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VARIABILITY OF PRIVATE INVESTMENT
IN
PLANT AND EQUIPMENT

MATERIALS SUBMITTED
TO THE
JOINT ECONOMIC COMMITTEE
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PART I
INVESTMENT AND ITS FINANCING



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LETTER OF TRANSMITTAL

JANUARY 19, 1962.

To Members of the Joint Economic Committee:

Transmitted herewith for use of the Joint Economic Committee and other Members of the Congress is the first of several reports to be issued in connection with our study of the Variability of Private Investment in Plant and Equipment. This report, entitled "Investment and Its Financing," has been prepared for the committee in the Department of Commerce and will be followed by other studies in the series prepared for the committee by academic and business experts.

Sincerely yours,

WRIGHT PATMAN, *Chairman.*

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FOREWORD AND ACKNOWLEDGMENTS

This is the first of a series of prehearing studies on the variability of private investment expenditures on plant and equipment and whether anything needs to, or can, be done toward regularizing the employment-giving aspects of the nonhousing, noncommercial investment. The overall inquiry, of which this plant and equipment study is a part, is one of several of the more volatile and troublesome elements in the economy which the committee has been studying, following our extensive, earlier study in 1959, focused on the longrun secular aspects of employment and growth.

The committee report on the "growth" study (Rept. 1043, 86th Cong.) pointed expressly to the need of knowing more about the rates and factors affecting plant and equipment investment, and urged that "further studies should be undertaken to determine what can be done to reduce the instability of plant and equipment investment. It may well be," the report continues, "that it is impossible to stabilize these outlays, or that stabilization would lead to a lower average level. Nonetheless, the problem should be thoroughly explored" (p. 33). A comment at the hearings (p. 2997) on that study by the present chairman of the Council of Economic Advisers, Dr. Walter W. Heller, is also worth repeating. Dr. Heller said, "The whole problem of instability arising out of plant and equipment is one that is devilishly hard to deal with by public policy."

The committee has, of course, long recognized the importance and difficulty of this problem. In the fall of 1949, extensive hearings were held by a Subcommittee on Investment, of which Senator Joseph C. O'Mahoney was chairman. At that time the subcommittee, recognizing the breadth and importance of the problem, felt that it had the choice of a highly superficial and extensive job or of selecting a limited phase for more intensive examination. While the subcommittee report calls attention to the very many areas calling for investigation, the committee chose to concentrate its efforts on an examination of the supply and channels of investment funds. After hearing from representatives of business, of insurance companies and other financing institutions, the committee's report listed a dozen or more specific recommendations.

If one now looks back on the subcommittee's report, it is gratifying to see the progress that has been made in dealing with some of the important problems. The subcommittee, for example, urged and offered specifications for establishment of a specialized capital institution to make long-term loans to small business and make other suggestions for modification of the tax system with the objective of helping the special fiscal needs of business in such ways as investigating the effects, real and feared, of section 102 of the Internal Revenue Code, liberalizing the carry forward of net losses, increased administrative flexibility in the rate at which businesses are allowed to write off physical assets, and treating venture capital corporations as investment companies for tax purposes.

In connection with that study, the subcommittee issued a print entitled "Factors Affecting Volume and Stability of Private Investment." A major portion of that volume consisted of a collection of factual and background statistical material prepared especially for the committee by the Department of Commerce. The present volume, in general, follows the form and is, thus, essentially a modernizing and bringing up to date of the type of factual material presented to the committee, the Congress, and the public more than a decade ago.

The cooperation of Secretary Luther H. Hodges and his staff in making the present compilation available, in response to the committee's request, is gratefully acknowledged. The actual compilation was done in the Office of Business Economics of which Mr. M. Joseph Meehan is Director, and under the coordinating direction of Mr. George Jaszi, Assistant Director of the Office. Sections 1 and 2 were done by Messrs. George M. Cobren and John A. Gorman, respectively, in the National Income Division of which Mr. Frederick M. Cone is Chief. Section 3 was prepared by Mr. Murray F. Foss, Chief of the Current Business Analysis Division, with the assistance of Mr. Richard A. Christensen. Section 4 is the work of Miss Genevieve Wimsatt of the Business Structure Division of which Mr. Lawrence Bridge is Chief.

The overall study of the variability of private investment expenditure of plant and equipment is under the general supervision of Dr. William H. Moore, economist of the committee staff.

NATIONAL INCOME DATA ON SAVING AND INVESTMENT— SIGNIFICANCE AND LIMITATIONS OF THE DATA

One of the most comprehensive bodies of information on saving and investment is that compiled by the Department of Commerce in connection with its measurement of national income and product. This information is summarized by the Department in the form of a consolidated statement of the sources and uses of gross saving, based upon an interrelated set of accounts for each major sector of the economy.

This statement, for the years 1929 through 1960, is presented in the attached table I. This table shows the aggregate of gross private saving in the United States, by major sources, and public saving or dissaving as reflected in the government surplus or deficit on income and product transactions. It also indicates the Nation's utilization of saving for gross private domestic investment in new construction, producers' durable equipment, business inventories, and for net foreign investment. In principle, gross private saving plus government surplus or deficit on income and product transactions equals gross private domestic investment plus net foreign investment. Because of estimating errors, however, these totals differ by the amount of the statistical discrepancy which is separately shown in the table.

The key role of statistics of this type in the analysis of employment and production trends is generally recognized. Their importance is attested by the emphasis placed upon the saving and investment process in most theories of the business cycle. One critical determinant of levels of employment, production, and business activity, for example, is the rate of domestic investment, and great interest attaches not only to its aggregate volume but to the particular types of capital formation making up the total.

Dynamic effects are also very widely attributed to Government deficits and to the net foreign balance. At the same time, clues to the functioning of the economic mechanism are revealed through analysis of the various sources of private saving. Both the volume of saving and its distribution among economic groups exert a profound influence upon economic developments. Summary quantitative expression of all these factors and their interrelationships is provided by the statistics under consideration.

The other significant aspect of the data is that they represent changes in the Nation's wealth arising from current production. There is considerable interest in the growth of wealth as such; its increase, especially when it takes the form of new productive equipment, carries important implications with respect to long-term changes in productivity, income, and standards of living. Over extended time periods, saving and investment data may be of more fundamental significance in this context than in the context of business cycle analysis.

Proper interpretation and use of the information given in table I, either as an analytical tool or as a frame of reference for more specialized investigations of particular types of investment or saving, require a clear understanding not only of the significance of the data but of their limitations. Many minor limitations will be apparent only upon careful perusal of the detailed definitions contained in a subsequent section, but those of a general nature are emphasized in the following outline.

It should be noted at once that the consolidated saving and investment account is intended primarily for use in conjunction with the related current accounts for the various sectors of the economy which underlie the national income and product estimates; much significant information is lost if it is viewed in isolation from them. For example, table I tells us that net personal saving more than doubled from 1947 to 1948, but it does not indicate whether the increase resulted from higher incomes, from reduced consumption, or from some combination of changes in both personal income and expenditure.

Again, table I may show a sharp drop in undistributed corporate profits, as from 1950 to 1951, but it gives no clue as to whether the drop was due to reduced profits before tax, to higher tax rates, to payment of larger dividends, or to some combination of these (or other) factors. Such relationships, both with respect to business cycle analysis and in connection with wealth studies, can be seen only through judicious reference to the more complete statistical framework.

Many limitations arise from the fact that table I is a consolidated statement for the economy as a whole, and thus conceals many types of transactions which cancel in the process of consolidation. In this category are all changes in intangible claims and liabilities as between elements of the domestic business system and as between businesses and individuals. Thus, the consolidated statement of sources and uses of gross saving in itself conveys no indication whatever of the influence—which may be of the utmost significance—of monetary and credit policies.

For example, let us suppose that for some year table I shows business investment in durable equipment of \$20 billion and personal saving of \$20 billion (with all other items zero). To take two extremes, this might involve either of the following sets of transactions: (a) individuals invest their entire current saving in common stocks of corporations which acquire the equipment; or (b) businesses finance the investment wholly through borrowing from banks, and the increment in individuals' saving accumulates in the form of demand deposits.

These two alternatives have very different implications with respect to concurrent and subsequent economic developments, yet which of them (or what other alternative) prevails is not apparent from the consolidated saving and investment account. Ideally, the answers would be found in separate deconsolidated capital accounts for various types of economic units.

An example of the type of separate statement desired is given in the section of this monograph which deals with sources and uses of corporate saving. Similar statements for financial institutions, persons, government, and foreigners, etc., would be required to complete

a set of accounts for the economy. Another example may be found in table II, which presents a summary statement of personal saving and investment. It would be highly desirable, of course, to further deconsolidate the personal sector so as to show separate accounts for farmers, wage earners, proprietors of unincorporated enterprises, etc. Great statistical difficulties obstruct such an undertaking, however, and satisfactory breakdowns of this type are not available.

Detailed capital accounts for these and other sectors of the economy are not yet available on a basis integrated with the income and product accounts, but there is available a vast amount of relevant information on monetary and credit developments, which can be used to supplement the summary record presented in table I.¹

Another restriction imposed by consolidation is the fact that the data do not reflect transactions involving land and second-hand fixed assets (except in the case of international transfers). In general, this does not constitute a serious impairment, but circumstances occasionally arise in which transactions of this type occur on a significant scale.

Perhaps the outstanding example of such a situation is that prevailing in the immediate postwar years, when vast amounts of Government-owned facilities were being sold to private business. During this period, gross private domestic investment as shown in the consolidated account, while correctly stating capital formation for the Nation as a whole, substantially understates private investment in fixed capital assets, owing to the omission of purchases of existing plant and equipment from the Federal Government. Analysis of developments of this sort requires reference to auxiliary data of the type which would appear in a complete set of deconsolidated saving and investment statements for each sector of the economy.

In accordance with national income concepts, capital gains and losses, on both real property and securities, are excluded from the saving estimates presented in table I. Such gains or losses are excluded correspondingly from the investment side of the account.

A closely related problem involves the difficulties associated with unincorporated business operations. Since proprietors of noncorporate enterprises and farms do not themselves distinguish at all clearly between their net business and their net personal saving, it is impossible to obtain direct measurement of their business saving. Two synthetic approaches to such an estimate are to derive unincorporated business saving by analogy with corporate behavior, or, alternatively, to draw up a schedule of "business-type" assets and liabilities and define saving as the net of transactions in these categories. Neither approach has been very successful in the past. Consequently, the net saving of noncorporate business is best consolidated with all other net personal saving.

Noncorporate capital consumption allowances are shown separately in table I. For some purposes it would seem desirable to combine noncorporate with corporate business saving, and in the earlier version of this study noncorporate allowances were consolidated with gross

¹ Of particular importance in this respect is the *Flow of Funds Information* published by the Board of Governors of the Federal Reserve System in the *Federal Reserve Bulletin* for August of 1959 and 1961. Sources-and-uses-of-funds statements showing substantial detail on financial transactions are shown for the following sectors of the economy: consumer and nonprofit organizations; farm business; noncorporate nonfinancial business; corporate nonfinancial business; Federal Government; State and local government; commercial banking and monetary authorities; nonbank financial; and rest-of-world.

corporate saving to yield a measure of gross business saving as contrasted with net personal saving. Further reflection indicates that such a breakdown may not be in accordance with the realities of personal and corporate finance.

It is doubtful that many homeowners ever compute annual depreciation on their homes, and even more doubtful that they set such sums apart as available primarily for investment as distinct from consumption purposes, as corporations generally do. Probably the same consideration applies, though with somewhat lesser generality, to farms and other noncorporate businesses, even though in these cases depreciation may actually be computed for income tax purposes. For this reason, noncorporate capital consumption allowances are here consolidated with net personal saving to yield a measure of gross personal saving. It is important to recognize, however, that this saving does include an indeterminate amount of business saving whose cyclical behavior is more akin to that of corporate saving than to the saving of the individual consumer.

For purposes of measuring the Nation's saving and investment, some choice must be made among the numerous possible definitions of these terms. The concepts underlying the estimates presented in table I are those upon which the official estimates of national income and product are based, and represent an attempt to achieve the optimum combination of analytical utility and statistical feasibility. However, these particular concepts are not to be regarded as uniquely correct, and certain general limitations of scope inherent in them should be understood by users of the data.

The most important definitional aspect of the estimates is the exclusion from gross investment (and from corresponding calculations of saving) of any allowance for consumer or government capital formation.

Except in the case of residential dwellings, all purchases by individuals for personal use are classified as consumption expenditures, regardless of the durability of the articles in question. The consolidated statement of sources and uses of gross saving, therefore, contains no measure of personal investment in durable assets other than residences. Although for some purposes a classification of consumer durables as a form of investment might be desirable, it is a matter of controversy what the best definition is on balance, and the procedure currently prevalent in national income accounting of omitting consumer durables from investment is followed in table I.

Government capital formation is also omitted from table I because of difficult conceptual and statistical problems that have not yet been adequately solved. The omission of Government capital formation from the consolidated saving and investment account is probably of little consequence where the data are used for business cycle analysis, since Government capital investment is generally determined by considerations very different from those motivating private investment.

It must be recognized, however, that with the increasing role of Government the omission is a very serious one from the standpoint of analyzing economic growth and changes in wealth.

The emphasis in table I upon gross, rather than net, investment may call for some explanation. This is partly a matter of statistical feasibility and partly a deliberate choice of what is, for many purposes,

the more significant magnitude. In the first place, for technical reasons, gross capital formation can be estimated much more reliably than net. Adequate estimates of the former can be derived from available production data with a minimum of arbitrary judgment, whereas measures of the latter are contingent upon allowances for capital consumption which are derived from financial records designed for other purposes.

Estimates of capital used up in current production are obtainable primarily from data on business depreciation charges, which are generally expressed in terms of original cost rather than current replacement cost. It is the latter concept which is relevant in measuring net additions to the stock of capital goods, but conversion of depreciation charges to a replacement cost basis poses extremely difficult problems, both theoretical and statistical, and has not been undertaken here.

As a consequence, business accounting credits to depreciation reserves as shown on the saving side of the consolidated account cannot be deducted from gross private domestic investment to yield a meaningful estimate of net investment. These credits, together with other sources of saving, provide a reasonably accurate estimate of gross private saving in the aggregate, but the distinction in table I between gross and net saving is a bookkeeping, rather than an economic, distinction.

Another advantage of the gross investment concept appears in connection with problems of short-run resource allocation. It stems from the existence of considerable flexibility (actual or potential) in business policies regarding replacement or retirement of durable assets. In determining, for instance, what volume of current resources might be diverted temporarily to some specified program—say, defense production—gross capital formation is the more relevant concept. In the short-run, current resources could be made available not only by refraining from additions to the stock of private capital, but by not making normal replacements; and an analysis based solely upon net private investment would thus understate one important potential source of output.

By and large, then, the emphasis upon gross investment severely limits the data only in their wealth-measurement aspects. It is no handicap in most types of functional analysis, and has the merit of divorcing the estimates from overly arbitrary concepts and statistical procedures.

For one important segment of the economy, however, namely manufacturing industries, estimates of business depreciation charges have been developed not only in terms of original cost, but also in terms of current replacement cost and of constant cost, expressed in 1954 dollars. This additional information provides a basis for some valuable insights into the course of net investment and real net asset value of privately owned structures and equipment in this major area. (See tables IX and X.)

DEFINITIONS

The following definitions are intended to clarify the nature and content of individual items of sources and uses of gross saving as presented in table I. The definition of each major aggregate should be considered in conjunction with the definition of its components, as details of the latter are not repeated in the former. Also, the

definitions should be read in conjunction with the discussion of the significance and limitations of saving and investment concepts in an earlier paragraph which draws attention to some of the broader problems that arise in the interpretation of the data.

Gross private saving.—The excess of current receipts of private businesses and persons over their current expenditures (exclusive of capital consumption allowances). It is the aggregate of gross personal saving and gross corporate saving.

Gross personal saving.—The sum of net personal saving and non-corporate capital consumption allowances.

Net personal saving.—The excess of personal income over personal consumption expenditures, taxes, and other payments to general government. It consists of the current saving of individuals (including owners of unincorporated businesses), nonprofit institutions, and private pension, welfare, and trust funds. Personal saving may be in such forms as changes in cash, deposits, security holdings, reserves of life insurance companies and mutual savings institutions, and investment in unincorporated enterprises and residential dwellings. Saving may also be applied to debt repayment; similarly, borrowing can finance dissaving. This definition may be further clarified by reference to table II, which is a consolidated statement of personal saving and its disposition.

Capital consumption allowances.—The sum of depreciation charges, accidental damage to fixed business capital, and capital outlay charged to current expense. Although the term "charge," is carried over from corresponding entries in the relevant current income and expense statements, it should be understood that as components of gross saving these items are in the nature of credits to reserves for consumption of fixed capital assets.

Depreciation charges.—Charges recorded by private business for the current consumption of durable capital goods and depreciation of owner-occupied houses. Depreciation reported by nonfarm businesses is not adjusted for changes in the replacement value of capital goods.

Accidental damage to fixed business capital.—The value of physical losses by fire, natural events, and other accidents to fixed capital of private business, not covered by depreciation charges.

Capital outlay charged to current expense.—Purchases of new durable capital goods included in gross private domestic investment, but charged to current expense by business rather than entered on capital account.

Gross corporate saving.—The aggregate of net corporate saving and capital consumption allowances by corporate business—i.e., the excess of current receipts of corporate business over current expenses, before provision for capital consumption.

Net corporate saving.—The sum of undistributed corporate profits and the corporate inventory valuation adjustment.

Undistributed corporate profits.—The excess of corporate earnings, after provision for tax liabilities, over dividend payments. Only earnings of corporations organized for profit are covered. Earnings are confined to those accruing to residents of the United States, taking into account the net international flow of dividends and branch profits. Earnings are measured net of intercorporate dividends, without deduction of depletion charges, and exclusive of capital gains

and losses. In other respects, the definition of earnings is in accordance with Federal income tax regulations.

It should be noted, however, that the estimates on this basis also differ from data reported by the Internal Revenue Service in *Statistics of Income* because the latter compilation for any given year does not incorporate the results of audit of corporate tax returns, nor does it reflect various other retroactive adjustments made subsequent to its publication, such as renegotiation of war contracts, recomputation of emergency amortization, and tax adjustments resulting from certain carry-back provisions of the income tax laws. (See table III for a breakdown of undistributed corporate profits by major industrial groups.)

Corporate inventory valuation adjustment.—The excess of the value of the change in the volume of corporate non-farm business inventories, valued at average prices during the period, over the change in the book value of such inventories. This item must be credited to business saving because undistributed corporate profits are taken inclusive of inventory profit or loss, as is customary in business accounting, whereas only the real change in inventories is counted on the investment side of the account. A similar adjustment is made of unincorporated business inventories, included in personal saving. (See table IV for a breakdown of the corporate inventory valuation adjustment by major industrial groups.)

Government surplus or deficit on income and product transactions.—The excess of the sum of personal tax and nontax receipts, corporate profits tax accruals, indirect business taxes, and contributions for social insurance over government purchases of goods and services (other than land and second-hand fixed assets), transfer payments, net interest paid by government, and subsidies less current surplus of government enterprises. This is equivalent to net purchases of land and existing assets plus the sum of net changes in government claims upon the private and foreign sectors plus the change in the monetary gold stock, less the sum of net changes in government obligations to the private and foreign sectors. In addition to the foregoing items, which apply to the surplus or deficits of all levels of government, the surplus of the Federal Government is net of grants-in-aid to State and local governments, while the surplus of the States and localities include such grants-in-aid receipts.

The Federal surplus or deficit on income and product transactions may be compared with three familiar measures broadly similar to it in general character—the change in the gross public debt, the budgetary surplus or deficit, and the Treasury's cash surplus or deficit. It differs substantially from all three in the timing of certain transactions, most notably of corporate profits tax receipts, which it reflects on an accrual rather than a cash-collections basis. These timing adjustments are required mainly to convert the government records of transactions with business from a cash basis to an accrual basis consistent with their treatment in the business accounts.

Apart from this, it differs from changes in the public debt primarily in taking account of government liquid assets and loans receivable; in covering not only United States securities but other types of Federal liabilities, such as accounts payable of government to corporations; and in eliminating interagency holdings, such as public debt issues held by social security trust funds.

Apart from timing, it differs from the budgetary deficit primarily in excluding lending operations and other capital transactions from current receipts and expenditures, and also in that it reflects on a consolidated basis transactions not only of the general and special accounts of the Treasury, but also of numerous trust funds treated as separate entities in the official budget document.

Apart from timing, it differs from the cash operating statement, which, unlike the budget, is a consolidated statement of transactions clearing through the Treasury, chiefly in its exclusion of loans and other capital transactions from current receipts and expenditures.

The relations of the Federal and State and local government receipts and expenditures in the national accounts to those appearing in the Federal budget and the Census of Governments, respectively, are regularly published in the annual detailed national income and product reports. (See tables 28 and 29 of the July 1961 issue of the *Survey of Current Business*.)

Gross investment.—The sum of gross private domestic investment and net foreign investment.

Gross private domestic investment.—The acquisition of newly purchased capital goods by private business and nonprofit institutions and the value of the change in the volume of inventories held by business. It covers all private new dwellings, including those acquired by owner occupants.

New construction.—The value of private construction work put in place which, for any period, is defined as equivalent to the cost of materials installed plus expenditures for labor and overhead and an allowance for contractors' profits. The estimates cover the erection of structures of all kinds, including major additions and alterations, together with nonstructural installations such as railroad lines, power and telephone lines, and petroleum pipelines. The value of equipment which is an integral part of a structure, such as heating, plumbing, and lighting equipment and elevators, is included, but other equipment, such as production machinery or furnishings, is not, and maintenance and repair expenditures are also excluded. (Table V gives a breakdown of private construction activity, by type of structure.)

Producers' durable equipment.—The value of newly produced capital equipment acquired by business, other than items representing integral parts of structures. (Table VI gives a breakdown of producers' durable equipment by type through 1954. This breakdown is not available for more recent years.)

Change in business inventories.—The change, valued at average prices during the period, in the volume of raw materials, goods in process, and finished goods held by private businesses. A sharp distinction must be drawn between the value of the physical change in inventories, as here defined, and the change in the book value of inventories as customarily reported in business balance sheets. (Table VII provides a breakdown of changes in business inventories by major industrial categories, both in terms of book value and in terms of real changes, valued at current prices.)

Net foreign investment.—The net change in international assets and liabilities, including the monetary gold stock, arising out of the current international flow of goods and services, factor incomes, and cash gifts and contributions. Net changes in foreign claims and liabilities

of the Government, as well as of private business and individuals, are included. (See table VIII for a summary of net foreign investment by major types of capital movements.)

Statistical discrepancy.—The excess, due to statistical imperfections, of gross investment over gross private saving plus government surplus on income and product transactions. Since the source of the discrepancy is not known, it is equally appropriate to add it to saving or to subtract it from investment. The statistical discrepancy is also defined as the excess of the value of the estimated gross national product computed by the final products method over its independently estimated value computed by adding necessary conceptual adjustments to the national income.

SYNOPSIS OF TRENDS IN SAVING AND INVESTMENT

A thorough analysis of the data presented in table I is beyond the scope of this section, which has the more modest objective of indicating the nature of the data, their general significance, and their limitations. A brief summary of salient trends in saving and investment during the past three decades, however, may be useful in suggesting the direction which more elaborate inquiries might take.

The outstanding feature of the data is the extreme volatility of the various series during the depression and recovery of the 1930's and in the war and reconversion period, and their greater stability in recent years. Gross private saving ranged from less than \$3 billion in 1932 and 1933 to nearly \$75 billion in 1960. As a percentage of gross national product, it varied from less than 4 percent at the depth of the depression to 26 percent in 1942.

Equally striking fluctuations are apparent among the various components of private saving, as well as in the principal uses to which it has been put. The highly dynamic relationship of these factors to the functioning of the economy, in short, is revealed by even the most cursory historical comparison of table I with estimates of national income and product over the same period.

Total gross private saving in 1929, the first year for which data are available, amounted to \$15½ billion, or about 15 percent of gross national product. It declined precipitately, both absolutely and in relation to the Nation's output, during the next several years of declining activity, reaching the low levels cited above in 1932 and 1933. Conversely, as business recovered, total private saving increased much more rapidly than national product. Its fluctuations were also sharper in the 1938 recession and subsequent recovery, but by 1940 the relationship of gross private saving to national output again closely approximated that in 1929.

During the war years the Federal Government's requirements and its financing policies were the decisive factor in determining the level and character of private saving, which averaged 25 percent of GNP in the period 1942-45. During these years the Nation devoted nearly 40 percent of its gross national product to the prosecution of the war, and the Federal Government financed the bulk of its war outlays by borrowing from the public. The increase in private saving necessary to match the enlarged flow of Government obligations was obtained by various measures designed to curtail consumption and to encourage thrift. As may be seen in table II, national saving—private saving

plus public saving as manifested in the Government surplus (deficit)—was extremely low in this period when the requirements of the war program forced a severe reduction in all forms of private capital formation. The marked difference between the national and private levels of saving in this period would be reduced somewhat by allowances for Government capital formation but the great contrast with normal periods of high economic activity would remain.

The immediate postwar years were marked by a sharp reverse of the wartime movements, with the important difference that in this period private initiative reasserted itself as a factor determining the level of saving and investment. The liquidation of the war effort would in any case have resulted in a sharp reduction in the level of private saving. In addition, the extremely high private demand for investment and consumption goods, fortified by the wartime accumulation of liquid assets, generated a sharp increase in civilian production and prices, with the result that Federal Government revenues increased sharply and by 1947 the Government surplus was running at an all-time record of \$13 billion. Private saving in this year was very low (10 percent of GNP) for a boom year, but the Government's surplus helped to support a level of investment of about the same proportion to GNP as in other relatively prosperous years.

In the years since 1947 gross private saving has averaged 15 percent of total GNP, as in 1929 and 1940. This relationship has been remarkably stable throughout the period, with a mean deviation of only 0.4 percentage points from the period average and a maximum deviation of only 1.0. Moreover, there is no apparent relationship between the size or direction of such deviations and the GNP in the course of such cyclical fluctuations as we have experienced during this period.

Personal saving

Gross personal saving has varied from 7 to 9 percent of GNP in the years since 1948, averaging slightly higher than the 8 percent estimated for 1929. Year-to-year fluctuations in this percentage have been modest, averaging 0.6 percent for the period as a whole, and were, in general, inversely related to the business cycle, at least during the 1950's. This is, of course, merely the reverse of the fact that both corporate and Government saving have been reduced in periods of declining activity. In the intervening years, however, the fluctuations were much wider, ranging from less than 5 percent in 1932-33 and again in 1947 to over 20 percent in the war years 1943-44.

The removal of price controls and the freeing of industry for civilian production set the stage for a buying surge that reduced personal saving to only 4.5 percent of GNP in 1947, an extremely low ratio for a year of prosperity. In 1948, personal saving returned to a more normal 7.4 percent as the boom in nondurable goods waned, and durable goods production was limited by materials shortages.

Owing to the stability of noncorporate depreciation allowances, the changes in net personal saving tend to reflect those in gross saving, with some minor differences. At a little over 5 percent of GNP, net personal saving during the 1950's was significantly higher than the 4 percent recorded for 1929. It is quite possible, however, that no increase would be shown if depreciation charges were based on the higher capital costs of recent years. Cyclical movements in net saving dur-

ing recent years are, of course, considerably more marked than those in gross saving.

Corporate saving

Since the cyclical behavior of corporate saving is discussed in considerable detail in section 2, its treatment at this point is limited to such historical comparisons as are needed to round out the discussion of private saving.

Gross saving, at just under 7 percent of GNP, has closely approximated the 1929 ratio since the excess profits tax was repealed in 1954. Year-to-year fluctuations have been mild, with a mean deviation of only 0.15 percentage points about the period average. As indicated in section 3 of this report, however, cyclical fluctuations are considerably greater if 12-month periods more nearly reflecting the phases of the business cycle are substituted for calendar years.

Historically, corporate saving has been considered to be one of the more volatile elements of gross output. In fact, they were negative in each of the years 1932 and 1933. The rather sharp, if short, recessions of 1937-38, 1948-49, and 1953-54, are, however, barely reflected in the gross saving shown for those years in table I.² The 1957-58 recession, however, was reflected in a downswing in corporate saving, as shown in table I.

Unlike personal saving, corporate saving during the war was rigidly limited by price controls, excess profits taxes, and the renegotiation of war contracts. Gross saving amounted to less than 6 percent of GNP for each of the war years. The removal of restrictions at the war's end brought no immediate improvement as earnings were limited by reconversion difficulties, materials shortages, and industrial disputes. The 7-percent figure recorded for 1929 was not again reached until 1948. Except for the Korean war period, this ratio has been about maintained ever since, with the minor cyclical modifications noted above.

Government saving

The Federal deficit position during the 1930's and the 1940's reflected the impact of the great depression, and, on a grand scale, that of the war program. In the more recent period, with the enlarged scope of Government activity, large fluctuations in Government spending in response to changing defense and other requirements, and with heavy reliance upon sensitive revenue sources, Federal surpluses and deficits have frequently been large and have fluctuated widely from year to year. Over the 1947-60 period as a whole, however, the annual surpluses have exceeded the annual deficits on net balance. It should be emphasized again, as more fully explained in the preceding section of definitions, that the surplus or deficit as shown here represents a comprehensive summation of Government transactions on income and product account, and does not correspond closely to either the changes in the administrative budget or changes in the public debt.

² In this connection it is worth noting that without the inventory valuation adjustment, corporate saving showed substantial declines in both 1938 and 1949. Moreover, if quarterly data are used, a decline in corporate saving after IVA does emerge in 1948-49. It is probable that the same applies to the 1937-38 period, since much of the adjustment to this recession was made in the closing months of 1937, and late 1938 was a period of moderate recovery. The repeal of the excess profits tax in 1953 obscured the effect of the 1953-54 decline on corporate net income and saving.

State and local governments in the aggregate also incurred deficits on income and product account from 1929 through 1933. They accumulated surpluses in the subsequent period through 1940, as large-scale Federal assistance in the form of grants-in-aid offset rising outlays. Surpluses were accumulated largely in the form of cash and deposits and trust and sinking fund investments, with only minor amounts used, on balance, for debt retirement.

State and local governments experienced substantial surpluses from the beginning of the war through 1947, under the expansive influence of the war economy upon many types of revenue at a time when shortages of materials and manpower forcibly restricted expenditures. Some of the surplus was used for debt retirement, but the bulk was invested in Federal securities or accumulated in deposits to establish reserves for financing postwar capital outlays.

Consummation of these plans, together with the effects of inflation upon operating costs, brought about a sharp shift in the fiscal position of State and local governments after the war. By 1949 the burgeoning volume of expenditures outstripped the dramatic increases that were occurring in the major revenue sources and these governments showed a deficit as they did again in all but two of the subsequent years through 1960. On balance, for the 1947-60 period State and local governments have shown a net deficit of \$7½ billion.

INVESTMENT

Turning to the other side of the accounts, gross investment has been highly volatile throughout the whole period under review. It absorbed some 16 percent of the nation's output in 1929, but fell much more sharply than output with the onslaught of depression, so that the ratio had declined to 2 percent by 1932. Throughout the early stages of business recovery, the 1938 recession, and subsequent expansion preceding the war, changes in gross investment were proportionately greater than in gross national product and by 1941 it had recovered to about the same proportion as in 1929.

This share was drastically reduced after 1941 by diversion of resources to Government use for prosecution of the war effort. Gross investment as here defined rebounded very quickly with cessation of hostilities, as business hastened to restore the wartime impairment of capital equipment and to expand facilities for civilian production.

Spurred by the large backlog of demand, the investment ratio was unusually high in 1947 and 1948, and it has remained sizable throughout the postwar period, even when reduced during the brief intervals of cyclical contraction. The recession of 1949 brought a sharp drop, to less than 10 percent of GNP, but the industrial expansion generated by the Korean War coupled with the 1950-51 boom in residential construction activity forced the investment ratio close to 18 percent. In recent years this ratio has fluctuated between 13 and 16 percent of GNP, and in only 1 year (1956) had it exceeded the 1929 figure. The greater importance of government activities contributed to the relatively low level of investment, as measured, in the economy of the 1950's by reducing the volume of resources available for private use, and by substituting governmental activities for private. Indeed,

if government investment-type outlays were added to private investment in these years, the ratio would probably be not far from that of 1929.

Before considering briefly the cyclical movements in the major components of domestic investment, two points are worthy of emphasis. First, while the expansion in outlays for business facilities in the postwar period reflected in part rising equipment prices and construction costs, the new additions to the physical stock of capital were of record proportions. This is pointedly illustrated by the more comprehensive data available for manufacturing (table IX). Net capital formation, measured as the difference between purchases and straight-line depreciation, was about zero in both current and constant dollars for manufacturing structures and equipment in the period 1929-41. Since that time, and most particularly in the postwar years, almost two-fifths of the gross outlays have represented net additions.

The second point relates to inventory investment which constitutes the most volatile element in the domestic investment total. Although subject to pronounced short-term variability, it is important to note that inventory holdings are a sizable element in the capital structure of business, and that their expansion with the growth of the economy has accounted for a significant part of total domestic investment. In manufacturing, which holds a large part of all inventory goods, stocks at the end of 1960 were equal in value to more than one-third of the total capital goods in the industry. Moreover, the buildup of manufacturers' inventories over the 1929-60 span was about three-fourths as large as the growth in the net real value of structures and equipment. (See table X.) The trends in private domestic investment are discussed in more detail in other sections of this monograph.

Changes in business inventories continued to be the most sensitive of the several forms of domestic investment. There was a moderate degree of liquidation in each of the years 1949, 1954, and 1958. Moreover, as can be seen from table I, there was, in each case, a marked slowing down in the rate of accumulation in the preceding year. The substantial degree of accumulation in calendar 1960 reflected the post-strike buildup early in the year which exceeded the liquidation that set in later in the year after business activity turned down.

Expenditures for producers' durable equipment normally tend to lag business activity in both recession and recovery. Nonetheless, there were significant declines in each of the 3 "depressed" years and that in 1958 was of major proportions.

New construction activity has shown steady growth throughout the period with very minor declines noted only for 1949 and 1958. In this period of sustained prosperity, residential construction has shown more sensitivity to the terms and conditions offered by lenders than to the year-to-year fluctuations in general activity, with substantial advances being recorded in both 1954 and 1958. Other types of construction have been somewhat more sensitive in a cyclical sense. Overall, nonresidential construction was off sharply in 1958 and there was a distinct fall in the rate of increase in 1954.

TABLE I.—Sources and uses of gross saving, 1929-60

[Billions of dollars]

Line		1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944
1	Gross private saving.....	15.7	12.2	7.7	2.0	1.9	5.0	8.4	10.1	11.5	8.9	11.2	14.6	22.6	41.9	49.3	54.2
2	Gross personal saving.....	8.4	7.5	6.4	3.0	2.7	3.6	5.6	7.4	7.7	5.0	6.8	8.3	15.7	32.8	38.4	42.6
3	Net personal saving.....	4.2	3.4	2.5	-.6	-.6	.1	2.0	3.6	3.7	1.1	2.9	4.2	11.1	27.8	33.0	36.9
4	Noncorporate capital consumption allowances.....	4.2	4.1	3.8	3.6	3.4	3.5	3.6	3.8	3.9	4.0	4.0	4.1	4.6	5.0	5.4	5.7
5	Depreciation charges.....	3.8	3.7	3.5	3.3	3.2	3.2	3.3	3.4	3.6	3.6	3.7	3.8	4.2	4.7	4.9	5.1
6	Farm.....	1.3	1.2	1.0	.9	.8	.8	.9	.9	1.0	1.0	1.1	1.1	1.2	1.5	1.6	1.8
7	Nonfarm residential dwellings.....	1.3	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.6	1.7	1.7	1.7
8	Other noncorporate.....	1.2	1.2	1.1	1.1	1.0	1.0	1.0	1.1	1.1	1.1	1.1	1.2	1.3	1.5	1.5	1.6
9	Accidental damage to fixed business capital.....	.2	.2	.2	.2	.2	.1	.1	.2	.2	.3	.1	.1	.2	.2	.2	.2
10	Capital outlays charged to current expense.....	.2	.1	.1	.1	.1	.1	.1	.1	.2	.1	.2	.2	.2	.2	.2	.3
11	Gross corporate saving.....	7.3	4.7	1.4	-.9	-.8	1.4	2.8	2.8	3.8	3.9	4.3	6.3	6.9	9.1	10.9	11.6
12	Net corporate saving.....	2.9	-.2	-.3	-.9	-.6	-.2	-.9	-.1	(0)	(0)	.5	2.2	2.4	4.0	5.4	5.2
13	Undistributed corporate profits.....	2.4	-.3	-.4	-.6	-.4	-.6	-.7	-.2	(0)	-.9	1.2	2.4	4.9	5.2	6.0	5.7
14	Corporate inventory valuation adjustment.....	.5	3.3	2.4	1.0	-.2	-.6	-.2	-.7	(0)	1.0	-.7	-.2	-.2	-.5	-.8	-.3
15	Corporate capital consumption allowances.....	4.4	4.4	4.3	4.0	3.8	3.6	3.7	3.7	3.8	3.8	3.0	4.0	4.5	5.1	5.5	6.3
16	Depreciation.....	3.0	4.0	4.0	3.7	3.5	3.4	3.4	3.3	3.3	3.4	3.4	3.5	3.9	4.5	4.9	5.6
17	Accidental damage to fixed business capital.....	.2	.2	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.2	.3	.2	.1
18	Capital outlays charged to current expense.....	.3	.3	.2	.2	.1	.2	.2	.3	.4	.3	.3	.4	.5	.3	.4	.6
19	Government surplus on income and product transactions.....	1.0	-.3	-.2	-.7	-.4	-.2	-.2	-.3	-.6	-.6	-.1	-.7	-.3	-.8	-.4	-.1
20	Federal.....	1.2	-.3	-.2	-.1	-.3	-.2	-.2	-.3	-.5	-.2	-.2	-.4	-.1	-.2	-.7	-.5
21	State and local.....	-.1	-.5	-.7	-.2	(0)	-.5	.6	.5	.7	.4	.1	.7	1.3	1.8	2.5	2.7
22	Gross investment.....	17.0	11.0	5.7	1.1	1.5	3.3	6.2	8.3	11.8	7.8	10.2	14.7	19.2	27.7	34.5	37.7
23	Gross private domestic investment.....	16.2	10.3	5.5	.9	1.4	2.9	6.3	8.4	11.7	6.7	9.3	13.2	18.1	26.1	32.7	35.7
24	New construction.....	8.7	6.2	4.0	1.9	1.4	1.7	2.3	3.3	4.4	4.0	4.8	5.5	6.6	8.6	9.7	10.4
25	Producers' durable equipment.....	5.8	4.5	2.8	1.6	1.6	2.3	3.1	4.2	5.1	3.6	4.2	5.5	6.9	9.3	10.4	11.3
26	Change in business inventories.....	1.7	-.4	-.1	-.6	-.6	-.1	-.9	1.0	2.2	-.9	.4	2.2	4.5	4.8	4.8	5.4
27	Net foreign investment.....	.8	.7	.2	.2	.2	.4	-.1	-.1	.1	1.1	.9	1.5	1.1	-.2	-.2	-.1
28	Statistical discrepancy.....	.3	-1.0	.8	.8	.9	.7	-.2	1.1	-.2	.5	1.2	.8	.4	-.8	-1.7	2.8

Line		1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
1	Gross private saving.....	44.3	26.5	23.6	37.6	36.1	40.3	49.2	52.2	54.1	54.4	59.6	66.1	69.2	69.5	74.0	74.6
2	Gross personal saving.....	34.5	19.0	11.4	18.8	17.3	22.3	28.7	30.6	32.2	31.8	31.1	37.4	39.2	40.7	40.0	40.3
3	Net personal saving.....	28.7	13.5	4.7	11.0	8.5	12.6	17.7	18.9	19.8	18.9	17.5	23.0	23.6	24.7	23.4	22.9
4	Noncorporate capital consumption allowances.....	5.9	5.5	6.7	7.8	8.8	9.6	11.0	11.7	12.4	13.0	13.6	14.4	15.6	15.9	16.7	17.4
5	Depreciation charges.....	5.3	4.8	5.8	6.8	7.9	8.6	9.6	10.4	11.0	11.5	12.0	13.0	14.1	14.7	15.4	16.0
6	Farm.....	2.0	1.1	1.5	1.9	2.3	2.6	3.0	3.3	3.4	3.4	3.5	3.6	3.7	3.8	4.0	4.0
7	Nonfarm residential dwellings.....	1.7	1.8	1.8	2.0	2.2	2.4	2.7	2.9	3.2	3.4	3.8	4.1	4.4	4.8	5.2	5.6
8	Other noncorporate.....	1.7	1.9	2.5	2.8	3.4	3.6	3.9	4.3	4.5	4.7	4.8	5.3	5.9	6.1	6.2	6.5
9	Accidental damage to fixed business capital.....	.2	.3	.4	.4	.3	.4	.6	.4	.6	.7	.8	.5	.6	.5	.5	.5
10	Capital outlays charged to current expense.....	.3	.5	.5	.6	.6	.6	.8	.8	.8	.8	.8	.9	.9	.7	.8	.9
11	Gross corporate saving.....	9.7	7.5	12.2	18.8	18.8	18.0	20.5	21.6	21.9	22.5	28.4	28.7	30.0	28.8	24.0	34.3
12	Net corporate saving.....	3.0	2.4	5.8	11.2	10.3	8.6	9.6	9.2	7.8	6.7	10.1	8.6	8.2	6.2	9.8	8.6
13	Undistributed corporate profits.....	3.6	7.7	11.7	13.3	8.5	13.6	10.7	8.3	8.9	7.0	11.8	11.3	9.7	6.4	10.3	8.6
14	Corporate inventory valuation adjustment.....	-.6	-.5	-.9	-.2	1.9	-.5	-.1	1.0	-.1	-.3	-.1	-.7	-.2	-.3	-.5	(1)
15	Corporate capital consumption allowances.....	6.7	5.2	6.3	7.7	8.5	9.4	11.0	12.3	14.1	15.8	18.4	20.0	21.8	22.7	24.1	25.7
16	Depreciation.....	5.9	4.3	5.3	6.3	7.2	7.9	9.1	10.4	12.0	13.7	15.9	17.5	19.3	20.6	21.8	23.3
17	Accidental damage to fixed business capital.....	.1	.1	.2	.2	.2	.2	.3	.2	.3	.2	.3	.2	.3	.2	.3	.2
18	Capital outlays charged to current expense.....	.6	.8	.9	1.2	1.1	1.3	1.6	1.7	1.8	1.9	2.2	2.3	2.2	1.9	2.1	2.1
19	Government surplus on income and product transactions.....	-39.7	4.1	13.3	8.2	-3.1	8.2	6.1	-3.9	-7.1	-6.7	2.9	5.2	1.0	-11.4	-2.2	1.9
20	Federal.....	-42.3	2.2	12.2	8.0	-2.5	9.2	6.4	-3.9	-7.4	-5.8	3.8	5.7	2.0	-9.4	-1.8	3.3
21	State and local.....	2.6	1.9	1.1	.3	-.6	-1.0	-.3	.1	.3	-.9	-.5	-.5	-1.0	-2.1	-.4	-1.4
22	Gross investment.....	9.0	32.7	40.4	45.0	33.5	47.8	56.6	49.7	48.3	48.5	63.4	68.8	69.6	56.6	70.1	73.9
23	Gross private domestic investment.....	10.4	28.1	31.5	43.1	33.0	50.0	56.3	49.9	50.3	48.9	63.8	67.4	66.1	56.6	72.4	72.4
24	New construction.....	3.8	11.0	15.2	19.5	18.8	24.2	24.8	25.5	27.6	29.7	34.0	35.5	36.1	35.5	40.2	40.7
25	Producers' durable equipment.....	7.7	10.7	16.7	18.9	17.2	18.9	21.3	21.3	22.3	20.8	23.1	27.2	28.5	23.1	25.9	27.5
26	Change in business inventories.....	-1.1	6.4	-.5	4.7	-3.1	6.3	10.2	3.1	4	-1.6	5.8	4.7	1.6	-2.0	6.3	4.2
27	Net foreign investment.....	-1.4	4.6	8.9	1.9	.5	-2.2	.2	-.2	-2.0	-.4	-.4	1.5	3.5	-.1	-2.3	1.5
28	Statistical discrepancy.....	4.5	2.1	3.5	-.8	.5	-.7	1.2	1.4	1.3	.9	1.0	-2.4	-.6	-1.5	-1.7	-2.6

¹ Less than \$50,000,000.

² Revised estimates of residential construction activity in 1959 and 1960 have not been incorporated in this table.

Source: Office of Business Economics, U.S. Department of Commerce.

TABLE II.—Disposition of personal saving, 1929-60

[Billions of dollars]

Line		1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944
1	Personal saving.....	4.2	3.4	2.5	-0.6	-0.6	0.1	2.0	3.6	3.7	1.0	2.9	4.2	11.1	27.8	33.0	36.9
2	Gross investment in tangible assets.....	7.8	4.7	3.2	.6	.1	.1	3.0	3.0	5.4	4.1	5.5	6.9	9.0	5.6	2.7	3.2
3	Nonfarm homes.....	3.2	1.5	1.2	.4	.1	.2	.5	1.3	1.6	1.8	2.8	3.2	3.7	1.9	1.1	1.0
4	Other construction and producers' durable equipment.....	4.6	3.7	2.2	1.0	.8	1.2	1.8	2.4	3.1	2.3	2.6	3.2	4.1	2.4	1.8	2.2
5	Noncorporate enterprises.....	2.4	2.0	1.2	.7	.7	.9	1.3	1.7	2.0	1.4	1.7	2.0	2.6	1.2	.8	1.0
6	Farm enterprises ¹	1.6	1.1	.5	.1	(²)	.2	.4	.6	.9	.7	.7	.9	1.3	1.1	1.0	1.1
7	Nonprofit institutions.....	.6	.5	.4	.2	.1	.1	.1	.1	.2	.2	.2	.2	.2	.1	(³)	.1
8	Inventories of noncorporate enterprises.....	(⁴)	-.5	-.2	-.8	-.8	-1.3	.7	-.6	.7	(⁵)	.1	.6	1.2	1.3	-.3	(⁶)
9	Nonfarm.....	-.3	-.2	-.5	-.8	-.5	(⁷)	.2	.5	.2	.1	.1	.3	.7	.2	-.1	.5
10	Farm.....	-.2	-.2	.3	(⁸)	-.3	-1.3	.5	-1.1	.5	.1	.1	.3	.4	1.2	-.2	-.4
11	Depreciation ⁹	4.0	4.0	3.8	3.5	3.3	3.4	3.4	3.6	3.8	3.8	3.8	3.9	4.3	4.8	5.1	5.4
12	Nonfarm homes.....	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.7	1.8	1.8	1.8
13	Noncorporate nonfarm enterprises.....	1.1	1.0	1.0	.9	.8	.9	.9	1.0	1.0	1.0	1.0	1.0	1.2	1.4	1.4	1.5
14	Farm enterprises.....	1.4	1.3	1.1	.9	.8	.9	.9	1.0	1.1	1.1	1.1	1.1	1.3	1.5	1.7	1.9
15	Nonprofit institutions.....	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2
16	Net investment in tangible assets.....	4.1	1.1	-.2	-2.6	-3.2	-3.3	-.4	-.6	1.7	.2	1.7	3.0	4.6	.8	-2.5	-2.2
17	Nonfarm homes.....	1.8	.1	-.2	-1.1	-1.4	-1.3	-.9	-.3	.1	.2	1.2	1.5	2.0	.1	-.6	-.8
18	Other.....	2.3	1.0	(⁹)	-1.6	-1.8	-2.0	.5	-.3	1.6	(¹⁰)	.5	1.4	2.6	.6	-1.8	-1.4
19	Increase in financial assets ¹⁰	2.4	1.0	.4	-1.4	-1.5	2.8	2.1	5.0	2.7	1.6	4.0	4.6	10.0	24.1	33.9	37.9
20	Currency and bank deposits.....	-3.6	-1.5	-1.6	-1.7	-1.3	1.8	2.5	3.7	.5	.4	3.0	2.9	4.8	11.0	16.2	17.6
21	Savings and loan association shares.....	.5	.1	-.4	-.6	-.6	-.3	-.2	.1	-.1	(¹¹)	(¹²)	.2	.4	.2	.6	.8
22	Securities.....	4.2	1.3	1.5	.6	-.2	-.1	-1.8	-.3	.6	-.4	-.8	-.4	2.6	10.3	14.1	15.7
23	U.S. savings bonds ¹³.....									.1	.3	.4	.7	.9	2.8	8.0	11.1
24	Other U.S. Government.....	-1.3	-.5	.8	.7	.6	1.1	-.6	.6	.7	-.6	-.6	-.4	.7	2.6	3.4	4.6
25	State and local government.....	.9	.8	.6	-.3	-.7	-.8	-.1	-.6	(¹⁴)	-.2	-.2	-.5	-.3	-.2	-.1	(¹⁵)
26	Corporate and other.....	4.6	1.0	.9	.2	-.2	-.4	-1.2	-.7	-.5	(¹⁶)	-.6	-.4	.5	(¹⁷)	-.3	.7
27	Private insurance and pension reserves.....	1.2	1.2	.9	.3	.6	1.4	1.6	1.8	1.8	1.6	1.8	1.9	2.2	2.6	3.0	3.8
28	Increase in debt to corporations and financial intermediaries.....	.6	3.1	5.4	5.0	1.5	-.9	(¹⁸)	1.3	.4	1.4	1.7	2.4	3.6	5.1	2.3	.6
29	Consumer debt.....	.8	-.6	-1.2	-1.1	-.1	-.4	.1	-.6	-.6	-.6	-.8	1.0	.7	-.3	-.0	1.1
30	Securities loans.....	-1.7	-.2	-.1	-.1	-.2	-.5	(¹⁹)	-.3	-.1	-.1	-.2	-.2	-.1	-.3	-.6	1.4
31	Mortgage debt.....	1.1	.4	-.6	-1.4	-.2	1.0	-.3	-.1	-.4	-.1	-.2	-.2	-.1	-.3	-.6	1.4
32	On nonfarm homes.....	.9	.1	-.3	-.9	-.6	.6	-.1	-.1	(²⁰)	-.2	.5	.9	.9	-.4	-1.0	-.5
33	On noncorporate nonfarm enterprises.....	-.4	.4	-.2	-.2	.7	(²¹)	-.2	-.3	-.2	-.2	-.5	.5	.8	-.1	-.2	-.1
34	On farms.....	-.1	-.1	-.1	-.3	-.3	.5	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.2	-.4	-.4
35	Net trade debt of noncorporate nonfarm enterprises.....	-.1	-.2	-.3	-1.0	-.3	-1.4	-.6	-.4	.4	1.8	.3	.5	1.3	-.3	-.6	-.4
36	Non-real-estate farm debt.....	-.1	-.2	-.5	-.4	-.3	-.3	.2	(²²)	.1	.2	.3	.2	.3	(²³)	(²⁴)	1.1
37	Bank debt not elsewhere classified.....	-.4	-.3	-.7	-.6	-.4	-.1	-.1	(²⁵)	-.3	(²⁶)	.1	(²⁷)	.5	(²⁸)	(²⁹)	-.2
38	Errors and omissions.....	1.3	1.5	2.9	1.9	-2.5	.3	-.4	.4	.3	-.6	1.2	.9	(³⁰)	2.2	.7	-1.8
39	Addendum: Gross personal saving ⁷	8.2	7.4	6.3	2.9	2.7	3.5	5.5	7.3	7.5	4.9	6.7	8.1	15.4	32.6	38.2	42.3

	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
1 Personal saving.....	28.7	13.5	4.7	11.0	8.5	12.6	17.7	18.9	19.8	18.9	17.5	23.0	23.6	24.7	23.4	22.9
2 Gross investment in tangible assets.....	4.3	11.5	15.0	22.4	18.4	27.7	26.3	25.2	25.5	27.6	33.0	30.9	31.1	31.2	37.4	36.6
3 Nonfarm homes ¹	1.1	4.4	6.8	9.0	8.2	12.7	11.6	12.0	12.8	14.2	17.3	16.3	15.6	15.4	19.2	18.4
4 Other construction and producers' durable equipment.....	3.2	6.7	9.9	10.8	11.5	13.0	13.0	12.4	13.1	13.1	14.8	14.8	14.5	15.2	17.2	17.0
5 Noncorporate enterprises.....	2.0	4.3	6.0	5.5	5.8	7.0	6.5	6.3	6.9	7.0	8.6	8.9	8.1	8.0	9.6	9.7
6 Farm enterprises ²	1.1	1.9	3.3	4.3	4.5	4.6	5.0	4.7	4.7	4.2	4.2	3.5	4.0	4.4	4.6	4.2
7 Nonprofit institutions.....	.1	.4	.6	1.0	1.2	1.4	1.5	1.4	1.5	1.9	2.0	2.1	2.5	2.7	2.9	3.2
8 Inventories of noncorporate enterprises.....	(³)	.4	-1.7	2.7	-1.4	2.0	1.7	.8	-.4	-.3	.9	-.2	1.0	.7	1.0	1.2
9 Nonfarm.....	-.4	.4	-.1	.9	-.6	1.2	1.5	-.1	-.3	-.2	.6	-.2	.2	-.2	.9	.3
10 Farm.....	-.5	(³)	-1.8	1.7	-.9	.8	1.2	.9	-.6	-.5	.3	-.4	.8	-.9	.3	.3
11 Depreciation ⁴	5.6	5.0	6.2	7.2	8.2	9.0	10.3	10.9	11.6	12.2	12.8	13.9	14.7	15.2	15.9	16.6
12 Nonfarm homes.....	1.8	1.8	1.9	2.1	2.3	2.5	2.8	3.0	3.3	3.6	3.9	4.3	4.7	5.0	5.3	5.7
13 Noncorporate nonfarm enterprises.....	1.5	1.8	2.4	2.7	3.4	3.4	3.8	4.1	4.3	4.5	4.7	5.0	5.5	5.7	5.8	6.0
14 Farm enterprises.....	2.0	1.2	1.6	2.1	2.4	3.4	3.2	3.4	3.5	3.6	3.7	3.7	3.9	4.0	4.2	4.1
15 Nonprofit institutions.....	.2	.2	.2	.2	.3	.3	.3	.4	.4	.4	.5	.5	.6	.6	.6	.7
16 Net investment in tangible assets.....	-1.3	6.4	8.8	15.3	10.2	18.7	16.0	14.3	13.9	15.5	20.2	17.4	16.4	16.0	21.4	20.0
17 Nonfarm homes.....	-.7	2.6	4.8	6.9	5.9	10.2	8.8	8.9	9.4	10.6	13.4	12.0	10.9	10.4	13.9	12.7
18 Other.....	-.5	3.9	4.0	8.4	4.2	8.6	7.2	5.4	4.5	4.8	6.8	5.4	5.5	5.6	7.6	7.3
19 Increase in financial assets ⁵	34.4	13.4	9.4	6.9	6.9	11.1	14.1	20.0	18.8	17.4	22.5	23.2	23.1	26.3	30.9	22.6
20 Currency and bank deposits.....	19.0	10.6	2.1	-1.8	-1.4	3.7	6.0	7.1	4.9	5.4	3.8	4.7	4.9	10.2	3.5	3.9
21 Savings and loan associations shares.....	1.1	1.2	1.2	1.2	1.5	1.5	2.1	3.0	3.6	4.4	4.8	5.4	5.2	6.3	7.3	8.1
22 Securities.....	9.9	-2.1	2.2	3.4	2.5	1.0	.6	3.5	3.4	.2	6.3	5.1	5.0	1.3	11.1	1.4
23 U.S. savings bonds ⁶	6.8	1.2	2.1	1.6	1.5	.2	-.5	.1	.2	.6	.3	-.1	-1.9	-.5	-1.8	-.2
24 Other U.S. Government.....	4.4	-3.1	-.8	-.3	-.1	-.5	-1.0	.4	.1	-1.6	1.6	1.8	1.6	-1.6	9.8	-.9
25 State and local government.....	-.2	-.2	.3	1.0	.4	.5	.4	1.0	1.8	.7	1.7	1.5	2.2	.8	2.2	1.4
26 Corporate and other.....	-1.2	(⁷)	.6	1.1	.7	.7	1.7	2.1	1.3	.6	2.7	1.9	3.1	2.6	.9	1.2
27 Private insurance and pension reserves.....	4.4	3.7	4.0	4.2	4.3	4.8	5.4	6.4	6.9	7.3	7.6	8.2	8.0	8.4	8.9	9.2
28 Increase in debt to corporations and financial intermediaries.....	3.6	7.8	11.3	11.2	8.9	19.6	10.2	15.3	11.7	16.3	24.5	18.6	15.4	17.6	29.3	23.2
29 Consumer debt.....	.6	2.3	2.8	2.4	2.6	3.6	1.0	4.4	3.6	1.0	6.1	3.1	2.5	.2	6.3	3.7
30 Securities loans.....	1.5	-2.3	-.8	.4	.3	.2	-.3	.6	.4	.9	.6	.8	-.1	1.4	.2	.2
31 Mortgage debt.....	.1	4.4	5.4	5.8	5.4	8.9	8.4	7.9	8.6	10.6	14.0	10.2	9.6	12.0	16.2	13.7
32 On nonfarm homes.....	.2	3.6	4.5	4.7	4.1	7.3	6.6	6.5	7.3	9.1	11.9	12.2	7.8	9.3	13.0	11.6
33 On noncorporate nonfarm enterprises.....	.2	.8	.8	1.1	1.0	1.3	1.5	1.0	1.0	1.2	1.5	1.5	1.4	2.4	2.5	1.7
34 On farms.....	-.2	(⁷)	.1	.1	.2	.3	.3	.4	.3	.3	.6	.5	.4	.4	.6	.5
35 Net trade debt of noncorporate nonfarm enterprises.....	.9	1.1	1.2	1.8	-1.0	2.4	.4	2.2	-.5	1.6	-.2	2.0	1.3	1.1	1.4	2.7
36 Non-real-estate farm debt.....	(⁷)	.4	.8	.9	.3	.6	1.0	.3	-.4	.3	.5	.2	.6	.9	1.2	.4
37 Bank debt not elsewhere classified.....	.6	1.9	1.8	-.2	1.2	3.8	-.2	-.1	-.1	2.0	3.5	1.7	1.4	2.8	4.0	2.4
38 Errors and omissions.....	.9	-1.4	2.2	(⁷)	-.3	-2.5	2.2	-.2	1.3	-2.3	.6	-1.0	.5	(⁷)	-.3	-3.5
39 Addendum: Gross personal saving ⁷	34.2	18.5	10.8	18.1	16.7	21.6	27.9	29.8	31.4	31.0	30.3	36.5	38.3	39.9	39.2	39.4

¹ Revised estimates of residential construction activity in 1959 and 1960 have not been incorporated in this table.

² Includes farm dwellings.

³ Includes accidental damage to fixed business property.

⁴ Excludes changes in governmental insurance and pension reserves and Armed Forces leave bonds (both of which are ascribed to the Government sector in the national income and product accounts).

⁵ Includes changes in assets of the types specified held by noncorporate entrepreneurs.

⁶ Includes increase in redemption value of outstanding bonds.

⁷ Excludes capital outlays charged to current expense, which are included in table I.

⁸ Less than \$50,000,000.

Sources: Securities and Exchange Commission and U.S. Department of Commerce, Office of Business Economics.

TABLE III.—Undistributed corporate profits, by industry, 1929-60

[Billions of dollars]

Line	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	
1	All industries, total.....	2.4	-3.0	-5.4	-6.0	-2.4	-1.6	-0.7	-0.2	(1)	-0.9	1.2	2.4	4.9	5.2	6.0	5.7
2	Agriculture, forestry, and fisheries.....	(1)	-1	-1	-1	(1)	-1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
3	Mining.....	(1)	-2	-3	-2	-1	(1)	(1)	1	(1)	(1)	(1)	1	2	1	2	2
4	Contract construction.....	(1)	(1)	(1)	-1	-1	(1)	(1)	(1)	(1)	(1)	(1)	1	1	1	1	(1)
5	Manufacturing.....	1.6	-1.3	-2.4	-2.5	-4	2	1	5	5	-1	1.2	1.9	3.3	3.0	3.3	3.1
6	Wholesale and retail trade.....	1	-6	-8	-1.0	-2	(1)	(1)	1	(1)	-1	2	4	7	7	8	9
7	Finance, insurance, and real estate.....	(1)	-6	-9	-1.0	-9	6	-1	5	-3	-2	-1	1	1	1	3	4
8	Transportation.....	3	-2	-5	-5	-4	-4	-5	-3	-3	-4	-2	1	3	9	1.0	7
9	Communications and public utilities.....	2	-2	-3	-3	-2	-2	-2	-1	-1	-1	(1)	1	1	1	2	1
10	Services.....	(1)	(1)	-1	-2	-1	-1	(1)	-1	(1)	(1)	(1)	(1)	1	2	2	2
11	Rest of the world.....	.1	.1	(1)	(1)	(1)	.1	.1	.1	(1)	(1)	.1	.1	.1	.1	.1	.2
Line	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	
1	All industries, total.....	3.6	7.7	11.7	13.3	8.5	13.6	10.7	8.3	8.9	7.0	11.8	11.3	9.7	6.4	10.3	8.6
2	Agriculture, forestry, and fisheries.....	(1)	(1)	(1)	(1)	(1)	(1)	(1)	-1	-1	(1)	(1)	-1	-1	-1	-1	-1
3	Mining.....	1	1	4	7	3	5	4	2	1	(1)	2	3	(1)	2	1	1
4	Contract construction.....	(1)	1	2	3	2	2	2	1	0.1	1	2	2	2	2	2	2
5	Manufacturing.....	1.6	3.8	6.6	7.4	4.5	7.8	6.1	4.4	5.0	4.3	7.6	6.9	5.9	3.4	6.4	5.0
6	Wholesale and retail trade.....	1.0	2.6	2.9	2.5	1.3	2.5	1.6	1.2	1.0	.8	1.6	1.6	1.3	1.2	1.8	1.3
7	Finance, insurance, and real estate.....	3	3	3	8	1.0	.8	.8	.9	1.1	.7	.9	.7	.6	.5	.7	.6
8	Transportation.....	2	-1	4	6	3	7	5	4	3	-1	1	1	-1	-2	-2	-3
9	Communications and public utilities.....	1	2	1	2	2	2	2	2	3	2	3	3	2	2	3	6
10	Services.....	2	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1
11	Rest of the world.....	2	3	5	6	5	6	8	8	8	1.0	1.1	1.2	1.3	1.2	1.0	1.1

¹ Less than \$50,000,000.

Source: Office of Business Economics, U.S. Department of Commerce.

TABLE IV.—Corporate inventory valuation adjustment, by industry division, 1929-60

[Billions of dollars]

Line		1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944
1	All industries, total.....	0.5	3.3	2.4	1.0	-2.1	-0.6	-0.2	-0.7	(⁰)	1.0	-0.7	-0.2	-2.5	-1.2	-0.8	-0.3
2	Mining.....	(⁰)	.1	.1	(⁰)	-1	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)
3	Contract construction.....	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)
4	Manufacturing.....	.3	2.2	1.6	.7	-1.3	-.5	-1.2	-.5	(⁰)	.6	-.5	-.1	-1.5	-.7	-1.6	-1.2
5	Wholesale and retail trade.....	.2	.8	.7	.3	-.6	-.1	(⁰)	-.2	(⁰)	.3	-.2	(⁰)	-.9	-.5	-1.2	-1.1
6	Transportation.....	(⁰)	.1	(⁰)	(⁰)	-.1	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)
7	Communications and public utilities.....	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)

Line		1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
1	All industries, total.....	-0.6	-5.3	-5.9	-2.2	1.9	-5.0	-1.2	1.0	-1.0	-0.3	-1.7	-2.7	-1.5	-0.3	-0.5	(⁰)
2	Mining.....	(⁰)	-.1	-.1	-.1	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)
3	Contract construction.....	(⁰)	(⁰)	-.1	(⁰)	(⁰)	-.1	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)	(⁰)
4	Manufacturing.....	-.4	-3.0	-3.7	-1.4	1.1	-3.2	-.6	.7	-.7	-.3	-1.3	-1.6	-.9	-.2	-1.3	-1.3
5	Wholesale and retail trade.....	-.1	-1.9	-1.6	-.4	.6	-1.4	-5	.4	-.2	(⁰)	-.2	-.9	-.6	(⁰)	-.1	-.1
6	Transportation.....	(⁰)	-.1	-.2	-.2	.1	-.1	-.1	(⁰)	(⁰)	(⁰)	(⁰)	-.1	(⁰)	(⁰)	(⁰)	(⁰)
7	Communications and public utilities.....	(⁰)	-.1	-.1	-.1	.1	-.1	(⁰)	(⁰)	(⁰)	(⁰)	-.1	-.1	(⁰)	(⁰)	(⁰)	(⁰)

Less than \$50,000,000.

Source: Office of Business Economics, U.S. Department Commerce.

Line		1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
1	New private construction activity.....	3.8	11.0	15.3	19.5	18.8	24.2	24.8	25.5	27.6	29.7	34.9	35.5	36.1	35.5	40.2	40.7
2	Residential buildings (excluding farm).....	1.1	4.8	7.5	10.1	9.6	14.1	12.5	12.8	13.8	15.4	18.7	17.7	17.0	18.0	22.3	21.1
3	New dwelling units.....	.7	3.3	5.4	7.5	7.3	11.5	9.8	9.9	10.6	12.1	15.0	13.5	12.6	13.6	17.1	15.3
4	Additions and alterations.....	.3	1.3	2.0	2.5	2.2	2.4	2.5	2.8	3.0	3.0	3.4	3.7	3.9	3.9	4.4	4.9
5	Nonhousekeeping units.....	(*)	.1	.1	.2	.2	.2	.2	.2	.3	.3	.3	.4	.5	.6	.8	.9
6	Nonresidential buildings (excluding farm) *.....	1.0	3.3	3.1	3.6	3.2	3.8	5.2	5.0	5.7	6.2	7.6	8.8	9.6	8.7	8.8	10.2
7	Industrial buildings.....	.6	1.7	1.7	1.4	1.0	1.1	2.1	2.3	2.2	2.0	2.4	3.1	3.6	2.4	2.1	2.9
8	Warehouses, office and loft buildings.....	.1	.3	.2	.4	.3	.4	.5	.5	.7	1.0	1.3	1.7	1.9	2.0	1.9	2.1
9	Stores, restaurants, and garages.....	.1	.8	.6	.9	.7	.9	.8	.6	1.1	1.3	1.9	1.9	1.7	1.6	2.0	2.1
10	Other nonresidential buildings.....	.2	.5	.6	1.0	1.2	1.4	1.7	1.6	1.7	2.0	2.0	2.1	2.4	2.7	2.8	3.1
11	Religious.....	(*)	.1	.1	.3	.4	.4	.5	.4	.5	.6	.7	.8	.9	.9	.9	1.0
12	Educational.....	(*)	.1	.2	.3	.3	.3	.3	.4	.4	.5	.5	.5	.5	.6	.5	.6
13	Hospital and institutional.....	(*)	.1	.1	.2	.3	.3	.4	.4	.3	.3	.4	.3	.3	.6	.6	.6
14	Social and recreational.....	(*)	.1	.1	.2	.3	.2	.2	.1	.2	.2	.2	.3	.3	.4	.5	.7
15	Miscellaneous.....	.1	.1	.1	.1	.1	.1	.3	.3	.3	.3	.2	.2	.2	.2	.2	.2
16	Public utilities.....	.8	1.4	2.3	3.0	3.3	3.3	3.7	4.0	4.4	4.3	4.5	4.9	5.4	5.1	5.0	5.3
17	Railroads.....	.3	.3	.3	.4	.4	.3	.4	.4	.4	.4	.4	.4	.4	.3	.3	.3
18	Telephone and telegraph.....	.1	.3	.5	.7	.5	.4	.5	.6	.6	.7	.8	1.1	1.1	.9	.9	1.1
19	Other public utilities †.....	.4	.8	1.5	2.0	2.4	2.6	2.8	2.8	3.4	3.3	3.4	3.4	3.9	3.9	3.8	4.0
20	Farm construction.....	.3	.9	1.4	1.5	1.5	1.6	1.8	1.9	1.7	1.6	1.6	1.6	1.6	1.5	1.7	1.8
21	Residential.....	.1	.4	.7	.7	.7	.8	.9	.9	.8	.8	.8	.7	.7	.7	.8	.8
22	Nonresidential.....	.2	.4	.7	.8	.8	.9	1.0	1.0	.9	.9	.8	.8	.8	.8	.9	.8
23	Petroleum and natural gas well drilling.....	.6	.7	.8	1.1	1.1	1.3	1.5	1.7	1.9	2.0	2.3	2.4	2.3	2.0	2.2	2.2
24	All other private ‡.....	(*)	.1	.1	.1	.1	.1	.1	.1	.1	.1	.2	.1	.2	.2	.2	.3

† These construction data are published by the Bureau of the Census beginning with 1959. Estimates for earlier years are from the Business and Defense Services Administration of the Department of Commerce and the Bureau of Labor Statistics of the Department of Labor, except for petroleum and natural gas well drilling which is estimated by the Office of Business Economics.

‡ Less than \$50,000.00.

§ Excludes nonresidential building by privately owned public utilities.

* Revised estimates of residential construction activity in 1959 and 1960 have not been incorporated in this table.

† Consists of local transit, petroleum pipeline, electric light and power (including construction with Rural Electrification Administration funds), and manufactured and natural gas.

‡ Consists of sewer and water, roads, bridges, and miscellaneous nonstructural items such as parks and playgrounds.

TABLE VI.—Private purchase of producer's durable equipment, 1929-54¹

(Billions of dollars)

Line	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941
1 Total.....	5.8	4.5	2.8	1.6	1.6	2.3	3.1	4.2	5.1	3.6	4.2	5.5	6.9
2 Furniture and fixtures.....	.4	.3	.2	.1	.1	.1	.2	.2	.2	.2	.2	.3	.3
3 Cutlery and hand tools.....	.1	.1	(?)	(?)	(?)	(?)	.1	.1	.1	.1	.1	.1	.1
4 Fabricated metal products (except cutlery and handtools).....	.2	.2	.1	.1	.1	.1	.1	.1	.2	.1	.1	.2	.2
5 Engines and turbines.....	.1	(?)	(?)	(?)	(?)	(?)	(?)	(?)	.1	(?)	.1	.1	.1
6 Tractors.....	.2	.2	.1	.1	(?)	.1	.1	.2	.3	.2	.2	.2	.3
7 Agricultural machinery (except tractors).....	.3	.3	.1	.1	(?)	.1	.1	.2	.2	.2	.2	.2	.3
8 Construction machinery.....	.1	.1	(?)	(?)	(?)	(?)	(?)	.1	.1	.1	.1	.1	.1
9 Mining and oilfield machinery.....	.1	.1	(?)	(?)	(?)	.1	.1	.1	.1	.1	.1	.1	.2
10 Metalworking machinery.....	.3	.2	.1	(?)	(?)	.1	.1	.2	.3	.2	.2	.5	.7
11 Special-industry machinery, not elsewhere classified.....	.4	.3	.2	.1	.2	.2	.2	.3	.4	.3	.3	.3	.4
12 General industrial machinery.....	.4	.3	.2	.1	.1	.2	.2	.3	.4	.3	.3	.3	.4
13 Office and store machines.....	.2	.1	.1	.1	.1	.1	.1	.1	.2	.1	.1	.2	.2
14 Service-industry and household machines.....	.2	.1	.1	.1	.1	.1	.1	.1	.4	.3	.3	.5	.5
15 Electrical machinery.....	.4	.3	.2	.1	.1	.2	.2	.2	.4	.3	.3	.5	.5
16 Trucks, buses, and trailers.....	.6	.4	.3	.2	.2	.3	.4	.5	.5	.4	.5	.6	.7
17 Passenger cars.....	1.1	.7	.6	.8	.3	.4	.6	.8	.8	.5	.7	.9	1.2
18 Aircraft.....	(?)	(?)	(?)	(?)	(?)	(?)	(?)	(?)	(?)	(?)	(?)	(?)	(?)
19 Ships and boats.....	.1	.1	.1	(?)	(?)	(?)	(?)	.1	.1	.1	.1	.1	.2
20 Railroad equipment.....	.4	.4	.1	(?)	(?)	.1	.1	.2	.4	.1	.2	.3	.4
21 Instruments.....	.1	.1	.1	(?)	(?)	(?)	(?)	.2	.1	.1	.1	.1	.1
22 Miscellaneous equipment.....	.3	.2	.2	.1	.1	.1	.2	.2	.2	.2	.2	.2	.3

Line		1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954
1	Total.....	4.3	4.0	5.4	7.7	10.7	16.7	18.9	17.2	18.9	21.3	21.3	22.3	20.8
2	Furniture and fixtures.....	.2	.2	.2	.3	.5	.7	.6	.6	.6	.9	.9	.9	1.0
3	Cutlery and hand tools.....	.1	.1	.2	.2	.4	.3	.4	.3	.3	.4	.4	.4	.4
4	Fabricated metal products (except cutlery and handtools).....	.1	.2	.2	.3	.3	.5	.5	.4	.4	.4	.4	.4	.5
5	Engines and turbines.....	(2)	(2)	.1	.2	.1	.1	.2	.2	.2	.3	.3	.3	.4
6	Tractors.....	.2	.1	.3	.3	.3	.5	.8	.9	.9	1.0	1.1	1.0	.8
7	Agricultural machinery (except tractors).....	.3	.2	.3	.4	.4	.7	1.1	1.1	1.0	1.2	1.2	1.1	.9
8	Construction machinery.....	.1	.1	(2)	.3	.3	.4	.6	.4	.4	.5	.7	.6	.4
9	Mining and oilfield machinery.....	.1	.1	.2	.3	.3	.4	.5	.4	.5	.7	.8	.8	.6
10	Metalworking machinery.....	.7	.7	.6	.7	.8	.8	.8	.6	1.0	1.1	1.2	1.5	1.6
11	Special-industry machinery, not elsewhere classified.....	.3	.2	.4	.5	.8	1.3	1.4	1.1	1.3	1.6	1.5	1.6	1.4
12	General industrial machinery.....	.2	.3	.5	.7	.9	1.2	1.3	1.0	1.0	1.3	1.5	1.7	1.8
13	Office and store machines.....	.2	.1	.2	.2	.4	.6	.7	.6	.7	.8	1.0	1.2	1.2
14	Service-industry and household machines.....	.2	.2	.2	.3	.5	.9	1.3	.9	.9	.8	.9	1.0	1.0
15	Electrical machinery.....	.4	.3	.7	.8	1.1	2.1	1.9	1.6	1.8	2.0	2.2	2.3	2.3
16	Trucks, buses, and trailers.....	.1	.1	.3	.9	1.4	2.3	2.6	2.1	2.7	3.2	2.4	2.3	2.0
17	Passenger cars.....	.3	.3	.2	.2	1.0	1.9	2.2	2.8	3.2	2.7	2.3	2.6	2.4
18	Aircraft.....	(2)	(2)	(2)	(2)	.2	.1	.1	.1	.1	.1	.2	.1	.2
19	Ships and boats.....	.2	.2	.1	.2	.2	.2	.1	.1	.1	.2	.2	.3	.3
20	Railroad equipment.....	.4	.3	.3	.3	.4	.6	1.0	1.0	.8	1.1	1.0	.9	.5
21	Instruments.....	(2)	.1	.1	.2	.2	.3	.4	.3	.4	.4	.4	.6	.5
22	Miscellaneous equipment.....	.2	.2	.2	.3	.4	.6	.7	.6	.7	.7	.7	.8	.7

¹ The system of commodity classification underlying this table is given in exhibit 1, p. 126, of the 1954 National Income supplement. Source: Office of Business Economics, U.S. Department of Commerce.

² Less than \$50,000,000.

TABLE VII.—Net change in business inventories, 1929-60

[Billions of dollars]

Line	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944
1	1.7	-0.4	-1.3	-2.6	-1.6	-1.1	0.9	1.0	2.2	-0.9	0.4	2.2	4.5	1.8	-0.8	-1.0
2	-2	-3	3	(1)	-3	-1.3	.5	-1.1	.5	.1	.1	.3	.5	1.2	-.2	-.4
3	1.8	-1	-1.6	-2.6	-1.4	.2	.4	2.1	1.7	-1.0	.3	1.9	4.0	.7	-.6	-.6
4	1.8	-1	-1.6	-2.6	-1.4	.2	.4	2.1	1.7	-1.0	.3	1.9	4.0	.7	-.6	-.6
5	1.6	.2	-1.1	-1.8	-.9	.2	.2	1.6	1.5	-.9	.3	1.6	3.3	.5	-.5	-.1
6	.9	-.3	-.5	-.3	.5	(1)	.2	.5	.2	-.1	.1	.3	.7	.2	-.1	-.5
7	1.2	-4.1	-4.6	-3.9	1.3	.9	.7	2.9	1.8	-2.2	1.2	2.1	7.1	2.2	.4	-.3
8	1.1	-3.1	-3.6	-2.9	1.3	.8	.4	2.3	1.6	-1.9	1.0	1.8	5.8	1.7	.3	-.3
9	.1	-1.0	-1.1	-1.1	(1)	.1	.2	.6	.2	-.3	.3	.4	1.3	1.6	(1)	-.4
10	.6	4.0	3.0	1.3	-2.7	-.7	-.3	-.9	-.2	-.3	-.2	.4	1.3	1.6	(1)	-.4
11	.5	3.3	2.4	1.0	-2.1	-.6	-.2	-.7	(1)	1.0	-.7	-.2	-.3	1.6	(1)	-.4
12	.1	.8	.6	.3	-.5	-.1	(1)	.1	(1)	.2	-.2	(1)	-.2	1.2	(1)	-.4
13	1.8	-1	-1.6	-2.6	-1.4	.2	.4	2.1	1.7	-1.0	.3	1.9	4.0	.7	-.6	-.6
14	.9	.7	-.6	-1.2	-.6	.1	.2	1.1	1.3	-.6	.2	1.2	2.6	1.6	(1)	-.4
15	.6	-1.6	-2.2	-1.8	.8	.6	.4	1.6	1.3	-1.3	.7	1.4	4.2	2.3	(1)	-.4
16	.3	2.3	1.6	-.7	-1.4	-.5	-.2	.5	(1)	.6	-.5	-.1	-1.6	.8	-.6	-.3
17	(1)	.1	-.4	-.2	-.1	.1	(1)	.3	.2	-.2	-.1	.2	.2	-.6	-.2	-.2
18	-.1	-.5	-.8	-.4	.3	.2	(1)	.5	.1	-.4	-.2	.2	.8	-.3	-.1	-.1
19	.1	.6	.4	-.2	-.4	-.2	(1)	-.2	.1	-.2	-.2	(1)	-.6	-.3	-.2	-.2
20	.2	-.5	-.3	-.7	-.5	.2	(1)	.3	.7	-.1	-.2	.1	.5	.9	-.4	-.5
21	.1	-1.3	-1.1	-1.1	-.2	(1)	.4	.8	.2	-.5	.3	.6	1.6	1.1	-.1	-.3
22	.2	.9	.8	.4	-.7	(1)	-.1	-.1	-.1	.3	-.2	-.1	-.8	-.5	-.1	-.1
23	.6	-.4	-.3	-.6	-.2	(1)	-.1	-.1	-.1	.1	-.1	-.1	.4	-.1	-.1	-.1
24	.6	-.7	-.5	-.6	-.2	(1)	-.1	.1	.2	-.1	(1)	.1	.5	-.1	-.1	-.1
25	(1)	.3	.2	.1	-.2	(1)	(1)	(1)	-.1	(1)	(1)	(1)	-.1	(1)	(1)	(1)

Line		1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
1	Net change in business inventories, total.....	-1.1	6.4	-1.5	4.7	-3.1	6.8	10.2	3.1	0.4	-1.6	5.8	4.7	1.6	-2.0	6.3	4.2
2	Farm.....	-5	(1)	-1.8	1.7	-9	8	1.2	.9	-6	.5	.3	-4	.8	.9	.1	.3
3	Nonfarm.....	-6	6.4	1.3	3.0	-2.2	6.0	9.1	2.1	1.1	-2.1	5.5	5.1	.8	-2.9	6.2	4.0
4	Net change in nonfarm inventories.....	-6	6.4	1.3	3.0	-2.2	6.0	9.1	2.1	1.1	-2.1	5.5	5.1	.8	-2.9	6.2	4.0
5	Corporate.....	-1.0	6.0	1.2	2.1	-1.7	4.8	8.6	2.2	.8	-1.9	4.9	4.9	.6	-2.9	5.3	3.1
6	Noncorporate.....	.4	.4	.1	.9	-.5	1.2	.5	-.1	.3	-.2	.6	.2	.2	.9	.9	.9
7	Change in book value.....	.1	13.3	8.7	5.5	-4.5	12.1	10.6	1.0	2.2	-1.8	7.4	8.3	2.6	-1.9	6.8	4.0
8	Corporate.....	-5	11.2	7.1	4.2	-3.6	9.8	9.8	1.2	1.8	-1.6	6.7	7.6	2.1	-1.4	5.7	3.0
9	Noncorporate.....	.5	2.1	1.5	1.3	-1.0	2.3	.8	-.3	.4	-.2	.7	.7	.5	.5	1.0	1.0
10	Inventory valuation adjustment.....	-7	-7.0	-7.4	-2.6	2.3	-6.1	-1.5	1.2	-1.2	-.4	-1.9	-3.2	-1.5	.3	.6	.6
11	Corporate.....	-6	-5.3	-5.9	-2.2	1.9	-5.0	-1.2	1.0	-1.0	-.3	-1.7	-2.7	-1.5	.3	.5	.5
12	Noncorporate.....	-1	-1.7	-1.5	-.4	.5	-1.1	-.3	.2	-.2	(1)	-.2	-.5	-.3	.0	.1	.1
13	Net change in nonfarm inventories by industrial group.....	-6	6.4	1.3	3.0	-2.2	6.0	9.1	2.1	1.1	-2.1	5.5	5.1	.8	-2.9	6.2	4.0
14	Manufacturing.....	-1.6	2.9	4.4	1.3	-1.6	2.2	7.9	1.9	1.2	-2.6	2.6	3.8	-.3	-2.4	3.7	1.6
15	Change in book value.....	-1.1	6.2	4.4	2.7	-2.7	5.5	8.5	1.2	1.0	-2.3	4.0	5.4	.6	-2.2	4.0	1.4
16	Inventory valuation adjustment.....	-.4	-3.3	-4.0	-1.5	1.2	-3.3	-.6	.7	-.7	-.3	-1.4	-1.7	-1.0	.2	.2	.2
17	Wholesale trade.....	.6	.8	(1)	.6	(1)	1.4	.3	.3	.1	.3	1.1	.4	-.2	.1	1.3	.8
18	Change in book value.....	.7	2.1	1.1	.7	.4	2.5	.6	(1)	.2	.2	1.2	1.1	-.2	.1	1.3	.9
19	Inventory valuation adjustment.....	-1	-1.3	-1.1	-1	.4	-1.1	-.3	(1)	.3	-.1	(1)	-.6	-.4	(1)	.1	.1
20	Retail trade.....	.3	2.0	.6	1.2	.4	2.1	(1)	.3	.4	.1	2.1	.2	.8	.3	1.0	1.4
21	Change in book value.....	.4	4.1	2.2	1.8	.9	3.4	.5	.3	.6	.2	2.3	.9	1.2	.2	1.2	1.6
22	Inventory valuation adjustment.....	-1	-2.0	-1.6	-.5	.5	-1.2	-.5	.2	-.2	-.1	-.2	-.7	-.4	(1)	.2	.2
23	All other.....	.1	.6	.3	-.1	.3	.3	.8	(1)	-.6	(1)	-.3	.7	.5	(1)	.2	.2
24	Change in book value.....	.2	1.0	.9	.3	-.5	.8	1.0	(1)	-.5	(1)	-.1	.9	.6	(1)	.3	.1
25	Inventory valuation adjustment.....	(1)	-.4	-.7	-.4	.2	-.4	-.1	(1)	-.1	(1)	-.3	-.2	(1)	(1)	-.1	.1

¹ Less than \$50,000,000.

Source: Office of Business Economics, U.S. Department of Commerce.

TABLE VIII.—*Net foreign investment, 1929-60*¹

[Billions of dollars]

	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944
Net foreign investment.....	0.8	0.7	0.2	0.2	0.2	0.4	-0.1	-0.1	0.1	1.1	0.9	1.5	1.1	-0.2	-2.2	-2.1
Net long-term capital movement ².....	.2	.2	-.2	-.3	-.1	-.2	-.4	-.8	-.5	-.1	(³)	.1	.6	.2	.1	(³)
Net short-term capital movement ²	(³)	.5	.6	.4	.4	-.2	-1.1	-.4	-.4	-.4	-1.5	-1.5	.4	-.1	-1.2	-.4
Change in gold stock.....	.1	.3	-.1	.1	-.1	1.3	1.8	1.3	1.4	1.8	3.2	4.2	.7	(³)	-.8	-1.4
Errors and omissions ⁴.....	.4	-.3	-.1	-.1	-.1	-.4	-.4	-.2	-.4	-.2	-.8	-1.3	-.6	-.3	-.4	-.4
	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
Net foreign investment.....	-1.4	4.6	8.9	1.9	0.5	-2.2	0.2	-0.2	-2.0	-0.4	-0.4	1.5	3.5	-0.1	-2.3	1.5
Net long-term capital movement ²	1.4	3.7	7.8	2.1	1.1	1.2	.9	1.3	.6	.5	.6	2.0	2.9	3.1	1.7	2.8
Net short-term capital movement ²	-1.9	.7	-.1	-.5	(³)	-1.7	-3	-1.4	-1.1	-.5	-.6	-.2	.6	-.6	-2.7	-.3
Change in gold stock.....	-.5	.6	2.2	1.5	.2	-1.7	.1	.4	-1.2	-.3	(³)	.3	.8	-2.3	-.7	-1.7
Errors and omissions ⁴	-.4	-.4	-.9	-1.2	-.8	(³)	-.5	-.5	-.3	-.2	-.4	-.6	-.7	-.4	-.5	.6

¹ The data presented here constitute only a bare summary of net foreign investment in terms of major types of capital movements. For greater detail, the following publications of the Department of Commerce should be consulted: 1929-55, "The Balance of Payments Statistical Supplement, 1958"; 1956-58, the Survey of Current Business, June 1960; 1959-60, the June 1961 issue of the Survey. "The Balance of Payments on Capital Account" is also shown in table 42 of the July 1961 issue of the Survey.

² Positive figures indicate net increases in U.S. claims on foreigners or net decreases of U.S. liabilities to foreigners; negative figures indicate net decreases in U.S. claims on foreigners or net increases of U.S. liabilities to foreigners.

³ Less than \$50,000,000.

⁴ Represents the differences between the sum of the components listed above and the net international flow of goods and services, and unilateral transactions on gifts and contributions, as reflected in the current account of the U.S. balance of international pay-

ments. The latter is regarded as the more nearly correct measure, and the difference is assumed to represent unidentified capital movements.

It should be noted that the item "Errors and omissions" as shown here differs during the period 1941 through 1946 from that indicated in the official balance-of-payments statistics. This arises from the fact that the latter are compiled in terms of an area embracing U.S. territories and possessions, whereas the national income statistics are confined to the continental United States. In most years, this inconsistency has been ignored but from 1941 through 1946 explicit adjustment has been made in the current account and in net foreign investment for large Federal Government expenditures in U.S. territories and possessions. Data on the corresponding capital movements are not available, however, and the adjustment is here included among errors and omissions.

Source: Office of Business Economics, U.S. Department of Commerce.

TABLE IX.—*Privately owned structures and equipment in manufacturing establishments, 1929-60*

Line		1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944
		Current-year cost (billions of dollars)															
PURCHASES																	
1	Structures and equipment.....	2.9	1.8	1.0	0.5	0.7	0.9	1.0	1.5	2.1	1.3	1.5	2.2	3.1	2.0	1.7	2.2
2	Structures.....	1.5	.8	.3	.1	.3	.3	.3	.4	.8	.4	1.4	.7	1.3	.6	.2	.3
3	Equipment.....	1.4	1.0	.7	.4	.4	.6	.8	1.0	1.3	.9	1.1	1.5	1.8	1.5	1.5	1.9
		Constant cost (billions of 1954 dollars)															
4	Structures and equipment.....	6.6	4.5	2.7	1.4	2.0	2.2	2.4	3.5	4.7	2.8	3.3	4.7	6.2	3.7	3.0	3.9
5	Structures.....	3.8	2.4	1.2	.4	1.0	1.0	.8	1.3	2.1	1.0	1.2	1.9	3.0	1.1	.5	.6
6	Equipment.....	2.7	2.1	1.5	.9	1.0	1.2	1.6	2.2	2.6	1.8	2.1	2.8	3.2	2.6	2.6	3.3
		Implicit price indexes (1954=100)															
7	Structures and equipment.....	44	41	39	38	35	40	42	42	45	46	46	47	50	55	57	57
8	Structures.....	38	34	30	27	27	32	33	34	39	38	37	39	43	50	54	52
9	Equipment.....	51	49	46	44	43	46	47	47	51	51	51	53	56	57	58	58
		Original cost (billions of dollars)															
DEPRECIATION																	
10	Structures and equipment.....	1.4	1.5	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.6	1.7	1.7	1.8
11	Structures.....	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.6	.6	.6	.6
12	Equipment.....	1.0	1.0	1.0	1.0	.9	.9	.9	.9	.9	.9	.9	1.0	1.0	1.1	1.1	1.2
		Constant cost (billions of 1954 dollars)															
13	Structures and equipment.....	3.7	3.8	3.8	3.8	3.7	3.6	3.6	3.6	3.6	3.6	3.6	3.7	3.8	3.9	3.9	4.0
14	Structures.....	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.7
15	Equipment.....	2.0	2.1	2.1	2.0	1.9	1.9	1.8	1.9	1.9	1.9	1.9	2.0	2.0	2.1	2.2	2.2
		Current-year cost (billions of dollars)															
16	Structures and equipment.....	1.7	1.6	1.5	1.4	1.3	1.4	1.4	1.5	1.6	1.6	1.6	1.7	1.9	2.1	2.2	2.2
17	Structures.....	.6	.6	.5	.5	.5	.5	.6	.6	.7	.7	.6	.7	.8	.9	1.0	.9
18	Equipment.....	1.0	1.0	1.0	.9	.8	.9	.9	.9	1.0	1.0	1.0	1.0	1.2	1.2	1.2	1.3

TABLE IX.—*Privately owned structures and equipment in manufacturing establishments, 1929-60—Continued*

Line		1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944
		Ratio of current-year cost to original cost															
19	Structures and equipment.....	1.17	1.08	.99	0.92	0.92	1.02	1.02	1.04	1.13	1.11	1.09	1.13	1.22	1.27	1.29	1.26
20	Structures.....	1.37	1.20	1.03	.93	.94	1.09	1.10	1.15	1.27	1.23	1.18	1.24	1.36	1.52	1.63	1.55
21	Equipment.....	1.08	1.02	.97	.92	.91	.97	.98	.98	1.05	1.05	1.04	1.07	1.14	1.13	1.11	1.11
		Current-year cost (billions of dollars)															
NET CAPITAL FORMATION																	
22	Structures and equipment.....	1.2	0.2	-0.4	-0.8	-0.6	-0.6	-0.4	.0	0.5	-0.3	-0.1	0.5	1.2	-0.1	-0.5	.0
23	Structures.....	.8	.2	-.2	-.3	-.2	-.2	-.3	-.1	.2	-.3	-.2	.1	.5	-.3	-.7	-.6
24	Equipment.....	.4	.0	-.3	-.5	-.4	-.3	-.1	.2	.3	-.1	.1	.4	.6	.3	.3	.6
		Constant cost (billions of 1954 dollars)															
25	Structures and equipment.....	2.9	0.7	-1.1	-2.4	-1.7	-1.4	-1.1	-0.1	1.1	-0.8	-0.4	1.0	2.4	-0.2	-0.9	-0.1
26	Structures.....	2.2	.7	-.6	-1.3	-.7	-.7	-.9	-.4	.4	-.7	-.5	.2	1.3	-.7	-1.3	-1.1
27	Equipment.....	.7	0	-.6	-1.1	-1.0	-.7	-.2	.3	.7	-.1	.2	.8	1.1	.4	.4	1.0
		Current-year cost (billions of dollars)															
		1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
1	Structures and equipment.....	3.6	6.3	7.1	7.1	5.7	6.3	8.3	8.4	8.6	8.0	8.6	11.7	12.7	10.0	10.6	13.0
2	Structures.....	1.0	3.1	2.7	2.4	1.8	1.6	2.6	2.6	2.6	2.4	3.0	3.5	3.9	3.3	3.3	4.1
3	Equipment.....	2.5	3.2	4.4	4.7	3.9	4.6	5.6	5.9	6.0	5.6	5.6	8.3	8.8	6.7	7.3	8.9
		Constant cost (billions of 1954 dollars)															
4	Structures and equipment.....	6.2	9.7	9.4	8.6	6.7	7.3	8.6	8.7	8.7	8.0	8.5	10.6	10.7	8.3	8.6	10.5
5	Structures.....	1.9	4.6	3.4	2.7	2.1	1.9	2.6	2.6	2.5	2.4	3.0	3.1	3.2	2.8	2.7	3.4
6	Equipment.....	4.3	5.1	6.0	5.9	4.7	5.4	5.9	6.1	6.2	5.6	5.5	7.5	7.5	5.5	5.9	7.1
		Implicit price indexes (1954=100)															
7	Structures and equipment.....	57	65	76	82	84	86	97	97	99	100	102	111	119	121	123	124
8	Structures.....	56	68	79	89	87	88	99	101	103	100	102	113	120	119	121	122
9	Equipment.....	58	63	74	79	83	86	96	96	98	100	102	110	118	122	124	125

		Original cost (billions of dollars)															
10	DEPRECIATION																
11	Structures and equipment.....	1.9	2.0	2.3	2.7	2.9	3.2	3.5	3.9	4.2	4.5	4.9	5.3	5.7	6.2	6.5	7.0
12	Structures.....	.6	.6	.7	.8	.8	.9	.9	1.0	1.0	1.1	1.1	1.2	1.3	1.3	1.4	1.5
	Equipment.....	1.3	1.4	1.6	1.9	2.1	2.3	2.6	2.9	3.2	3.5	3.7	4.1	4.5	4.8	5.2	6.5
		Constant cost (billions of 1954 dollars)															
13	Structures and equipment.....	4.1	4.4	4.7	5.0	5.3	5.5	5.7	5.9	6.1	6.4	6.6	6.9	7.1	7.4	7.6	7.8
14	Structures.....	1.7	1.8	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1
15	Equipment.....	2.4	2.6	2.8	3.1	3.4	3.5	3.7	4.0	4.1	4.4	4.6	4.8	5.0	5.3	5.4	5.6
		Current-year cost (billions of dollars)															
16	Structures and equipment.....	2.4	2.8	3.6	4.2	4.5	4.8	5.5	5.8	6.1	6.4	6.7	7.6	8.5	8.9	9.3	9.7
17	Structures.....	1.0	1.2	1.5	1.7	1.7	1.7	1.9	2.0	2.0	2.0	2.1	2.3	2.5	2.5	2.6	2.6
18	Equipment.....	1.4	1.6	2.1	2.5	2.8	3.0	3.6	3.8	4.0	4.4	4.6	5.3	6.0	6.4	6.7	7.1
		Ratio of current-year cost to original cost															
19	Structures and equipment.....	1.27	1.38	1.54	1.58	1.52	1.49	1.58	1.50	1.44	1.41	1.38	1.45	1.47	1.44	1.42	1.39
20	Structures.....	1.02	1.87	2.06	2.18	2.05	1.90	2.14	2.08	2.01	1.87	1.84	1.95	1.98	1.88	1.84	1.79
21	Equipment.....	1.10	1.15	1.30	1.33	1.32	1.31	1.38	1.31	1.27	1.27	1.25	1.30	1.33	1.32	1.31	1.28
		Current-year cost (billions of dollars)															
22	Structures and equipment.....	1.2	3.5	3.5	2.9	1.2	1.5	2.7	2.6	2.6	1.6	1.9	4.1	4.2	1.1	1.3	3.3
23	Structures.....	.1	1.9	1.2	.7	.1	-.1	.7	.6	.6	.4	1.0	1.2	1.4	.8	.7	1.5
24	Equipment.....	1.1	1.6	2.3	2.2	1.1	1.6	2.1	2.0	2.0	1.2	.9	3.0	2.9	.3	.5	1.8
		Constant cost (billions of 1954 dollars)															
25	Structures and equipment.....	2.1	5.3	4.7	3.6	1.5	1.8	2.9	2.7	2.6	1.6	1.9	3.7	3.6	0.9	1.0	2.7
26	Structures.....	.1	2.8	1.5	.8	.2	-.1	.7	.6	.5	.4	1.0	1.0	1.1	.6	.6	1.2
27	Equipment.....	1.9	2.5	3.2	2.8	1.3	1.9	2.2	2.1	2.0	1.2	.9	2.7	2.4	.3	.4	1.5

Source: Office of Business Economics, U.S. Department of Commerce.

TABLE X.—Real net value of privately owned structures, equipment, and inventories in manufacturing establishments, end of year, 1928-60
[Billions of 1954 dollars]

Line		1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944
1	Structures, equipment, and inventories.....	76.9	81.1	82.7	79.9	74.8	71.5	70.7	70.1	71.9	76.2	74.0	74.2	77.4	84.1	86.3	86.1	85.0
	Structures and equipment.....	55.9	58.7	59.4	58.3	55.9	54.2	52.8	51.7	51.6	52.7	51.9	51.5	52.4	54.8	54.6	53.7	53.6
3	Structures.....	37.7	39.8	40.6	40.0	38.7	38.0	37.3	36.4	36.0	36.4	35.7	35.2	35.3	36.6	35.9	34.6	33.5
4	Equipment.....	18.2	18.9	18.9	18.3	17.2	16.2	15.5	15.3	15.6	16.3	16.2	16.3	17.1	18.2	18.7	19.1	20.1
5	Inventories.....	21.1	22.4	23.3	21.6	18.9	17.2	17.9	18.5	20.3	23.5	22.2	22.8	25.0	29.3	31.7	32.4	31.4
Line		1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	
1	Structures, equipment, and inventories.....	85.0	94.5	99.3	104.0	103.7	107.9	117.1	122.1	126.7	125.9	129.4	136.5	139.8	138.8	142.9	147.1	
2	Structures and equipment.....	55.7	61.0	65.6	69.2	70.7	72.5	75.3	78.0	80.6	82.2	84.1	87.9	91.4	92.3	93.4	96.1	
3	Structures.....	33.6	36.4	37.9	38.7	38.9	38.8	39.5	40.0	40.6	41.0	41.9	43.0	44.1	44.7	45.4	46.6	
4	Equipment.....	22.1	24.6	27.8	30.5	31.8	33.7	35.9	38.0	40.1	41.3	42.2	44.9	47.3	47.6	48.0	49.5	
5	Inventories.....	29.3	33.6	33.7	34.8	33.0	35.4	41.8	44.1	46.0	43.7	45.3	48.7	48.4	46.4	49.5	51.0	

Source: Office of Business Economics, U.S. Department of Commerce.

SOURCES AND USES OF CORPORATE FUNDS

In this section is discussed in some detail the volume and character of capital expenditures and the methods of financing these expenditures for nonfinancial corporations, which accounted for about half of total private investment over the postwar period as a whole. The information on corporate fund sources and uses shown in table XI forms the basis of the discussion which centers, first, on developments over the postwar period as a whole, and then moves on to discuss the behavior of fund sources and uses during the business cycle. The recent postwar record is then compared with that of the 1920's and 1930's, and the current financial position of corporations considered.

Before proceeding to the description of corporate financing, the following points should be noted. Table XI shows calendar year data for the period from 1946 through 1952, and then figures for years ending June 30 from 1953 through 1961. The table was set up in this manner to facilitate cyclical analysis. Since seasonally adjusted source and use data are not yet available, and since the most recent recessions have begun shortly after midyear, the typical behavior of corporate investment and its financing during recession, recovery, and prosperity is more adequately illustrated by data covering years ending in June rather than December. Because the recession of 1949 ran its course mostly within the calendar year 1949, it was preferable to use calendar year data for the early postwar years in the analysis.¹ It should also be noted that the inventory figures included in table XI, unlike those shown in tables I and VII of section 1, are not adjusted for price changes occurring within the year.

Postwar capital requirements total over one-half trillion dollars

American corporations came out of the war with a huge demand for capital to finance expansion and modernization of facilities for peacetime production, additions to inventories, and other working capital needs. Over the 15½-year period from the end of 1945 through the middle of 1961, a total of \$551 billion was raised for these purposes. Corporations spent \$358 billion to finance facilities expansion and modernization, inventories were increased \$63 billion, and additional credit was extended to customers in the amount of \$99 billion.

In addition to the funds needed for direct use in business operations, corporations increased their liquid asset holdings moderately. The advance occurred in cash and bank deposit holdings, which were up \$14 billion; holdings of U.S. Treasury securities were little changed over the period as a whole.

Inventory purchases accounted for a higher portion of corporate fund requirements in the early years of the period under review than

¹ The complete series of calendar-year estimates for the period from 1946 through 1955 may be found in table V-10 of the Commerce Department's publication "U.S. Income and Output." Data for more recent calendar years are contained in table 35 of the July 1961 issue of the *Survey of Current Business*.

in the late 1950's.² Over the same period, the importance of plant and equipment outlays increased, while customer credit extensions showed little change in the portion of corporate funds utilized.

The decline in the importance of inventories shown in table XI stems in large part from the price behavior of inventory goods in the two periods. These prices rose substantially in the 1946-50 period, but showed relatively little increase in the later period. Moreover, there was a continuing shift from the "first-in first-out" to the "last-in first-out" method of valuing inventories over the whole period, which tended to reduce the effect on reported inventories of such price changes as did occur in the 1955-59 period. Had we applied the inventory valuation adjustment, as is done in section I, there would have been little decrease in the relative importance of inventory changes in the corporate investment budget.

The declining importance of inventories was offset mainly by the increasing importance of plant and equipment outlays, which rose from 56 percent of corporate investment in the late 1940's to over 63 percent more recently. Increased volume only accounted for about one-third of the rise in such spending, while the advance in prices—which has been especially sharp in this area—accounted for the balance. This comparison takes no account of quality improvement.

The stability in customer credit accommodation in the face of declining inventory investment reflected an increase in the financing of smaller firms by their major suppliers.

Internal funds finance two-thirds of investment

Capital requirements were financed chiefly from internal sources during the postwar period. Retained profits from operations accounted for \$139 billion and depreciation charges for \$204 billion. In addition, corporations raised \$145 billion, or one-fourth of total requirements, by borrowing from banks and other institutional lenders and by selling securities in the capital markets. The remainder of investment funds—\$76 billion—was provided by trade credit extended by other firms, and by current accruals in excess of payments.

The net increase in bank indebtedness from the end of 1945 to June 1961 amounted to about \$35 billion as long-term loans (including bank-held mortgages) rose by approximately \$15 billion, and short-term loans increased by nearly \$20 billion. In addition, long-term mortgage obligations of corporations to nonbank lenders increased by over \$5 billion.

On the securities markets, corporations realized about \$105 billion from the excess of bond and stock sales over the retirement of such issues. Net new stock issues amounted to \$40 billion, while bond sales accounted for the remainder, or \$65 billion. Private placements and public offerings each accounted for about half of new bond sales.

Trade credit extensions totaled \$50 billion, while the growth in accrued unpaid liabilities accounted for \$27 billion.

² In the balance of this section, "the late 1940's" refers to the years 1946 through 1950, while "the late 1950's" is applied to the 1955-59 period. The choice of these years for analysis was indicated by the need to minimize the statistical influence of business fluctuations on the volatile series under examination. Both periods include 2 years of rapid increase in business activity, 2 of sustained expansion, and 1 of recession.

Financing developments during the past 15 years

There have been only minor shifts in the contributions of broad classes of funds—internal, external long-term, and external short-term—to the financing of corporate investment when the late 1950's are compared with the late 1940's. The portion of the total provided by internal funds amounted to 58 percent in the earlier period, and 59 percent in the later. External long-term financing accounted for 22 percent in the later as against 18 percent in the earlier period. Offsetting those gains, short-term borrowing declined from 24 percent in the late 1940's to 19 percent in the late 1950's.

There were, however, important shifts within those broad categories. Within the internal-financing category, a sharp growth in depreciation charges tended to increase, while declining profit margins, increased tax rates, and the progressive liberalization of dividend policies tended to reduce internally generated funds over the period. The rise in depreciation charges reflected a sharp advance in the fixed capital base as well as substantial liberalization in the timing of such capital write-offs. Corporate depreciation allowances increased from \$6 billion annually in the late 1940's to \$19 billion in the late 1950's, and during the latter period were supplying 40 percent of total corporate fund needs, as opposed to 21 percent in the late 1940's.

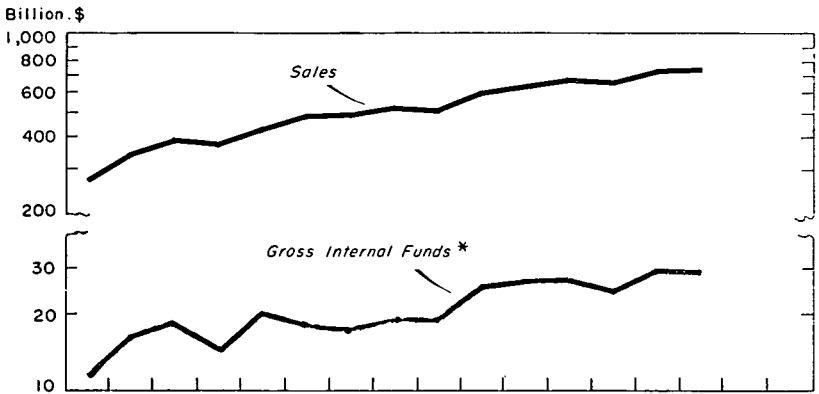
Corporate sales increased from \$362 billion annually in the late 1940's to \$656 billion in the late 1950's. Meanwhile, profit margins declined from 8 to 6 percent and the maximum tax rate was increased from 38 percent for 1946-49,³ to 52 percent more recently. In consequence, profits after taxes increased from \$17 billion to only about \$21 billion. With corporations following a more liberal dividend policy, retained earnings actually fell from \$10 billion in the earlier period to \$9 billion in the later, or from 36 to 19 percent of corporate financing. (See chart 1.)

³ Under the impact of the Korean war, earnings for 1950 were subject to a 42-percent tax rate and an excess profits tax was imposed on the increased earnings for the year.

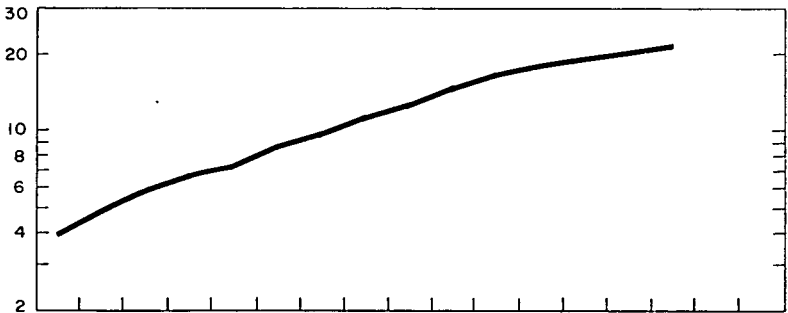
CHART 1

FACTORS AFFECTING INTERNAL FUNDS, 1946-60

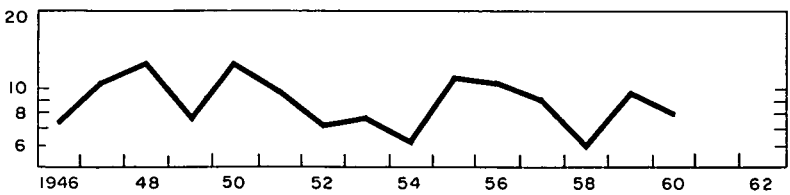
Gross Internal Funds Kept Pace With Sales . . .



As Rising Depreciation Allowances . . .



Offset a Decline in Retained Earnings



* Depreciation plus undistributed profits
 U. S. Department of Commerce, Office of Business Economics

Over the period under consideration there have been important shifts in the cost of external long-term funds. Borrowing costs have risen substantially since the early postwar years.⁴ The yield on Moody's AAA-rated corporate bonds fluctuated cyclically between 2½ and 2¾ percent in the early years, as compared with a range of 3 to 4½ percent in recent years. Coincident with the rise in the cost of borrowing, there was a sharp reduction in the cost of stock financing. Common stock values moved up sharply during the 1950's and so far into the 1960's: Moody's index of industrial stock prices has more than quadrupled since it reached a postwar low in 1949. With dividend payments advancing less sharply, the cost of equity financing as measured by dividend yields fell from an average of 6¾ percent in 1949 to 3½ percent in 1960. With corporate earnings falling behind the general economic advance, the cost of equity financing as measured by the earnings-price ratio declined even more dramatically, from 14 percent in 1949 to 5½ percent last year.

Despite these marked changes in financing costs, there has been little relative shift from debt to equity financing within the long-term category. Stock issues rose from 5 percent of total financing in the earlier period to only 6½ percent in the later. The contribution of interest-bearing debt has risen from 13 to 15 percent over the same period.

CYCLICAL BEHAVIOR OF CORPORATE FUND REQUIREMENTS AND FINANCING

The statistics summarized in table XI reveal marked differences between the recession and recovery periods, and the years of continued expansion.⁵

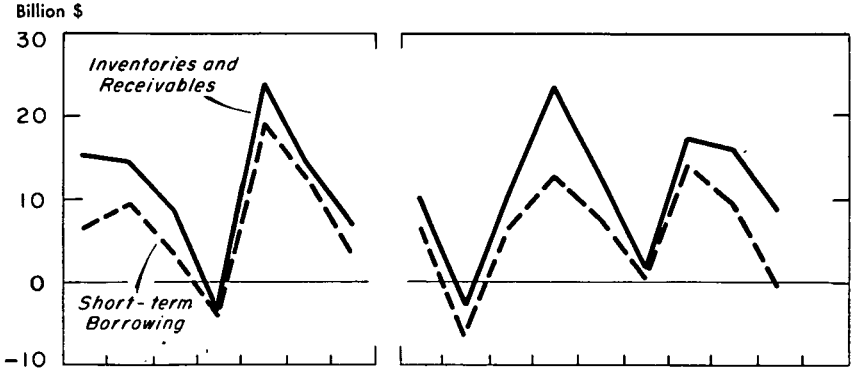
⁴ The factors involved in this rise are discussed in "Financing the Expansion of GNP" in the May 1960 "Survey of Current Business."

⁵ Although the business recessions and recoveries experienced during the years since 1946 do not exactly span 12-month periods, the absence of seasonally adjusted sources and uses data requires the use of annual totals in this analysis. Thus, the term "recession year" refers to the 4 quarters which include the recession phase of the cycle; i.e., calendar year 1949, and the years ending June 30, 1954, 1958, and 1961. "Recovery year," in like manner, characterizes the 4 quarters during which economic activity regained and moved beyond prerecession totals; i.e., calendar year 1950, and years ending June 30, 1955 and 1959. The term "expansion" refers to periods following the recovery and preceding the subsequent contraction.

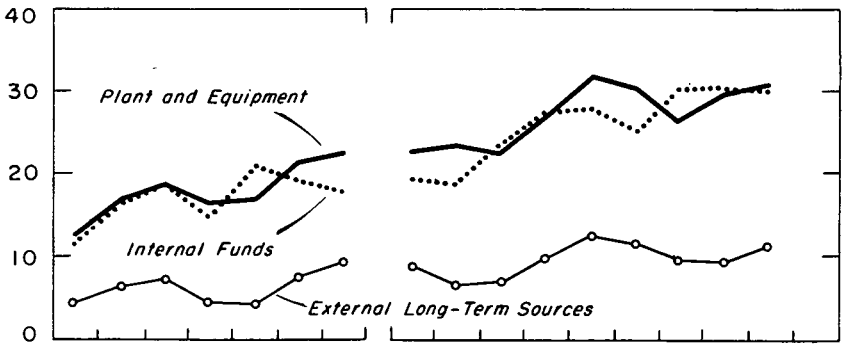
CHART 2

CORPORATE FINANCING, 1946-61

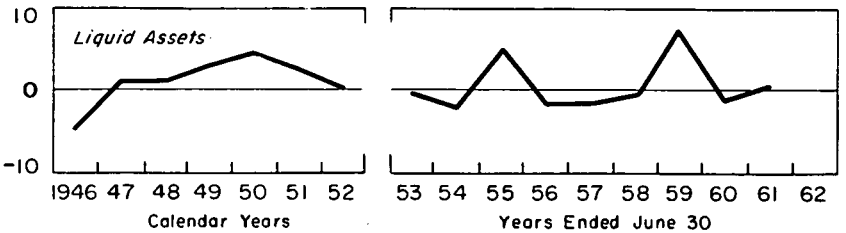
Short-Term Borrowing Mirrors Working Capital Changes



External Long-Term Sources Move With Plant and Equipment Spending, With Internal Funds Leading



Liquid Assets Swing



With inventory and other working capital investment fluctuating more sharply than fixed capital investment, the steepest drops in financing during the recession periods, as well as the sharpest rises in the subsequent recoveries center in short-term bank borrowings and in trade payables. (See chart 2.) Retained profits, which fall off sharply in recession, regain the lost ground in the recovery period, enabling corporations to step up their acquisitions of liquid assets. In the expansion period, sharp rises in plant and equipment spending occur while inventory buying and customer financing remain high. At the same time, corporate profits stabilize and interest costs on external funds rise.

Under these circumstances, corporations dispose of some of the liquid assets acquired during the recovery and increase their use of external capital. It should be noted that these patterns of corporate sources and uses during business cycles might not be displayed if the fluctuations were to become more intense or of longer duration than the generally mild swings studied here. In particular, the relative mildness of the downturns, along with the more liberal policies of the monetary authorities, combined to limit the occasions when concern for liquidity became an important consideration in corporate decisions—in contrast to the early 1930's.

The pattern of fund uses and sources during business recessions

The business recessions have featured sharp reductions in the rate of inventory accumulation, in customer financing, and in internal funds. The declines in fixed capital spending have been relatively modest and there has been little change in total liquid asset holdings.

The sharp swing from inventory accumulation to liquidation which was characteristic of each of our postwar recessions was mirrored in substantially reduced working capital requirements. The \$2¼ billion of inventories liquidated during the four quarters ending June 1958, for example, meant a \$7½ billion reduction in financing required from that associated with the \$5¼ billion buildup of the previous four quarters. These downturns have been marked by similarly dramatic reductions in the rate at which credit was granted to customers; such accommodation totaled only \$3 billion during fiscal 1958, as compared with \$7 billion the previous year.

The sharp falls in such working capital needs were reflected in reductions in short-term bank loans and trade payables. During the 1958 recession, such short-term debt increased by \$1 billion in contrast to aggregating \$6 billion during the previous year.

Corporations tended to cut back on capital spending during the downturns, although the fall in fixed capital outlays was much less than in working capital uses. Thus, during the year ending June 1958, such spending amounted to \$30 billion, off \$2 billion from the total during the previous 12 months.

This relative stability in long-term uses was not matched in long-term sources. The impact of the postwar recessions was heavy on profits: earnings declined by over \$7½ billion from fiscal 1957 to fiscal 1958. Except in 1954, when the repeal of the excess profits tax served to maintain after-tax earnings, about half the dollar decline in profits was reflected in retained earnings as corporations maintained a generally stable dividend pay-out policy during the recessions.

To the extent that the fall in earnings reflected the continued rise in depreciation allowances, available funds were unchanged. The rise in such capital consumption charges continued through each recession, in line with the growth of depreciable assets: during fiscal 1958, for example, such allowances rose \$1½ billion.

Corporations increased their gross long-term borrowings in periods of recession. In part, this reflects the greater fall in internal funds than in fixed capital spending. The step-up in bond flotations also reflects the impact on corporate financing policies of the lower interest rates ruling during recessions; there was an increase in flotations to repay previously incurred bank debt, and to refinance outstanding bonds into securities bearing lower interest rates.

There was little change in liquid asset holdings during recent recessions; however, each recession since the early 1950's has featured a shift in composition from U.S. Treasury bills to time and other bank deposits as the cost of holding cash declined and companies attempted to take advantage of differential movements in interest rates.

The pattern of fund uses and sources during recovery

The recovery phase of the cycles has been featured by a reversal from decreases to increases in inventory holding, customer credit, and associated borrowings. While fixed capital spending normally turns up during the recovery period, it averages lower in this than in the recession period. Retained profits and total liquid asset holdings move up sharply.

The swings from liquidation to accumulation which marked the course of inventory buying during each of the output recoveries resulted in marked rises in working capital requirements. For example, inventories rose \$4½ billion during the 12 months ending June 1959, and customer credit accommodation amounted to over \$12 billion in the same period. These sharp advances in working capital requirements during the recovery periods were accompanied by rises in short-term bank loans and in trade accounts payable. During the 1958-59 recovery, the total of such short-term borrowing aggregated \$8 billion.

Although plant and equipment outlays started rising in the fourth quarter of 1958, such spending aggregated only \$26 billion during the 12 months ending June 1959—off \$4 billion from the rate during the previous year. The drop in fixed capital requirements during this period was reflected in a marked slowdown in the volume of new bond issues, further intensified by the elimination, as interest rates moved up, of the inducement to refinance. New security issues, at \$8 billion during the fiscal year ending June 30, 1959, were off \$2 billion from the previous year. With the larger portion of the decline in security flotations centering in refunding issues, the total of net corporate security emissions showed relatively little change from the recession period.

The other major sources of long-term financing—retained earnings plus depreciation—showed sharp advances as business conditions improved and profits moved up. With dividends relatively stable, the bulk of the improvement in after-tax earnings was carried to surplus. Thus, in the 1958-59 recovery, retained earnings increased \$4 billion to a total of over \$9 billion, while capital consumption allowances also rose another \$1¼ billion.

These developments permitted substantial acquisitions of liquid assets by corporations during the recovery phase. In the four quarters ending June 1959, corporations acquired \$1½ billion of bank deposits and \$6 billion of Treasury securities.

Pattern of fund uses and sources during economic expansion

As the economy continues to advance, corporations build up their inventories in line with the expansion of sales. Customer credit extension also rises. Thus, during the 12 months ending June 1960, \$5 billion was added to inventories, and \$9½ billion to customer financing: additions to working capital were thus off only moderately from the pace set during the recovery period. In previous advances, which had lasted longer than the 1959-60 rise, the volume of inventory and customer credit continued to expand over a period of 2 years or more.

Short-term borrowing tends to follow the behavior of working capital needs during the economic advance. Thus, in the abortive expansion of 1959-60 such borrowings were somewhat lower than during the immediately preceding recovery period, whereas during the sustained prosperity of 1956-57, they continued to rise.

As economic expansion continues, corporate investment in new plant and equipment picks up. In the year ending June 1960, for example, such outlays aggregated \$29½ billion, up \$3½ billion from the total recorded during the recovery year.

With continued economic prosperity, profit margins tend to come under some pressure, and retained earnings cease to expand although capital consumption allowances continue to rise with the depreciation base. This slowing in the growth of internal funds as investment in fixed productive facilities rises is reflected in increased issues of stocks and bonds, as well as in reductions in the volume of liquid asset holdings.

The increase in security issues was especially marked during the 1956-57 expansion, when the net total of such flotations reached an all-time high annual rate of \$10 billion. The rise was somewhat less sharp in the 1959-60 expansion which, besides being less protracted, featured a somewhat lower total of plant and equipment spending. There were marked increases in the proportion of new issues taking the form of stock as opposed to bonds during each of these periods.

During periods of sustained expansion, interest costs generally advance and bank reserve positions tighten. Other lenders' fund sources are substantially unchanged, while calls for credit extension rise. Corporations experience increasing difficulty in borrowing the amounts in excess of internal funds needed to finance expanding investment programs. The companies meet their needs in part by drawing down some of the liquid assets accumulated during the earlier phases of the recovery. During the four quarters ending June 1960, about \$1¼ billion of such holdings were liquidated.

Corporate financing and credit conditions during the cycle

At this point we sum up our conclusions with respect to the movement of selected components of corporate investment over the busi-

ness cycle, with special reference to their interaction with general credit and money market conditions.

Corporate fixed investment does not move in phase with variations in the volume of internal funds, generally considered to be the principal means of financing such outlays. In each recession, funds available from internal sources fell more than fixed investment; while during the recovery period, as internal funds spurted, fixed investment expenditures moved up slowly. During the subsequent expansion period, as internal funds stabilized, fixed investment moved up sharply and exceeded the volume of internal funds at the peak of the cycle. (See chart 2.)

Investment in inventories and receivables tend to exceed short-term borrowing in all phases of the cycle, and the excess is highest around the cyclical peak. Consequently, corporations' net security and loan flotations tend to increase during periods of rising interest rates and decrease during periods of falling rates. They also tend to sell Government securities when yields are rising and buy when rates are falling.

Corporations are not, however, entirely insensitive to interest costs. During the periods when investment and interest rates were highest, firms often borrowed by use of short- and intermediate-term loans, or issued bonds carrying a call privilege. In either case the companies accepted a temporarily higher interest cost than was necessary under alternative arrangements available at that time. However, this enabled the companies to reduce interest costs during subsequent periods of monetary ease by calling the old bonds or paying off bank loans with the proceeds of new bonds issued at the trough of the cycle.

Comparison of prewar and postwar financing

In surveying the general structure of the financing of the capital requirements of corporations since the end of World War II, some interesting comparisons with earlier periods may be noted. At present only fragmentary data are available on corporate sources and uses of funds during the late 1920's and on developments during the 1930's, but they do permit certain broad comparisons of financing patterns.

The last period of high corporate investment activity prior to the end of the Second World War was the late 1920's. With economic conditions generally depressed throughout the 1930's, there was relatively little corporate investment, and such outlays continued to be held down during the period of wartime shortages.

Internal funds increase since 1920's

As compared with the 1920's, corporate financing in recent years featured a higher reliance on internally generated funds, a modest rise in the importance of long-term borrowing, and a sharp reduction in stock flotations. Short-term sources showed little change in importance over the period.

In the late 1950's internal funds supplied about three-fifths of corporate fund requirements, as contrasted with about two-fifths during the 1927-29 period. Retained profits and depreciation allowances

both shared in the rises shown by these figures, each accounting for about half the rise in the importance of internal funds as a whole.

While before-tax profits were up relative to fund needs, the sharp expansion in corporate tax rates reduced after-tax profits relative to investment requirements. However, corporate dividend policy in recent years has been much more conservative than in the late 1920's, and retained earnings increased from 12 percent of total fund uses in 1927-29 to 19 percent in recent years.

The growth of depreciation allowances relative to financing requirements in part reflected faster amortization schedules than were used in the 1920's. Also involved was the marked shift in the composition of investment from relatively long-lived structures to the purchase of equipment having shorter useful lives.

The declining importance of external fund sources was reflected in stock flotation, as bond issues and other long-term debt sources moved up relatively over the period. This fall in the importance of stock issues from the late 1920's to the late 1950's came despite the fact that there was no increase in stock yields relative to bond yields. This may be explained partly by the much higher individual income tax rates of recent years, which encourages the maintenance of equity values at higher prices than would result if extensive stock issues were used to raise funds. In effect, the owners took their earnings as capital gains which are taxable at a lower rate to the shareholder than dividend incomes.

Comparison with the late 1930's

Business investment spending was slow in recovering from the low points reached during the Great Depression. During the latter half of the 1930's, corporate investment was substantially lower relative to output than during any other period of rising economic activity on record. Under these circumstances, practically all corporate financing during the late 1930's was done through earnings retention and by use of depreciation charges. On net balance there was very little recourse to outside financing during the latter part of the decade. Total bond issues, however, were high as companies engaged in substantial refinancing operations to take advantage of the low interest rates ruling in the late 1930's.

CURRENT FINANCIAL CONDITION OF CORPORATIONS

Having reviewed recent developments in the demand for, and supply of, corporate funds, a few broad generalizations with respect to some of the more important aspects of the current financing of corporations may be made.

Corporate debt burden not unduly large

While total interest-bearing debt has risen fourfold since the opening of the postwar era, the present level of indebtedness is not unduly high when related to income available for fixed charges and profits, although it is substantially higher in these respects than at the end of the war. Despite the increases in outstanding debt and in borrowing costs over the past 15 years, interest payments took only about

17½ percent of net income available for fixed charges and profits last year, as compared with about 30 percent in 1929. There was a substantial increase from the immediate postwar period: In 1946 such fixed charges had taken about 10 percent of available income. By the late 1940's, such costs had fallen to about 6 percent of the available funds. As corporate earnings stabilized, and extensive amounts were borrowed at rising interest rates during the 1950's, the ratio of interest costs to available funds rose.

Liquidity of corporations

Corporations have become less liquid as the war years have receded into the past, and the rise in liquidity needs has exceeded that in holdings. The volume of transactions against which such holdings are needed tripled from 1945 through 1960 while the total of liquid assets held—cash and U.S. Government securities—rose only one-seventh during the same period. Reflecting these movements, the conventional liquid assets ratios all showed marked downward movements from the end of the Second World War to the present time. (See table XII.)

The high volume of liquid assets characteristic of corporate balance sheets at the end of the war was substantially in excess of corporate needs, and the observed reduction in liquidity ratios reflected the elimination of such redundant assets. Also contributing to the reduction in the observed ratios was some re-evaluation of corporate operational requirements as well as the influence of rising interest rates.

TABLE XI.—Sources and uses of corporate funds, 1946-61¹

(Billions of dollars)

	Calendar years							Years ending June 30—								
	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961
Sources, total.....	21.9	32.4	29.1	15.5	44.2	39.6	30.8	34.6	19.1	37.1	50.3	47.8	37.2	53.7	49.6	41.8
Internal sources, total.....	11.4	16.6	18.8	14.9	20.8	19.0	17.8	19.3	18.8	23.3	27.6	28.0	25.3	30.1	30.3	30.0
Retained profit ²	7.2	11.4	12.6	7.8	13.0	10.0	7.4	8.3	6.2	8.7	11.0	10.0	5.6	9.2	8.1	6.4
Depreciation.....	4.2	5.2	6.2	7.1	7.8	9.0	10.4	11.0	12.6	14.6	16.6	18.0	19.7	20.9	22.2	23.6
External long-term sources, total.....	4.2	6.3	7.2	4.3	4.2	7.8	9.4	8.8	6.5	7.0	9.8	12.3	11.6	9.7	9.5	11.2
Stocks.....	1.3	1.4	1.2	1.6	1.7	2.7	3.0	2.8	2.4	1.8	2.7	4.2	3.1	3.8	3.2	4.2
Bonds.....	1.1	3.0	4.7	3.3	2.0	3.6	4.9	4.9	4.0	3.8	4.6	5.9	7.0	4.4	4.3	6.8
Other debts.....	1.8	1.9	1.3	-.6	.5	1.5	1.5	1.1	.1	1.4	2.5	2.2	1.5	1.5	2.0	1.2
Short-term sources, total.....	6.3	9.5	3.1	-3.7	19.2	12.8	3.6	6.5	-6.2	6.8	12.9	7.7	.4	14.0	9.8	.6
Bank loans.....	2.1	1.4	.5	-1.7	2.1	3.9	1.6	.7	-.6	1.6	3.9	1.4	-3.6	2.4	4.1	-.6
Trade payables.....	3.7	4.5	1.3	-.3	8.8	2.7	2.7	4.7	-2.1	2.7	6.6	3.1	4.7	5.4	4.5	1.6
Federal income tax liabilities.....	-1.6	2.1	.9	-2.2	7.3	4.3	-3.1	-1.5	-3.9	.7	.2	(*)	-2.9	3.8	-.5	-1.3
Other.....	2.1	1.5	.4	.5	1.0	1.9	2.4	2.6	.4	1.8	2.2	3.2	2.2	2.4	1.7	.9
Uses, total.....	23.2	32.7	28.3	16.5	45.3	39.5	30.0	33.2	19.2	38.3	49.5	44.3	32.4	52.8	45.9	40.9
Increase in physical assets, total.....	23.7	24.1	23.0	12.7	26.7	31.4	23.7	26.2	22.1	24.7	35.2	37.2	27.8	30.6	34.5	30.4
Plant and equipment.....	12.5	17.0	18.8	16.3	16.9	21.6	22.4	22.8	23.5	22.4	26.9	31.9	30.1	26.2	29.5	30.8
Inventories (book value).....	11.2	7.1	4.2	-3.6	9.8	9.8	1.3	3.4	-1.4	2.3	8.3	5.3	-2.3	4.4	5.0	-.4
Increase in financial assets, total.....	-.5	8.6	5.3	3.8	18.6	8.1	6.3	7.0	-2.9	13.6	14.3	7.1	4.5	22.1	11.3	10.5
Receivables.....	4.8	7.6	4.1	.6	13.8	4.7	5.8	6.8	-1.4	8.1	10.7	7.2	3.1	12.1	9.7	6.7
Consumer.....	1.1	1.4	1.3	1.5	1.8	.8	2.2	2.3	.6	2.2	2.3	1.1	-.1	1.3	2.4	.3
Other.....	3.7	6.2	2.8	-.9	12.0	3.9	3.6	4.5	-2.0	5.9	8.4	6.1	3.2	10.8	7.3	6.4
Cash and U.S. Government securities.....	-4.7	1.0	1.0	3.2	4.5	2.8	.1	-.2	-2.0	4.7	-1.4	-1.3	-.5	7.4	-1.2	.2
Cash (including deposits).....	1.1	2.2	.3	1.2	1.6	1.9	.8	-.1	.1	2.7	-.4	.3	1.6	1.5	-1.3	1.5
U.S. Government securities.....	-5.8	-1.2	.7	2.0	2.9	.9	-.7	-.1	-2.1	2.0	-1.0	-1.6	-2.1	5.9	.1	-1.3
Other assets.....	-.6	(3)	.2	(3)	.3	.6	.4	.4	.5	.8	5.0	1.2	1.9	2.6	2.8	3.6
Discrepancy (uses less sources).....	1.3	.3	-.8	1.0	1.1	-.1	-.8	-1.4	.1	1.2	-.8	-3.5	-4.8	-.9	-3.7	-1.0

¹ Excluding banks and insurance companies.

² Including depletion.

³ Less than \$50,000,000.

Source: U.S. Department of Commerce, Office of Business Economics, based on Securities and Exchange Commission and other financial data.

VARIABILITY OF PRIVATE INVESTMENT

TABLE XII.—Selected liquid asset ratios, 1926–60, all corporations, excluding finance, insurance, and real estate firms

End of calendar year	Percent of sales		Ratio to current liabilities	
	Liquid assets ¹	Liquid assets ¹ less income tax reserves	Liquid assets ¹	Total current assets
1926.....	7.9	7.0	0.54	2.59
1927.....	8.1	7.3	.54	2.59
1928.....	8.4	7.6	.54	2.56
1929.....	7.8	7.0	.50	2.50
1930.....	8.8	8.3	.54	4.08
1931.....	9.8	9.5	.56	4.06
1932.....	13.1	12.8	.61	4.26
1933.....	12.1	11.6	.61	4.24
1934.....	9.8	9.2	.46	3.34
1935.....	8.6	8.0	.48	3.43
1936.....	7.8	6.9	.49	3.38
1937.....	6.6	5.7	.45	3.47
1938.....	14.2	13.5	.94	4.15
1939 ²	8.5	7.6	.60	3.78
1939 ¹	8.4	7.5	.46	2.00
1940.....	9.1	7.4	.50	2.03
1941.....	8.6	4.8	.47	1.93
1945 ¹	16.2	12.0	1.00	2.31
1946.....	12.3	9.3	.77	2.26
1947.....	10.0	7.0	.67	2.17
1948.....	9.2	6.3	.66	2.22
1949.....	10.4	8.0	.78	2.39
1950.....	10.0	6.3	.64	2.14
1951.....	9.3	5.1	.58	2.04
1952.....	9.1	5.6	.56	2.05
1953.....	9.0	5.6	.57	2.03
1954.....	9.2	6.3	.57	2.08
1955.....	8.7	5.6	.53	1.99
1956.....	7.5	4.8	.45	1.94
1957.....	7.0	4.8	.44	1.96
1958.....	7.4	5.6	.45	2.01
1959.....	7.2	5.2	.44	1.98
1960.....	6.6	4.9	.41	2.00

¹ Includes cash, deposits, and U.S. Government securities.

² Break in continuity of data on total current assets, and total current liabilities.

Sources: Computed by the Office of Business Economics, U.S. Department of Commerce from data supplied by the Securities and Exchange Commission and by the Internal Revenue.

PLANT AND EQUIPMENT EXPENDITURES IN THE POSTWAR PERIOD

Capital expenditures as measured by the OBE-SEC¹ series have risen from an average of \$19.5 billion per annum in the 1946-50 period to \$34.2 billion per year from 1956 to 1960. Because demand for capital goods has been strong over much of the period prices have shown a considerable rise, roughly 45 percent.

These outlays have brought about a substantial increase in the economy's capacity to produce, an extensive modernizing of a plant that had suffered from inadequate replacement during the depression and war, made possible the production of a wide variety of new products and reflected the accelerated industrial development of rapidly growing areas like the South and Far West. Postwar investment has been stimulated by technological innovations that were opened up by the war and which may well have accelerated in the past decade. The flow of profits, augmented by increasing depreciation allowances from the expanding stock of capital, have provided the chief sources for financing postwar fixed investment.

In current dollars these expenditures have represented a declining proportion of GNP since the early postwar period; the decline in the ratio is most pronounced in the past 3 years. The lag in investment is suggestive of the fact that capacity to produce since the 1958 recession has been generally adequate to satisfy recent levels of demand—a development which has undoubtedly been aggravated by the growth of capacity in foreign countries and the increased competition from abroad.

Within the period there have been four distinct cycles in investment and at the moment the economy appears to be in the rising phase of a fifth. Special factors—related to the backlog demands of the earlier postwar period and the Korean expansion program—appear to have been important influences in the first two. While some of the investment downturns have been fairly sharp—as in 1948-49 and 1957-58—and rather protracted, as in 1953-55—the economy has not suffered from a severe and lengthy downturn in investment in the postwar period.

The chief reason for this has been the underlying strength in most of the major areas of demand. In some of the nonmanufacturing industries particularly, the strength of the demand has prevented sharp reductions in expenditures during recessions. Even when expenditures in these industries have been reduced, the cutbacks have not coincided with the major downturns that have centered in the manufacturing sector. It is important to note, however, that in

¹ The OBE-SEC series differs from the related series in the national accounts—the sum of producers' durable equipment and nonresidential construction—in a number of respects. The OBE-SEC series excludes while the GNP includes capital expenditures in agriculture; capital expenditures by professional businesses and institutions; capital expenditures by real estate firms; and capital outlays charged to current expense.

recent years some of the industries which supported investment in past recessions—like electric utilities and petroleum—have become more vulnerable to decreases in demand as capacity additions have outstripped the growth in markets.

Comparison with cyclical turns in GNP

A comparison of peaks and troughs in plant and equipment expenditures with those in GNP, all measured in current dollars, indicates that peaks have generally been coincident; the one exception was in 1953, when GNP peaked one quarter earlier. The investment troughs, however, have lagged troughs in GNP, by two to three quarters prior to 1961, and by one quarter this year, on the assumption that investment rose in the third quarter as scheduled.

While some of the lag is attributable to accounting conventions, the more important reason is that the decision to increase investment early in a recovery takes some time to carry out once it has been made. Moreover, in the very late stages of an investment downturn there is always a substantial amount of unfinished plant and equipment, undertaken in the previous boom, which is in process of being completed. The decreased spending attributable to such investments apparently more than offsets the increased expenditures occasioned by rising actual and expected sales and profits in the early stage of the recovery.

Postwar investment cycles—a brief chronology

Table 1 presents quarterly expenditure data by major industry from 1947 to date. Table 2 presents a summary of the changes in outlays by industry as measured from peak to trough and trough to peak in aggregate plant and equipment expenditures.

The first upturn represented the initial rebuilding of plant capacity, especially in those industries in which expenditures had been curtailed by the war, and the refurbishing of existing plants, under the strong demand pressures and highly favorable liquidity conditions of the early postwar period. New firm formation was also an important factor bolstering investment at this time.

As the most pressing needs were met, investment turned sharply down after the final quarter of 1948, and declined some 20 percent over a four-quarter span.

Under the influence of the general business recovery in late 1949 and early 1950 but mainly because of the Korean mobilization program, investment rose by about 60 percent, from the first quarter of 1950 to the third quarter of 1953; there was some interruption due to the 1952 steel strike. The Government's rapid tax amortization program played an important role in stimulating investment over this period. The completion of the capacity buildup caused by the Korean hostilities was mainly responsible for the investment decline of about 10 percent from the third quarter of 1953 to the first quarter of 1955. All industries experienced this decline, except the commercial group.

With business activity recovering in 1954 and demand and profits showing strong gains in early 1955, business embarked on another wave of expansion. This carried investment almost 50 percent above its first quarter 1955 rate, to a new peak of \$37¼ billion (annual rate) in the third quarter of 1957; all major groups contributed to the advance.

An earlier slowing down in the growth in demand, a decline in profits and the completion of the large investment programs of 1955-57 led to a decline in plant and equipment expenditures in the final quarter of 1957. The 1957-58 decline lasted only a year and was about as sharp as the initial postwar decline. This time every industry declined though the drop in commercial and public utilities was very slight.

Recovery in 1958 led to a revival in capital expenditures in 1959, which continued to increase up to the second quarter of 1960. The rise of about one-fifth from the earlier low point failed to bring outlays above the previous 1957 peak, and was the shortest upturn in the postwar period.

The decrease from mid-1960 to mid-1961—about 8 percent—was similarly the mildest investment decline in the postwar period. The recovery in output and profits in the spring of 1961 was once again causing businessmen to step up their capital outlays, with modest advances planned for the second half of the year.

MANUFACTURING INVESTMENT

Manufacturing investment has accounted for approximately two-fifths of total plant and equipment outlays in the postwar period as measured by the OBE-SEC series. Just as manufacturing production has characteristically exhibited wider cyclical fluctuations than total production, so too has its investment typically been more volatile than total investment. The manufacturing share in the investment total has varied from 36 percent in 1950 to a high of 44 percent in 1952.

Total expenditures (current dollars) have risen from an average of \$7.9 billion per year in the 1946-50 period to \$13.8 billion per annum in the 1956-60 period. This year (1961) they are also estimated to be \$13.8 billion.

Capital outlays in manufacturing, like the total, have undergone four major cycles in the postwar period. The first upturn saw manufacturing plant and equipment rise from \$6.8 billion in 1946 to an annual rate of over \$9½ billion in early 1948. Expenditures in non-durable goods industries, which had been held down by the war, were especially heavy, and accounted for the bulk of the advance.

Investment began to ease through 1948 and then fell sharply throughout 1949, reaching a trough in early 1950. The decline from the first quarter 1948 peak to the first quarter 1950 was considerable—about \$3½ billion or one-third.

While declining sales and profits contributed to the cutbacks in plant and equipment once the downturn had already begun, the evidence suggests that the initial postwar plant and equipment downturn in manufacturing was an autonomous one, representing the fulfillment of the most pressing investment needs. For most industries, investment, measured by seasonally adjusted quarterly totals, began to turn down prior to the downturn in sales, in some instances by a substantial interval. Thus, we find investment peaks at some time during 1947 in nonferrous metals, machinery, electrical machinery, motor vehicles, stone, and chemicals, as contrasted with sales peaks in the final quarter of 1948. In food the peaks coincided, and only in textiles did a sales decline precede the investment decline.

The 1950 recovery and Korean expansion

Investment in most industries reached a cyclical trough around the final quarter of 1949, by which time sales and output had already begun to rise. By the second quarter of 1950, just before the Korean hostilities, a modest recovery in outlays was fairly widespread. The immediate effect of the fighting was an outbreak of speculative buying, which brought sharp boosts in spending, far in excess of earlier plans. By the final quarter of 1950 a large capacity expansion program was underway, aided by the Government's rapid amortization program.

The rise in investment from 1950 to 1951 was unusually large—45 percent on an annual basis—and reflected increases in every major manufacturing industry. In the second half of 1951 the restrictions imposed by the mobilization programs began to be felt, however; in addition, in a number of nondefense industries sales receded from their extremely high rates in early 1951. With investment falling in some industries, expenditures for manufacturing as a whole rose only 7 percent from 1951 to 1952, with four major groups—steel, nonferrous metals, chemicals and petroleum—accounting for virtually all of the gain.

The following year (1953) witnessed a reversal of the previous annual pattern. Most industries increased expenditures as restrictions were removed, but investment in both of the primary metals industries declined substantially.

The 1954 downturn

The completion of the 1951–52 capacity expansion programs appears to have been the dominant influence in the comparatively mild but somewhat extended decline in investment from the third quarter 1953 peak to the first quarter 1955 trough. Three industries—steel, nonferrous metals, and chemicals—accounted for approximately two-thirds of the drop in total manufacturing outlays over this period. In each of these groups outlays continued to move downward even though sales were undergoing a recovery after the first or second quarter of 1954.

The mildness of the downturn in manufacturing outlays reflected the similar character of the general business recession and the contra-cyclical behavior of expenditures in some important industries. Investment in the motor vehicle industry rose very sharply from mid-1953 to mid-1954 while sales in this industry were falling sharply. The stone, clay and glass industry maintained investment under the influence of strong construction demand and petroleum investment moved down only slightly as demand for petroleum products was well maintained.

The 1955–57 investment boom

The recovery in sales and output in 1954, which accelerated in early 1955, brought about a resumption of the rise in total manufacturing investment. By the spring of 1955 almost every major manufacturing industry was adding to its expenditures, setting the groundwork for an investment boom that increased outlays by 60 percent from the first quarter 1955 trough to the peak in the third quarter of 1957. By the final quarter of 1955 the 1953 high had been surpassed.

Every major manufacturing industry increased its spending from 1955 to 1956, the largest advances occurring in the durable goods, particularly primary metals and motor vehicles. By early 1957, however, there were signs that the investment boom in manufacturing was losing much of its strength. Not only did some industries plan decreases from 1956—stone, textiles and motor vehicles—but increases, with a few important exceptions, were smaller. Most significant, the expenditures anticipated for 1957, though above the year 1956, pointed to a decline from the first to the second half of 1957. This slowing down in investment stemmed from the relatively slow growth shown in sales and output after 1955; profits, moreover, had peaked earlier; and a continuation of a rapid rate of advance was unlikely in view of the unusually large increase in 1956.

The 1957-58 downturn and subsequent changes

Investment reached a record of \$16.4 billion in the third quarter of 1957, following a peak in sales for all manufacturing industries early in 1957. Sales during 1957, moreover, were considerably below those expected at the beginning of 1957, a development which led to additional cutbacks in the second half (mainly the fourth quarter) and the ensuing sharp decline in 1958.

The 1958 reduction in fixed manufacturing investment was quite substantial—a decrease of 35 percent from the 1957 third quarter high to the trough in the final quarter of 1958. As in late 1957, the reductions were more severe than initially anticipated by business because of reductions in sales and profits below expectations, especially in the first few months of 1958. Every major industry declined over this period.

The rapid recovery in manufacturing output in the spring of 1958 was responsible for the ending of the manufacturing investment downturn by the end of 1958, and its subsequent recovery in 1959. Even before the fourth quarter, food, textiles, petroleum, rubber and other nondurables began to raise expenditures, and the closing months of the year saw increased outlays in electrical machinery, transportation equipment other than motor vehicles, stone, clay and glass, and other durables.

The recovery during 1959 was on a modest scale. Investment rose from a seasonally adjusted annual rate of \$10.6 billion in the fourth quarter of 1958 to almost \$13 billion a year later. While sales and profits reached new peaks just before the long steel strike in the middle of the year, pressure on the earlier expanded capacity base was less intense than in previous postwar upturns. Although most industries were increasing investment during the year, there was little change in spending by the important petroleum industry, which continued to invest at rates far below 1957 peaks.

Under the influence of the high level of demand that was associated with the recovery from the 1959 steel strike, manufacturers early in 1960 scheduled further sizable increases in investment. A 25-percent gain over 1959 was projected, with a second half-year rate not merely above the first but close to the peak current dollar rates of the third quarter of 1957.

By the second quarter of 1960, investment had risen to a seasonally adjusted annual rate of \$14.7 billion, almost 40 percent over the previous low point. The advances scheduled for the second half of

the year, however, failed to materialize. The buoyant demand conditions of early 1960 were not maintained; sales began to move downward in the spring and in the second half were considerably below expectations. Thus, the investment recovery was not only the shortest of the postwar period—six quarters—but it also failed to reach earlier highs.

At this moment the 1960–61 downturn appears to have been of brief duration and limited in magnitude. Actual expenditures fell by about 8 percent from the second quarter of 1960 to the second quarter of 1961, and a mild recovery was in prospect during the second half of the year.

RAILROADS

Three major factors strongly influenced the pattern of railroad investment during the postwar period. These included the declining trend in rail traffic, as a result of competition from other modes of transport, the early conversion to diesel power, and the stimulus to investment expenditure from the rapid amortization program instituted by the Federal Government at the outbreak of the Korean War.

Two leading indicators of railroad activity illustrate the downward trend in traffic. The Federal Reserve Index (1957=100) of freight carloadings has displayed a downward movement on successive cyclical peaks. It peaked at 120 in 1947, 113 in 1951, 107 in 1956, and 90 in 1959. Passenger service, measured by passenger-miles, has shown an even more precipitous decline, falling by more than 50 percent from 1947 to 1960.

The rapid conversion to diesel power led to high expenditures during the early postwar period. The share of freight carried by diesels, for example, rose from 10 percent in 1946 to 75 percent by the middle of 1953. This program of dieselization proceeded rather independently of general business trends.

The third major factor in railroad investment, rapid amortization, influenced expenditures over the period from 1951 to 1957. Under this program, through which the railroads were allowed to write off equipment acquisitions, mainly freight cars, in 5 years, the railroads were enabled to make sizable equipment purchases under favorable financial terms.

The postwar trend in railroad outlays has differed from that of most other major groups. Whereas most other industries made peak plant and equipment outlays during the 1957 investment boom, rail outlays attained peak levels as early as 1951. Cyclical reductions in capital expenditures have become especially severe in recent years.

Large equipment program instituted soon after war

A substantial capital equipment program was carried on by the railroads during the first postwar upturn of 1947 and 1948. The general business downturn of 1949 did not affect actual rail expenditures until after the first quarter of 1949 and over the next four quarters they declined by about two-fifths. Decreases in the rail programs during 1949 were concentrated in freight car purchases and road outlays; both passenger car and diesel shipments showed increases in the year. Backlog demands for freight cars had been largely satisfied by this time whereas the demand for diesels and passenger cars was still high and less sensitive to cyclical downturns.

The general business recovery that began in the latter part of 1949 brought about a turnaround in railroad spending in early 1950 but the recovery was comparatively modest, so that outlays for the full year 1950 were below those of 1949. By early 1951, however, the Korean mobilization program was making itself felt.

Postwar peak came in 1951

Large defense requirements, the very high level of business activity, the continuation of the dieselization program on a broader scale and accelerated amortization were responsible for a record outlay of \$1.5 billion in 1951. Freight car shipments were more than double those of the preceding year and there was a sharp increase in road outlays and a record installation of new diesel locomotives. The following 2 years witnessed a slightly declining trend in railroad spending as higher construction outlays failed to offset a decline in freight car installations and a substantial reduction in diesel installations. In the 2-year period following the outbreak of the Korean War certificates of necessity with a value of \$2.7 billion were issued to the railroads.

As general business and freight carloadings again experienced a downturn late in 1953 railroad investment fell with most other investment. Total rail investment was reduced sharply—35 percent from 1953 to 1954—with cutbacks being made in all categories of equipment.

Improvements in general business conditions starting in late 1954 brought increased demand for rail services and a rise in investment in early 1955, which continued until the third quarter of 1957. Although freight car purchases reached a very high level, second only to those in 1948, diesel installations were considerably below earlier levels. This third postwar high was somewhat lower in current dollars than the 1951 peak.

Rapid amortization played an important role in making possible this boom in railroad capital expenditures. Certificates of necessity worth \$2.1 billion were issued to the railroads from the beginning of 1955 to mid-1957, equal to two-thirds of gross fixed outlays during that period. The role of rapid amortization in this period is underscored in view of the fact that profits began to move downward during 1956 and carloadings peaked early in 1956.

Investment weak in recent years

Railroad investment fell sharply in 1958 to the lowest rate of the postwar period. Fourth quarter 1958 expenditures were down more than 60 percent from the 1957 peak.

A revival in investment came in early 1959 with the 1958 improvement in the general business situation and railroad activity. Freight car deliveries in 1959 were held down by the effects of the steel strike, though they rose after the strike until early 1960. There were no unusually stimulating factors to push investment during this upturn, however, and investment in the second quarter of 1960 was 30 percent below the third quarter 1957 rate.

Despite the comparatively mild business decline after mid-1960 railroad investment was cut sharply—by more than one-third from the second quarter of 1960 to the second quarter of 1961. Further reductions were scheduled for the second half of 1961.

NONRAIL TRANSPORTATION

Plant and equipment expenditures in transportation industries other than rail have risen somewhat less on a relative basis than total investment in the postwar period. Expenditures in 1947 were \$1.3 billion and in 1960 were \$1.9 billion, a rise of almost 50 percent—which may be compared with an overall increase of almost 75 percent over the same period.

Within the transportation field the increased importance of this component relative to the railroads is strikingly borne out by the investment data. In the 1947–49 period the nonrail group accounted for approximately half of the combined expenditures, whereas in the 1959–61 period the proportion had risen to 70 percent.

Grouping together a number of different industries in this category inevitably obscures some important developments among the components. Airlines have shown a fairly steady growth in outlays over the past decade. While trucking expenditures have increased since the early postwar period, these outlays have not reached the high levels attained in the early 1950's. In general, cyclical changes of the various industries have been quite diverse.

In the early postwar period investment rose sharply until early 1948, fell slightly during that year and substantially in 1949. The reduction centered in oil pipelines, trucking, and buslines. The recovery during 1950 was pronounced and by the final quarter a new peak in current dollar outlays was established.

The trend of outlays from 1951 through the end of 1957 was upward but erratic and somewhat slower than investment generally. The 1954 recession had only a minor effect on aggregate expenditures in the group; trucking companies reduced their expenditures but outlays by oil pipelines rose and spending was well maintained by airlines and bus companies.

Expenditures were cut back by one-third from the fourth quarter of 1957 to the third quarter of 1958, partly because of cyclical factors, as in the case of trucking firms and oil pipelines, and partly for independent reasons in the case of airlines. In contrast with total investment, however, the recovery in late 1958 was equally sharp and by the second half of 1959 new peaks in expenditures were recorded, mainly because of heavy outlays by the air carriers. Spending since then has receded, with 1960 off about 4 percent from the 1959 total and 1961 down by another 3 percent.

Airlines have shown large growth

Almost continuous increases in passengers, freight and mail transportation have been shown by the airlines over the postwar period. Over most of the period investment has not shown much sensitivity to cyclical developments, being more related to equipment needs brought about by technological advances.

In the early postwar period outlays reached a peak in 1947, declined sharply in 1948, rose a little in 1949 and fell again in 1950. Expenditures increased significantly in 1951, and again in 1952. Outlays in the next 3 years were at about the 1952 rate. This period (1953–55) witnessed the introduction and widespread use of the most advanced piston types, which were the mainstay of airlines until the introduction of the turbo-prop and jets in the middle and late 1950's.

Outlays rose sharply in 1956 and 1957 with the production of the turbo-prop plane in large volume. The modest dip in spending in 1958 seems to have been primarily associated with the phasing out of the piston program, since this year also marked the beginning of the jet deliveries, which brought expenditures to a record outlay of about \$0.8 billion in 1959.

The jet program in 1960 did not proceed quite so rapidly as scheduled and may well have been related to the relatively poor profits showing in 1960. Programmed outlays in 1961 are up a little over 1960 but not quite so high as in 1959. The year 1961 also marks the advanced stage of the recent jet boom.

ELECTRIC UTILITIES

Investment by the electric utilities has shown substantial growth over most of the postwar period, though as in most other industries, outlays in the most recent period have failed to match earlier highs. Plant and equipment expenditures averaged \$2.1 billion in the 1948-50 period and \$3.9 billion in the 1956-60 period. On an annual basis demand has shown an uninterrupted growth, increasing by more than 200 percent from 1947 to 1960; in only 2 years have sales to final consumers grown by less than 5 percent. Slowdowns in the rate of growth in demand have caused the industry to reduce its capital outlays.

Capacity has grown even faster than demand, however, so that the industry's investment has recently exhibited an increased vulnerability to cyclical downturns. Technological developments have had the effect of decreasing real outlays per unit of capacity.

Cyclical changes

Because of the complexity and custom nature of electric utility facilities—especially generating plants, which have accounted for almost half of aggregate outlays—long lead-times are involved in the planning and construction of new installations. Thus, investment in the industry has not always shown a close relationship to current changes in demand or general business conditions.

In the early postwar period, when backlogs were still very high, expenditures rose rapidly through the end of 1948 and then leveled off in 1949, while overall investment was declining. Expenditures fell by about 10 percent over the next two quarters but recovered after mid-1950. This reduction was much briefer and milder than in investment generally.

Expenditures rose fairly steadily through the third quarter of 1953 and fell during 1954 and throughout 1955, even though power demand had picked up in 1954. The decline of one-sixth from peak to trough was both longer and deeper than in total investment.

Capital outlays rose steadily through 1956 and 1957, reaching a peak in the final quarter of 1957, a little later than total investment. The quarterly decline in 1958 was very small; in fact annual expenditures were slightly higher than in 1957. As in 1955 an extended lag in outlays showed up in 1959, when investment was about 10 percent lower than in 1958, even though power production was rising. Outlays in 1960 were virtually unchanged, however, in contrast to the

rise in total investment. Investment eased a little in the second half of 1960 and early 1961 but picked up in the spring quarter and was scheduled to rise somewhat in the second half.

GAS UTILITIES

Like electric utilities, the gas utilities have also enjoyed a strong increase in demand over the postwar period and a much greater than average rise in investment. With the growth in the economy and with new pipelines making natural gas available over much of the country, natural gas consumption has increased $2\frac{1}{2}$ times from 1947 to 1960.

Investment has been subject to fairly marked and erratic swings and has often moved differently from total investment. Partly this stems from the fact that very large pipeline expansions, undertaken at discrete intervals, have played a major role in gas company investment.

With backlog demands high in the early postwar period, gas company expenditures rose steadily through 1950, with no cutback in 1949. On the other hand, expenditures rose only some 10 percent in 1951—while most industries were making very large additions to capital outlays—fell in 1952, and rose again in 1953.

Following a decline in 1954, expenditures rose in the next 3 years to a new peak in 1957. There was a rather modest drop in 1958, a slight downward movement in 1959 and 1960, and a flattening out in 1961.

COMMUNICATIONS

The communications industry throughout the postwar period has been subject to comparatively little cyclical fluctuation as revenues, income and telephone services have shown uninterrupted annual gains. The industry's capital investment, however, has shown definite cyclical variations, though the timing relationship with swings in aggregate investment has not been a fixed one.

The growth in communications is well illustrated by the number of telephones in use, which has more than doubled since 1947. This increase has proceeded steadily every year, varying from a minimum of 4 percent in 1951 to a peak of 8 percent in 1949. Aside from 1949, when backlogs were still high, the recession years have been characterized by less than average gains in the number of telephones in use.

Telephone installations, which account for a major share of communications investment, were extremely high in 1947, as equipment became available for the large number of homes without telephone services in the war and very early postwar period. Seasonally adjusted expenditures peaked in the third quarter of 1948 and fell very sharply for the next six quarters; the decline of 40 percent was much greater than for plant and equipment generally.

A mild recovery began in the second quarter of 1950 which continued through the end of 1953. During 1954 expenditures leveled out at a rate slightly above the 1953 average. Over the 1950-54 period communications investment differed from total investment in three major respects: (1) 1950 outlays were below those of 1949; (2) despite the rising trend of outlays from 1950 to 1953, the peak rate was never as high as it had been in 1948; (3) in the mild recession of 1954 com-

munications investment fell by less than 2 percent from peak to trough quarter and showed a slight gain on an annual basis from 1953 to 1954. Shortages of equipment, because of the defense mobilization, were an important factor holding down expenditures in the 1951-53 period.

The business recovery brought a pickup in communications spending at the beginning of 1955 which continued for nine quarters. The first quarter of 1957 peak was earlier than the peak for aggregate spending but the rise from the previous trough was sharper on a relative basis—an 80-percent increase for communications as compared with a 50-percent gain for total investment.

Communications investment declined fairly steadily for the next 2 years and by the first quarter of 1959 was about one-sixth below its previous peak. Spending rose rapidly in the recovery of 1959, however, and continued to rise to a new high in the third quarter of 1960.

The fourth of the postwar recessions has apparently had little effect on communications investment. Communications investment in the first two quarters of 1961 was down less than 3 percent from the 1960 peak, and as of the summer of 1961 was scheduled to rise late in the year.

COMMERCIAL INVESTMENT

The commercial category other than communications is a heterogeneous group embracing retail and wholesale trade, services, finance and contract construction. The strong upward movement of store construction in shopping centers has been an important feature of investment in this group.

A distinguishing characteristic of investment in this area, which has embraced about one-fourth of the OBE-SEC aggregate, is that its investment cycles have not coincided closely with those in total investment, and in fact have often shown a contracyclical behavior. The chief reason for this is that retail plant and equipment expenditures have been closely associated with residential construction, which has often moved in a contracyclical fashion.

Investment peaked early in 1947 following the very strong upsurge right after V-J Day, when limitations on nonresidential construction were temporarily lifted. A fairly lengthy decline, through 1948 and 1949 then followed, though in the early period the decline was undoubtedly due to Government limitations rather than to demand.

The recovery in spending that started in 1950 came to a halt in 1951 as a result of restrictions on nonessential construction imposed under the Korean program. An easier supply situation led to the removal of restrictions and another upturn at the beginning of 1953; this rise carried aggregate spending upward during the 1954 recession and subsequently to a new peak around mid-1956.

While industrial investment was rising from mid-1956 to mid-1957, investment in the commercial sector declined after the middle of 1956 for about 2 years. An upturn began around the spring of 1958 at a time when other investment was still moving downward. This rise carried through about mid-1960, bringing investment to new highs, in contrast with investment elsewhere.

As with investment generally the effect of the latest recession was mild and short-lived. Expenditures declined slightly in the first half of 1961 after leveling in the second half of 1960, and were scheduled to go to record levels in the second half of 1961.

TABLE XIII.—New plant and equipment expenditures, by industry, 1947-61, by quarters

[Billions of dollars, seasonally adjusted at annual rates]

	All industries	Manufacturing			Mining	Railroads	Transportation other than rail	Public utilities	Commercial and other
		Total	Durable goods industries	Non-durable goods industries					
1947:									
1st quarter.....	19.69	8.24	3.32	4.92	0.59	0.69	1.30	1.36	7.61
2d quarter.....	20.31	8.62	3.59	5.03	.66	.82	1.33	1.44	7.44
3d quarter.....	21.02	8.88	3.36	5.52	.72	.92	1.27	1.66	7.58
4th quarter.....	21.33	9.01	3.35	5.66	.77	1.09	1.29	1.73	7.44
1948:									
1st quarter.....	22.35	9.65	3.52	6.13	.79	1.21	1.37	2.18	7.16
2d quarter.....	21.80	9.13	3.52	5.61	.87	1.21	1.29	2.48	6.82
3d quarter.....	21.94	8.94	3.56	5.39	.90	1.33	1.25	2.54	6.98
4th quarter.....	22.26	8.88	3.36	5.52	.95	1.50	1.26	2.86	6.81
1949:									
1st quarter.....	21.07	8.13	2.99	5.14	.92	1.60	1.02	3.03	6.36
2d quarter.....	19.68	7.40	2.58	4.82	.82	1.48	.84	3.13	6.01
3d quarter.....	18.89	6.84	2.45	4.40	.76	1.28	.93	3.16	5.89
4th quarter.....	17.81	6.38	2.41	3.96	.70	1.09	.79	3.16	5.69
1950:									
1st quarter.....	18.42	6.34	2.52	3.82	.73	.96	1.08	3.12	6.21
2d quarter.....	19.23	6.78	2.82	3.96	.68	1.13	1.08	3.07	6.49
3d quarter.....	21.04	7.68	3.15	4.52	.67	1.19	1.30	3.24	6.97
4th quarter.....	23.30	8.92	3.90	5.02	.75	1.15	1.43	3.70	7.35
1951:									
1st quarter.....	23.74	9.59	4.28	5.32	.82	1.28	1.43	3.39	7.23
2d quarter.....	25.47	10.63	4.99	5.64	.96	1.47	1.52	3.62	7.27
3d quarter.....	26.49	11.30	5.52	5.78	.96	1.52	1.58	3.85	7.28
4th quarter.....	28.56	11.69	5.74	5.95	.96	1.60	1.43	3.73	7.15
1952:									
1st quarter.....	27.06	11.78	5.79	5.99	1.05	1.56	1.56	3.96	7.15
2d quarter.....	26.57	11.78	5.64	6.14	1.01	1.45	1.55	3.78	7.00
3d quarter.....	25.65	11.21	5.38	5.84	.92	1.27	1.37	3.76	7.12
4th quarter.....	26.72	11.73	5.65	6.08	.96	1.32	1.51	4.08	7.12
1953:									
1st quarter.....	27.84	11.99	5.80	6.19	.94	1.34	1.47	4.40	7.70
2d quarter.....	28.10	11.90	5.69	6.21	.91	1.34	1.51	4.52	7.92
3d quarter.....	28.82	11.94	5.60	6.33	1.03	1.30	1.65	4.81	8.08
4th quarter.....	28.53	11.83	5.53	6.30	1.05	1.26	1.62	4.48	8.28
1954:									
1st quarter.....	27.46	11.62	5.40	6.22	.94	1.04	1.57	4.33	7.97
2d quarter.....	26.92	11.09	5.18	5.90	1.04	.91	1.44	4.37	8.07
3d quarter.....	26.84	10.98	5.06	5.93	1.00	.80	1.51	4.12	8.42
4th quarter.....	26.18	10.58	4.80	5.79	.91	.68	1.53	4.01	8.46
1955:									
1st quarter.....	25.65	10.17	4.78	5.39	.80	.74	1.46	4.01	8.46
2d quarter.....	27.19	10.84	5.06	5.78	.94	.80	1.62	4.09	8.90
3d quarter.....	29.65	11.97	5.77	6.20	.99	.96	1.60	4.43	9.70
4th quarter.....	31.45	12.48	6.00	6.48	1.08	1.17	1.70	4.48	10.54
1956:									
1st quarter.....	32.82	13.45	6.57	6.88	1.13	1.25	1.65	4.56	10.78
2d quarter.....	34.49	14.65	7.38	7.27	1.28	1.22	1.63	4.61	11.10
3d quarter.....	35.87	15.78	8.20	7.58	1.26	1.20	1.79	5.08	10.76
4th quarter.....	36.46	15.81	8.21	7.60	1.28	1.23	1.76	5.27	11.11
1957:									
1st quarter.....	36.89	16.12	8.09	8.03	1.35	1.42	1.52	5.72	10.76
2d quarter.....	37.03	16.25	8.31	7.94	1.28	1.35	1.82	5.93	10.40
3d quarter.....	37.75	16.37	8.23	8.14	1.24	1.54	1.81	6.64	10.15
4th quarter.....	36.23	15.27	7.57	7.70	1.15	1.26	1.91	6.43	10.21
1958:									
1st quarter.....	32.41	13.20	6.58	6.62	1.00	1.02	1.69	5.87	9.63
2d quarter.....	30.32	11.53	5.57	5.96	.92	.77	1.40	5.97	9.73
3d quarter.....	29.61	10.86	5.16	5.70	.88	.63	1.29	6.10	9.85
4th quarter.....	29.87	10.58	4.86	5.72	.97	.58	1.62	6.26	9.96
1959:									
1st quarter.....	30.62	11.20	5.26	5.94	.95	.63	1.71	5.80	10.33
2d quarter.....	32.51	11.80	5.74	6.06	.94	1.00	2.08	5.82	10.87
3d quarter.....	33.35	12.25	5.83	6.42	1.01	1.28	2.17	5.58	10.08
4th quarter.....	33.58	12.87	6.16	6.71	1.04	.85	2.15	5.48	11.19
1960:									
1st quarter.....	35.15	14.10	7.15	6.95	1.00	1.00	2.00	5.75	11.35
2d quarter.....	36.30	14.70	7.40	7.30	1.05	1.10	2.15	5.70	11.60
3d quarter.....	35.90	14.65	7.35	7.30	1.00	1.00	1.90	5.60	11.75
4th quarter.....	35.50	14.40	6.85	7.65	.90	1.00	1.80	5.70	11.65
1961:									
1st quarter.....	33.85	13.75	6.50	7.25	.95	.70	1.75	5.35	11.30
2d quarter.....	33.50	13.50	6.20	7.30	1.00	.70	1.80	5.50	11.05
3d quarter.....	34.80	13.75	6.15	7.65	.95	.60	2.05	5.95	11.50
4th quarter ¹	35.90	14.20	6.35	7.85	1.05	.50	1.90	6.05	12.20

¹ Anticipated.

Source: U.S. Department of Commerce, Office of Business Economics and Securities and Exchange Commission.

TABLE XIV.—Percent changes in new plant and equipment expenditures, seasonally adjusted, from trough to peak and peak to trough of total expenditures

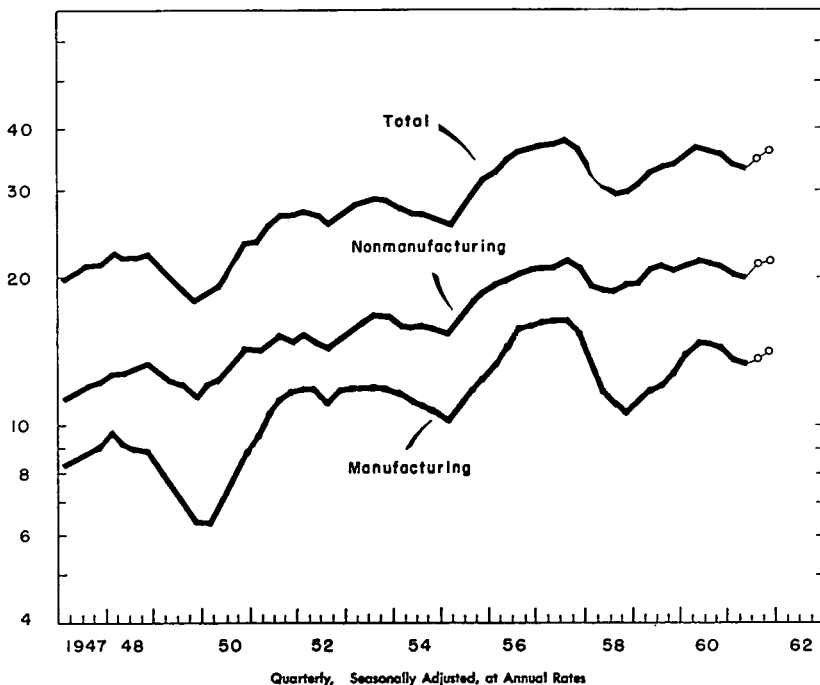
	4th quarter, 1948 to 4th quarter, 1949	4th quarter, 1949 to 3d quarter, 1953	4th quarter, 1953 to 1st quarter, 1955	1st quarter, 1955 to 3d quarter, 1957	3d quarter, 1957 to 3d quarter, 1958	3d quarter, 1958 to 2d quarter, 1960	2d quarter, 1960 to 2d quarter, 1961
All industries.....	-20	62	-11	47	-22	23	-8
Total manufacturing.....	-28	87	-15	61	-34	36	-8
Durable goods industries.....	-28	132	-15	72	-37	43	-16
Nondurable goods industries.....	-28	60	-15	51	-30	28	0
Mining.....	-26	47	-22	55	-29	19	-5
Railroads.....	-27	19	-43	108	-59	75	-36
Transportation other than rail.....	-37	109	-12	24	-29	67	-16
Public utilities.....	10	52	-17	66	-8	-7	-4
Electric utilities.....	1	56	-11	40	-3	-4	-1
Gas utilities.....	37	32	-32	151	-17	-14	-9
Commercial and other.....	-16	42	5	20	-3	18	-5
Communication.....	-32	51	5	69	-17	22	2
Commercial excluding communication.....	-12	40	5	7	3	16	-7

Source: Department of Commerce, Office of Business Economics and Securities and Exchange Commission.

CHART 3

PLANT and EQUIPMENT EXPENDITURES, 1947-61

Billion \$ (ratio scale)



BUSINESS DEMAND FOR NEW PLANT AND EQUIPMENT

This section examines various relationships between producers' durable equipment and plant expenditures and total economic activity in this country during the past four decades, and also other economic factors which may influence private investment.

Factors in the demand for capital goods

Fundamentally each business decision to buy a capital good is the result of a set of evaluations of various factors bearing on the prospects of achieving a reasonable return on the investment. Considerations may include future market trends, the adequacy and efficiency of existing capacity for the company or the industry, the position of the firm in the market, availability of internal funds, cost of external funds, and the development of new processes and new products.

On an aggregative basis, some specific factors bearing on investment decisions are the stock of capital (in terms of its volume, degree of utilization, age, and technological composition), profits expectations, company cash flow, returns from alternative forms of investment, cost of financing, technological developments, changes in the business population, tax and fiscal policies, and security regulations. For some of these variables such as total economic activity, profits, internal funds—i.e., retained earnings and depreciation allowances—adequate time series are available for quantitative analysis. In some other cases, less adequate, but usable information can be examined.

While investment demand is influenced by economic developments in other sectors of the economy, it in turn has important autonomous effects. For instance, the output and demand-creating effects of investment are major determinants of the level of business activity. In reverse effect, expanding business encourages investment while periods of contraction make existing capacity appear excessive with a consequent retarding influence. It may be noted that changes in investment have lagged those in general business by an average of about 3 months.

Changes in total economic activity—as measured by gross national product—is a basic determinant in shaping the pattern of fluctuations and trends in investment outlays. Over the 40-year period since 1920, private nonagricultural plant and equipment expenditures in constant dollars have grown at an average compounded rate of about 1½ percent per year or substantially less than GNP (3 percent).¹ Rates of growth were higher in the 1920's than in the postwar years.

Capital goods prices have risen faster than average prices for all goods and services, so that in current dollars the rate of investment

¹ It may be noted that this rate of annual expenditure is sufficient to keep the stock of business capital goods (as measured by the Machinery and Allied Products Institute) growing at about the same rate as GNP.

expansion at almost 5 percent per annum was almost as large as the growth in total private economic activity. The difficulty in compiling adequate price deflators for capital goods should be kept in mind. In addition to the difficulty in obtaining effective prices as opposed to quotations of list prices, there still remains the almost insuperable problems of measuring quality changes and of introducing new machines and processes into the indexes.

Current position of investment

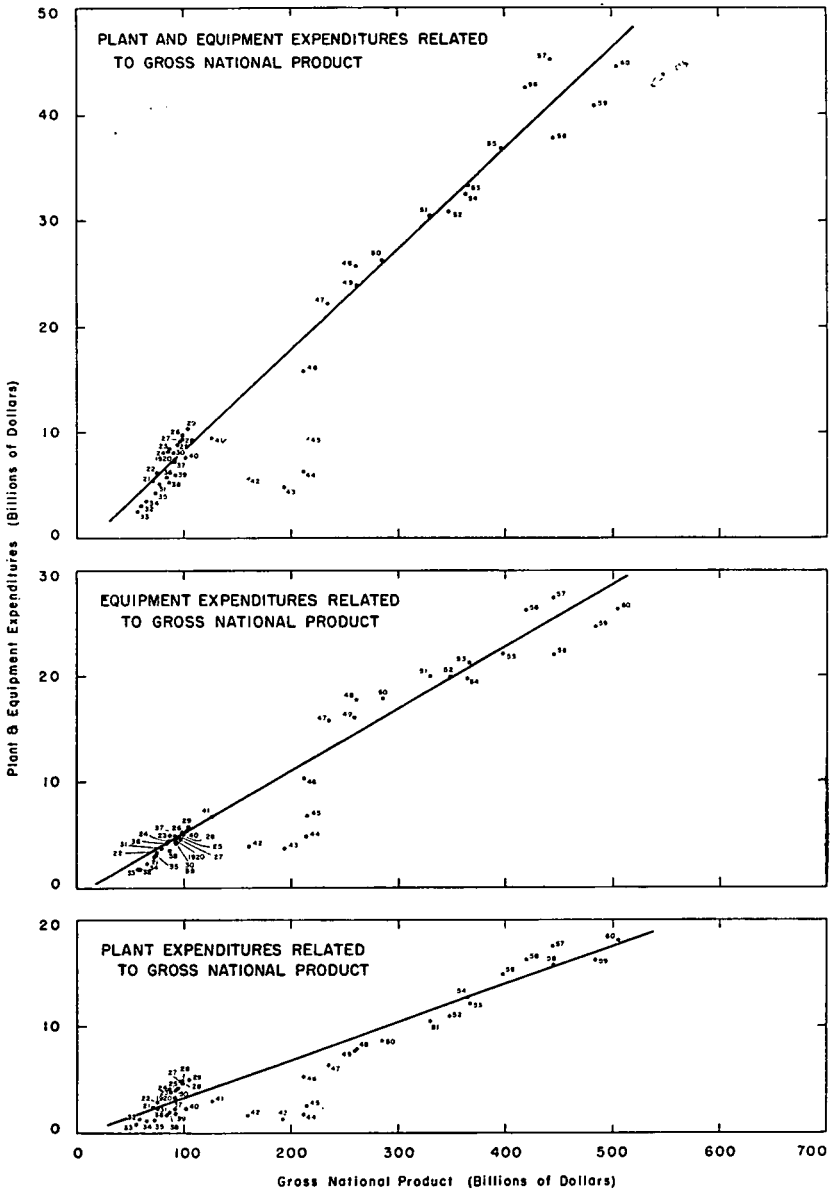
In the years 1956-57, business fixed investment was at a record high relative to GNP—comprising one-tenth of our total output. The years 1929 and 1948 closely approximated this rate. The average ratio for the decade of the 1920's and the 1950's was about 9 percent—with the years 1960 and 1961 a little under these decade averages.

When both investment in new plant and equipment and gross national product are adjusted for changes in their respective average prices, ratios for recent years—including 1956 and 1957—drop well below those for 1948 and 1929. (See table XV.) The constant dollar ratios in the table demonstrate also the altered role of construction in the investment picture as between the prewar and postwar periods. At the height of the investment boom of the 1920's, plant expenditures were accounting for as large a proportion of GNP as were equipment outlays—each about 6 percent. The proportions probably held true during most of the 1920's, according to the fragmentary data available.

In 1948, when investment in physical volume terms comprised almost as much of GNP as in 1929, the proportion for equipment was 8 percent and for plant 3 percent. Since 1948, private nonresidential construction has ranged between 3 and 3½ percent of GNP. Equipment showed a declining proportion through 1955, rose to 6 percent in 1956-57, and dropped back to 5 percent for the more recent term

CHART 4

RELATIONSHIP BETWEEN BUSINESS EXPENTURES FOR PLANT AND EQUIPMENT AND GROSS NATIONAL PRODUCT



Relation between investment and economic activity

Fluctuations in private nonagricultural outlays for new plant and equipment have corresponded closely in both timing and direction with gross national product in the nonwar years since 1919. This can be seen in chart 4, which shows the line of relationship between fixed investment and gross national product.

The index of correlation indicates that over 98 percent of the fluctuation in capital outlays are associated with variations in GNP. On the average in the 1920-60 period a change of \$10 billion in the gross national product has been accompanied by a change in the same direction of \$950 million in business outlays for plant and equipment.² Investment in plant and equipment since 1958, however, has been lower than would be expected from this long-term relationship with gross national product. The deficiency is calculated at about \$2 billion in 1960 and the rate was larger by mid-1961.

For the period as a whole there has been no consistent time trend, but instead there appears to have been three distinct periods each with a characteristic behavior of investment relation to total economic activity. During the 1920's, capital outlays bore a slightly increasing relationship to GNP. During the depression and prewar years private investment was at a relatively low level without a clear time trend.

In the postwar period, a downward drift from the 1948 high is discernible with the exception of the investment boom of 1956-57. In the interpretation of this result, the many special aspects of this period—particularly the rapid buildup in the early postwar years, and the impact of the Korean conflict on investment—should be kept in mind.

The effects of changes in the rate of economic activity in the preceding year on investment in the following year were also examined. While some relationship does exist ($R^2 = .44$), this variable did not add significantly to the explanation of variations in investment when used jointly with the level of GNP.

Physical volume of plant and equipment investment

When private nonagricultural plant and equipment expenditures and gross national product are adjusted to remove the effects of differential movements in capital-goods prices and the general price level, the relationships, as would be expected, are not quite so good as those developed from factors in current dollars. The coefficients of determination drop about 4 percentage points each in the case of total investment and equipment expenditures, although that for plant construction is not appreciably different.

In real terms, on the average for the 1929-61 period, the volume of investment increased \$1 billion with each \$10-billion rise in output—or about the same as in current dollar terms. However, the deficiency in fixed investment in 1960, relative to the calculated value indicated by the long-term relationship with total economic activity, was about twice as large. Plant and equipment expenditures in 1960 were \$4 billion (in 1954 prices) lower than the volume of economic activity would have implied. Most of the deficiency was again in equipment outlays but plant expenditures were also a little below the line of relationship.

² The full regression formulas for this and other correlations described in this section are shown in table XVI.

Quarterly investment patterns

Fixed investment has borne a less close relationship to total economic activity since 1947 than was true in the prewar years. The coefficients of determination for the postwar years only on both an annual and quarterly basis are moderately lower than for the entire period of comparison. The change in investment associated with a given increase or decrease in total activity in the more recent decade was fractionally smaller than the variation noted earlier for the period as a whole. In part this shift, which was characteristic of equipment as well as of plant expenditures, may be traceable to the growing importance of services in total economic activity, while the mildness of the postwar cycles may also be a factor.

For total investment in new plant and equipment the best relation with total activity was achieved when GNP was lagged one quarter. Thus changes in general activity during the postwar period preceded turns in investment; the lead seems to be about one quarter although shorter leads could not be tested in the absence of monthly data. The fact that investment figures are partly on a payments, rather than a value-put-in-place, basis may also affect the result. The introduction of time as an additional variable again did not significantly effect the multiple coefficient of correlation.

When expenditures for equipment and for plant are separated rather different patterns emerge. For equipment spending, the association is not particularly close. The best relationship occurs when quarterly equipment outlays are matched directly with the corresponding GNP, and a time trend. For this regression the coefficient of determination was 0.81.

In spite of the rising emphasis on automation and on cost-cutting facilities it is apparent that equipment outlays have not been keeping pace with the trend in GNP either proportionally or in historical relationship. (See chart 5.) The chart also indicates that, while turning points at peaks have generally been simultaneous, there is a tendency for equipment outlays to lag one to two quarters at the troughs.

Investment and profits

Profit expectations constitute a prime factor in business decisions to invest in new productive facilities. Profits are found to be closely correlated with investment, particularly, when investment is lagged behind profits in order to adjust for the timing difference between a decision and its realization. The analysis suggests that a 6-month lead in profits yields the best results.

Profits before taxes yielded generally higher relationships with investment—in aggregate, as well as for plant and equipment separately—than did profits after taxes, the difference being more marked for the postwar years than for the period as a whole. The addition of time as a variable increased the coefficients of determination and yielded about equal results for before-tax and after-tax income.

The relationship between investment and profits after taxes for the period 1922-60 is shown in chart 6. The chart points to a significant change in the relationship between the two prewar decades and the postwar years.

A relationship computed for the postwar period only has a lower coefficient of determination than that for the prewar period, indicating that a smaller proportion of the variations in investment are now explained by earlier changes in earnings. Also the coefficient of the "time" variable increases in weight in the latter period.

CHART 5
BUSINESS INVESTMENT AND GROSS NATIONAL PRODUCT

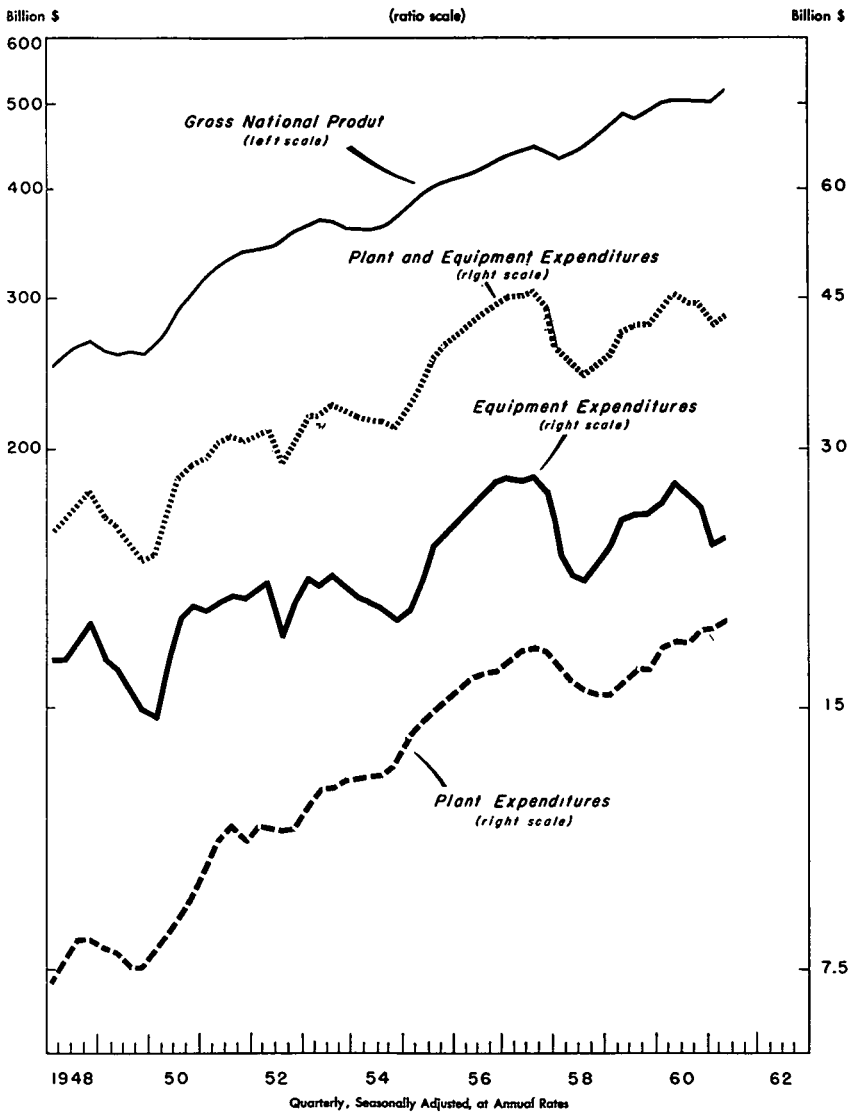
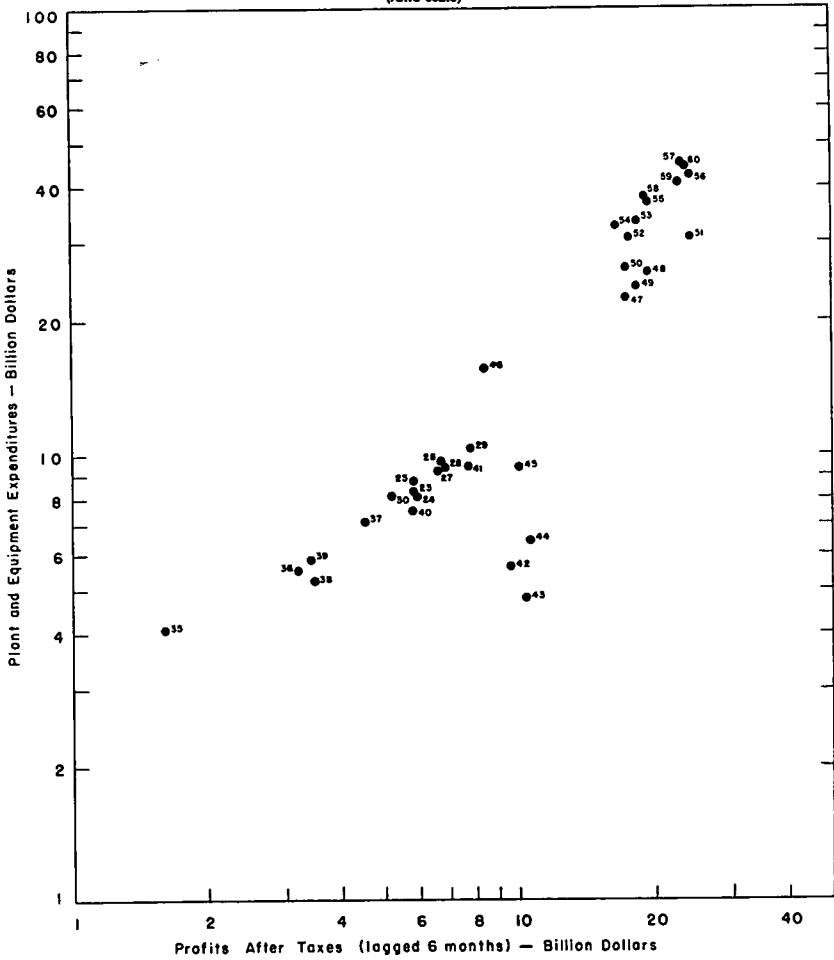


CHART 6

**BUSINESS EXPENDITURES FOR PLANT AND EQUIPMENT
AND PROFITS AFTER TAXES**

The Relationship to Corporate Income Has Changed Significantly in the Postwar Period
(ratio scale)



The upward time trend also holds true for both equipment expenditures and construction outlays. Factors other than profits as measured by the time variable are of greater relative importance for plant construction than for equipment purchases.

Two postwar developments contributed importantly to these findings. One was the increasing rate of corporate income taxes and the second was the growing volume of internal funds generated by rising depreciation allowances and a generally lower relative dividend payout.

Investment and cash flow

The growing availability of internal funds provides a favorable environment for business investment decisions. There are many other claimants on such funds—notably working capital requirements, including the financing of inventories. Nor of course is investment undertaken solely because of the existence of such resources. Nonetheless, it is often argued that business managers are more prone to undertake, promising new projects when resort does not have to be made to outside financing with its obvious disadvantages in case the project does not work out well. With these considerations in mind the relationship of investment in plant and equipment and “cash flow”—i.e., the sum of undistributed profits and depreciation allowances—was examined.

The relationship for the period 1929–60, excluding the war years, was surprisingly high—just slightly lower than for total economic activity, and higher than for profits. The variations in fixed investment outlays are well described by the movements in cash flow.

When undistributed profits and depreciation allowances were treated as separate variables, each tested significantly and produced a coefficient of determination about the same as when combined in a simple correlation. Similar results were obtained for equipment expenditures and for plant construction outlays when tested separately. The relation between investment and either undistributed profits or depreciation was somewhat lower than for the two in a multiple correlation. In the case of equipment there was little difference in the closeness of the association between either undistributed profits or depreciation but in the case of construction the relation was much closer for depreciation allowances than for undistributed profits.

Investment and capacity

On *a priori* grounds it would seem reasonable that a high degree of utilization of capacity would be a stimulating factor in new investment. It was also felt that the size of existing capacity would affect investment decisions other things being equal. That is, a given rise in demand would result in smaller investment when capacity is large than when it is relatively low. Unfortunately, adequate information on aggregate capacity and its utilization are not available on an aggregative and long-term basis. As approximations of the desired variables, tests were conducted using estimates of the value of gross capital stock in constant dollars as a measure of capacity, and the ratio of actual man-hours to the total number of man-hours potentially available as a guide to the degree of capacity utilization.³

³ Sources of these series were James W. Knowles, “The Potential Economic Growth in the United States,” Study Paper No. 20 of the Joint Economic Committee, Congress of the United States, p. 28; George Terborgh, “60 Years of Business Capital Formation,” Machinery and Allied Products Institute and Council for Technological Advancement, and mimeographed tables of data underlying chart.

A positive relationship between "real" investment and the ratio of actual to potential labor input was found for the 30-year period since 1929. The coefficient of determination (R^2) was 0.68; the R^2 's were 0.61 and 0.71 for equipment and for plant, separately.

The ratio of actual to potential labor input was added as a second variable in the regression with total economic activity and was found to be significant. It exerted very little influence, however, in the regressions with profits (both before and after taxes), raising the coefficients of determination by less than 1 percent.

Trials were also run between change in investment on one hand and change in GNP and gross capital stock—all variables in terms of constant dollars.

The coefficient of the capital stock turned out to be negative as expected, but did not add significantly to the regression.

The results of these tests can only be considered suggestive, of course, in the absence of direct measures of capacity and its utilization.

TABLE XV.—Private nonagricultural plant and equipment expenditures as a percentage of gross national product

[Percent]

	Total plant and equipment	Equip- ment	Plant		Total plant and equipment	Equip- ment	Plant
1929.....	12.4	6.1	6.3	1945.....	5.4	4.1	1.4
1930.....	11.4	5.3	6.0	1946.....	8.7	5.7	3.1
1931.....	8.0	3.9	4.2	1947.....	10.7	7.7	3.0
1932.....	5.6	2.7	2.9	1948.....	11.0	7.8	3.2
1933.....	5.1	2.9	2.3	1949.....	9.9	6.8	3.2
1934.....	5.8	3.6	2.2	1950.....	9.8	6.7	3.1
1935.....	6.5	4.4	2.2	1951.....	9.7	6.4	3.3
1936.....	7.8	5.3	2.5	1952.....	9.3	6.2	3.2
1937.....	8.9	5.7	3.2	1953.....	9.4	6.1	3.3
1938.....	6.8	4.2	2.6	1954.....	9.3	5.7	3.6
1939.....	7.0	4.5	2.6	1955.....	9.3	5.7	3.7
1940.....	8.1	5.3	2.8	1956.....	9.9	6.2	3.7
1941.....	8.2	5.4	2.8	1957.....	9.7	6.0	3.4
1942.....	4.2	2.8	1.4	1958.....	8.2	4.8	3.4
1943.....	3.0	2.3	.7	1959.....	8.1	5.0	3.2
1944.....	3.8	2.9	.9	1960.....	8.5	5.1	3.3

Source: U.S. Department of Commerce, Office of Business Economics.

TABLE XVI.—Selected regression equations for plant and equipment expenditures

[Based on data in billions of dollars, except for time ¹]

Dependent variable	Period of observation	Coefficient of determination R ²
Plant and equipment expenditures	- 1.237+0.095 gross national product.....	1920-60 annually.. 0.987
	2.473+0.085 gross national product.....	1948-60 annually.. .901
	-24.643+0.138 gross national product -0.278 time..	1948-60 quarterly.. .893
	5.194+0.763 profits before taxes +0.090 time.....	1922-60 annually.. .961
	28.729+0.355 profits before taxes +1.337 time.....	1948-60 annually.. .919
	12.136+1.190 profits after taxes +0.361 time.....	1922-60 annually.. .942
Equipment expenditures	29.405+0.690 profits after taxes +1.494 time.....	1948-60 quarterly.. .891
	29.960+0.577 profits after taxes +0.391 time.....	1929-60 annually.. .978
	- 1.667+0.953 cash flow ² -0.089 time.....	1948-60 annually.. .894
	4.558+0.839 cash flow ²	1920-60 annually.. .974
	- 0.832+0.059 gross national product.....	1948-60 quarterly.. .813
	-29.687+0.111 gross national product -0.370 time..	do..... .805
Plant expenditures	15.989+0.428 profits after taxes +0.171 time.....	do..... .962
	- 0.395+0.038 gross national product.....	1920-60 annually.. .942
	4.775+0.027 gross national product +0.092 time..	1948-60 quarterly.. .941
13.971+0.149 profits after taxes +0.220 time.....	do.....	
CONSTANT (1954 DOLLARS)		
Plant and equipment expenditures= -2.772+0.100 gross national product..	1929-60 annually..	.917
Equipment expenditures= -2.451+0.066 gross national product.....	do.....	.881
Plant expenditures= -0.321+0.034 gross national product.....	do.....	.916

¹ For annual data, the value of the time variable is: given year minus 1960=0; for quarterly data, the 4th quarter 1960 is zero, and the value for each successive quarter is increased by 1.

² Cash flow equals the sum of undistributed profits plus depreciation.

NOTE.—Quarterly data are at seasonally adjusted annual rates.

Source: U.S. Department of Commerce, Office of Business Economics.

