.2	4.2	4.3	4.7	3.1	3.6	4.3	5.3	4.7	3.5	
Wool prices, raw, clean basis, Boston:																
Good French combing and staple:																
Graded territory, fine.....\$ per lb.	.664	1.157	1.275	1.350	1.455	1.635	1.650	1.880	2.325	3.025	2.338	2.335	2.575	2.600	2.750	2.750
Graded fleece, 3/8 blood.....do.....	.656	.925	1.025	1.043	1.165	1.310	1.325	1.545	1.819	2.075	1.462	1.375	1.600	1.650	1.700	1.575
Australian, 64s, warp and half-warp.....do.....	.802	1.321	1.289	1.500	1.672	1.771	1.975	2.523	3.118	3.968	2.955	3.093	3.242	3.215	3.210	2.990
WOOL MANUFACTURES																
Knitting yarn, worsted, 2/20s-50s/56s, American system, wholesale price.....1967=100																
Wool broadwoven goods, exc. felts:																
Production (qtrly.).....mil. lin. yd.	113.3	101.8		22.2			26.6			29.7			29.8			
Price (wholesale), suiting, flannel, men's and boys', f.o.b. mill.....1967=100																

* Revised. † Season average. ‡ For 5 weeks; other months, 4 weeks. § Less than 500 bales. ¶ Price not directly comparable with earlier data. †† Revised total; revisions not distributed by months. ‡‡ Beginning Aug. 1971, net weight basis; 1971 average is for Aug.-Dec. §§ Avg. for Oct.-Dec. ¶¶ Avg. for Nov.-Dec. ††† Season average based on sales through May. *New series. Effective with Aug. 1973 SURVEY, market price refers to Strict low middling (grade 41) staple cotton, 1 1/16"; monthly prices back to 1947 are available. ○ Beginning Aug. 1971, prices are on 480-lb. net-weight bale basis (for earlier months, on 500-lb. gross-weight bale basis); to compute comparable prices for earlier months, multiply farm price by 1.04167 and market price by 1.0438. † Effective with the Oct. 1972 SURVEY, series restated on an unadjusted basis. ‡ Includes data not shown separately. § Effective Nov. 1972, specifications were changed: Print cloth, to 64x56; sheeting, to 47x44.

Unless otherwise stated in footnotes below, data through 1970 and descriptive notes are as shown in the 1971 edition of BUSINESS STATISTICS	1971	1972	1972					1973								
	Annual		Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
TEXTILE PRODUCTS—Continued																
APPAREL																
Hosiery, shipments.....thous. doz. pairs...	210,872	228,723	23,058	20,613	22,044	20,223	14,420	15,747	16,237	20,354	17,805	17,875	22,267	19,851	23,066	
Men's apparel, cuttings:†																
Tailored garments:																
Suits.....thous. units...	16,477	18,174	1,584	1,516	1,635	1,603	1,278									
Coats (separate), dress and sport.....do...	14,403	18,202	1,533	1,630	1,667	1,639	1,304									
Trousers (separate), dress and sport.....do...	183,738	182,034	15,400	15,259	14,750	15,130	11,903									
Shirts (woven), dress and sport.....thous. doz...	20,795	20,914	1,717	1,738	1,700	1,820	1,383									
Women's, misses', juniors' apparel, cuttings:†																
Coats.....thous. units...	20,690	20,877	2,181	2,001	2,298	2,066	1,425	1,392	1,332	1,492	1,571	1,751				
Dresses.....do...	233,926	221,546	20,251	17,587	17,995	17,183	13,747	17,089	18,744	20,864	20,648	16,614				
Blouses and shirts.....thous. doz...	12,639	13,824	1,324	1,202	1,299	1,053	1,004	1,455	1,589	1,722	1,677	1,753				
Skirts.....do...	5,927	5,319	485	447	446	330	270	756	680	858	740	737				
TRANSPORTATION EQUIPMENT																
AEROSPACE VEHICLES																
Orders, new (net), qtrly. total.....mil. \$..	21,553	23,842		7,006			5,965			7,115			6,100			
U.S. Government.....do...	15,229	14,817		4,288			3,554			3,568			3,710			
Prime contract.....do...	19,028	21,274		6,413			5,254			6,381			5,568			
Sales (net), receipts, or billings, qtrly. total.....do...	21,679	21,499		5,442			5,674			5,637			6,532			
U.S. Government.....do...	14,114	13,492		3,713			3,445			3,403			3,723			
Backlog of orders, end of period.....do...	24,579	26,922		26,631			26,922			28,400			27,968			
U.S. Government.....do...	13,997	15,322		15,213			15,322			15,487			15,474			
Aircraft (complete) and parts.....do...	11,999	13,060		12,733			13,060			13,736			13,507			
Engines (aircraft) and parts.....do...	2,281	2,572		2,591			2,572			2,650			2,763			
Missiles, space vehicle systems, engines, propulsion units, and parts.....mil. \$..	4,780	5,272		5,228			5,272			5,553			5,256			
Other related operations (conversions, modifications), products, services.....mil. \$..	3,274	2,990		3,019			2,990			2,923			2,785			
Aircraft (complete):																
Shipments.....do...	2,973.9	3,231.8	226.9	192.9	270.0	297.1	334.8	277.1	390.6	364.6	435.8	599.6	436.9	332.2		
Airframe weight.....thous. lb.	48,818	47,694	3,485	2,815	3,785	4,076	4,555	3,912	5,435	5,462	7,121	7,698	5,376	4,630		
Exports, commercial.....mil. \$..	1,906.8	1,608.7	105.3	76.3	102.5	120.5	86.7	114.7	182.5	325.2	205.0	314.2	145.2	89.0	125.0	
MOTOR VEHICLES																
Factory sales (from plants in U.S.), total.....thous.	10,637.7	11,270.7	552.4	1,050.2	1,135.6	1,111.0	907.6	1,164.3	1,108.2	1,220.0	1,096.5	1,219.8	1,186.3	949.1	640.1	943.0
Domestic.....do...	10,036.0	10,646.8	516.5	987.1	1,066.0	1,048.9	852.6	1,107.3	1,053.1	1,143.1	1,021.5	1,140.4	1,122.5	898.3	603.6	721.5
Passenger cars, total.....do...	8,584.6	8,823.9	398.5	859.3	895.7	873.4	706.0	900.5	835.1	941.2	844.0	940.9	921.3	714.0	440.3	586.9
Domestic.....do...	8,121.7	8,352.5	371.0	808.8	841.7	827.4	666.2	859.8	815.5	852.8	786.6	880.1	873.3	677.5	415.7	533.9
Trucks and buses, total.....do...	2,053.1	2,446.8	153.9	190.9	239.9	237.5	201.6	263.8	253.2	278.7	252.5	278.9	285.0	235.1	199.7	221.6
Domestic.....do...	1,914.3	2,294.4	145.5	178.3	224.3	221.5	186.3	247.5	237.7	260.3	234.8	260.3	249.2	220.8	187.8	200.8
Retail sales, new passenger cars:																
Total, not seasonally adjusted.....thous.	10,250	10,949	813	879	1,069	1,032	848	876	920	1,143	1,024	1,145	1,086	960	838	875
Domestics.....do...	8,681	9,327	666	741	932	891	719	736	775	964	863	972	909	808	686	754
Imports.....do...	1,568	1,622	157	138	137	141	128	140	146	179	162	173	177	152	152	121
Total, seasonally adjusted at annual rates.....mil.			11.1	11.9	11.2	11.6	11.1	12.1	12.3	13.0	12.4	12.5	11.6	11.9	11.6	11.6
Domestics.....do...			9.3	10.2	9.6	9.8	9.2	10.2	10.3	11.0	10.5	10.7	9.7	10.0	9.9	10.2
Imports.....do...			1.7	1.6	1.6	1.8	1.9	1.9	2.0	2.0	1.9	1.8	1.9	1.8	1.7	1.5
Retail inventories, new cars (domestics), end of period:Δ																
Not seasonally adjusted.....thous.	1,447	1,311	1,263	1,300	1,288	1,313	1,311	1,528	1,649	1,652	1,654	1,648	1,708	1,612	1,387	1,360
Seasonally adjusted.....do...	1,590	1,454	1,488	1,486	1,492	1,473	1,454	1,535	1,563	1,493	1,480	1,452	1,523	1,592	1,553	1,478
Inventory-sales ratio, new cars (domestics)Δ	ratio	2.1	2.0	1.9	1.7	1.9	1.8	1.9	1.8	1.8	1.6	1.7	1.6	1.9	1.9	1.7
Exports (Bureau of the Census):																
Passenger cars (new), assembled.....thous.	386.64	410.25	19.50	45.89	46.36	38.06	39.10	36.76	34.93	53.32	51.06	49.52	41.74	30.27	20.95	
To Canada.....do...	348.40	376.23	18.04	43.40	42.49	34.04	34.40	31.47	31.18	48.59	46.94	45.81	38.24	26.08	18.68	
Trucks and buses (new), assembled.....do...	100.04	120.62	8.24	8.93	11.58	12.70	11.91	13.13	12.76	15.50	14.80	13.49	12.96	12.67	9.18	
Imports (Bureau of the Census):																
Passenger cars (new), complete units.....do...	2,687.48	2,485.90	170.35	142.98	198.80	229.71	204.92	235.42	219.15	246.53	203.09	251.29	232.73	189.15	149.32	
From Canada, total.....do...	802.28	842.30	35.23	58.41	74.99	86.87	67.92	87.36	74.65	89.82	64.37	98.25	91.01	56.34	28.86	
Trucks and buses.....do...	208.10	429.41	45.74	31.31	35.48	44.44	33.70	44.65	31.75	38.89	37.36	51.39	48.41	37.68	39.79	
Truck trailers (complete), shipments.....number..	103,784	141,143	11,680	11,635	13,383	11,140	12,220	11,633	13,622	14,672	14,205	14,573	13,696	12,900		
Vans.....do...	65,785	95,281	8,175	7,934	8,900	7,476	8,228	7,524	8,612	9,599	8,950	9,222	9,000	8,791		
Trailer bodies and chassis (detachable), sold separately.....number..	18,509	33,664	2,895	3,442	3,444	3,206	3,550	3,385	3,748	3,353	2,655	2,061	2,540	3,013		
Registrations (new vehicles):○																
Passenger cars.....thous.	1,930.6	1,409.0	947.8	823.6	894.6	926.3	970.5	806.4	823.8	971.5	942.8	1,035.9	1,040.8	1,081.8	979.6	
Imports, incl. domestically sponsored.....do...	1,487.6	1,516.2	156.9	140.2	125.5	131.9	133.9	106.9	117.1	145.1	133.8	155.4	159.3	164.2	151.1	
Trucks.....do...	1,993.2	2,502.1	215.5	184.7	190.2	235.0	251.0	193.8	202.8	245.2	246.5	247.5	274.6	277.5	275.0	
RAILROAD EQUIPMENT																
Freight cars (all railroads and private car lines):																
Shipments.....numbers.....	155,331	47,460	3,389	3,199	4,131	3,969	4,069	4,782	4,475	5,157	4,001	4,677	4,647	3,727	4,464	
Equipment manufacturers.....do...	148,014	41,971	2,822	2,619	3,487	3,557	3,830	4,536	4,191	4,912	3,766	4,390	4,414	3,466	4,215	
New orders.....do...	152,482	47,922	5,112	5,095	3,316	5,357	4,725	5,425	9,811	5,484	13,994	6,551	11,664	5,582	5,461	
Equipment manufacturers.....do...	146,913	42,323	4,975	4,616	3,116	4,957	4,705	5,084	8,661	5,433	13,894	6,121	10,964	5,282	5,461	
Unfilled orders, end of period.....do...	22,221	21,244	18,750	20,642	19,822	21,114	21,244	22,283	26,134	26,535	36,527	38,027	44,469	46,097	47,067	
Equipment manufacturers.....do...	18,753	17,666	14,493	16,386	16,010	17,314	17,666	18,610	23,545	24,140	34,267	35,624	41,600	43,189	44,408	
Freight cars (revenue), class 1 railroads (A.A.R.):‡																
Number owned, end of period.....thous.	1,422	1,411	1,424	1,424	1,412	1,413	1,411	1,409	1,409	1,408	1,407	1,403	1,402	1,401	1,396	
Held for repairs, % of total owned.....do...	5.6	5.8	6.2	5.9	5.9	6.0	5.8	5.9	5.9	5.7	5.7	5.8	5.8	6.0	6.1	
Capacity (carrying), aggregate, end of period																
Average per car.....mil. tons.....	97.14	98.08	98.56	98.64	97.95	98.10	98.05	98.09	98.15	98.20	98.41	98.12	98.07	98.12	97.89	
.....do.....tons.....	68.29	69.53	69.19	69.27	69.35	69.44	69.53	69.61	69.64	69.74	69.83	69.93	69.97	70.		

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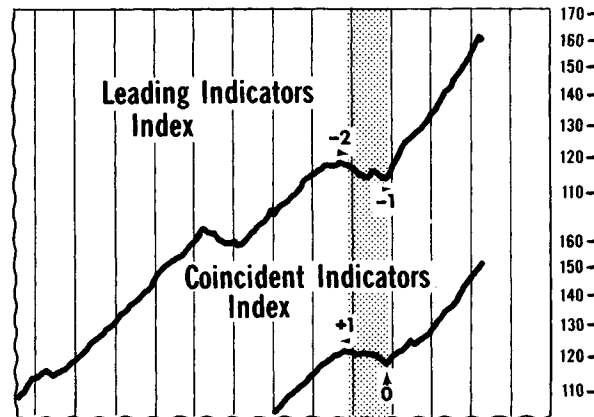
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