INSTITUTIONAL INVESTOR STUDY REPORT OF THE SECURITIES AND EXCHANGE COMMISSION SUPPLEMENTARY VOLUME I

CONSISTING OF

A REPORT OF THE NATIONAL BUREAU OF ECONOMIC RESEARCH

ON

INSTITUTIONAL INVESTORS AND CORPORATE STOCK—A BACKGROUND STUDY

MARCH 10, 1971.—Referred to the Committee on Interstate and Foreign Commerce and ordered to be printed

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LETTER OF TRANSMITTAL

NATIONAL BUREAU OF ECONOMIC RESEARCH, INC.
NEW YORK, N.Y., *December 30, 1970*

Hon. HAMER BUDGE,
Chairman, U.S. Securities and Exchange Commission,
Washington, D.C.

DEAR JUDGE BUDGE: I am herewith submitting the National Bureau's report on *Institutional Investors and Corporate Stock* in accordance with our contract of June, 1969. A preliminary version of this report was sent to you in June of this year; the present report differs from that preliminary report mainly in details, not in substance. The enclosed report has been reviewed by a committee of our board and has been accepted as an official National Bureau report.

Nevertheless, this report should still be regarded as preliminary in some senses. The work undertaken by the National Bureau in the preparation of the report had limited objectives. We have assembled and updated statistical materials which provide background and underlying information which could be utilized by the Commission in its comprehensive study of the impact of the activities of institutional investors upon the national economy. We have revised and extended earlier National Bureau work on the national balance sheet for the United States and also made some additions to the Federal Reserve Board's flow-of-funds statistics.

We understand that the Commission wishes to publish the report prepared by the National Bureau without significant modification and we are pleased to have this done with the recognition that the report is designed to serve the limited objectives of providing the underlying data requested by the Commission.

As a result of the conflict between the immovable deadline for the submission of your Commission's report to the Congress and the unexpected difficulties and delays which almost unavoidably arise in extensive statistical projects of the type represented by this report, I regret that we have not been able as of this date to edit the text of the report as thoroughly or to check the data as carefully as we would have liked to do and as we do in projects where we can continue to work until we are entirely satisfied with the results. We have, however, checked and rechecked the figures to the extent that time has permitted and have completed at least a preliminary editing of the contents.

We have not had, moreover, the time required to complete all of the analyses that the data, or the complex problems of the financial industry, would suggest. I am sure that in this regard we share a common experience with your staff that has been in charge of the institutional investors study. I would add that as part of the Bureau's

long-term and ongoing commitment to financial research we hope to involve ourselves in some of these analyses in the future as time and resources permit.

Meanwhile, we believe that no errors remain in the present version that would substantially affect the facts and figures or the conclusions that can be drawn from them.

Very sincerely yours,

JOHN R. MEYER,
President.

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CHAPTER 1

BASIC CONSIDERATIONS

1. Purpose, Scope and Limitations of Report

The purpose of this report is to provide a comprehensive, quantitative basis for appraising the position of the holdings of, and transactions in corporate stock by, institutional investors.[1] Such an appraisal was needed by the Securities and Exchange Commission as a background for its Institutional Investors' Study. That study concentrates on the activities of financial institutions in the stock market during the latter part of the 1960's and deals with the subject in much greater detail than was required of the background study. It is based on extensive new primary statistical data which were not available for this report.

The holdings of corporate stock by financial institutions are viewed in this report in terms of their roles: (a) as part of the assets of financial institutions and (b) as an element in the liabilities and equity of corporations. These aspects can be examined most satisfactorily within the framework of a sectorized national balance sheet. Transactions are regarded as a component of the flows—new issues of and trading in—corporate shares; in that guise, they are best seen within the structure of a flow-of-funds account.[2] The choice of analytic framework for holdings and transactions is explained briefly in Section 4.

The first task of the study, therefore, is to establish within this framework, in as much detail and as accurately as this can be done on the basis of the available statistical data and for as long a period as is possible and relevant, the facts concerning holdings of and the trading in corporate stock by the main types of financial institutions. More specifically, it is necessary to determine two sets of ratios: (1) the share of corporate stock in the total assets of, and in the acquisition of financial assets by, the different types of financial institutions; and (2) the relation of the stock holdings and stock transactions of financial institutions to the total value of corporate stock outstanding or traded.

It would be desirable to determine these ratios separately for the main types of corporate stock, for instance, for common and preferred stock, and for the stock of the main groups of financial and nonfinancial corporations. Generally, however, we must be content with ratios for all corporate stock together. It is desirable to make these calculations on at least an annual basis, but this is possible only for the period beginning with the 1950's.

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[1] For a list of the types of institutions included, see Section 5a.
[2] A brief description will be found in Section 4.

On the basis of these figures and ratios we must try to determine whether definite trends have existed in the institutional holdings of, and in the transactions in, corporate stock in relation to the assets of financial institutions and to the volume of corporate stock outstanding or traded; and we must study how these movements have changed since corporations and financial institutions became important features in the American economic and financial scene during the third quarter of the 19th century. Finally, we must try to explain such significant movements as may be found, at least to the extent of ascertaining the immediate economic and institutional determinants. It will not be possible in this report to go beyond this first stage of causal analysis since this would require an analysis of the entire process of American economic and financial development during the last century.

This report, therefore, is primarily fact-finding and descriptive in nature and proceeds on a fairly high level of aggregation. It does not deal with the desirability, from the point of view of whatever standards the analyst may want to apply, of the developments observed. Nor does it consider, except in Section 2, policies that might have led to different trends from those actually observed or that might affect their continuation or modification. Because of lack of data, time, and resources, no attention is paid to the experience of individual financial institutions or of subgroups within the fairly broad categories distinguished by available statistics, or to developments during periods shorter than a single year.

Technically the core of this report is a set of sectoral annual balance sheets and sources-and-uses-of-funds statements for the years 1953 through 1968, and the equivalent but much rougher statistics for spans of seven to twenty years during earlier periods that are presented in Chapter 2. These statistics generally distinguish four nonfinancial sectors (household including or separating agriculture and other unincorporated business enterprises; nonfinancial corporations; state and local governments; and the federal government) while the financial sector is divided into about a dozen institutional subsectors. The main contributions of the report from the statistical point of view for the postwar period are:

1. Estimates of national wealth—structures, equipment, inventories, and land—by sectors for the period 1959–68 and the revision of previous estimates for the years 1952–58.

2. The separation of personal trust funds administered by commercial banks (to be included with financial institutions) and of two groups of nonprofit institutions (viz., foundations and universities and colleges) from the household sector which thus becomes considerably more homogeneous.

3. A rough breakdown of the now more narrowly defined household sector into half a dozen of subsectors classified by wealth (Appendix 5).

4. The inclusion of several relatively small groups of financial institutions which formerly were omitted from the flow of funds statistics, viz., fraternal insurance organizations, mortgage companies (formerly included with finance companies), closed-end investment companies, and common trust funds.

The main statistical limitations of this material are briefly discussed in Section 5.

2. The Role of Corporate Stock and of Financial Institutions in the American Economy

There can be no doubt about the importance of either corporate stock or financial institutions for the size and character of the financial superstructure of the American economy. After all, in 1968 corporate stock having a total value of fully $1,000 billion (excluding intercorporate holdings) represented about one-fourth of the value of all financial assets outstanding in the United States while the assets of financial institutions, including personal trust departments, came to approximately $1,600 billion, equal to another two-fifths of the total. Eliminating the duplication involved in the corporate holdings of stock by financial institutions of about $250 billion, financial institutions and corporate stock together thus are seen to have represented more than one half of the financial superstructure of the United States. The question, however, is to what extent and how the operations of financial institutions on the one hand and the issuance of and transactions in corporate stock on the other have contributed to the growth of the American economy in the past 100 to 120 years since both of them acquired substantial importance. The same question of course can, and will, be asked particularly for the postwar period. In what direction have these phenomena influenced the present organization and efficiency of the American economy as well as the distribution of its ownership and control?

Answers to the questions are not as evident as it may appear. For it is not sufficient to argue that the modern American economy, as the economy of any other developed noncommunist country, could not operate without the process of indirect saving and investment through financial institutions or without the widespread ownership of large business enterprises that is made possible through marketable corporate stock. Following the method of counterfactual hypotheses dear to some contemporary economic historians, one may visualize a modern economy organized predominantly in privately owned large enterprises without having financial institutions other than a monetary system and without use of corporate stock, or at least without a stock market in which case participations in the ownership of corporations would be nonmarketable and similar to contemporary equity contents in partnerships. In such an economy, enterprises would be financed by a combination of retained earnings and the issuance of different types of claims sold directly to savers. It is even easier to visualize a modern economy without nonmonetary financial institutions (and thus still having a banking system issuing paper currency and check deposits, though not accepting time and saving deposits) in which both corporate stock and all types of claims against nonfinancial borrowers are held directly by savers and are traded among them on organized exchanges or elsewhere. If the American economy had thus been limited to internal and to external direct financing, through the sale of securities to nonfinancial sector excluding external indirect financing by financial institutions except in the form of money, could it have grown as it actually has and could it have reached the present level of production and consumption?

The main difference between this hypothetical economy without nonmonetary financial institutions and marketable corporate stock and the actual one which exists today in the United States lies in the structure of the portfolio of households. At the present time, fully one-tenth of household portfolios consist of direct claims against nonfinancial sectors; and fully two-fifths, of equities in corporate and unincorporated business enterprises, and another two-fifths are claims against and stock of financial nonmonetary intermediaries (the remaining one-tenth represents money held by individuals). In the hypothetical economy, household portfolios would be divided exclusively—apart from money—among the first two types of financial instruments. (It may be well to recall how much closer the actual situation was to this hypothesis as late as 1900. At that time individuals' portfolios consisted of approximately one-fourth of nonmonetary claims against and of stock in financial institutions while claims against and stock in nonfinancial sectors accounted for over two-thirds total household financial assets, money making up the remaining five per cent.)[3]

What are the preconditions regarding investors' habits, the operations of the investment banking machinery, and the level and structure of yields of financial instruments that would make it possible to operate the present day American economy without nonmonetary financial institutions and without marketable corporate stock? Or phrased differently, in what respects would an American economy having basically the present structure of production differ in the absence of nonmonetary financial institutions and of marketable corporate stock, assuming the existence of a monetary system in the form of a central bank that issued both currency and check money and had as assets monetary metals, foreign exchange, and claims against nonfinancial sectors, the Treasury as well as business and state and local governments?

1. Almost certainly the value of household saving and investment would be lower than it actually is and was, although we cannot say by how much. This can be deduced from the fact that households have actually preferred indirect nonmonetary to direct saving for a large part of their total accumulated financial assets and that the elasticity of substitution between direct and indirect nonmonetary financial saving of households is very unlikely to be perfeect. Hence, we could not expect a reduction in indirect nonmonetary household saving to have been fully compensated for by an identical increase in their direct financial saving. As a result, reproducible tangible wealth would almost certainly be lower than it actually is today. The question is, which forms of capital formation or real assets would be more important and which less important than they actually are?

2. The absence of nonmonetary financial institutions would mean the absence of deposit claims against banks and thrift institutions and of contractual claims against insurance companies and pension and social security funds (i.e., policyholders' and beneficiaries' equity), and of shares in investment companies and other financial institutions. The

[3] See R. W. Goldsmith, R. W. Lipsey, and M. Mendelson. *Studies in the National Balance Sheet of the United States*, Vol. 2, New York, PUP for NBER, 1963, pp. 72–73. Personal trust funds are treated as nonmonetary claims against financial institutions while equity in unincorporated business is regarded as part of direct financial assets.

consequences are not quite as radical as it might appear. Insurance and pension organizations could operate on a pay-as-you-go principle—life insurance companies selling only short-term insurance—thus avoiding the accumulation of assets except for a small working fund in the form of money. There is little doubt, however, that the taxes or equivalent levies necessary to operate this regime of provision for retirement income would have reduced individual consumption less than the voluntary, contractual, and compulsory saving under the present system. Instead of holding claims against thrift institutions, households would have acquired short-, medium-, and long-term obligations directly from the nonfinancial sectors that certainly would have been issued in much larger amounts, and probably also in smaller denominations, than under the present system, if only because governments and business enterprises would have had to find substitutes for the funds now supplied by financial institutions. It is unlikely, though not impossible, that the additional sales would be as large as the foregone saving in the form of thrift deposits and insurance contracts.

3. If liquidity preference (including preference for not only money but also other nearly riskless claims encashable in practice on demand) had been the same as it has been it is very likely that households or business enterprises would hold more money than they do now. This means that part of the external financing of the nonfinancial sectors now provided by nonmonetary financial institutions would have been furnished by the monetary system. This would not necessarily have led to a sharper rise in prices as the income velocity of circulation would have been lower.

4. Concentration among business enterprises probably would be considerably more pronounced, one of the important probable consequences of the absence of nonmonetary financial institutions and of marketable corporate stock. The reason is that under such a regime the need to raise a much larger proportion of external financing by sale of obligations directly to households (and to a limited extent to other business enterprises with surplus funds) would have given an advantage to enterprises widely known to the general public and able to sell large homogeneous debt issues in small denominations.

5. For the same reasons long-, medium-, and short-term obligations of business enterprises and governments would be much more extensively distributed than they are now, or have been in the past. Similarly the secondary market, on exchanges or over the counter, for these obligations would be much broader and more active. In other words, there would have occurred a large-scale replacement of "debtor substitution," which is the essence of financial intermediation by "brokerage." Brokers' offices—dealing in obligations rather than in stocks—would functionally and physically have taken the place of the edifices of commercial banks, saving and loan associations, and credit unions, and the treasurers of large nonfinancial enterprises and government units would deal with investment banks and brokers instead of with commercial banks and thrift and insurance organizations.

6. In the absence of bank and finance companies all consumer credit would be extended by the business enterprises producing or selling the commodity or service. These enterprises would have to raise the necessary funds by either income retention or by sale of their own obliga-

tions to the general public. This would most likely lead to a much more pronounced concentration in retail trade.

7. Trade credit (accounts receivable and payable) would almost certainly be more important because of the absence of commercial banks as suppliers of short-term funds. This would have given another advantage to large units able to sell their own obligation on a nationwide or at least a regional market. It also is possible that the difficulty of securing short-term funds would have led to earlier or more intensive economizing on inventories with the consequence of a more restricted assortment (less choice for consumers) and longer delays in filling orders.

8. Security credit would be insignificant if it is assumed that brokers and dealers in securities would be prevented from becoming financial institutions by accepting deposits from customers, even in the form of temporary credit balances.

9. Among the main sectors of real capital formation the one probably most seriously affected by the absence of financial institutions would be owner-occupied homes. It obviously would be much more difficult for the prospective owners of such structures to find mortgage lenders among other individuals, or possibly among builders using their accumulated savings, than it is now where these loans are made routinely in large numbers by financial institutions. Assuming the same total demand for shelter, multifamily structures owned by large real estate corporations able to sell their bonds to the general public would probably have taken the place of a substantial fraction of present one-family owner-occupied homes and of small apartment houses owned by individuals. Thus the absence of financial institutions would have resulted in a quite different distribution of housing between owner-occupied and rented quarters.

10. For similar reasons farmers would probably have found it more difficult to secure long-term and even short-term funds. Hence, it is likely that large agricultural enterprises, well enough known to sell their obligations to the general public through the investment banking and brokerage machinery, though probably on a local and regional rather than on a national basis, would have grown more rapidly than they have. On the other hand, concentration among owner-operated farms probably would have made less progress, the farmers being hampered by fewer sources of funds to acquire additional acreage, with the consequence of less inequality among farmers.

11. The absence of marketable corporate stock and financial institutions, of course, would have very great influence on the financial structure of nonfinancial business enterprises. In particular the need to rely exclusively on debt financing might have led to substantially less venturesome attitudes by entrepreneurs. That rapid economic growth is possible with a much higher debt-to-equity ratio than prevails in the United States is, however, indicated by the cases of Japan and Italy in the post war period; and it is not impossible that nonfinancial enterprises would have adapted themselves fully to the need of relying much more on debt financing. The absence of substantial net worth would have made investment in the debt securities of nonfinancial enterprises more risky and thus would have acted as another incentive to greater concentration since it may be assumed that giant enterprises

would have been better able to reduce the danger of inability to meet their obligations by spreading of risk and, ultimately, by reliance on the central government.

12. Regional differences in interest rates, saving, and investment probably would be larger than observed if the American economy had operated without nonmonetary financial institutions and without a market for corporate stock. While it is possible that a substantial degree of equalization in the availability and terms of direct external finance would have been brought about by the operation of a more highly developed net of investment banking facilities and a much broader secondary market in the obligations of governments and business enterprises, it is very unlikely that this could have been done as efficiently as is possible through the activities of financial institutions operating on a nationwide scale directly or indirectly, e.g., through a system of correspondents.

13. The probable effects of the absence of financial institutions and of a stock market on the level of interest rates, on the differentials among rates, and on the fluctuations in rates are very difficult to assess. It seems likely, however, that under such conditions the level of interest rates on obligations of nonfinancial issuers would have been somewhat higher than it actually has been, because savers who, as history shows, have preferred to hold claims against nonmonetary financial institutions would have to be offered higher rates to hold claims against nonfinancial issuers. It is not certain that this differential would have been substantially larger than the interest margin inherent in the operation of nonmonetary financial institutions. Of the main rates, that for home mortgages probably would have been raised most. The yield on Treasury securities probably would have been lowered relative to other rates because they would have become, even more than in actuality, the haven of risk-averting savers. In the absence of the generally smoothing influence of financial institutions, variations in rates, both over full business cycles and for shorter periods, as well as seasonally, most likely would have been more pronounced. So would interregional differences in interest rates.

14. One important argument remains to be met. Would not the absence of commercial banks as we know them have slowed down the growth of the American economy gravely given the crucial importance assigned to expansionary bank credit in many theories of economic development starting with that of Joseph Schumpeter,[4] an importance backed by the concrete examples of Germany before World I and of Japan after World War II? It is hard to deny the likelihood of some influence in this direction, but it should be realized that in the counterfactual hypothetical situation envisaged here the expansion of check money by the central bank would have taken the place of the expansion of the credit of commercial banks reflecting the creation of check deposits which has been observed in the actual development of the American economy.

The question then comes down to whether the assets likely to have been acquired by the central bank in issuing check money would have differed sufficiently from those actually acquired by commercial banks

[4] *Theorie der Wirtschaftlichen Entwicklung* (1912), translated as the *Theory of Economic Development* (1934).

to retard economic growth substantially. The answer depends on the assumption made about the methods of operation of the central bank. If it had limited itself to international assets and to Treasury securities the growth-reducing influence of its operation which took the place of those of commercial banks probably would have been substantial. If, on the other hand, the central bank had acquired short- and long-term obligations of business enterprises as part cover for its currency and check money issues, as is entirely compatible with the essence of the counterfactual hypothesis, the retarding effect might have been very small. One important difference between the two regimes, however, would have remained: In the absence of the numerous individual commercial banks, mostly of local character, that have constituted the American banking system, concentration of the creation of money in the hands of one central bank would have provided the possibility of a much more conscious allocation of expansionary credit among industries, regions, borrowers of different size, businesses of different degree of risk, and other characteristics. This allocation might well have differed considerably from that which actually took place in a system combining competition and oligopoly and essentially guided by considerations of risk and profitability. Thus, a considerable difference in the allocation of expansionary bank credit between the two regimes is a possibility, but is not a necessity, particularly if the operations of the central bank had been decentralized to regional and possibly local levels.

We may conclude from this imaginary picture of a mid-20th century America without financial institutions and without marketable corporate stock (and hence without a stock market) that the rate of household and total national saving and investment would have been somewhat lower, the rate of growth of output somewhat smaller, and the stock of reproducible tangible assets somewhat smaller than they actually turned out to be. Whether the difference would have been large enough substantially to affect the standard of living of the American people is uncertain. However, it would have considerably affected the distribution of wealth—though not necessarily the distribution of earned income—by sharply reducing realized and unrealized capital gains on corporate stocks which are the main source of modern large fortunes. This might have had great influence on the social structure of the United States in the direction of lessening inequality. Thus the absence of marketable corporate stock probably would have been more important in making the economy different from what it now is than the absence of nonmonetary financial institutions.

These speculations at the same time indicate the effect of the introduction and spread of a market in corporate stock and of nonmonetary financial institutions on the country's economic growth. In brief these two developments are likely to have slightly increased the volume of national saving and investment and hence the rate of growth of the economy and its stock of tangible assets; to have reduced the level, variability, and regional differences of interest rates; to have retarded the trend towards concentration among business enterprises but to have accelerated the accumulation of large fortunes. Among the main nonfinancial sectors of the economy the operation of nonmonetary financial institutions has probably been most helpful to the market for

home and farm mortgages and thus to the spread of home ownership in the face of rapid urbanization of the country and to the maintenance of the family farm system and even more the concentration of farm operations in a declining number of family farms.

We may now turn to a much weaker counterfactual hypothesis, but one that may be more directly relevant to this study. This is the assumption that in the face of the existence of nonmonetary financial institutions and of a stock market, financial institutions would have been prevented, by statute, tradition, or otherwise, from owning or administering corporate stock portfolios.

This assumption is counterfactual essentially only for the period since World War I, and in a significant sense only for the last two decades. For the half-century before World War I, the actual situation was so close to this weaker counterfactual hypothesis that its investigation is without much interest. The main exception to the hypothesis—the administration of substantial blocks of stock by personal trust departments of banks and trust companies—certainly is not a sufficient basis for a claim that anything of importance in the American economy would have been different if these blocks had been administered directly by the beneficiaries or by nonfinancial trustees.

For the period since World War I, or at least for the last twenty years, however, the absence of financial institutions as buyers of corporate stock might have had substantial influence on the character of the market for corporate stock, for stock prices, for individual portfolios, and possibly even for some more basic factors like the levels of interest rates, saving, and investment. Until well into the 1950's, actual purchases of corporate stock by financial institutions were so small that the effects could only have been minor. It is only during the last dozen years, and particularly since 1965, that the absorption of corporate stock by financial institutions has been large enough for its absence to have possibly led to substantial differences in the market for corporate stock and with less likelihood in the basic economic situation of the country.

It is doubtful that the funds available to thrift and insurance organizations would have been smaller if they had not bought any corporate stock. The only difference would have been the acquisition of about $50 billion of government, corporate, or foreign bonds and of mortgages in lieu of an equal amount of corporate stock. Investment companies, of course, would have been of much smaller size if they had been limited to fixed interest bearing securities, reducing the demand for stock by less than $15 billion. This however would not have been a net reduction in the demand for stocks of all types, but only a substitution of the demand for stocks of industrial, etc., corporations for that of investment companies.

As we do not know enough about the nature of the stocks bought by financial institutions, it is difficult to say how the retention of these stocks in individual portfolios—not necessarily those owning them at the beginning of the period—would have affected any basic economic factor such as interest rates, saving, investment, and corporate financing. In view of the very low volume of net issues of corporate stock (discussed in Chapter 4) it is, however, unlikely that the absence of financial institutions as buyers would have made much difference

in the total volume of stock issued by nonfinancial corporations, except in the cases of a few corporations favored much more by financial institutions than by individual holders.

There are only two aspects of the market for corporate stock in which we may be certain that the absence of financial institutions as buyers would have had a substantial effect: the price of common stock and the volume of stock trading. It is very likely that the observed rise in stock prices would have been smaller, particularly during the 1960's, if financial institutions had not bid away fully $60 billion of stock, or something like one-eighth of their total portfolios, from their previous individual holders. It is even more certain that the volume of trading on exchanges and in the over-the-counter market would have been smaller since individual shareholders are unlikely to have indulged as much in in-and-out trading in the late 1960's as the adherents of the performance cult among financial institutions. Because of our limited information on the distribution of stock purchases by institutional investors among individual issues and groups of them it is again very difficult to say how their absence would have affected relative stock prices. Obviously, the relative prices of the favorites of financial institutions would have risen less in comparison to other stocks, but unless we know much more about the character of these favorites such a statement is not very meaningful. Since stock prices reached their peak near the end of 1968 and have been declining sharply in 1969 and the first half of 1970 it becomes even more doubtful what net effect, if any, the substitutions of about $60 billion of purchases of common stock by institutions (excluding their personal trust departments) has had in the long run on the level of stock prices in general and on relative stock prices, let alone on basic factors of the economy.

The tentative conclusion regarding the weaker counterfactual hypothesis thus is that it would not have made very much of a difference for the basic factors of the American economy—though it would have substantially affected employment and profits in the securities business—if financial institutions had been prevented from acquiring corporate stock.

3. The Determinants of the Share of Financial Institutions in Corporate Stock

a. The Factors Involved

An understanding of the level and the movements of the share of financial institutions in the total amount of corporate stock issued during a given period or outstanding at one point in time requires an analysis of the factors which determine the level and movements of the numerator and the denominator of the appropriate ratio, i.e., (a) the value of the net purchases and the holdings of corporate stock by financial institutions; and (b) the volume of total net issues and the market value of outstandings of corporate stock.

Beginning with the numerator of these ratios, net acquisition of corporate stock by financial institutions during a given period may be decomposed into two parts.

1. The increase or decrease in total assets of financial institutions during the period, excluding valuation changes which reflect changes

in the price of corporate stock and secondarily in the price of other assets. This increase or decrease in turn is dependent on several important economic factors which cannot be followed and explained here, such as the degree of monetization of the economy, the share of indirect saving (i.e., saving through financial institutions) in total saving, and the degree of layering among financial institutions (i.e., the extent to which some financial institutions hold claims against or shares of other financial institutions).

2. The proportion of the net acquisition of assets by financial institutions which are allocated to corporate stock; or the statistically more easily ascertainable proportion of the change in assets other than claims against other financial institutions, which takes the form of corporate stock.

The volume of net new issues of corporate stock, the denominator of the ratio, in turn depends on two factors:

3. The volume of stock issued by domestic corporations, which may be regarded as closely connected with the volume of capital expenditures which is financed externally, i.e., through borrowing or the issuance of equity securities.

4. The proportion of total net issues by corporations that takes the form of stock. This ratio is affected by numerous factors, such as differences among yield rates for debt and equity securities, the costs of issuing different types of securities, asset price changes, variability of issuer's income, the issuer's capital structure, tax considerations, and many other factors studied by the theory of finance.

Chart 1–1 illustrates schematically the relations between these four factors, indicates the ratios which link them, and shows a few important related relationships. According to the approach taken here the share of financial institutions in the issues of corporate stock (β)—the figure in which this report is primarily interested—is thus seen to be the result of seven ratios:

a. The new issue ratio of financial institutions, i.e., the ratio of total net new issues by financial institutions to gross national product (ϕ);

b. The layering ratio (λ), which measures the extent to which net issues by financial institutions consist of issues to other financial institutions and which in accounting terms can be defined as the ratio of the combined to the consolidated issues of all financial institutions;

c. The share of corporate stock in total net acquisition of assets by financial institutions other than claims against (and stock of) other financial institutions (α);

d. The national capital formation ratio, i.e., the ratio of total gross capital expenditures to gross national product (κ);

e. The share of nonfinancial corporations in total gross capital expenditures (γ);

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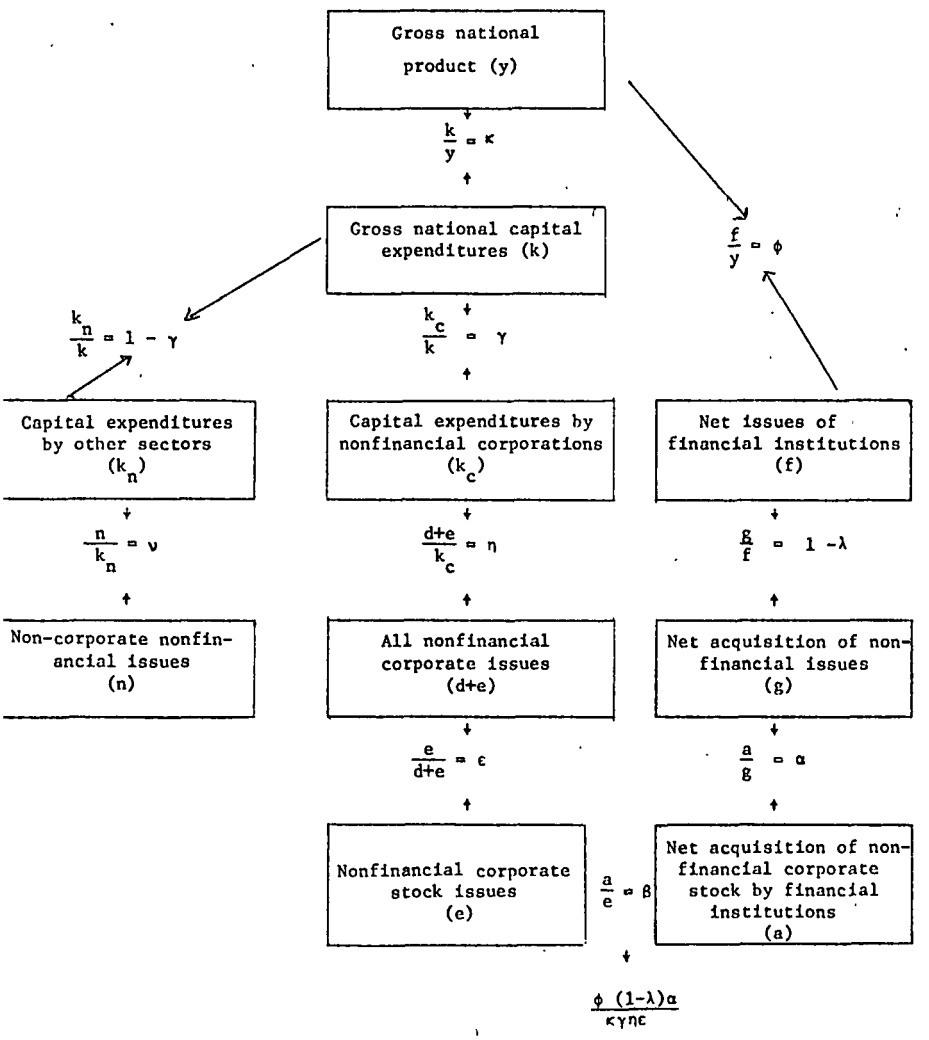
Chart 1-1

The Derivation of the Ratio of Net Purchases of the Stock of Nonfinancial Corporations by Financial Institutions



f. The external financing ratio of nonfinancial corporations (η), i.e., the ratio of total capital expenditures of nonfinancial corporations to the net issuance of debt and equity securities by them; and

g. The share of stock in total net new issues by nonfinancial corporations (ϵ).

The seven ratios then combine in the expression,

$$\beta=\frac{\phi(1-\lambda)\alpha}{\kappa\gamma\eta\epsilon}$$

the three ratios of the numerator referring to financial institutions, the four ratios of the denominator to nonfinancial corporations.[5] The absolute value of gross national product, of course, does not influence the value of this ratio, a desirable feature since it makes the ratios for different periods of time or for different countries directly comparable.

These relations may be illustrated by an example which is not too different from the figures observed for the United States during the postwar period. With a net new issue ratio of financial institutions of $\phi=0.10$; a layering raito λ of 0.10, so that $1-\lambda=0.90$; a share of corporate stock in total net acquisition of assets by financial institutions of $\alpha=0.05$; a national capital formation ratio (including consumer and government durables) of $\kappa=0.25$; a share of corporations in total national capital expenditures of $\gamma=0.30$; an external financing ratio of nonfinancial corporations of $\eta=0.35$; and a proportion of stock in external financing of $\epsilon=0.05$, the value of the ratio of financial institutions to total net new issues of stocks by nonfinancial corporations emerges as equal to about 3½.[6] Thus the net acquisition of stock of

[5] It will be seen that the expression's numerator

$$\phi(1-\lambda)\alpha=\frac{\text{increase in combined assets of financial institutions}}{\text{gross national product}}$$

$$\times\frac{\text{increase in consolidated assets of financial institutions}}{\text{increase in combined assets}}$$

$$\times\frac{\text{institutional net purchases of corporate stock}}{\text{total uses of funds of financial institutions}}$$

simplifies (approximately) to express net institutional acquisitions of stock in nonfinancial corporations as a fraction of gross national product, and that its denominator

$$\kappa\gamma\eta\epsilon=\frac{\text{total gross capital expenditures}}{\text{gross national product}}$$

$$\times\frac{\text{capital expenditures by nonfinancial corporations}}{\text{total gross capital expenditures}}$$

$$\times\frac{\text{external financing by nonfinancial corporations}}{\text{capital expenditures by nonfinancial corporations}}$$

$$\times\frac{\text{net new issues of corporate stock by nonfinancial corporations}}{\text{external financing by nonfinancial corporations}}$$

simplifies (exactly) to express total net new issues of stock by nonfinancial corporations as a fraction of gross national product. The quotient, of course, provides the desired fraction of nonfinancial corporate stock acquired during a particular period of time by all financial institutions together.

[6] In figures $\frac{(.10)(.90)(.05)}{(.25)(.30)(.35)(.05)}=3.43$

nonfinancial corporations by financial institutions would on these assumptions be about three and one-half times as large as the total issuance of such stock (the excess, of course, being offset by net sales by nonfinancial sectors), a figure which is corroborated by flow-of-funds statistics.

Relationships equivalent to these flow magnitudes and ratios, of course, exist between the values of the holdings of corporate stock by financial institutions and the value of corporate stock outstanding at a given point of time since these magnitudes may be regarded as the result of (1) the accumulation of net issues of corporate stock and of net asset acquisitions by financial institutions in the past, and (2) realized and unrealized valuation changes on corporate stock and other price-sensitive assets since the time of issuance or acquisition by financial institutions. As these relationships are more complex algebrically than those existing among the flows illustrated in Chart 1–1, which disregard valuation changes during the relatively short periods to which they refer, their derivation is not given here.[7]

b. Total Resources of Financial Institutions

Before assessing the share of corporate stockholdings in the assets of financial institutions, it is necessary to identify the determinants of the growth of total assets of these institutions. From the economic point of view the resources of financial institutions—in accounting, equal to sources of funds, i.e., liabilities and net worth—may be regarded as representing essentially five components, each of which has its own determinants and often follows its own path.

The first component is money in the form of (a) bank notes, issued in the United States primarily by commercial banks (state banks before 1864, national banks from 1864 to 1935) and by the Federal Reserve Banks (since 1914); and (b) demand deposits with commercial banks.[8]

The common feature of the second component, which consists of (a) thrift deposits of households with commercial and savings banks, saving and loan associations, and credit unions and (b) household claims against insurance organizations, including life insurance companies and private government pension funds, is that they constitute an important part of an individual's financial and total saving. For this reason this component also includes, where statistically feasible, individual holdings of investment company shares.

The third component is of a mixed nature, comprising time and savings deposits and insurance claims of nonfinancial sectors other than households, i.e., mainly those of business, government, nonprofit institutions, and foreigners.

The fourth component consists of the equity of financial institutions in corporate form. The equity in mutual financial institutions such as most life insurance companies and saving and loan associations and mutual savings banks may be regarded as a form of claim of the

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[7] For such a derivation, see R. W. Goldsmith, *Financial Structure and Development*, New Haven, Yale University Press, (1969), pp. 80 ff.

[8] As is well known, some economists prefer a broader definition of money which includes the time and savings deposits with commercial banks and sometimes even deposits with a few other financial institutions. If such a definition is accepted the second and third components are reduced correspondingly.

depositors or policyholders which is held predominantly by households.

The fifth and last component is made up of claims and debts among financial institutions and of equity securities of one financial institution held by another, and thus constitutes a duplication in a consolidated balance sheet of the financial sector.

The changes in these items are, of course, matched by equivalent changes in assets on the other side of the balance sheet if capital gains and other valuation changes are excluded on both sides.

Since economic interest is not primarily directed to the absolute dollar values involved but to their relation to economic magnitudes characteristic of the size of an economy, it is preferable to express the figures as percentages of gross national product in the case of issues of financial instruments and of national wealth in the case of financial assets and liabilities. We may then express the net issues by financial institutions in a simple equation. On the left-hand side of this equation we find the magnitude we want to explain, namely, the ratio of all issues [9] of financial institutions to gross national product, a ratio which has been designated by ϕ. On the right side we encounter five components of ϕ, four of which are expressed as ratios to national product. The first is the ratio of net issues of money (m), i.e., the net change in the money stock, to gross national product. This ratio depends on numerous factors which have been analyzed for decades by monetary theory. Among them are the factors which determine the income and transactions velocity of money, such as the degree of division of labor in the economy; payment habits, particularly the extent to which payments are synchronized; and the propensity to use money for purposes other than as the medium of exchange, e.g., the propensity to hoard it or to hold it as a temporary investment.

The second component depends on total personal saving and on the share of claims against thrift institutions and insurance organizations (and possibly of purchases of stock of open-end investment companies) in total personal saving. Total personal saving again may be regarded as the product of, first, the personal saving ratio (s), i.e., the ratio of total saving to personal disposable income; and, second, the share of personal disposable income in GNP (p). The definition and the determinants of total personal saving have been subject to long debates among economists and statisticians, debates which are far from being settled. In the United States the personal saving ratio, if defined to include saving through consumer durables, as well as the ratio of personal disposable income to gross national product, have shown substantial cyclical variations and have suffered a few marked disturbances over short periods, for instance during the two World Wars and during the Great Depression. During this century and probably even since the middle of the 19th century, however, the ratios do not seem to have shown a continuous pronounced trend. For this investigation the personal saving ratio is defined as the share of personal saving that is in the form of household claims against thrift institutions and insurance organizations (a ratio which must be

[9] The term "issues" it may be recalled, refers not only to stocks and bonds, but also to the net increase in all other forms of short- and long-term liabilities and equity (such as increases in earned net worth). ("Issues" may, of course, be negative.)

compared with its competitors for individuals' saving such as the purchases of government and corporate securities and of mortgages and saving through tangible assets, primarily homes and consumer durables, as is done in Chapter 5, and may be treated as exogenous). The latter ratio may in turn be regarded as the product of two other relations: the share of gross financial saving (i.e., the accumulation of financial assets excluding valuation changes) in total personal saving (c), and the share of household claims against thrift institutions and insurance organizations in total financial saving (t).

The third component (x) is a residual. Time and saving deposits of nonfinancial sectors other than households and business claims against property insurance companies are its largest single elements. It may be regarded here as exogenous.

While a small part of the equity of financial institutions in corporate form is held by nonfinancial business and by government it may be justified to make the simplifying assumption that all equity securities of financial corporations are held by households except those in the hands of other financial institutions. Hence we may use the share of equity (net issues of corporate stock plus retained earnings) in total issues of financial institutions as the determining factor and may designate it by e.

Claims and holdings of equity securities among financial institutions are best measured by the layering ratio (λ), i.e., the share of the issues of financial institutions absorbed by other financial institutions.

We then have

$$\phi=[m+(s\cdot p\cdot c\cdot t)+x+(e\phi)](1-\lambda)$$

$$=\frac{[m+(s\cdot p\cdot c\cdot t)+x](1-\lambda)}{1-e(1-\lambda)}$$

For purposes of illustration we may assume the following period averages for the components of ϕ:

$m=2$ per cent of GNP;
$s=10$ per cent of personal disposable income;
$p=80$ per cent of GNP;
$c=75$ per cent of total personal saving;
$t=60$ per cent of total personal financial saving;
$x=1$ per cent of GNP;
$e=5$ per cent of total issues by financial institutions;
$\lambda=10$ per cent.

This yield, if ϕ is expressed in percent of gross national product,

$$\phi=\frac{[2+(10\times.80\times.75\times.60)+1](1.00-.10)}{1.00-.05(1.00-.10)}=6.20$$

On these assumptions, therefore, the issues of financial institutions—and hence, in the absence of valuation changes, the change in the assets of financial institutions—equal 6.2 per cent of GNP.

If this ratio had, on the average, prevailed over a very long period and if GNP had increased, again on the average for the same long period, by g per cent a year then the ratio of the assets of financial institutions to national product (F), which in the absence of valuation

changes is equal to their cumulated past net issues to the final period's gross national product (y), would be approximately $\frac{F}{y}=\frac{\phi}{g}$. If, for instance, gross national product had been increasing at an average of five per cent per year and if ϕ had had the value of 6.2 per cent assumed in the illustration above, then F would be equal to $\frac{6.20}{.05}=124$ per cent of current gross national product. Further assuming a ratio between net national wealth and gross national product (sometimes called the capital-output ratio) of 4, F would be equal to $\frac{124}{4}=31$ per cent of national wealth.[10]

The formula thus shows how the components distinguished here influence the relative size of financial institutions in an economy's capital flows and wealth holdings. It shows, for instance, that (in the absence of valuation changes) the assets of financial institutions (F) are positively related to m, s, p, c, t, x, and e, but negatively related to g and k. A discussion of the factors which in turn affect the level and movements of these components is beyond the scope of this report, though an idea will be given, as far as the data are available, of how the observed values of each have moved over the last century in the United States.

c. The Share of Corporate Stock in the Assets of Financial Institutions

There are at least half a dozen factors that must be considered in looking behind the share of corporate stock in the assets of financial institutions and the makeup of their stock portfolios. One of these, of course, is the set of the regulations, by statute or less formal means, which limit or even prohibit the holding of stock for most types of financial institutions, and which in addition make provisions regarding the character of the stocks that may be held, thus affecting the size and composition of the institutions' portfolios. Such regulations are most rigid for banks, but they also are fairly strict for life insurance companies and public pension funds. They are more lenient, i.e., allowing a larger proportion of stocks to be held and imposing fewer conditions on the types of stock held, in the case of property insurance companies. They are almost absent for investment companies, private pension funds, common trust funds and, apart from the provisions in individual trust instruments, for personal trust funds. On the other hand, the holding of certain stocks is required for a few types of financial institutions, such as the holdings of stock in the Federal Reserve Banks by member commercial banks and the holdings of stock in the Federal Home Loan Banks by member saving and loan associations.

Traditions, partly stemming from possible adverse publicity, are an additional factor that often have kept actual stock holdings below legally permitted levels. The effect of such traditions has been particularly evident in the case of state and local pension funds and in the

[10] The derivation of these relations is somewhat more difficult if the period for which data are available is shorter, if the component ratios have during parts of the period deviated considerably from their average for the entire period, and if part of the assets of financial institutions (primarily their holdings of corporate stock) have undergone valuation changes. (See R. W. Goldsmith, *Financial Structure and Development*, Chapter 2). The essential relationships are, however, not affected by such complications.

case of life insurance companies from the time of the Armstrong-Hughes investigation early in this century [11] to fairly recent years.

Given regulations and traditions, relative yields, taking account not only of stipulated or expected regular income but also of the chance of capital losses or gains and of the extent of price fluctuations, probably have been a determining factor in deciding on the total size of an institution's stock portfolio and even more on determining its makeup. Until World War I, and probably even until World War II, expected current yields were probably the most important single factor. In the postwar period, however, chances of capital gains (and risk of capital loss) have come to play a more important role, together with tax considerations and protection against inflation, in determining the size and the structure of institutional stock portfolios.

Liquidity, i.e., the chance of being able to sell blocks of stock rapidly and without substantially influencing their price, has been an important factor for those types of financial institutions that keep a substantial part of their total assets in corporate stock, particularly in common stock, and may have to face substantial withdrawals or other needs for funds. Thus, liquidity is likely to have played the relatively greatest role in determining the size and makeup of the stock portfolio in the case of investment companies and of non-life insurance companies.

A minor factor accounting for a small proportion of total stock held by financial institutions is convenience. This is responsible for the relatively moderate holdings of stocks in real estate corporations that own the building in which the institution conducts its business and of service corporations like safe-deposit corporations owned by commercial banks.

Another minor factor is the involuntary acquisition of stock, particularly the exchange of stock for bonds or loans issued by debtors forced to reorganize their capital structure.

A final factor which at times has been of importance is control of either financial institutions of the same type as the holder or of other financial or nonfinancial corporations. Because such holdings usually have been prohibited by regulations, particularly during the last half century, they have constituted only a relatively small proportion of the total stock holdings of financial institutions. There are two exceptions, however, the holdings of stocks of operating non-life insurance companies by other companies of this type, and the holdings of commercial bank stocks by life insurance companies in the two decades or so before the Armstrong-Hughes investigation.

These different types of stockholdings are rarely, if ever, specifically distinguished in the balance sheets or other accounting records of financial institutions. The character of a specific stockholding generally can only be inferred from the nature of the holding itself.

In view of the multiplicity, variety, and, in some cases, nonquantitative nature of the factors apparently influencing the share of corporate stock in the asset holdings and acquisitions of financial institutions it is not surprising that efforts at an econometric determination of the shares has so far been unsuccessful.[12]

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[11] *Report of the Joint Committee of the Senate and Assembly of the State of New York Appointed to Investigate the Affairs of Life Insurance Companies*, 1906.

[12] See Chapter 5, Section 2.

d. The Supply of Corporate Stock

The supply of corporate stock from which the holdings of financial institutions are drawn may be divided into three categories whose levels and movements often differ considerably.

The first, and in practice by far the most important, component consists of the stock of domestic nonfinancial corporations. Issues of such stock (net of retirements) during any given period (e_c) may be regarded as the product of (1) total issues of securities by domestic nonfinancial corporations including all forms of debt (i_c) and (2) the share of stocks in total issues (a_c). The first component, in turn, can be resolved into total gross capital expenditures by nonfinancial corporations (k_c) and their external financing ratio ($g_c=i_c/k_c$), a formulation based on the assumption that a substantial part of the stock issues of nonfinancial corporations are connected with their capital expenditures, defined more or less broadly. Total capital expenditures of nonfinancial corporations finally may be expressed as the product of total national capital formation (k) and the share of nonfinancial corporations in national capital formation ($b_c=k_c/k$). Again expressing the supply of corporate stock in terms of gross national product rather than as an absolute figure, we obtain the following expression for the supply of stock by nonfinancial domestic corporations:

$$\frac{e_c}{y}=\frac{k}{y}\times b_c\times g_c\times a_c,$$

where k/y is the national capital formation ratio. The left-hand ratio e_c/y may be regarded and interpreted as a weighted average of corresponding ratios for the main groups of nonfinancial corporations which differ considerably in the relevant values of b, g, and a.

To illustrate, using values not too far from those observed in the United States during the postwar period (and including consumer and government durables in capital formation), we obtain

$$\frac{e_c}{y}=0.25\times 0.50\times 0.30\times 0.10=0.00375.$$

Thus, the indicated volume of net new issues of stock by domestic nonfinancial corporations is slightly less than 0.4 percent of gross national product.

The value of an expression of this type, which must be regarded as reflecting definitional and functional interrelationships rather than one-directional causal connections, is that it shows the relative contribution of four relevant economic magnitudes (the national capital formation ratio, the share of nonfinancial corporations in national capital formation, the share of external in total financing of nonfinancial corporations and the share of stock in these corporations' external financing) to the stock issue ratio of nonfinancial corporations, and that it permits us to see whether and how the ratio and its components have changed over time. This is not the place to attempt an explanation of the factors which are responsible for the level and movements of these four magnitudes.

The value of the stock of nonfinancial corporations outstanding at any one date (E_c) is, of course, equal to (1) the sum of past issues of such stock (Σe_c) and (2) the differences between the original issue

price and the market price at balance sheet data of all previously issued stock ($E_c - \Sigma e_c$), a figure which, of course, depends on the movements of stock prices, so that $E_c = \Sigma e_c + (E_c - \Sigma e_c)$. In practice it is usually possible to estimate E_c and Σe_c directly with a fair degree of accuracy. Aggregate capital gains ($E_c + \Sigma e_c$) must be obtained as their difference rather than directly as $\Sigma(E_c - e_c)$.

The second and third components of the holdings of corporate stock that are relevant for financial institutions—the stock of domestic financial corporations and the stock of foreign corporations—are of sufficiently small importance for this study to be regarded as exogenous.

However, domestic financial stock issues could be explained by linking them to the total issues of financial institutions or, more appropriately, to the ratio of total issues to gross national product (ϕ). Designating the share of the issues of those financial institutions that operate in corporate (rather than mutual) form by h and the proportion of stock in total issues of corporate financial institutions by a_f we obtain the following expression for the ratio of net new issues of stock by financial institutions to gross national product,

$$\frac{e_f}{y} = \phi h a_f$$

an expression in which a_f may be regarded as the weighted average of the a ratio for the various groups of financial institutions that issue stock, i.e., primarily commercial banks, property insurance companies, finance companies, and investment companies.

4. The Use of National Balance Sheets and Flow-of-Funds Accounts in the Analysis of Institutional Stockholdings

It would be possible to analyze the level and movements of corporate stockholdings by financial institutions on a piecemeal basis using only such statistics as happen to be at hand and as are needed in the calculation of the two crucial ratios of the holdings of corporate stock to total assets of the different types of financial institutions and of the stockholdings by financial institutions to the total amount of stock of different types outstanding. To do so, while considerably reducing the volume of data needed, however, would not permit us to show the interrelationships between the holdings of stock and of other uses and sources of funds for the different types of financial institutions; between stock held by financial institutions and those held by other sectors; and between the issuance of stock and other sources and uses of funds of corporations. In other words, such a limited scope of investigation would not provide sufficient material for a satisfactory analysis of the demand for the supply of corporate stock by important sectors of the economy.

Since the Securities and Exchange Commission felt that it needed a comprehensive and consistent picture of stocks and flows of corporate shares within the American economy for the postwar period for its detailed study of financial institutions and the stock market in recent years, use was made of an organized body of statistical data for that period developed as a part of a comprehensive system of national accounts. This material is known as the Flow-of-Funds System al-

though it actually has a broader scope including integrated information on both stocks of assets and liabilities in existence at a point of time (balance sheet dates) and on flows during a period between balance sheet dates (the flow-of-funds in a narrow sense).

The system of national accounts includes balance sheets and flow-of-funds statements for as many separate sectors of the economy as are important for the analysis and as can be derived on the basis of the statistical material in existence. Such a system automatically not only provides the two desired sets of ratios of stock holdings to total assets of financial institutions and of such holdings to total stock outstanding, but also permits for each sector (1) an analysis of the structure of assets held and hence of portfolio policies, and (2) of methods of financing and thus of the role of corporate stock as a source of funds. It also makes it possible—provided some additional statistical material is available—to set up a stock and a flow matrix for corporate stock showing, respectively, interrelations between issuing and holding sectors of corporate stock at a given point of time, or the purchases and sales of stock among sectors during a period of time.

As a starting point in building up sectoral balance sheets and flow-of-funds accounts for the period 1952–68 on which the investigation centered, there were available the flow-of-funds accounts of the Federal Reserve Board limited to financial assets and liabilities,[13] and complete annual sectoral balance sheets for the years 1952–58 in *Studies in the National Balance Sheet of the United States.*[14]

In view of the considerable amount of basic statistical data that have become available during the 1960's it became necessary to recalculate the estimates of stocks and flow of tangible assets for the entire period 1952–68 with only limited recourse to the earlier estimates for the first few years of the period. While the Federal Reserve Board estimates of stocks and flows of financial assets could be accepted with only minor changes, it was found essential for the present study to supplement these figures in several directions, mainly by breaking down the household sector into about half a dozen subsectors, the separate estimation of the assets and transactions of personal trust departments of commercial banks and their transfer to the financial institution sector, and by including several minor types of financial institutions. The statistical problems arising in these estimates are described in Appendices III to VI and are briefly summarized in the following section.

5. Statistical Problems

Information on the sources of data and the methods of estimation of the stock and flow data used in the study are provided in Appendix I. At this point it will suffice to discuss three statistical problems of general importance: first, the grouping of the more than 70 million economic units now operating in the United States (households, business enterprises, and governments) into sectors for which separate balance sheets and sources and uses of funds statements are constructed; second, the classification of the very large number of types of assets and

[13] The results obtained are published in *Flow of Funds Accounts 1945–1968*, May 1970. The study, however, used somewhat more detailed and occasionally revised worksheets.

[14] R. W. Goldsmith, R. E. Lipsey, and M. Mendelson, New York, National Bureau of Economic Research, 1963.

liabilities into a few reasonable, homogeneous categories; and third, the methods used in valuing assets, liabilities, and equity in balance sheets and in deriving estimates of fund flows from balance sheet data.

a. Sectorization

Sectorization should theoretically be guided by the principle that the units included in a sector are as homogeneous as possible in their economic behavior, in the case of this study in their portfolio and stock trading policies. Actual sectoring is a compromise between this principle and available statistical data, particularly because of the need to adapt to the existing flow-of-funds statistics and national balance sheet estimates.

For purposes of this study the essential separation is between financial institutions and nonfinancial sectors. Financial institutions have been defined as organizations that keep most of their assets in the form of claims against or equity securities of numerous issuers which they do not control through stock ownership and obtain most of their funds from the public rather than from a very narrow group of stockholders or creditors. The grouping of the many organizations meeting this definition follows the traditional pattern, the only one for which extensive statistics are available.[15] The sectoral balance sheets and flow-of-funds statements for the period 1952–68 thus distinguish the following groups of domestic financial institutions:

1. Federal Reserve Banks
2. Commercial banks
3. Mutual savings banks
4. Savings and loan associations
5. Credit unions
6. Federal lending agencies
7. Mortgage companies
8. Finance companies
9. Life insurance companies
10. Fraternal insurance organizations
11. Non-life insurance companies
12. Private (noninsured) pension funds
13. State and local pension funds
14. Open-end investment companies
15. Closed-end investment companies
16. Personal trust departments of commercial banks
17. Common trust funds of commercial banks
18. Security brokers and dealers.

For the period before 1952 a few of the smaller groups are omitted because of lack of data. Some other groups (e.g., 6 and 12–15 and 17) enter the statistics only when they become of substantial size, usually in the 1920's or 1930's.

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[15] As in practically all such classifications not every unit belonging to each of the groups defined as financial institutions completely meets the tests laid down above. Thus, captive finance companies may receive all their funds from their parent as undoubtedly do some units in some of the other groups. On the other hand, Federal pension funds, as well as the social security system, do not have a diversified portfolio of securities but are limited to obligations of the U.S. Treasury. In such borderline cases the inclusion in or exclusion from the group of financial institutions is to some extent arbitrary. In most such cases the breakdown of a group of institutions into those which belong to the class of financial institutions under strict interpretation of the definition and those that do not is not feasible statistically.

Among the nonfinancial sectors three do not present substantial conceptual or statistical difficulties: nonfinancial corporation, state and local government, and the rest of the world. All three sectors constitute reasonably well defined groups for which comprehensive statistics are available—for nonfinancial corporations from the Internal Revenue Service, for state and local government from the Bureau of the Census, and for the rest of the world from balance of payments statistics—although not in as much detail as would be desirable for the present study.

In the case of nonfinancial corporations a problem arises from the absence of subsectoring in previous estimates of national balance sheets in flow-of-funds statistics, notwithstanding very considerable differences in the economic character and in the financial behavior of such subgroups. An attempt was therefore made to break down the total figures for nonfinancial corporations into four subsectors, (manufacturing and mining; transportation; communication; and the necessarily heterogeneous remainder), but the difficulties encountered in this attempt were such that no usable estimates could be produced within the confines of this study.

The state and local government sector excludes pension funds of state and local government employees which are treated as one subgroup of financial institutions. The general funds of state and local governments, however, remain in the sector. So do the relatively small public utility and similar business-type activities of state and local governments.

The estimates for the Federal Government sector do not include either government lending agencies (the most important of which are in the field of housing, farm credit, and foreign trade), which are regarded as a subgroup (6) of the financial institutions sector. On the other hand, the funds accumulated for federal employees' pension funds as well as for the social security system, which could well be regarded as another subgroup, has in accordance with past practice been left in the basic tables in the Federal Government sector. Occasionally, however, it is indicated how a shift of these organizations to the financial institutions sector would affect the figures.

It has been common practice, due to statistical necessity to obtain most estimates for the "household" sector as a residual, i.e., by subtracting from the national total aggregate, figures for all other domestic sectors and for the rest of the world. As a result, the so-called "household" sector has included (besides statistical errors inherent in this procedure), in addition to "households" properly speaking and unattached individuals, nonprofit institutions and the assets owned by households but administered by trustees, mostly financial organizations. This sector, therefore, has lacked homogeneity, particularly from the point of view of the management of its financial assets.

In this study two steps have been taken to make the household sector data more homogeneous, particularly for financial analysis. Unfortunately both steps, although important, cannot in the present state of the statistical material go as far as could be desired.

The first step is the separation of funds held by the personal trust department of commercial banks, which have been made an independent subsector (16) of the financial institutions sector. Logically

trust funds administered by nonbank trustees as well as funds effectively administered, although not legally held under trustee arrangements, by investment advisers should be treated similarly. This is not yet possible. For investment advisers, however, at least the present order of magnitude of the funds managed is known.

A second step is the separation of foundations and private educational institutions, the two largest components of nonprofit institutions from the point of view of their financial assets. It also has been possible to estimate the financial assets of labor unions (see Appendix IV), but they have not been eliminated from the "household" sector because of their moderate size and unavailability of sufficient asset breakdown for part of the period. It has not been feasible to treat other nonprofit institutions, particularly churches and hospitals, in the same way, but the fragmentary currently available information indicates that their financial assets, and particularly their stockholdings, are relatively small compared to those of foundations and private educational institutions.

The household sector so purified still is of a quite heterogeneous character. An attempt has been made therefore to allocate the estimated total of financial assets of the sector among half a dozen subsectors of households having different amounts of total wealth. These estimates are necessarily of a very rough character and could be made only for a few recent years. Their derivation and limitations are described in Appendix V.

b. Classification of Assets and Liabilities

Given the very large number of types of tangible assets and of financial instruments and the often vague distinction among them, an integrated system of sectoral balance sheets and flow-of-funds statements requires a standardized classification of assets and liabilities into a manageable number of reasonably homogeneous types, a classification that can be implemented for all sectors that are distinguished. Such a system obviously cannot provide for separate presentation of all types of assets or of all types of liabilities that may be important for one or for a few sectors or subsectors. It must be limited to those types that are significant for most sectors; that differ substantially in their economic character; and that can be estimated without an excessive margin of error.

The standard classification adopted for this study, set forth in Table 1–1, is like most such classifications a result of compromise. It provides a minimum of seven types of tangible assets and five types of financial instruments (money, short-term claims, long-term claims, corporate shares, and equity in unincorporated business enterprises) while net worth is obtained as the difference between total assets and total liabilities.[16] However, the classification also permits a finer breakdown of financial instruments—the three-digit categories in Table 1–1 and the more detailed four-digit categories which may be added—for sectors where the data are available and where these classifications are sufficiently important in the sectors' portfolio structure. Actually it has been possible to implement the three-digit classification for most financial subsectors and for some nonfinancial sectors.

[16] Details about the definition of these categories and their statistical implementation will be found in Appendix I.

Table 1-1

Stock and Flow Categories

100 Tangible assets
- 110 Land[a]
- 120 Reproducible tang. assets
  - 121 Residential structures
  - 122 Nonres. structures
  - 123 Producer dur. equipt.
  - 124 Consumer durables
  - 125 Inventories
  - 126 Monetary metals

200 Financial assets
- 210 Domestic money[b]
- 220 Other short-term claims
  - 221 Against fin. insts.[c]
  - 222 Treasury securities
  - 223 Other
- 230 Long-term claims[d]
  - 231 Bonds
  - 232 Mortgages
  - 233 Other
- 240 Corporate shares
- 250 Equity in unincorp. bus.

300 Total assets

400 Liabilities
- 410 Domestic money[b]
- 420 Other short term liabilities
  - 421 Bank debt
  - 422 Trade debt
  - 423 Other
- 430 Long-term liabilities
  - 431 Bonds
  - 432 Mortgages
  - 433 Other

500 Net worth (300 - 400)

600 Total Liabilities and net worth

[a] Does not include subsoil assets

[b] Currency and check deposits

[c] Further breakdowns in statements of individual sectors and subsectors would be designated as 2211 etc. Categories 221-223, 231-233, 421-423, and 431-433 may have to be omitted in some sectors.

[d] Does not include claims against financial institutions; intermediate-term claims included where possible.

Because of the limitation of the basic statistical data the separation of long-term and short-term claims (categories 220 and 330, 420, and 430) requires for a few sectors rather rough methods of allocation. This is unlikely to introduce errors that are significant in the over-all picture. More serious is the fact that the content of long- and particularly of short-term claims is not identical in the documents on which estimates for individual sectors are based. This applies particularly to the treatment of accrued claims and liabilities and of reserves for losses. Such discrepancies are one of the reasons why the national total of claims and liabilities are not equal—differences in valuation of the same instrument by the holder and issuer and in timing of identical transactions in the accounts of the buyer and seller are others.

It should be noted that a few types of tangible assets (consumer's inventories of semidurable and perishable commodities; military equipment; subsoil assets; monuments; collectors' items) that are sometimes included in national wealth have been omitted, mainly because of the impossibility or extreme difficulty of obtaining estimates that are more than guesses or (in the case of military equipment and monuments) because of doubts about their economic significance.[17] Similarly some financial assets (such as goodwill and patents) are included only to the very incomplete and unsystematic extent to which they happen to appear in the balance sheets of nonfinancial corporations. In this case elimination of these items would be the conceptually indicated procedure.

c. Valuation

In principle all items in a balance sheet should be valued at the market price, or at the nearest approximation to it, in order to obtain figures comparable among sectors and among assets and liabilities, while all entries in flow-of-funds statements should be made at actual transactions values. Limitations in the basic statistical data, as well as some conceptual difficulties, do not permit a consistent application of these principles in actual statistical work to all sectors and to all types of assets and liabilities.

Among tangible assets no market values exist for most categories of nonresidential structures, such as large industrial installations and government structures, and for most types of producer equipment. Here estimated replacement cost, appropriately depreciated for the age of the structure or equipment, must be used as a substitute. Figures of this type can be obtained by applying to the estimated original cost price indexes that are not always adequate and that generally do not take into account quality improvement, particularly in the case of equipment, and hence probably overstate the increase in prices. These difficulties are discussed in Appendix I. Estimates of the value of land present some conceptual and statistical problems of their own that are described in Appendix II.

Among financial assets the most important deviation from the general principle of valuation at "market" is the valuation of long-term

[17] For estimates of subsoil assets, see R. W. Goldsmith in *Studies in Income and Wealth*, New York, NBER, 1951, pp. 48 f; and for those of military equipment in 1952–58, see R. W. Goldsmith, *The National Wealth of the United States in the Postwar Period*, Princeton, PUP for NBER, 1962, p. 118.

debt at face or book value both where the instruments are traded and where there is no actual market. This defect is not inherent in the method used in compiling sectorial balance sheets, but is due to the limitations of time and resources under which the study was conducted. In a period of generally rising interest rates such as 1952–68, particularly during the later part of the period, the use of book or face values instead of market overstates the actual or hypothetical market value of long-term debt. Insofar as the figures are intended to reflect the values that determine the behavior of holders and issuers, however, it is doubtful that an unequivocal application of market values, or their hypothetical equivalent, would be appropriate. Possibly some figures between face or book value and market value may be preferable, although actual calculation is hardly practicable.[18]

In the case of corporate stock a specific valuation is needed only for holders, and here market value, or a value which in the case of unlisted securities approximates it, is the indicated standard. While the margin of error in such an estimate is undoubtedly substantial for unlisted stocks, they fortunately constitute only a small portion of total outstanding corporate stock so that even a substantial error would not decisively affect estimates for all corporate stock outstanding. In the case of sectors issuing corporate stock, i.e., nonfinancial corporations and most of the subsectors of the finance sector, no use is made of the market value of the stock because net worth is estimated as the difference between the market value of total assets and the value (essentially the face value) of liabilities.

Difficulties in the case of the flow-of-funds statements arise from the fact that virtually all estimates for claims are derived as the first difference between the values of the stock of claims at the beginning and at the end of a period. Since these are essentially face or book values the difference between them includes realized capital gains and losses as well as other revaluations. To correct the first differences for these items detailed income statements are needed, but are not available for most of the nonfinancial sectors and for part of the subsectors of the financial sector. Even where some data of this type are available resources were lacking to carefully investigate the material and to blow up the fragmentary data to cover an entire sector or subsector. The only exceptions are realized capital gains and losses by commercial banks in their transactions in U. S. government securities, which already are allowed for in flow-of-funds figures published by the Federal Reserve Board. In the period covered by the study, which has been characterized by rising interest rates and falling bond prices, omission of this adjustment leads to an overstatement of net purchases, or an understatement of net sales of bonds by the trading sectors. It is unlikely, however, that the adjustment would be large enough to affect any of the major trends disclosed by the figures except for a few years, a few types of long-term claims, and a few subsectors of the finance sector.

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[18] Since there was no possibility to adjust the face or book value of long-term debt to market or equivalent values we did not have to face the difficult and disputed question whether the adjustment should be applied, if at all, only to holders' balance sheets while such debt should be carried in issuers' balance sheets at redemption value irrespective of its market value. The entries in the flow-of-funds statements are not affected by the adjustment since it reflects an unrealized capital gain or loss which, of course, is not taken into account in the flow-of-funds estimates.

CHAPTER 2

THE HISTORICAL BACKGROUND: FINANCIAL INSTITUTIONS AS INVESTORS IN CORPORATE STOCK BEFORE 1952

1. Sources and Limitations of Data

The statistical material for the analysis of the holdings of corporate stock by financial institutions before 1952 within a framework of national accounts is naturally much thinner and less reliable than that available for the postwar period on which the report concentrates and with which Chapter 3 to 5 deal. No flow-of-funds statements exist for the period before the mid–1930's, and for the first decade for which they are available they are not fully comparable to the present system. No national or sectoral balance sheets have been prepared for any date during the nineteenth century, and for the first half of the current century they are available only for a few benchmark years. Similarly the elements from which flow-of-funds statements and the financial part of the national and sectoral balance sheets are now built up—essentially the balance sheets of groups of financial and nonfinancial sectors published by or reported to government agencies—are less copious, less reliable, and less detailed as we go back in time, particularly to the period before World War I. The statistical evidence used in this chapter therefore is more piecemeal than that utilized for the postwar period. The main source, in addition, to the national balance sheets for the benchmark years 1900, 1912, 1922, 1929, 1939, and 1945,[1] are the balance sheets of the main groups of financial institutions.[2] Since no material of this type is available for some important groups for the period before 1900 it was necessary to develop estimates based on a small number of companies for property insurance companies and figures derived from reports of supervisory agencies in the most important states for mutual savings banks for 1870, 1880, and 1890. Even rougher estimates had to be used for some other figures needed for benchmark dates before 1900.

The nonstatistical historical statements made throughout this chapter are not specifically documented, as they are taken from standard sources and do not claim to represent the results of original research.

The arrangement of this chapter follows the approach outlined in Chapter 1 and uses magnitures and ratios explained and to some extent justified there.

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[1] R. W. Goldsmith, R. E. Lipsey, and M. Mendelson, *Studies in the National Balance Sheet of the United States,* Princeton University Press for National Bureau of Economic Research, 2 Vols., 1961.

[2] For figures back to 1900 see R.W. Goldsmith, *Financial Intermediaries in the American Economy since 1900,* Princeton for NBER, 1958.

2. The Supply of Corporate Stock, 1850–1952

a. The Growth of Nonfinancial Corporations

Until the railway age, i.e., the beginning of the second third of the nineteenth century, corporations played only a negligible role in the nonfinancial sectors of the American economy with the exception of canal transportation. In 1850 the share of nonfinancial corporations in national wealth, which is probably as good an indicator of their importance in the economy as can be obtained, is estimated to have been in the neighborhood of only about 7 percent (Table 2–1). Primarily as a result of the rapid expansion of the railroad system both the absolute value of tangible assets of nonfinancial corporations and their share in national wealth increased sharply. By 1880 nonfinancial corporations owned and operated slightly more than one-fourth of the total tangible assets in the United States. No definite trend can be detected in this ratio during the following eighty years. Thus, the tangible assets of nonfinancial corporations seem to have expanded at approximately the same pace as total national wealth from 1880 to the 1950's, disregarding relatively short and narrow fluctuations.

Table 2-1

Share of Nonfinancial Corporations
in National Wealth and Assets, 1850-1952

	National Assets			Tangible Assets			Financial Assets		
	Total	Nonfinancial Corporations	Share	Total	Nonfinancial Corporations	Share	Total	Nonfinancial Corporations	Share
	$ billion		P.c	$ billion		P.c	$ billion		P.c
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1850	9.8	(.7)	(7)	7.2	(.5)	(7)	2.6	(.2)	(8)
1880	66.3	.	.	40.0	(11.0)	(28)	26.3	.	.
1900	156.8	35.0	22	89.8	21.1	23	67.0	13.9	21
1912	306.2	66.4	22	167.2	41.0	25	139.0	25.3	18
1922	644.8	152.3	24	326.1	92.1	28	318.7	60.2	19
1929	973.4	228.1	23	427.1	121.4	28	546.3	106.7	20
1939	863.3	153.5	18	396.5	101.7	26	466.9	51.8	11
1945	1532.9	251.0	16	578.5	142.9	25	954.5	108.1	11
1952	2570.5	508.2	20	1199.3	338.4	28	1371.2	169.7	12

Sources: 1900-1952, R. W. Goldsmith, R. W. Lipsey and M. Mendelson, Studies in the National Balance Sheet of the U.S. Vol. II pp. 42 ff.

Col. 4. 1850,1880 R. W. Goldsmith in Income and Wealth, Series II, pp. 306, 310, 317.

Col. 7 1850,1880 E. S. Shaw and J. G. Gurley in Review of Economics and Statistics, 1957, p 256.

Figures in brackets are very rough estimates.

There occurred, of course, during this period, considerable shifts in the industrial distribution of capital expenditures and of tangible assets, but they were not of a nature to lead to substantial changes in the relation of external financing and of stock issues to capital formation for the corporate structure. During the second half of the nineteenth century the share of railroads and public utilities in total tangible assets of nonfinancial corporations apparently remained close to one-half, and the share declined but slowly, to about two-fifths between the 1920's and the late 1940's. Within the regulated industries the steam railroads' share, however, declined sharply, from about seven-eights in 1870, and a probably equally high percentage in the preceding twenty years—to about 70 percent at the turn of the century, and to not much over 50 percent in 1929 and 1945.[3] Most of the remaining tangible assets of nonfinancial corporations, i.e., from nearly one-half in the mid-nineteenth century to about three-fifths from the 1920's on, were in the hands of manufacturing and mining corporations.

The stability of the share of nonfinancial corporations in national wealth is the result of several offsetting tendencies. The increasing share of corporations in the total business sector tended to increase the proportion, but the expansion of the tangible assets of government and of consumer durables well in excess of the growth of total national wealth worked in the opposite direction.

The supply of corporate stock and the value of stock outstanding, however, are not dependent only on the growth of tangible assets (i.e., structures, equipment, inventories, and land) owned by nonfinancial corporations. At least three other factors influence the absolute volume of the supply of stock of nonfinancial corporations and its relation to aggregate magnitudes such as national wealth or national product:

i. The extent to which additions to the tangible assets of nonfinancial corporations excluding valuation changes, i.e., their capital expenditures, are financed by the issuance of corporate securities in the widest sense (stocks, bonds, mortgages, bank loans, trade credit, and other borrowings) rather than defrayed out of retained earnings, whether earned depreciation allowances or net corporate saving;

ii. The share of common and preferred stock in the total external financing of nonfinancial corporations;

iii. The discrepancies in the price movements of tangible assets held by nonfinancial corporations and of corporate stock, discrepancies which lead to changes in the ratio of the replacement value of tangible assets of nonfinancial corporations to the market value of their outstanding issues.

b. Total Issues of Nonfinancial Corporations

In the United States, as in all other countries that now possess a developed financial structure, the only important financial instruments in existence were, until well into the nineteenth century, money (in the form of coins and bank notes), short-term trade credit, long-term farm and urban mortgages, and government securities; the only important financial institutions were banks of issue and commercial

[3] M. J. Ulmer, *Capital in Transportation, Communications and Public Utilities: Its Formation and Financing*, Princeton for NBER, 1960. pp. 235 ff.

banks. A few other financial instruments and institutions existed, but they are of interest more as harbingers of things to come than because of their contemporary importance in the economic process.

By 1840, which may be regarded as close to the starting point of the modern financial development of the United States, all financial assets were equal to less than one-half of national wealth and to nearly one and one-half times GNP, while the share of financial institutions in total financial assets outstanding was in the neighborhood of one-fifth (Table 2–2). At that time nonfinancial corporate issues probably accounted for less than one-fifth of all financial instruments outstanding. These low ratios—low compared with similar measures for later dates—reflect the as yet predominant identity between savers and investors, particularly in the private sector of the economy; and the consequent relatively small importance of external financing outside of the governmental sphere. The low ratios for private external financing indicate the predominance of interfamily and neighborhood transactions over financing by institutions or through the open capital market.

Table 2-2

The Supply of Stock of Nonfinancial Corporations, 1840-1952

	Issues Outstanding[1]				Net Issues[2]				Issues Outstdg.		Net Issues	
	Total	Stocks	Bonds	Other Debt	Total	Stocks	Bonds	Other Debt	Total	Stocks	Total	Stocks
	Billions of Dollars								Percent of GNP			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1840	0.3	0.1	0.1	0.1					18	6		
1860	1.5	0.7	0.5	0.3	1.1	0.5	0.4	0.2	39	18	2.0	0.9
1880	9.0	4.0	3.0	2.0	7.2	3.0	2.5	1.8	86	38	5.0	2.0
1900	26.2	11.2	7.1	7.9	15.0	5.0	4.1	5.9	132	56	5.6	1.9
1912	65.2	32.0	18.1	15.1	23.0	4.8	11.0	7.2	182	89	7.0	1.5
1922	129.5	65.1	24.5	39.9	37.6	6.4	6.4	24.8	175	88	6.0	1.0
1929	261.0	164.7	36.3	60.0	42.5	10.6	11.8	20.1	253	160	6.4	1.6
1939	155.2	89.2	31.4	34.6	-26.4	3.8	-4.9	-25.4	171	100	-3.4	0.5
1945	218.4	130.2	23.6	64.6	19.6	1.8	-7.8	30.0	103	61	2.0	0.2
1952		193.1	44.1	124.6	90.7	10.2	20.5	60.0	105	56	4.7	0.5

[1]Market value for stock; face value for debt.

[2]Period ending with year indicated.

Notes to Table 2-2

Source:

Cols. 2-4	1840 and 1860	Based on data on Hunt's Merchants Magazine, 1963, p. 354. (for cols. 2 and 3)
	1880	Rough Estimate.
	1900-1952	Goldsmith, Lipsey and Mendelson. Studies in the National Balance Sheet, II, p. 42 ff; after deduction of value of Stock of financial institution (Table 5).
Col. 6	1860-1900	Rough estimates.
	1900-1945	R.W. Goldsmith. A Study of Saving, Vol. III, Princeton University Press, pp. 496-96
	1946-1952	Flow of Funds Accounts, 1945-1967, p. 35. (Board of Governors of the Federal Reserve Systems), 1969.
Col. 7,8	1840-1952	First differences of outstandings.

The great changes in the position of corporate securities in the American economy came in two spurts. The first occurred in the 1840's and 1850's when the railroads for the first time generated a large supply of corporate bonds and stocks because of their reliance on external financing through security issues, which in turn was connected with their substantial requirements for long-term funds. The second spurt took place in the period from 1880 to World War I. Incorporation now became predominant in the rapidly expanding manufacturing and mining and the new electric power and communication sectors, again sharply increasing the supply of corporate bonds and stock. As a result, the value of all nonfinancial corporate issues (stocks, bonds, and other debt) increased from an almost insignificant amount in 1860 (apparently of the order of $200 to $300 million) to over $8 billion in 1880, over $25 billion in 1900, and about $65 billion in 1912. Nonfinancial corporate issues outstanding thus in 1912 accounted for approximately two thirds of all financial instruments issued by nonfinancial sectors. They had become, since the third quarter of the nineteenth century, the largest single group of nonfinancial issues, ahead of the government, financial institutions, and households.

Corporate stock issues (both of nonfinancial and of financial corporations and including intercorporate holdings), which are of particular interest here, increased equally rapidly, from less than $1 billion in 1860 to approximately $4 billion in 1880, $14 billion in 1900, and $38 billion in 1912. Stocks listed on the New York Stock Exchange meanwhile increased from less than $1.5 billion in 1880 [4] to nearly $5 billion in 1900, and $13.5 billion in 1912.[5] These figures indicate a share of listed to total stock of fully one-third without substantial changes over the period.[6]

The sharp upward trend in the supply of nonfinancial corporate issues continues until 1929. Total value doubled between 1912 and 1922 and again doubled in the seven years 1923 to 1929. About two-fifths of the increase in the first period (as in 1901–12), but two-thirds in the second period, represented stock price increases rather than net issues. During the 1930's the value of corporate issues outstanding actually decreased sharply by nearly 50 percent. In the case of stock, the result reflects chiefly the fall in prices, but for debt issues, it represents mainly net retirements, which amounted to about one-third of the outstandings of 1929. The increase in the value of corporate securities outstanding resumed in the 1940's and accelerated in the 1950's as the result of sharp increases in stock prices in the face of a very low volume of net issues and of very heavy net new issues of debt.

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[4] Read off from chart in A. Cowles 3rd and associates, *Common Stock Indexes 1871–1937*, p. 54.

[5] Goldsmith, *Financial Intermediaries*, Appendix Table F–4, (mimeographed).

[6] At the end of 1929 the value of stock listed on the New York Stock Exchange, $65 billion (R. Meeker, *The Work of the Stock Exchange*, New York, 1930, p. 546), was equal to 35 percent of all corporate stock including and 45 percent excluding intercorporate holdings from the total.

These movements are more usefully followed in terms of national product than in absolute numbers. It is then found that the ratio of the value of issues of all types by nonfinancial corporations to national product increased very rapidly between 1840 and 1880, more than doubling every twenty years, and exceeded 85 percent of GNP in 1880. The upward trend continued, though at a slower pace, for the next 40 years, bringing the ratio to 180 percent of GNP in 1912, equally divided between equity and debt issues. (By comparison, the share of stocks had moved from one-third to two-fifths between 1840 and 1900.) A sharp increase followed in the late 1920's and an even sharper decline in the 1930's and during World War II, both, until the end of the 1930's, reflecting mainly stock price movements. As a result nonfinancial corporations' securities in 1945 were equal to only one year's GNP, a level they had crossed as far back as 1890. For stocks alone the ratio was slightly above 60 percent, the level of the early 1900's, while the bond ratio, at less than 40 percent, was back to the 1880 level. (The relations were still approximately the same in 1952.) Thus far had the process of nonfinancial corporate debt shrinkage gone as the result of both the debt reductions of the 1930's and the economic expansion and repressed inflation of World War II.

More relevant to an evaluation of the importance of the supply of corporate issues is the ratio over a period of net issues to national product because it takes account of the growing size of the American economy. This ratio rose sharply during the second half of the nineteenth century—from only 2 percent in 1841–60 to an average of 7 percent during the first three decades of this century, of which slightly less than 1½ percent represented stock of nonfinancial corporations. The latter level has never been equalled since.

These are the facts; what is the explanation? The explanation must be sought, along the lines of the formula of section 3b of Chapter 1, in three factors: (1) the movement of the national capital formation ratio; (2) the share of nonfinancial corporations in national capital expenditures; and (3) the share of external in total financing by corporations, the last two factors being linked by (4) the ratio of total (external and internal) financing to capital expenditures.

Very little is known reliably about these relations for the nineteenth century, and the estimates available for later periods are far from satisfactory until the 1930's or even the 1940's. There is little doubt, however, that between 1840 and 1900 both the national capital forma-

tion ratio, and particularly the share of corporations in it, rose substantially. These two movements explain part, and possibly a large part, of the rise in the observed ratio of the issues of nonfinancial corporation to national product from a level of about 2 percent in the middle of the nineteenth century to over 6 percent at its end. Apparently neither of these two ratios had a substantial upward trend during the current century, or even since the 1880's, nor has the ratio of nonfinancial corporate issues to gross national product (valuation changes excluded). Indeed, the ratio has been lower since 1930 than in the preceding thirty or even seventy years. We must, therefore, turn for further explanation to the ratio of external financing, and of equity financing in particular, to capital expenditures of nonfinancial corporations.

It is not possible without some degree of arbitrariness to match capital expenditures with specific forms of issuance of debt and equity securities or even with total external financing in the statistics of sources and uses of funds, particularly if the accounts are as highly aggregated as to cover all nonfinancial corporation. Therefore, the measure of the importance of external financing and of stock financing in particular must be the share of total external financing and its components in total sources of funds. The essential figures for the period from 1900 to 1952 are shown in Table 2–3. It is there seen that gross capital formation for the period as a whole absorbed fully two-thirds of total funds of all nonfinancial corporations taken together, the ratio deviating substantially from this level only during the 1930's. The remaining funds were utilized to acquire financial assets, primarily cash, trade receivables, and securities held for liquidity, yield, or control.

Of the total funds raised by nonfinancial corporations during this half-century fully three-fifths came from internal sources, primarily earned depreciation allowances and secondarily retained earnings. It is the remaining third—a total of more than $180 billion from 1901 through 1952—representing external financing, that may be regarded as the matrix of the volume of issues of stock by nonfinancial corporations. The ratio of external to total financing was close to two-fifths in the three periods distinguished between 1901 and 1929 although, of course, there were substantial short-term fluctuations. The ratio which had been very low between 1930 and 1945, returned to the earlier level after World War II.

Table 2-3

Sources of Funds of Nonfinancial Corporations, 1901-1952

	1901 to 1912 (1)	1913 to 1922 (2)	1923 to 1929 (3)	1930 to 1939 (4)	1940 to 1945 (5)	1946 to 1952 (6)	1901 to 1952 (7)
I. Total sources of funds ($ bill.)							
1. Period total	40.0	76.1	86.1	28.3	75.4	201.8	507.7
2. Annual average	3.3	7.6	12.3	2.8	12.6	28.8	9.8
II. Individual Sources (%)	100	100	100	100	100	100	100
1. Internal sources	55	60	55	114	80	58	64
a. Ret. profits	22	27	17	-71	32	31	22
b. Capital Consumption allowance	34	34	37	184	49	27	42
2. External sources	45	40	45	-14	20	42	36
a. Borrowing (excl. b)	10	20	12	-32	20	27	18
b. Bonds and notes	21	9	14	-1	-5	10	9
c. Stock	14	11	19	19	5	5	10
III. Gross capital expenditures							
Billions of dollars	26.1	49.4	51.1	31.2	40.9	149.1	347.8
Percent of I.	65	65	59	110	54	74	69

1901-1945 R. W. Goldsmith, Financial Intermediaries in the American Economy Since 1900, Princeton for NBER, (1958), p. 222.

1946-1952 Flow of Funds Accounts, 1945-1967, p. 35.

There are unfortunately no comprehensive data available on the financing of nonfinancial corporations before 1900. For the then most important single industry, the railroads,[7] the share of external financing apparently was considerably higher, at least from 1880 on, than it was after the turn of the century for all nonfinancial corporations. Thus, from 1880 to 1907 the retained earnings of railroads accounted for only 5 percent of their total sources of funds, and no contribution was made by capital consumption allowances.[8]

Data are lacking to calculate the ratios separately for the main industries even for most of this century. The ratios for large corporations in manufacturing and mining[9] seem to have been close to the overall ratio for all nonfinancial corporations. Among the other industries it is fairly certain that the external financing ratios were higher than the average for public utility and real estate corporations and lower than the average for corporations in trade and service. For the end of the period, the years 1945–1952, when some relevant data are available, the external financing ratio was about 55 percent for large corporations in the public utility and railroad industries compared to 30 percent for large manufacturing corporations.[10]

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[7] Both in 1870 and in 1890 railroads accounted for approximately one-fifth of the dividends paid by all nonfinancial corporations, which may give a reasonable idea of third relative importance, although it is very likely that the railroad's share of external financing was considerably higher than this ratio. (See A. J. Schwartz, "Gross Dividend and Interest Payments by Corporations at Selected Dates in the 19th Century," in *Studies in Income and Wealth*, Vol. 24, 1960, pp. 417–18.)

[8] See Ulmer, *op. cit.*, p. 502.

[9] See S. Kuznets, *Capital in the American Economy: Its Formation and Financing*, Princeton for NBER, 1961, p. 251.

[10] See Goldsmith, *Financial Intermediaries*, pp. 229 ff.

Table 2-4

Industrial Distribution of Corporate Stock Outstanding 1835-1949

(per cent)

	1835 (1)	1859[1] (2)	1871 (3)	1890 (4)	1900 (5)	1912 (6)	1922 (7)	1929 (8)	1939 (9)	1949 (10)
1. Railroads	2	15	19	20	39	26	10	6	4	3
2. Other transportation	7	8	5	3	7[2]	7[2]	5[2]	11[2]	12[2]	10[2]
3. Gas & electricity	0	5	4	8						
4. Banks & insurance	64	39	26	21	20	15	16	11	9	8
5. Manufacturing & mining	18	24	38	39	34	52	69	72	75	79
6. Other	9	9	8	9						
7. Total	100	100	100	100	100	100	100	100	100	100

[1]For 1860 alternate and for some groups substantially different estimates of the value of corporate stock (rather than dividends) may be derived from Hunt's Merchants Magazine, 1863, p. 23. According to these estimates railroads accounted for 45 per cent of the total, public utilities for 13 per cent, and banks and insurance companies for 44 per cent, no entries being shown for corporations in manufacturing, mining, trade, and service.

[2]All public utilities except railroads.

Source:

Cols. 1-4 Based on distribution of dividends as estimated by A. J. Schwartz in "Gross Dividend and Interest Payments by Corporations. . ." in Studies in Income and Wealth, Vol. 24, New York, NBER, 1960,

Cols. 5-10 Based on estimated market value in (Goldsmith, Financial Intermediaries, Appendix F (NBER, mimeographed, 1958, p. 18)

c. The Share of Stock Issues in External Financing of Nonfinancial Corporations

The crucial fact here is how far total external financing needs, which were determined by expansion of activities and possibilities of internal financing—and, of course, were also influenced by the ease or difficulty of external financing—were met by the sale of corporate stock rather than by short- or long-term borrowing. In this case there is a definite break between the experience of the first four decades of this century, during which the sale of corporate stock contributed on the average one-sixth of total external financing (Table 2–3) with a range from one-ninth to almost one-fifth for the four periods; and that of the 1940–1952 period, when the contribution was as low as 5 percent. No overall figures are available for the nineteenth century, but it is likely that the share of corporate stock in external financing by nonfinancial corporations during the second half of the century was at least as high as the 1900–1940 level and may have been considerably higher. In the case of the railroads, stock outstanding constituted about 55 percent of total external financing in 1855, 50 percent in 1880, and 40 percent in 1900.[11]

While comprehensive information is lacking about the total volume of external financing and of the issuance of stock by the different industries, it is possible to obtain a rough idea of the distribution of the stock outstanding among the main industries at several benchmark dates between 1835 and 1952. These ratios, of course, are not identical with the distribution of funds raised through the sale of stocks because they are influenced by differentials in stock price movements among industries. Furthermore, for the last decades of the nineteenth century the distribution of dividends paid by different industries must be used rather than the market value of their stock outstanding, and the two distributions again are not identical because the price-dividend ratio differs for the stock of different industries. The main trends appearing in Tables 2–4 and 2–5 should nevertheless roughly reflect the distribution of stock financing among the main industries, even though the three sources used for different parts of the period are far from being fully comparable.

The main structural change in the distribution of corporate stock among industries, and hence in the volume of stock of nonfinancial corporations available for acquisition by financial institutions, is the declining share of banks and property insurance companies in the total of all corporate stock issued and outstanding (see the discussion in the following section). This movement reflects not a decline or even a stagnation in the volume of stock of financial corporations issued or outstanding, but rather, an increase in the use of the corporate form in almost all other sectors of business and the more rapid rate of growth of the equity of some important nonfinancial sectors, particularly manufacturing and public utilities.

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[11] See *Historical Statistics of the United States, Colonial Times to 1957*, Bureau of the Census, 1960, pp. 428, 433.

Table 2-5

The Supply of Stock of Financial Institutions, 1840-1952

($ billion)

	Total (1)	Federal Reserve Banks[1] (2)	Commercial banks[2] (3)	Property Insurance cos.[2] (4)	Federal Home Loan Banks[1] (5)	Investment Cos.[3]		Total p.c. of stock of non-financial corporations[2] (8)
						Open end (6)	Other (7)	
1840	.33	-	.29	.04	-	-	-	330
1860	.49	-	.42	.07	-	-	-	70
1880	1.00	-	.90	.10	-	-	-	25
1900	2.70	-	2.40	.30	-	-	-	24
1912	6.00	-	5.00	.	-	-	-	19
1922	11.00	.33	9.20	.	-	-	-	17
1929	22.00	.45	15.80	3.10	-	.13	2.52	13
1939	10.90	.35	6.10	2.80	.17	.53	.95	12
1945	16.47	.59	9.30	3.80	.20	1.30	1.28	13
1949	17.69	.83	8.20	4.20	.23	3.10	1.13	13
1952	26.36	.97	13.00	6.00	.32	3.90	2.17	14

[1] Book value.

[2] Market value.

[3] Assets or net worth of companies.

Notes to Table 2-5

Source:

Col. 1.		Sum of cols. 2 to 7 supplemented by rough estimates for groups for which no figures were available for some dates.
Col. 2.		Federal Reserve Bulletin.
Col. 3.	1840-1860	Hunt's Merchants Magazine, 1863, p. 23. (also for col. 4).
	1880	Rough estimates
	1900-1949	Financial Intermediaries, Appendix Table F-29.
Col. 4.	1900, 1929, 1949	Financial Intermediaries, Appendix Tables F-5 to F-7.
	1939, 1945 1949	Rough estimates, based on mainly movements in Standard and Poor's index of fire insurance stocks. (The 1952 estimate in columns 3 and 4 is substantially above an alternative, and probably more reliable, figure in an annual series used in Chapter III for the period 1952-1968, the derivation of which is described in Appendix VI. This alternative estimate has not been used here in order not to destroy the continuity and comparability of the estimates for the earlier period.)
Col. 5.	1939-1952	Saving and Loan Fact Book
Col. 6.	1929, 1939 1945-1952	Study of Saving, Vol. I, p. 559 Flow of Funds Accounts, 1945-1968 (1970), p. 64.
Col. 7.	1929-1952	Net worth of all investment companies (Financial Intermediaries, p. 396) less col. 6.

Among nonfinancial corporations an outstanding movement is the rapid rise in the share of railroads from about 1840 to the end of the century.[12] The share of all public utilities other than railroads did not show a long-term trend, although it varied between a low of 5 percent (1922) and a high of around 12.5 percent (1859, 1939). Within this category, however, distribution among industries changed radically. The figures were dominated in the nineteenth century first by the shares of canal companies and then by those of gas companies. Since World War I, on the other hand, most of the share has been accounted for by electric power and telephone companies. The result is that the "other" category, which in the twentieth century is represented mostly by shares of manufacturing (including oil) companies, accounted for about four-fifths of the total in 1949 compared to three-tenths to three-fifths before World War I.

d. The Suppply of Stock of Financial Corporations

Financial institutions may, of course, also invest in the shares of other financial institutions, of their own or of a different type. Indeed, in the latter case, the advantage of control may be an important added incentive for holding. These securities widen the supply of corporate stock available to financial institutions, though not to a decisive extent since World War I. During the nineteenth century, however, the situation was different. Thus in 1840 the value of the stock of banks and insurance companies was estimated at three times that on nonfinancial corporations, and the ratio seems to have been in the neighborhood of two-thirds in 1860.[13] By the turn of the century the ratio had declined to below 30 percent, and in 1912 it had fallen to about 20 percent. After a further slow decline during the following quarter century the ratio stabilized at around one-eighth of the value of the stock of nonfinancial corporations; the increasing ratio for open-end investment company stock approximately offset the continuing decline in the ratio for bank and insurance company stock. The relevant figures are shown in Table 2–5.

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[12] The increase in the share of railroads between 1890 and 1900 shown in Table 2–4 is overstated because the estimate for the first date is based on the railroads' share in total dividends paid while that for the second date is derived from estimates of the market value of the shares of different industries. The price-dividend ratio probably was higher for railroads than for all other nonfinancial industries taken together.

[13] *Hunt's Merchants Magazine*, 1863, pp. 313 ff.

This secular decline in the proportion of the total supply of corporate stock that consists of shares of financial institutions is due primarily to the downward trend in the ratio of net worth to liabilities in virtually all types of financial institutions other than investment companies. In commercial banks, for example, net worth was equal to fully 50 percent of liabilities in 1860, less than 20 percent in 1900, less than 15 percent in 1929, and only 7 percent in 1952.

e. Foreign Stocks

Shares in financial or nonfinancial foreign companies have played a negligible role in the portfolios of financial institutions as a whole, and in that of each type except investment companies. Even for these companies the proportion probably never exceeded one-tenth of the total stock portfolio and consisted mostly of stocks in Canadian companies. In 1952 the ratio was down to less than 4 percent for open-end companies, almost exclusively in Canadian stocks. This has been due both to statutory limitations against foreign investment except in Canada and to the then prevailing unpopularity of foreign securities. Foreign stocks may, therefore, be excluded when considering the supply of corporate stock on which financial institutions could draw. In 1952 they probably constituted only about 1 percent of the stock portfolio of all financial institutions excluding personal trust funds and less than one-half percent including them.

3. The Sources of Funds of Financial Institutions

Before looking at the movements of the main determinants and their contribution to the value of the new-issue ratio of financial institutions (the ϕ ratio of Chapter 1, which is approximated by the change in the assets of financial institutions divided by the period's total gross national product) it is well to recall the path which that ratio has taken from 1840 to 1952, particularly its fairly regular upward trend, which has carried it from not much more than 1 percent of GNP in the period 1841 to 1860, to 2.3 percent in the following two decades, 4.2 percent from 1881 to 1900, and to 5.2 percent in the period 1901–1912. Since then the ratio has been at a considerably higher level, except during the 1930's, when it fell back to 4.3 percent. For the periods 1913–1922 and 1923–1929 the ratio averaged close to 8 percent. The peak was reached during World War II, with nearly 20 percent. This was followed by a sharp decline to 7 percent in 1946–1952 (Table 2–6).

Table 2-6

Determinants of Growth of Assets of All Financial Institutions in the United States, 1861 - 1952

(Percent of gross national product)

	Net Issues of				Change in assets of all financial institutions[4] (5)	(4)/(5) (6)
	Money[1] (1)	Commercial bank time deposits[2] (2)	Thrift & insurance organizations[3] (3)	Total (4)		
1861-1880	0.7	0.1	0.9	1.7	2.3	.74
1881-1900	1.4	0.4	1.3	3.1	4.2	.74
1901-1912	1.4	1.1	1.7	4.2	5.2	.81
1913-1922	7.9	1.4	1.7	5.0	7.5	.67
1923-1929	0.5	1.0	3.2	4.7	8.0	.59
1930-1939	1.3	-0.5	2.5	3.2	4.3	.74
1940-1945	6.7	1.5	5.1	13.3	19.4	.69
1946-1952	1.3	0.5	4.7	6.5	7.0	.93

[1]Bank notes held by public plus adjusted demand deposits (from 1880 M. Friedman and A. J. Schwartz, A Monetary History of the United States, 1867-1960, New York, NBER, 1963, pp. 704 ff.); rough estimates for 1860.

[2]Time deposits in commercial banks

[3]Increase in total assets of mutual savings banks, postal savings system, saving and loan associations, credit unions, and all insurance and pension organizations, (Financial Intermediaries, pp. 73-74 and rough estimates for 1861-1900.)

[4]Loc. cit.; excludes personal trust departments and investment holding companies.

a. The Issuance of Money

The first main component of ϕ (the ratio, m, of the change in money in circulation—i.e., currency and check deposits—to the period's gross national product) increased from less than 0.5 percent of GNP in the 1840's and 1850's to 0.7 percent in the following two decades. This advance continued, the average for 1881–1900 rising to 1.2 percent and further advancing to a peak level of 2 percent for 1913–1922. These forty years are the period of the most rapid development of the commercial banking system and of check payments, influenced near the end by the inflation of World War I. There followed a sharp decline to one-half of 1 percent in the period 1923–29, i.e., below the level of 1861–1880, probably representing in part absorption of excess liquidity created during World War I. The value of m again rose sharply during the 1930's to an average of 1.2 percent, reflecting the only partly successful efforts of the government at reflation and the public's hoarding that accompanied the very low level of interest rates during the mid- and late 1930's. World War II led to an extraordinary increase in m—to an average of more than 6½ percent for 1940–45, a result in part of the repressed inflation of that period which was backed by price and wage controls. As after World War I m declined sharply to 1.3 percent for the period 1946–1952, reflecting the accumulation of excess liquid assets in preceding years.

The share of the issuance of money in total issues of financial institutions, i.e., the ratio m/ϕ, followed the same general pattern, but with fewer fluctuations during the nineteenth century. For all the four periods between 1860 and 1922 m constituted approximately three-tenths of ϕ and thus was one of the two most important single components of the ratio. During this period, which extends from the beginning of the railroad age through World War I, the provision of the medium of exchange was still one of the most important, if not the most important, single function of the country's financial system, as it still is in many less developed countries. The share of m in ϕ was considerably lower from 1923 to 1929. The repressed inflation of World War II raised the share of m in ϕ to an all time peak of fully one-third. The share then declined sharply to about one-fifth in 1946–1952.

b. Household Thrift Claims

The most important single component of the ϕ ratio in all periods except during World War II were thrift deposits (including time and saving deposits with commercial banks) and insurance and pension claims of households. Starting with a ratio in the neighborhood of 1 percent of national product in 1860–1880, h (the ratio of the increase in thrift deposits and insurance claims to gross national product) rose steadily to fully 4 percent during 1923–1929. After a temporary setback to 2 percent during the 1930's, h held close to a level of about 6 percent from 1940 to 1952. The share of h in ϕ rose from about two-fifths from 1860 to 1900 to about one-half in the first thirty years of the twentieth century. Reflecting the extraordinarily high share of m during World War II, the share of h in ϕ during that period was low—about one-third. Possibly the most significant development, however, is the sharp increase in the h/ϕ ratio after World

War II to three-fourths in 1946–1952, in part probably in reaction to the abnormally low ratio during the preceding five years, significant because it foreshadows the continued high level of the ratio that prevailed for the following fifteen years.

The statistics now available are not sufficient to allocate the observed values to the h ratio exactly among the four components distinguished in Chapter 1, section 3b. Enough is known, however, for an appraisal of the order of magnitudes involved.

Since two of these components—the ratio of personal disposable income to gross national product (p) and the personal saving ratio (s)—did not show a pronounced trend over the last 100 to 120 years, or at least not since the turn of the century (p has declined slowly from 0.85 to 0.70 and s has remained close to one-eighth except during the two world wars and the 1930's), the crucial factor in the contribution which h made to ϕ were the movements of the share of the accumulation of financial assets in personal saving (c) and the share of thrift deposits and insurance claims in personal financial saving (t).

Of these two, factor changes in t have been the more important and regular element: The ratio has risen from about one-fourth of personal financial saving in the first two decades of this century to two-fifths in 1923–1929, and to fully two-thirds since the 1930's, with the exception of World War II. It may therefore be said that most of the increase of ϕ from a level of about 1 percent in the last forty years of the nineteenth century to about 5 percent in the 1946–1952 period is due to the increase in t, a relation that will be found also to apply to the following fifteen years.

c. Other sources

The movements of the heterogeneous ratio (x) of the issue of nonmonetary liabilities other than household thrift deposits and insurance claims by financial institutions to GNP (calculated as the difference between columns 4 and 5 in Table 2–6) as well as its contribution to ϕ were erratic, partly because of the heterogenous nature of this item. This component of ϕ was relatively most important in the periods 1923–1929 and 1940–1945. It amounted to 2.5 percent of GNP in both periods, but to less than one-third and one-eighth respectively of ϕ. The relatively high level of x during the 1920's reflected in part the rapid growth of the then new investment and finance companies. Their shares might well be combined with household thrift claims, since most of the former were bought by individual investors.

The issuance of equity securities by financial institutions, which is included in x except for the shares of insurance companies, has been a minor component of ϕ since 1900 (comprehensive figures are not available for the earlier periods). On the average, issues of equity securities by financial institutions have amounted to only three-quarters on 1 percent of GNP, reaching the maximum of 1¼ percent in 1923–1929 when fairly large amounts of investment company stock were sold to the public. Thee share of equity securities in ϕ has been declining. During the second half of the nineteenth century it probably was about one-fourth. In 1901–1912 and 1922–1939 it amounted to about one-sixth, falling to about one-tenth in 1946–1952.

From the fragmentary knowledge which we have about the extent of layering within financial institutions it does not appear that the layering ratio has shown substantial or continuous trends during the past century. In any case, the level of the ratio, approximately one-tenth, is too small for modest changes in it to influence the level of ϕ.

4. The Stock Portfolio of Financial Institutions

a. Commercial Banks

Although commercial banks are the largest single group of financial institutions if measured by size of assets they have hardly ever been important holders of corporate stock.[14] This fact is mostly due to regulation. National banks are virtually precluded from owning corporate stock except that of the Federal Reserve banks. While the regulations are not as strict in many states they still severely limit the freedom of state-chartered banks to invest in corporate stock even if they desire to. The holdings of the stock of Federal Reserve banks are, of course, in a category of their own, since they are compulsory for member banks, and in character are closer to a perpetual bond than to a corporate equity because of their guaranteed but limited dividend and the restricted right of member banks in the equity of the Federal Reserve banks.

[14] Excluding, of course, their trust department, for which see section 4h.

Table 2-7

Holdings of Corporate Stock by Commercial Banks, 1860-1952

	All Stock	Federal Reserve Banks[1]	Other	Stock other than FRB stock	
	$ million			P.c. of total bank assets	P.c. of all stock outstanding
	(1)	(2)	(3)	(4)	(5)
1860	10	-	10	(1.20)	1.30
1880	30	-	30	(1.10)	.60
1900	103	-	103	1.03	.74
1912	284	-	284	1.30	.75
1922	508	107	401	.84	.53
1929	1,180	171	1,009	1.52	.54
1939	609	136	473	.71	.47
1945	397	177	220	.14	.15
1952	403	253	150	.08	.07

[1]Par value Book value at par, 1922-1952, in balance sheets of Federal Reserve banks (Millions of dollars): .326; .448; .349; 1922,/1929,/1939/1945,/1952,/ .587; .972.

Source:

Col. 2 Federal Reserve Bulletin

Col. 3 1860,1880 Rough estimates.
1900-1939 Financial Intermediaries, pp. 339, 353.
1945-1952 Studies in the National Balance Sheet, II, 162.

In the century before 1939 common stock holdings, excluding those of Federal Reserve banks, constituted between 1 and 1½ percent of the total assets of commercial banks, reaching the highest absolute and relative level in 1929 (Table 2–7). Unfortunately the make-up of these stock portfolios is not known before the Great Depression, an indication of their insignificance. A substantial proportion probably consisted of stock of real estate, safe deposit, and similar operating affiliates, although some holdings of stocks of other banks were undoubtedly acquired for possible control.[15] In 1934, when the book value of the holdings of stock other than that of Federal Reserve banks had been reduced to one-half of its level of 1929, approximately one-fifth of the total consisted of stocks of banks and bank affiliates; and one-seventh, of stock in real estate corporations. The remaining two-thirds were not further broken down. In 1941, the only other date for which this information is available, the proportion of stocks of banks and bank affiliates had increased to over two-fifths because of a sharp reduction in other holdings of corporate stock by commercial banks, but their absolute value was only about one-third higher than in 1934.[16] The stockholdings of commercial banks were even less important in comparison to the total volume of stock outstanding, accounting for only one-half of 1 percent of the total in 1929 and for only slightly higher fractions before World War I.

[16] Federal Deposit Insurance Comporation information.

Table 2-8

Stockholdings of Mutual Savings Banks, 1880-1952

	All Stock	Bank Stock	All Stock	Bank Stock	All Stock	Bank Stock	All stock-net purchases[1]
	$ mill		P.c. of bank assets		P.c. of outstandings		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1880	40	37	4.52	4.22	.98	.	
1900A	83	40	3.57	1.69	.60	1.67	
1900B	43	.	1.77	.	.31	1.79[2]	.
1912	41	.	1.02	.	.11	.82[2]	-2
1922	48	..	.73	.	.06	.52[2]	7
1929	77	.	.78	.	.04	.49[2]	29
1939	136	.	1.15	.	.14	2.23[2]	59
1945	166	116	.98	.68	.11	1.25	30
1952	334	280	1.33	1.11	.15	2.15	100

[1]Period ending at date indicated.

[2]Assuming virtually all stock to be bank stock.

Source:

Cols. 1, 2	1880-1900A	Estimated on basis of figures for six main states (New York, Massachusetts, Connecticut, Maine, New Jersey, and Rhode Island) taken from reports of their bank supervisory authorities.
	1900B,1939	Financial Intermediaries, pp. 356-57.
	1945,1952	National Fact Book-Mutual Savings Banking, May 1969, p. 23, (book value less valuation reserve)
Col. 7	1901-1945	A Study of Saving, I, 545-46
	1945,1952	Flow of Funds Accounts, 1945-1967.

During World War II the book value of the holdings of corporate stock other than that of Federal Reserve banks was cut in half, and no details are known about this development. Since the total value of commercial bank assets increased sharply, the share of corporate stock (excluding Federal Reserve Bank stock) in total assets fell precipitously from slightly more than 1 percent in 1939 to only one-seventh of 1 percent in 1945 and to less than one-tenth of 1 percent during the 1950's. Similarly, the importance of stockholdings of commercial banks, other than those of Federal Reserve banks, in total corporate stock outstanding has now been reduced to insignificance, falling to about 0.15 percent in 1945—compared to over 0.50 percent in 1929—and further declining to not much over 0.05 percent beginning with the late 1950's.

b. Mutual Savings Banks

During the late nineteenth century mutual savings banks held between 3 and 5 percent of their assets in corporate stocks, consisting mainly of a diversified portfolio of bank stocks (Table 2–8). At that time the bank stocks they held represented between 3 and 4 percent of all outstanding bank stocks in the United States, but a considerably higher proportion of the stock of banks in the states in which mutual savings banks operated, mainly the New England states, New York, and Pennsylvania. The motive for these holdings probably was the relatively high yield combined with fair security.

From the turn of the century to 1922, however, the value of stocks held by mutual savings banks hardly changed, although their assets almost tripled. There is no obvious explanation for this change in their investment policy, except possibly the upward trend in interest rates which made the yield of bank stocks relatively less attractive. As a result, the share of bank stocks in the total assets of mutual savings banks fell to about three-fourths of 1 percent, while their holdings were reduced to about one-half of 1 percent of all bank stock outstanding in the United States.

Policy apparently was again reversed after 1929, and the portfolio of bank stocks was increased considerably during the 1930's, but only slowly during World War II. As a result the share of bank stocks in total assets of mutual savings banks in 1945 stood at approximately 1 percent, compared to 0.8 percent in 1929, although their share in all bank stocks outstanding has risen substantially, from one-half of 1 percent to about 1¼ percent.

After 1945 mutual savings banks began to increase their stock portfolio, now for the first time acquiring considerable amounts of stocks of corporations other than banks. In 1952 this process was still in its initial stages, but the total value of all stocks was already twice as high as in 1945; the share of stocks in total assets was up from

1.0 to 1.3 percent; and the share of bank stocks held by mutual savings banks in all bank stock outstanding had increased from 1.3 to 2.2 percent.

c. Life Insurance Companies

The influence of statutory requirements on stockholdings is particularly evident in the case of life insurance companies, especially during the current century. Originally the limitations of investment in stocks by life insurance were not very strict, but because of the fixed value of the liabilities the companies held only moderate amounts, accounting for only approximately 2 percent of assets in the period 1860–1880 (Table 2–9). Of these holdings fully one-fourth consisted of railroad stocks; among the others bank stocks appear to have played an important role, although exact figures are not available.

From about 1880 to 1905 stockholdings of life insurance companies increased substantially. Railroad and, later, public utility stocks presumably were acquired primarily for yield, but bank stocks were purchased by the large eastern life insurance companies also because of the influence and other advantages which they could give. The abuses in this direction which were disclosed by the Armstrong-Hughes investigation of 1905 led to legislation that sharply limited the stockholdings permitted to companies operating in New York state and was a decisive factor in the investment policies of all American companies. For almost two decades after, the absolute volume of stocks held stagnated, and their share declined sharply in the face of a rapid advance in the total assets of life insurance companies. Whereas life insurance companies at the peak of 1906 had held more than 6 percent of their total assets in stocks the proportion had declined to only 1 percent by 1922. The proportion of all corporate stock outstanding held by life insurance companies always was small. Even at the peak life insurance companies' holdings amounted to less than one-half of 1 percent of all stocks outstanding and were important only in a few New York City banks. By 1922 the overall ratio was down to a mere one-tenth of 1 percent.

Table 2-9

Stockholdings and
Transactions of Life Insurance Companies, 1860-1952

	Holdings											
	Total	Prefer.	Common	Total	Prefer.	Common	Total	Prefer.	Common	Total	Prefer.	Common
	$. mill			P.c. of total assets			P.c. of stock outstanding			$ mill.		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1860	1	.	.	2.30	.	.	(.05)	.	.	.	.	.
1880	6	.	.	1.50	.	.	(.10)	.	.	.	.	.
1900	62	8	54	3.56	.46	3.10	.45	.28	.49	15	2	3
1912	84	12	72	1.91	.27	1.63	.22	.16	.24	22	4	18
1922	75	16	59	.87	.18	.68	.10	.12	.09	- 9	4	-13
1929	352	255	97	2.01	1.46	.55	.19	1.33	.06	240	206	34
1939	568	435	133	1.94	1.49	.46	.57	3.18	.15	226	183	43
1945	1000	820	180	2.23	1.83	.40	.68	6.10	.14	165	131	34
1952	2450	1490	960	3.30	2.01	1.29	1.12	9.28	.47	1300	.	.

[1]Period ending with year indicated

Source:

Cols. 1-6	1860-1880	L. Zartman, Life Insurance Investments, 1906, p. 14
	1900-1939	A Study of Saving, Vol. I, p. 456
	1945-1952	Studies in the National Balance Sheet, I, p. 174-75
Cols. 10-12	1901-1945	A Study of Saving, Vol. I.
	1946-1952	Flow of Funds Accounts, 1945-1967.

From the 1920's on life insurance companies again began to build up their stock portfolios, but for several decades apparently primarily for yield and hence preferring high-grade stocks paying regular dividends. The absolute volume of stockholding by life insurance companies increased with only few setbacks, from less than $100 million in 1922 to about $2,500 million in 1952. Their share in total assets also rose substantially, although with a marked setback during the 1930's, from 1 percent in 1922 to fully 3 percent in 1952. Similarly the share of stockholdings of life insurance companies in all corporate stock outstanding advanced substantially, though even in the early 1950's it was only slightly above 1 percent, i.e., twice the previous maximum of the early 1900's, but more than ten times the low of 1922.

The structure of the stock portfolio of life insurance companies reflects the change in emphasis from yield to appreciation (Table 2–10). The share of preferred stocks in the portfolio advanced from about one-eighth at the beginning of World War I to approximately three-fourths between the late 1920's and the mid-1940's. It then began to decline; by 1952, it had returned to the 1939 level of two-thirds. The industrial structure of the portfolio showed change in line with changes in the total supply of stock. While railroads accounted for nearly one-half of the total stock portfolio at the turn of the century their share was down to one-fifth by 1929 and continued to decline to only 6 percent in 1952. Their share was in part taken by public utility stocks, which since 1929 have accounted for more than one-fourth of the total portfolio. Later, the share of industrials and a few other categories of stock gained considerably in the total portfolio, rising from about one-third before World War I to three-fifths at the end of World War II. These shifts were more pronounced in the composition of the portfolio of common than of that of preferred stocks, but changes occurred during the 1950's and 1960's rather than before 1952.

Table 2-10

Distribution of Corporate Stock Held by Life Insurance Companies

Selected Dates 1860-1945

(Per Cent)

	1860 (1)	1870 (2)	1880 (3)	1890 (4)	1900 (5)	1906 (6)	1911 (7)	1922 (8)	1929 (9)	1939 (10)	1945 (11)
	Preferred Stock										
Railroads	.	.	.	.	.	10	10	18	12	10	9
Public utilities	.	.	.	.	.	1	1	2	26	28	23
Other	.	.	.	.	.	2	2	3	34	39	47
	Common Stock										
Railroads	.	.	.	.	.	23	35	26	8	4	3
Public utilities	.	.	.	.	.	11	19	12	3	5	4
Other[1]	.	.	.	.	.	53	32	40	17	14	14
	All Stock										
Railroads	22	27	27	58	45	33	45	44	20	14	12
Public Utilities	78	73	73	42	55	13	20	43	28	32	27
Other[1]						54	35		52	54	61

[1]Through 1906 mostly bank stock.

Source:

Cols. 1 - 5 L.Zartmann, Life Insurance Investments, p. 14.

Cols. 2 - 11 Proceedings of 44th Meeting of Life Insurance Association of America, p. 42.

d. Property Insurance Compaines

Until well into this century property insurance companies (i.e., until the turn of the century, predominantly fire and marine companies and later also casualty companies) were the only group of financial institutions which held a substantial proportion of their total assets in corporate stock and for which corporate stock constituted one of the most important, and indeed in most years the most important assets, next to corporate bonds. The relative prominence of corporate stock in the portfolios of property insurance companies may be explained on the one hand by the freedom from investment limitations which determined the structure of assets of other insurance companies and many other institutional investors; and on the other hand by the fact that their liabilities were mostly of an intermediate length so that liquidity considerations were not dominant and not only current yields but long-term chances of appreciation could be given considerable weight in investment policies.

As far back as 1860 fire and marine insurance companies held nearly one-fourth of their total assets in corporate stock, primarily in a diversified portfolio of bank stocks which accounted for seven-eighths of their entire stock portfolio (Table 2–11). This concentration probably was due, as in the case of mutual savings banks, to the high quality of bank stocks and to the absence of large corporate issuers in other industries except the railroads. At that time fire and marine insurance companies held approximately 1 percent of all corporate stock outstanding in the United States. However, because of their concentration on bank stocks the share of property insurance companies in total bank stocks outstanding was of the order of 3 or 4 percent and was considerably higher in the case of banks in the eastern states. The share of bank stocks declined rapidly from about one-fifth of total assets in 1860 to 6 percent in 1880 and 5 percent in 1900, but that of railroad stocks advanced from only 2 percent in 1860 to 4 percent in 1880 and shot up to nearly 20 percent in 1900. As a result the proportion of corporate stock in the portfolio of fire and marine companies had increased to fully one-fourth by the turn of the century, after a drop to not much over one-tenth in 1880, but their share in total corporate stock outstanding had fallen to about three-fourths of 1 percent, reflecting the rapid rise in stock issues during the last fourth of the nineteenth century.

Table 2-11

Stockholdings of Property Insurance Companies, 1860-1952

	All	Pref.	Common	All	Pref.	Common	All	Prof.	Common	All stock--Net purchases[1]
	$ mill.			P.c. of assets			P.c. of outstandings			$ mill.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Fire and Marine Companies									
1860	18	.	.	22.8	.	.	1.50	.	.	.
1880	25	.	.	11.5	.	.	.50	.	.	.
1900	106	25	81	25.7	6.1	19.6	.76	.86	.74	.
	Fire, Marine and Casualty Companies									
1900	122	29	93	25.7	6.1	19.6	.88	1.00	.85	.
1912	231	45	186	23.5	4.6	18.9	.61	.58	.61	109
1922	370	95	275	16.0	4.1	11.9	.49	.73	.44	139
1929	1,511	276	1,235	32.7	6.0	26.7	.81	1.44	.74	625
1939	1,457	330	1,127	30.5	6.9	23.6	1.46	2.41	1.30	270
1945	2,415	483	1,932	31.8	6.4	25.5	1.65	3.60	1.45	450
1952	4,320	800	3,520	26.9	5.0	21.9	1.97	4.98	1.73	600

[1]Period ending at date indicated.

Source:

1860,1880 Based on reports of 14 large companies in 1860 and 31 companies in 1880
1900-1945 A Study of Saving, I, 553, 555, 545-46
1952 Studies in the National Balance Sheet, Vol. II, pp. 102 ff.

The share of corporate stock in the total assets of property insurance companies did not show a definite trend throughout the current century, although it was, of course, influenced by stock price fluctuations. At most benchmark dates between 1900 and 1952—with the exception of 1922—the share was in the neighborhood of 25 to 30 percent. The most pronounced increase occurred during the 1920's as a result both of heavy net purchase and the then pronounced rise in stock prices. It is remarkable, however, that property insurance companies also added substantially to their stock portfolios during the 1930's, when some other institutional investors reduced theirs. As a result the share of property insurance companies in total corporate stock outstanding in the United States increased from a low point of one-half of 1 percent in 1922 to about 1½ percent in the late 1930's and 2 percent in 1952.

During most of the period preferred stock constituted between one-fourth and one-fifth of the total stock portfolio of property insurance companies. Within the common stock portfolio the predominance of bank stocks gave way beginning around the turn of the century to the accumulation of a fairly diversified portfolio, although the holdings of bank and insurance company stocks continued to represent a higher proportion of the total portfolio than corresponded to their share in the total volume of corporate stock outstanding in the United States. Since preferred stocks constituted a considerably larger proportion of the stock portfolio of property insurance companies than of total corporate stock outstanding their share in all preferred stock outstanding was fairly substantial, reaching 5 percent in 1952.

e. Investment Companies

Investment companies in their varied forms (management-closed-end companies; open-end companies now often called mutual funds; fixed and semifixed investment trusts; and face amount installment contract investment companies) were of negligible importance until the early 1920's. After hectic growth during a few years and stagnation between the early 1930's and the end of World War II investment companies started on a second and this time sustained period of growth in the late 1940's, the emphasis now shifting from closed-end management investment companies, which had predominated in the 1920's and from fixed trusts, which had been of some importance during the 1930's, to open-end management companies (see Table 2–12).

All important types of investment companies—with the exception of face value contract companies—have always invested the bulk of their assets in corporate stock (see Table 2–13), and during the last two decades have become an important factor in the market, as they were temporarily during the late 1920's. In 1929 the corporate stocks held by investment companies accounted for slightly more than 1 percent of all stock outstanding in the United States, and this ratio was maintained through the 1930's. Beginning with World War II the share of the stockholdings of investment companies in total outstandings increased continuously, although with different speed, and beginning with the early 1940's it reached 3 percent by 1952.

Table 2-12

Stockholdings of Investment Companies,[1] 1922-1952

	Value of Holdings $ mill.	Share in Assets	Share in Stocks outstanding	Net[2] Purchases $ mill.
		percent		
	(1)	(2)	(3)	(4)
		1. All Stocks		
1922	69[3]	69.0	0.09	
1929	2,189[4]	74.6	1.17	1,994
1939	1,204[4]	85.5	1.20	396
1945A	1,977[4]	82.4	1.35	-28
1945B	2,906	79.9	1.98	—
1952	6,583	84.8	3.00	1,360
		2. Preferred Stock		
1922	12[3]	.1	.09	12
1929	191[4]	6.5	.99	166
1939	72[4]	5.1	.53	-103
1945A	201[4]	8.4	1.49	158
1945B	250	6.9	1.86	—
1952	290	3.7	1.81	40
		3. Common Stock		
1922	57[3]	57.0	0.09	
1929	1,998[4]	68.1	1.19	1,828
1939	1,132[4]	80.4	1.31	499
1945A	1,776[4]	74.1	1.33	-186
1945B	2,656	73.0	1.99	—
1952	6,293	81.1	3.09	1,320

[1]Excluding investment holding company and unclassified company, Christiana Corporation classified until 1939 as investment holding company, but as regular investment company beginning 1945.

[2]Period ending with year indicated.

[3]Closed end investment companies only

[4] Excluding face amount installment companies; where no breakdown available assumed allocation 90% common, 10% preferred.

Source:

Cols. 1-3	1922-1945A	A Study of Saving, I, p. 559 ff.
	1945B-1952	Studies in the National Balance Sheet II, p. 168-69 (coverage is wider than for 1922-39).
Col. 4	1923-1945	A Study of Saving, I, p. 545-46. Studies in the National Balance Sheet, II, 422-23

Common stocks have always dominated the portfolio of investment companies. The share of preferred stocks was approximately 7 percent until the late thirties, but then declined to less than 4 percent in 1952. Among common stocks the proportion of railroads declined, in line with the development of the relative supply and price of this category, from approximately one-seventh of the total stock portfolio in the 1920's to 5 percent since World War II. Public utility shares constituted, except during the late 1930's, between one-tenth and one-sixth of the total stock portfolio and represented a somewhat higher proportion of the investment companies' holdings of preferred stock alone. Stocks of financial institutions accounted in 1952 for about one-tenth of the total stock portfolio—a ratio probably not much different from that prevailing earlier—leaving approximately three-fifths to industrial stock. Up to the mid-1950's foreign stocks, then almost all Canadian companies, were unimportant, except for a short period in the late 1920's. Partly as a result of federal regulation beginning in 1939 and partly as a reflection of the policies of most management investment companies—although, of course, not of management holding companies, which are not regarded as financial institutions in this report—the stock portfolio has been fairly widely diversified among individual issues.[17]

[17] For the situation up to 1936 see U.S. Securities and Exchange Commission, *Investment Trusts and Investment Companies*, 1939, Part II, Chapter 8; for the 1950's and the then dominating mutual funds see *A Study of Mutual Funds* prepared by the Wharton School of Finance and Commerce for the Securities and Exchange Commission, 1962, Chapter IV.

Table 2-13

Stockholdings by Different Types of Investment Companies
1922-1952

	Closed end cos. (1)	Open end cos. (2)	Fixed & semi-fixed trusts (3)	Face amount inv. cos. (4)	Total (5)
	A. Value ($ mill.)				
1922	69	-	-	0	69
1929	1927	109	153	2	2191
1939	648	470	86	12	1216
1945A	876	1022	79	40	2017
1945B	1810	1050	.	46	2906
1952	3110	3400	.	73	6583
	B. Percent of Total Assets				
1922	69.0	-	-	0.0	62.7
1929	73.0	81.3	93.3	3.8	73.3
1939	82.7	88.3	93.5	6.8	76.8
1945A	83.4	80.7	96.3	17.9	76.9
1945B	86.2	82.7	.	17.7	80.1
1952	94.8	85.2	.	15.0	84.9

Sources: Cols. 1-4. 1922-45A A Study of Saving, I 559 ff.
1945B-52 Studies in the National Balance Sheet, II, pp. 168.

f. Private (Uninsured) Pension Funds

Private pension funds, whether administered by a commercial bank's trust department, as most of them are, or by independent trustees, were of very small importance among financial institutions or as owners of corporate stock until after World War II (Table 2–14). Thus, in 1945 the total shareholdings of private pension funds, amounting to less than $300 million, constituted only one-tenth of their total assets and accounted for only one-fifth of 1 percent of all corporate stock outstanding. In the following two decades, however, the growth of the assets of private pension funds has been spectacular as has the increase in the absolute and relative importance of their stockholdings.

Already in 1952 the stockholdings of private pension funds of nearly $2 billion, the result primarily of heavy net purchases during the preceding decade, accounted for about one-fifth of the funds' total assets and represented nearly 1 percent of all corporate stock outstanding.

The importance of private pension funds is even slightly more marked if attention is limited to common stock, since the proportion of preferred stock in their total stock portfolio has been declining from about one-third at the end of World War II to about one-fifth in 1952. Even though the share of preferred stocks in the total portfolio of private pension funds has been falling, the proportion of all preferred stock outstanding in the United States held by private pension funds increased from about 0.7 percent in 1945 to more than 2.5 percent in 1952.

Table 2-14

Stockholdings of Private Pension Funds, 1922-1967

	Value $ mill. (1)	Share of total assets p.c. (2)	Share of outstanding stock p.c. (3)	Net purchases[1] $ mill. (4)	Share of preferred stock in (1) p.c. (5)
1922	18	20.0	0.02	13	.
1929	100	20.0	0.05	58	.
1939	210	20.0	0.21	51	.
1945	289	10.8	0.20	246	32.5
1952	1964	20.6	0.89	1700	21.1

[1]Period ending with date indicated (first period covers 1920 to 1922).

Source:

Cols. 1, 2 — 1922-1939, 1945,1952 — Financial Intermediaries, p. 371. Studies in the National Balance Sheet, Vol. II, p. 178

Col. 4 — 1922-1945 — A Study of Saving, I, p. 545.
1946-1952 — Flow of Funds Accounts, 1945-1967, p. 71

Col. 5 — 1945, 1952 — Studies in the National Balance Sheet, Vol. II, pp. 178, 179.

g. Other Financial Institutions

The stockholdings of other financial institutions have been too small throughout the period to warrant separate discussion, either because of the small size of the institutions (e.g., savings bank life insurance departments) or because of the very small percentage of corporate stock held (e.g., savings and loan associations; government pension funds), or because of the special character of the holdings (e.g., the holding of stock in Federal Home Loan banks by member savings and loan associations), or because of the special and temporary character of the stock held (e.g., the holdings of certain government lending organizations during the 1930's), or because of a combination of these factors resulting in a very small volume of corporate stock held notwithstanding a not negligible size of either the institution or of the share of corporate stock in its assets (e.g., fraternal order life insurance and health insurance organizations). The available figures on the stockholdings of these miscellaneous financial institutions are shown in Table 2–15 which also indicates the share of corporate stockholdings in the institutions' total assets.[18]

[18] Information on holdings between 1945 and 1958 for some of these minor institutions is provided in *Studies in the National Balance Sheet, Vol. II:* state and local government pension funds, pp. 160–61; fraternal order life and health insurance organizations, pp. 188–91; savings bank life insurance, pp. 192–93.

Table 2-15

Stockholdings of Miscellaneous Financial Institutions, 1929-1952[1]

	Agencies of foreign banks (1)	Security brokers and dealers (2)	Savgs. bank life insur. (3)	Group health insur. (4)	Fraternal orders life insur. (5)	State & local pension funds (6)	Savings and loan assns.[2] (7)	Govt. lending institts. (8)	Total (9)	P.c. of total outstanding (10)
	I. All Stocks									
1939	.	.	1	.	11	.	41	816	.	.
1945	17	294	1	2	44	40	72	325	795	0.54
1952	34	378	1	7	84	120	309	44	977	0.45
	II. Percent of Assets									
1939	.	.	3.13	.	.92	.	.76	8.36	.	
1945	2.00	5.93	1.64	2.22	2.61	1.32	.82	1.00	1.53	
1952	3.00	9.54	.76	1.78	3.73	1.61	1.37	.15	1.44	

[1]Holdings before 1929 were negligible.

[2]Stock of Federal Home Loan banks.

Source:

1939 Financial Intermediaries, pp. 368 ff.

1945, 1952 Studies in the National Balance Sheet, Vol II. pp. 160 ff.

h. Personal Trust Departments of Commercial Banks

The personal trust departments of commercial banks and trust companies have always administered larger stockholdings than all other financial institutions taken together. Thus at the turn of the century the stockholdings administered by personal trust departments seem to have been nearly twice as large as those of all other financial institutions, and this ratio was apparently maintained without very marked changes until World War II.[19] It was only in the late 1950's that the aggregate stockholdings of all other financial institutions began to approach the size of the stocks in the personal trust funds administered by commercial banks, and only in the mid-1960's did the former decisively pass the latter. In making this comparison it must, of course, be kept in mind that while the other financial institutions are in full control of their stock portfolios, this is not the case for the stocks administered by the personal trust departments of commercial banks, since the trust instrument often limits the power of management, although these limitations seem to have been substantially relaxed in recent decades. Even then the personal trust departments of commercial banks are, of course, bound by the principles which govern the activities of trustees and hence did not have, at least until the more liberal interpretation of these obligations in recent years, as much freedom in the portfolio management of their trusts and estates as some other financial institutions, particularly property insurance companies, investment companies, and uninsured pension funds.

Corporate stock apparently always has constituted an important proportion of the total value of personal trust funds administered by commercial banks, partly because corporate stocks bulked heavily in many of the large estates that were entrusted to personal trust departments. Rough estimates indicate that the proportion of corporate stock in the total value of personal trust funds administered by commercial banks rose from about one-fifth at the turn of the century to two-fifths between the 1950's (Table 2–16). Very little is known about the structure of these portfolios, but it may be assumed that apart from a relatively small number of very large estates the administering commercial banks have tended to establish diversified portfolios of usually high-grade common stock. Preferred stocks accounted for only approximately 4 percent of the stock portfolio in 1958 [20] but the share was undoubtedly considerably higher before World War II.

[19] Because of the scarcity and limited reliability of data and the absence of comprehensive statistics on the assets of personal trust departments before the late 1950's, all findings for earlier periods must be tentative.

[20] This is the first year for which a comprehensive survey of personal trust funds was undertaken by the American Bankers Association (cf. J. H. Wolfe, *Report of National Survey of Personal Trust Accounts,* mimeo). The figure for 1952 should have been on the order of 6 to 8 percent.

Table 2-16

Stockholdings Administered by Personal Trust Departments of Commercial Banks and Trust Companies, 1900-1952

	Value $ mill.	Share in Assets of P. T. F. per cent	Share in Stock Outstanding per cent	Share of preferred stock in (1)
	(1)	(2)	(3)	(4)
1900	600	20.0	4.3	.
1912	2,450	35.0	6.5	.
1922	6,300	35.0	8.3	18.3
1929	12,600	42.0	6.8	14.7
1939	12,950	37.0	12.9	.
1945	18,000	40.0	12.3	.
1952	25,000	41.7	11.4	.

Source:

Cols. 1,2. 1900-1952 Financial Intermediaries. p. 384

Col. 4 1922,1929 N. G. Riddle, The Investment Policy of Trust Institutions (1934), p. 14; figures based on a small sample of accounts.

Since the custom of entrusting the administration of estates and trusts to specialized departments of commercial banks and trust companies originated only late in the nineteenth century there is little doubt that the proportion of total common stock outstanding in the United States administered by these departments increased substantially over the first thirty years of this century. The rise may have been from a level of about 5 percent of all stock outstanding at the turn of the century to one of the order of one-tenth in the 1930's and 1940's. In recent years the growth of the stock portfolio administered by the trust departments of commercial banks does not seem to have kept full pace with the increase in the value of all corporate stock outstanding since the proportion in the mid-1960's, when the figures are much more reliable, was somewhat below one-tenth.

More is known about the small part of the personal trust funds which is administered by commercial banks as common trust funds, i.e., the commingled funds of many trustors which are too small individually to justify separate management. These funds are more similar to other financial institutions since they constitute separate legal entities—they most nearly resemble open-end investment companies—though participations in them are not marketable.

Table 2-17

Stockholdings of Common Trust Funds, 1929-1952

	Value of holdings	Share in total assets	Share in stock outstanding
	$ mill	per cent	
	(1)	(2)	(3)
	I. All Stock		
1929	12	57.1	.006
1939	25	50.0	.025
1945	70	46.7	.047
1952	579	52.6	.264
	II. Preferred Stock		
1929	6	28.6	.031
1939	9	18.0	.066
1945	28	18.7	.208
1952	138	12.6	.859
	III. Common Stock		
1929	6	28.6	.004
1939	16	32.0	.019
1945	42	28.0	.032
1952	441	40.1	.217

Source:

1929-1952, Financial Intermediaries, p. 386

Common trust funds, started in the 1920's, have always been small compared to the personal trust funds administered by commercial banks on an individual basis. Even in 1952 after substantial growth in the postwar period, their assets equaled less than 2 percent of individually bank-administered personal trust funds. Common trust funds, in the portfolio selection of which the administering banks enjoy considerable freedom, have since their introduction kept about one-half of their assets in a diversified portfolio of corporate stock, the share rising to over three-fifths in the late 1950's, a ratio then corresponding to the average for individually bank-administered personal trusts (Table 2–17). As with other financial institutions, the proportion of preferred stocks in the total stock portfolio has declined sharply, from over one-half in 1929 to less than one-fourth in 1952.

i. Investment Advisers

The stockholdings subject to the investment management or advice of investment advisers—firms that may engage in this activity alone or combine it with investment banking, security brokerage, or publication of financial services—are similar to the stockholdings administered by personal trust departments of commercial banks in that for practical purposes the holdings are managed not by the beneficiary individual, nonprofit, or corporate owners but by the adviser. They are different in that legally no trustee relationship exists, the adviser may have a profit-sharing contract, and the securities generally are not kept physically with the manager but by a bank or other financial institution.

There is practically nothing known in quantitative terms about stocks under investment advisory management, and they are therefore excluded from all statistics used here. It may be estimated that in the mid-1930's total funds administered by investment advisory orga-

nizations were in the order of $5 billion, of which stocks probably constituted the majority. However, fully one-half of the total were funds of other financial institutions, which must be eliminated to avoid duplications. Individuals' funds administered by investment counsel firms seem to have been of the order of $1.5 billion.[21] At that time, therefore, the stockholdings managed by investment advisers were very small compared to stocks in personal trust departments or held there directly by financial institutions. The rapid growth of stock under the management of investment advisers undoubtedly occurred only after World War II and in particular during the 1960's.

5. The Stockholdings of All Financial Institutions

Taking here as given the the total assets of financial institutions, the determinants of which were discussed in sections 2 and 3, we need to survey the trend of three ratios: (1) the ratio of financial institutions' stockholdings to their total assets; (2) the ratio of stockholdings of all financial institutions to the value of all corporate stock outstanding; and (3) the ratio of net purchases of stock by all financial institutions to total new issues of corporate stock during the same period. The first ratio reflects portfolio policies of financial institutions within the constraints provided by regulation and differential price movements among financial assets, particularly the difference between movements of stock prices and of claims of different types. The second and third ratios provide an indication of the role of financial institutions in the market for corporate stocks.

[21] These estimates are based on data from 51 investment counsel organizations replying to a questionnaire and reported funds administered of nearly $4 billion, assuming that they accounted for the bulk of the 394 forms then operating. (See Securities and Exchange Commission *Investment Counsel. . . . Services,* 1939, pp. 8–9.)

Table 2 - 18

Financial Institutions' Holdings of Corporate Stock, 1860-1952

($ million)

	Comm. Banks[1] (1)	Mutual Svngs. Banks (2)	Life Ins. Cos. (3)	Prop. Ins. Cos. (4)	Priv. Pens. Funds (5)	Inv. Cos. (6)	Comm. Trust Funds (7)	Total (1)-(7) (8)	Pers. Trust Funds (9)	Total (10)
					I. All Stock					
1860	10			18				28		
1880	30	40		25				95		
1900	103	43[3]	62	122				1,330	600	1,930
1912	284	41	84	231				640	2,450	3,090
1922	401	48	75	370	18	69		981	6,300	7,281
1929	1,009	77	352	1,511	100	2,189	12	5,250	12,600	17,850
1935	473	136	568	1,457	210	1,204	25	4,073	12,950	17,023
1945	220	166	1,000	2,415	289	1,977[4]	70	6,137	18,000	24,137
1952	150	336	2,450	4,320	1,964	6,580	579	16,379	25,000	41,379
					II. Common Stock					
1860	10									
1880	30	40								
1900	103	43	54	93				293		
1912	284	41	72	186				583		
1922	401	48	59	275	11[2]	57		851		
1929	1,009	77	97	1,235	60[2]	1,998	6	4,482		
1935	473	136	133	1,127	126[2]	1,132	16	3,143		
1945	220	166	180	1,932	195	1,776[4]	42	4,511		
1952	150	336	960	3,520	1,550	6,290	441	13,247		
					III. Preferred Stock					
1860										
1880										
1900			8	29				37		
1912			12	45				57		
1922			16	95	7[2]	12		130		
1929			255	276	40[2]	191	6	768		
1935			435	330	84[2]	72	9	930		
1945			820	483	94	201[4]	28	1,626		
1952			1,490	800	414	290	138	3,132		

[1]Excluding stock of Federal Reserve Bank.

[2]Breakdown of preferred and common stock: 40% of total = preferred; 60% of total = common.

[3]An alternative figure (83) has been estimated based on figures for six main states (New York, Massachusetts, Connecticut, Maine, New Hampshire, and Rhode Island) taken from reports of their bank supervisory authorities.

[4]Alternative figures (250 for preferred stock and 2,650 for common stock) can be found in Studies in the National Balance Sheet, pp. 168-69

Table 2 - 19

Share of Stock in Assets of Financial Institutions, 1860-1952

	Comm. Banks[1] (1)	Mutual Svngs. Banks (2)	Life Ins. Cos. (3)	Prop. Ins. Cos. (4)	Priv. Pens. Funds (5)	Inv. Cos. (6)	Comm. Trust Funds (7)	Total (1)-(7) (8)	Pers. Trust (9)	Total (10)
					I. All Stock					
1860	1.20		2.30	22.80						
1880	1.10	4.52	1.50	11.50						
1900	1.03	1.77	3.56	25.68				2.25	20.00	5.27
1912	1.30	1.02	1.91	23.50				2.05	35.00	8.08
1922	.84	.73	.87	16.02	20.00	69.00		1.50	35.00	8.88
1929	1.52	.78	2.01	32.65	20.00	74.56	57.14	5.16	42.00	13.69
1939	.71	1.15	1.94	30.45	20.00	85.51	50.00	3.55	37.00	11.46
1945	.14	.98	2.23	31.83	10.77	82.44	46.67	2.61	40.00	8.68
1952	.08	1.33	3.30	26.87	20.62	84.79	52.64	5.06	41.67	10.83
					II. Common Stock					
1900	1.03	1.77	3.10	19.58				1.66		
1912	1.30	1.02	1.63	18.92				1.53		
1922	.84	.73	.68	11.91	12.22	57.00		1.02		
1929	1.52	.78	.55	26.69	12.00	68.05	28.57	3.40		
1939	.71	1.15	.45	23.55	12.00	80.40	32.00	2.10		
1945	.14	.98	.40	25.46	7.27	74.06	28.00	1.61		
1952	.08	1.33	1.29	21.89	16.28	81.06	40.09	3.45		
					III. Preferred Stock					
1900			.46	6.11				.21		
1912			.27	4.58				.15		
1922			.18	4.11	7.78	.12		.16		
1929			1.46	5.96	8.00	6.51	28.57	.58		
1939			1.49	6.90	8.00	5.11	18.00	.62		
1945			1.83	6.37	3.51	8.38	18.67	.58		
1952			2.01	4.98	4.35	3.74	12.55	.82		

[1]Excluding stock of Federal Reserve Bank.

a. The Share of Corporate Stock in the Assets of Financial Institutions

Table 2–18 shows that the share of stock in the assets of the various types of financial institutions has fluctuated considerably over the past century and without close synchronization among the different groups. This diversity reflects developments specific to individual groups of financial institutions. An example of this diversity is provided by the decline in the share of stockholdings in the assets of life insurance companies early this century and in the reduction of the proportion of stocks in the assets of commercial banks and personal trust funds during World War I. One important trend, however, is common to virtually all groups of financial institutions, namely, the considerable rise in the share of corporate stock in total assets during the 1920's and after World War II. Both movements reflect net purchases of common stock as well as increases in their price. Thus the share of corporate stock in total assets rose between 1945 and 1952 from 2.3 to 3.3 percent for life insurance companies; from 11 to 21 percent for private pension funds; from 40 to 42 percent for common trust funds; and from 0.8 to 1.3 percent for mutual savings banks (see Table 2–19). These are the harbingers of much sharper increases in the following fifteen years that will be discussed in Chapter 3. In 1952, however, the share of corporate stock in total assets was still below the level at the turn of the century for commercial banks, mutual savings banks, and life insurance companies and hardly above that level for property insurance companies. In these important branches of financial institutions, the previous peak ratio was not passed until the mid- or the late 1950's; in the case of commercial banks this had not yet happened even in the late 1960's.

If the balance sheets of all financial institutions are combined (but personal asset departments are excluded), the share of corporate stock in total assets declined from 2¼ percent in 1900 to 1½ percent in 1922, and by 1952 had only partly recovered to 3 percent, disregarding the temporary peak of 4½ percent in 1929. It is only during the last fifteen years that levels never before observed have been reached.

b. The Share of Stockholdings of Financial Institutions in Total Corporate Stock Outstanding

The movements in this ratio in Table 2–20 are similar to those in the ratio of corporate stock to the total assets of financial institutions. Excluding personal trust funds the share declined from about 3½ percent in 1860 to 2½ percent at the turn of century, mostly because of the relatively slow increase in the holdings of commercial banks and property insurance companies. The ratio fell further, to slightly more that 1½ percent, in 1912, partly reflecting the reduction of stockholdings by life insurance companies and only modest increases by the other groups in the face of a sharp rise in the volume of corporate stock issues. It was only the sharp increase in the net purchases of corporate stock during the 1920's, induced by the stock market boom then prevailing, which brought the share of financial institutions in total corporate stock outstanding back to 3 percent in 1929. Continuous purchases during the 1930's and World War II in the face of low stock prices and a very modest volume of new stock issues raised the share to nearly 5 percent in 1945.

Table 2 - 20

The Share of Financial Institutions in Total Stock Outstanding, 1860-1952

(percent)

	Comm. Banks[1] (1)	Mutual Svngs. Banks (2)	Life Ins. Cos. (3)	Prop. Ins. Cos.[2] (4)	Priv. Pens. Funds (5)	Inv. Cos. (6)	Comm. Trust Funds (7)	Total (1)-(7) (8)	Pers. Trust Funds (9)	Total (10)
				I. All Stock						
1860	(1.30)			1.50						
1880	(.60)	.98		.50						
1900	.74	.31	.45	.88				2.38	4.32	6.70
1912	.75	.11	.22	.61				1.69	6.45	8.14
1922	.53	.06	.10	.49	.02	.09		1.29	8.28	9.57
1929	.54	.04	.19	.81	.05	1.17	.01	2.81	6.75	9.56
1939	.47	.14	.57	1.46	.21	1.20	.03	4.08	12.93	17.01
1945	.15	.11	.68	1.65	.20	1.35	.05	4.19	12.27	16.46
1952	.07	.15	1.12	1.97	.90	3.00	.26	7.47	11.39	18.86
				II. Common Stock						
1900	.94	.39	.49	.85				2.67		
1912	.94	.14	.24	.61				1.93		
1922	.64	.08	.09	.44	.02	.09		1.36		
1929	.60	.05	.06	.74	.04	1.19	.01	2.69		
1939	.55	.16	.15	1.30	.15	1.31	.02	3.64		
1945	.17	.12	.14	1.45	.15	1.33	.03	3.39		
1952	.07	.17	.47	1.73	.76	3.09	.22	6.51		
				III. Preferred Stock						
1900	-	-	.28	1.00				1.28		
1912	-	-	.16	.58				.74		
1922	-	-	.12	.73	.05	.09		.99		
1929	-	-	1.33	1.44	.21	.99	.03	4.00		
1939	-	-	3.18	2.41	.61	.53	.07	6.80		
1945	-	-	6.10	3.60	.70	1.49	.21	12.10		
1952	-	-	9.28	4.98	2.58	1.81	.86	19.51		

Note: Figures in parentheses are rough estimates.

Excluding stock of Federal Reserve Bank.

Until 1880 only fire and marine companies.

The real take-off in the ratio, however, started in the late 1940's and lifted it to more than 7 percent in 1952, a movement which was to double the ratio in the following fifteen years. This sharp increase reflected first the rapid growth in the total assets of financial institutions that concentrate their portfolios in corporate stocks, chiefly private pension funds and investment companies, and secondly the increase in the share of stock in the assets of other large financial institutions, particularly life and property insurance companies.[22]

If the rough estimates now available can be trusted, the ratio of stocks held in personal trust funds to total stock outstanding followed a movement which was most of the times in a direction opposite to that for the other institutions, rising from the late nineteenth century to 1922 but falling after World War II. As a result the share of all financial institutions, including personal trust funds, in total corporate stock outstanding fluctuates less than either of the two components. The share appears to have increased from 3½ percent in 1860 to about 10 percent in 1922; to have remained at that level during the 1920's; and to have increased sharply again 11 to 17 percent, at the end of the 1930's and also at the end of World War II. Even with the necessary reservations about the estimates for the stockholdings of personal trust funds it is evident that the sharpest increase in the share of all financial institutions' holdings in total stock outstanding occurred from about 1880 to 1920 and during the Great Depression and World War II.

The character of the stockholdings of financial institutions and their ratio to total stock outstanding, however, changed during this century. Up to World War I the stockholdings of financial institutions were concentrated in bank and railroad stocks and represented a substantial proportion of the total amount of such stock outstanding in the United States. In the postwar period the stockholdings of financial institutions have been more diversified. Another difference, and one of very significant economic importance, is that up to the Great Depression these stockholdings were largely attributable to upper wealth and income groups, primarily holdings through personal trust funds. In contrast in the postwar period the stockholdings of financial institutions may be regarded to an increasing extent—but probably to not more than one-half if stock administered by personal trust departments and investment advisers are included—as indirect holdings of individuals in the lower and particularly the middle income and wealth groups through insurance companies, pension funds, and investment companies.

Preferred stocks have always represented only a relatively small part of the total stockholdings of financial institutions and their movements in relation to the total volume of preferred stock out-

[22] All estimates of the share of financial institutions in the market value of corporate stock outstanding should be regarded as minima since some of the original figures, particularly those for some of the institutions with relatively small stock holdings, reflect book rather than market values. The resulting understatement, however, is not sufficient to affect substantially either the level or the movement of the estimates of the share for the aggregate of all financial institutions.

It also should be noted that the shares would be higher—during most of the period by about one-fourth—if the stockholdings of financial institutions were compared to total corporate stock outstanding excluding intercorporate holdings, a procedure that could be justified by the fact that most intercorporate holdings are not available for acquisition by financial institutions. The ratios would, of course, be further raised—and substantially so—if following the same argument the stock of closely held corporations would also be excluded from the denominator.

standing in the United States have been generally similar to those observed for all stocks. Thus the share declined from 1900 to 1922, but sharply increased during the remainder of the 1920's and during the 1930's. Differing from the case of common stock, however, the share of financial institutions' holdings in total preferred stock outstanding continued to increase during World War II. The share, now again paralleling the case of common stock, although in a less spectacular fashion, further increased in the 1950's and 1960's. As a result, the share of financial institutions in total preferred stock outstanding increased very sharply from only 1 percent in 1922 to 19 percent in 1952. Thus the level of the share of financial institutions in the total value of stock outstanding has been considerably higher for preferred than for common stock since 1912. One of the reasons is the relatively moderate volume of new issues of preferred stock and the absence of a sharp price rise such as occurred in common stock, both factors which have resulted in a much slower increase in the value of preferred stock outstanding than in the total assets of financial institutions.

These conclusions based on data excluding personal trust funds have to be modified if an attempt is made to take account of the preferred stockholdings of these funds. If we assume, on the basis of scattered indications, that at the turn of the century about one-third of all stocks held in personal trust funds were preferred issues and that the ratio declined to about one-fifth in 1929 and dropped sharply to about one-twentieth in 1958—the last figure being fairly well documented—the share of preferred stock held by all financial institutions including personal trust funds would have risen from a negligible fraction in 1860 to about 8 percent in 1900, doubling to about 16 percent in 1929, and again doubling to about 32 percent, in 1958. These figures, rough as they are, indicate a sharp increase in the share of preferred stock held by financial institutions, an increase occurring almost continuously throughout the last century and proceeding at a level considerably above the share of their holdings of common stock. For example, the share of financial institutions in the total volume of stock outstanding in 1958 was close to one-third for preferred stock, but in the neighborhood of only one-fifth for common stock. In 1929 the share for preferred stock with about one-sixth was even approximately twice as high as that for common stock; the difference in 1900 although smaller was still substantial.

Institutional holdings of corporate stock are concentrated in securities listed on the New York Stock Exchange. In 1949, for example, approximately seven-eighths of stockholdings of the main financial institutions, excluding personal trust departments of commercial banks, consisted of issues listed on the NYSE, while the share of stocks so listed in all corporate stock issues outstanding in the United States was only slightly in excess of one-half (Table 2–21). As a result, about 8½ percent of the stock listed on the NYSE was held by financial institutions, compared to 6½ percent for all corporate stock outstanding. If seven-eighths of the stock portfolios administered by personal trust departments consisted of issues listed on the NYSE then all financial institutions at the end of 1949 would have held nearly one-third of all stock listed on the NYSE against a share in total stock outstanding of slightly less than one-fifth.

Table 2-21

Institutional Holdings of All Stocks and of Stocks Listed on the New York Stock Exchange, As of End of 1949

	Amounts		Share in Stock Outstanding	
	All stocks	Stocks listed on NYSE	All stocks	Stock listed on NYSE
	$ bill		per cent	
	(1)	(2)	(3)	(4)
Commercial banks	0.15[1]	.	0.10[1]	.
Mutual savings banks	0.16	0.2	0.11	0.3
Life insurance cos.	1.72	1.1	1.17	1.4
Other insurance cos.	2.15	1.7	1.46	2.2
Corporate pension funds	0.75	0.5	0.51	0.7
Other private pension funds	.	0.0	.	0.0
State & loc. gov. pension funds	.	0.0	.	0.0
Federal government pension funds	---	---	---	---
Open-end investment companies	(1.60)	1.4	2.44	1.8
Closed end investment companies	(2.00)	1.6		2.1
Common trust funds	0.25	0.0	0.16	0.0
Personal trust depts.	20.00	.	13.60	.
Total, including Personal Trust Fund	28.78	.	19.55	.
Total, excluding Personal Trust Fund	8.78	6.5	5.95	8.5

Note: Figures in parentheses are rough estimates.

[1]Excluding stock in Federal Reserve Banks.

[2]Probably negligible.

Source:

Col. 1 Financial Intermediaries, Appendix A (mimeographed).
Col. 2 New York Stock Exchange Research Report, January 1950
Col. 3 Col. 1 divided by $137.3 billion (Studies in the National Balance Sheet p. 51).

No similar figures are available for earlier dates, but it may be assumed that the concentration of the stockholdings of financial institutions in issues listed on the NYSE since World War I was not much different from the 1949 relationship. In the nineteenth century and the beginning of this century the ratio probably was lower because of the large share of bank stocks in institutional stock portfolios. (At that time, however, a considerable number of bank stocks were still listed on the NYSE.) Since the share of stocks listed on the NYSE increased from less than two-fifths in 1900 to about one-half in 1952 (if intercorporate holdings are excluded the rise was from about 45 to over 60 percent)[23] the difference between the share of institutional stockholdings in all corporate stock outstanding and in listed stock was more pronounced in those earlier periods than it is now.

c. The Share of Net Purchases of Stock by Financial Institutions in Total Net New Issues of Corporate Stock

The most spectacular movement in the share of financial institutions, however, is observed if it is measured by the ratio of institutions' net (cash) purchases to total net issues of corporate stock, i.e., the net addition to the supply of corporate stock resulting from cash offerings.

From the turn of the century, when the first estimates can be made, through World War II the share of net purchases by financial institutions in total new issues of corporate stock was never above 15 percent for any of the six periods distinguished. There were, however, considerable differences among these periods. The share of net purchases by financial institutions was relatively high, viz., on the order of one-seventh of the total, for the periods 1897–1900, 1923–1929, and 1940–1945. The explanation is obvious for the 1920's: the appearance of investment companies as a new, important institutional buyer of corporate stocks and the sharp increase in the level of purchases, in this case mostly of preferred stock, by life insurance companies. During World War II total new issues of stock were so small that even very modest absolute net purchases by financial institutions, actually limited to preferred stock, produced a share of financial institutions in total net issues that was fairly high in historical perspective.

For the entire period from 1897 to 1945 net purchases by financial institutions were equal to a little less than one-tenth of total new issues of corporate stock.

A dramatic change occurred immediately after the war. Already in the 1946–1952 period net purchases of stock by financial institutions equaled nearly two-fifths of total net new issues, again only a harbinger of the jump to 100 percent during the following fifteen years. This, of course, is the outstanding structural change in the role of financial institutions in the market for corporate stock in the postwar period, and as such will be discussed in more detail in the following chapters.

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[23] See Goldsmith, *Financial Intermediaries*, Appendix F (mimeographed).

Tab 2-22

Net Purchases of Corporate Stock by Financial Institutions, 1897-1952

Year	Total net issues (1)	Net purchases by: Comm. banks (2)	Mutual savings banks (3)	Life insurance cos. (4)	Property insur. cos. (5)	Pension funds (6)	Invest-ment cos. (7)	All Fin. Insts. $ mil. (8)	All Fin. Insts. % net issues (9)
				I. All Stock					
1897-1900	981	55	-5	15	54	-	-	119	12.1
1901-1912	7198	171	-2	22	109	-	-	300	4.2
1913-1922	10727	115	7	-9	139	13	13	278	2.6
1923-1929	23501	623	29	240	625	58	1994	3569	15.2
1930-1939	6564	-535	59	228	270	51	396	469	7.1
1940-1945	4349	-326	30	165	450	246	-28	537	12.3
1946-1952	12700	.	100	1300	600	1700	1360	5060	39.8
				II. Preferred Stock					
1897-1900	469	-	-	2	13	-	-	15	3.2
1901-1912	1014	-	-	4	16	-	-	20	2.0
1913-1922	2965	-	-	4	50	5	12	71	2.4
1923-1929	7911	-	-	206	180	24	166	576	7.3
1930-1939	1806	-	-	183	75	23	-103	178	10.0
1940-1945	2013	-	-	131	150	120	158	559	27.8
				III. Common Stock					
1897-1900	512	55	-5	13	41	-	-	104	20.3
1901-1912	6184	171	-2	18	93	-	-	280	4.5
1913-1922	7762	115	7	-13	89	8	1	207	2.7
1923-1929	15590	623	29	34	445	34	1828	3993	19.2
1930-1939	4758	-535	59	45	195	28	499	291	6.1
1940-1945	2336	-326	30	34	300	126	-186	-22	-0.9

Source:

1897-1949 A Study of Saving, I, 493-96, 545-46

1946-1952 Federal Reserve Board - Flow of Funds - 1945-1967, p. 60 ff.
Studies in the National Balance Sheet, II, 422-23.

The difference between the period before and after World War II would be somewhat less dramatic if it were possible to include the net purchases of corporate stock, or more correctly the addition to the holdings of corporate stock excluding valuation changes, by personal trust funds, although often and possibly in most instances not by cash purchases but by transfer of previously personally held blocks of stock on the occasion of the death of the owner or the establishment of a trust fund while he was still alive. These purchases (or transfers) would considerably raise the ratio of institutional acquisitions to total net issues of corporate stock during the first four decades of this century, but would increase them relatively little during the 1950's and 1960's. As a result the increase in the ratio of acquisitions of corporate stock by financial institutions on this broader basis would be less pronounced than if the ratio is limited, as in Table 2–22, to the net cash purchases by financial institutions.

For the entire period from 1897 through 1949 (separate figures for the two types of stock are not available for later years) the share of net purchases by financial institutions was about the same for preferred as for common stock—about one-eighth. There are, however, substantial differences in some periods (particularly 1897–1900, 1923–1929, and 1940–1945) which can be followed in Table 2–21.

The distribution of the ratios of stock to total assets among the different types of financial institutions is bimodal. At the one extreme are a few types of financial institutions for which stocks, and particularly common stocks, constitute the most important single type of asset and account for the majority, and often for two-thirds or more, of total assets. This category has always included investment companies and common trust funds and now also embraces private pension funds. In the case of property insurance companies, stocks accounted for less than half of total assets—the average for the period 1880 to 1930 was about one-third—but were the largest single asset. The situation of personal trust funds has been similar.

At the other extreme some financial institutions, and just the largest ones in terms of total assets, show only a very small proportion of total assets in corporate stock—say, less than 5 percent—so that the performance of the stock portfolio cannot decisively affect the financial position of the institutions. Commercial banks, mutual savings banks, savings and loan associations, credit unions, finance companies, life insurance companies, and (until the 1950's) state and local pension funds belong in this category. In some of them the share of corporate stock in total assets has fluctuated considerably over the last fifty years and has tended to increase during the postwar period. There is no group of financial institutions in which stocks ordinarily constitute a secondary but important asset.

6. The Economic Significance of Institutional Stockholdings

The economic significance of the holdings of common stock by financial institutions has two main aspects. The first is the supply of equity funds to nonfinancial corporations embodied in the purchase of their stock by financial institutions. Supply may be direct when the financial institution acquires newly issued stock of nonfinancial corporations. It may be indirect and partial when financial institutions buy outstanding corporate stock and thus either set free part of the

proceeds for reinvestment in new corporate stock, the proportion depending on the reactions of the sellers, or induce a rearrangement of the portfolios of the sellers in the direction of a reduction of corporate stock and an increase in other investments. The second economically relevant aspect of the holdings of nonfinancial corporate stock by financial institutions is their function as an outlet of funds of these institutions, and the effects of this use of funds on the institutions' current earnings and capital gains and, at one degree removed, the effects on the rates the institutions are able to pay to attract savings and on their policy with regard to other uses of their funds.

a. As Suppliers of Equity Capital

Although direct evidence is almost entirely lacking nevertheless the straightforward influence of financial institutions through acquisition of stock of nonfinancial corporations appears to have been small with only a few exceptions. One of these is the purchase of bank stocks by life insurance companies, property insurance companies, and mutual savings banks during the second half of the nineteenth century. That such an influence is possible, though it cannot have been decisive, is indicated by the fact that in 1880 fully 5 percent and in 1900 about 8 percent of all bank stock outstanding were held by financial institutions, excluding the personal trust departments of banks. Another, and more important, exception is the case of preferred stock, where probably a considerable part of new issues was absorbed by financial institutions beginning with the 1920's, as the net purchases of institutions were equal to a considerable fraction of new issues. A less important exception is the purchase of industrial stocks by investment companies during the 1920's, which may have included a significant amount of recent issues.

To evaluate the role of financial institutions in the market for outstanding corporate stock we may use the proportion of shares outstanding and shares traded, as both figures probably are little affected by transactions in new issues. It is then rather unlikely that until the 1950's financial institutions can have had a major role, since their holdings never exceeded 5 percent of total corporate stock outstanding until the end of World War II, mostly in the hands of life insurance companies, property insurance companies, and investment companies, all of which invested in a diversified portfolio of large, heavily capitalized companies. Because of concentration on the stocks on certain "blue chips," the proportion of financial institutions' holdings may, however, have been sufficiently large in a few cases to constitute an important factor in the market.

Detailed information of this type is limited to investment companies. In 1935 investment companies (excluding investment holding companies) owned slightly more than 5 percent of the common stocks of the 86 largest corporations traded on securities exchanges.[24] Their share, however, was as high as 15 percent for Missouri-Kansas-Texas Railroad, 13 percent for B–M–T and United Light and Power B,

[24] SEC. *Investment Trusts and Investment Companies,* Part II, pp. 725 ff. At that time investment companies' holdings of common stock were equal to about 40 percent of all institutional holdings excluding and 7 percent including common stocks in portfolios administered by personal trust departments, excluding in both cases stock in Federal Reserve banks held by commercial banks.

11 percent for American Gas and Electric, and 9 percent for Pacific Gas and Electric and Pacific Lighting. But in most of the largest companies (such as American Telephone & Telegraph, Dupont, General Motors, Pennsylvania and New York Central Railroads, Standard Oil of New Jersey, and U.S. Steel), the proportion was considerably lower, averaging about 2 percent.

In 1952 open-end investment companies held 2½ percent of all stocks listed on the New York Stock Exchange, but only 1½ percent of a sample of 30 very large companies, although they accounted for over 4 percent of trading in these stocks on the exchange.[25] If the other institutional investors with diversified portfolios—closed-end investment companies, property insurance companies, private pension funds, and common trust funds—distributed their stock portfolio in the same way as open-end investment companies, the aggregate holdings of all these financial institutions would have been equal to about 3 percent of the amount outstanding. The proportion, however, was considerably higher in a few open-end-company favorites, e.g., 10 percent in Goodrich, 9 percent in Central and South West, and 6 percent in Goodyear. On the other hand, the proportion was below 1 percent for Standard Oil of New Jersey, General Motors, Dupont, and American Telephone and Telegraph.[26]

Another piece of evidence on the influence of transactions by financial institutions is the share of a group of large institutions (together accounting for about one-sixth of all institutional common stockholdings but nearly one-half of institutions other than personal trust departments) in the trading in 25 leading stocks on the New York Stock Exchange in 1953–1955.[27] For the 25 stocks together the reporting institutions (other than the few reporting personal trust funds) accounted for a little over 5 percent of exchange trading in the 34 months ending October 1955. Their share, however, was as high as 23 percent for Sears Roebuck, 22 percent for Southern California Edison, 15 percent for General Public Utilities, 13 percent for Pacific Gas, 12 percent for American Can, CIT Financial, and United Gas, 11 percent for Goodyear, and 10 percent for Atchison. While it is obvious that for these and similar stocks the activities of financial institutions may have substantially influenced prices it does not follow that they had a more marginal bearing on the equity financing of these companies as most of them offered little if any new stock.

The situation is different for the stocks administered by the personal trust departments of commercial banks. From the fourth quarter of the nineteenth century to World War II, stocks held in these funds have risen continually and substantially, finally accounting for over one-eighth of all corporate stock outstanding. These holdings, however, gave financial institutions much less direct and indirect influence on portfolio companies, on the market for corporate stock, and on the

[25] SEC, *A Study of Mutual Funds*, pp. 168–69.
[26] *Ibid*, p. 171.
[27] U.S. Joint Economic Committee, *Institutional Investors and the Stock Market*. (84th Congress, 2nd Session, 1956.) pp. 86ff.

economy in general than direct holdings of similar size would have, because most of the blocks of stocks held in personal trust funds were the result of transfers at or before the death of the owner rather than of purchases in the open market, and because the turnover of the stock portfolios in personal trust funds after original transfer seems to have been moderate. Nevertheless, it is probably true that until World War II the influence of financial institutions on the market for corporate stock through ownership or management of such stocks (and thus abstracting from the effect of loans on securities by commercial banks) probably lay more in the administration of large stockholdings by the trust departments of commercial banks than in the stock portfolios directly owned by other financial institutions.

Although the share of financial institutions (excluding personal trust departments) in corporate stock outstanding remained moderate until the postwar years, two significant long-term movements may be discerned within this period of nearly one century. The first is a decline in the share of financial institutions' holdings in total corporate stock outstanding from the late nineteenth century to the early 1920's; the second, the rapid increase in the two following decades. In fact, the increase from not much over 1 percent of total corporate stock outstanding in 1922 to nearly 5 percent in 1945 is relatively much larger, although considerably smaller in absolute terms and in percentage points, than the further increase in the twenty years after World War II.

b. As Outlets for Financial Institutions' Funds

Turning to the effects of the stockholdings of financial institutions as an outlet for their funds a distinction must be made between two groups of institutions. For the first, corporate stock provides a substantial or even the major part of assets and hence of earnings and net worth (at market prices) and indirectly strongly affects the attraction of the institutions to investors. These institutions therefore are all strongly influenced by or even dependent on the performance of the stock portfolio. This is the case primarily for investment companies, the funds administered by personal trust departments of commercial banks, and private pension funds. It is true also, although less decisively, for property insurance companies. In all these cases, except for investment companies, the importance of the stock portfolio has been increasing since the 1930's and particularly since World War II. For the other types of financial institutions stockholdings have been so small, in proportion to total assets, at least until 1952, that the performance of the stock portfolio could exercise only a minor influence on the institutions' earnings, net worth, and attractiveness. This is the case particularly for commercial banks, mutual savings banks, savings and loan associations, credit unions, and finance companies, but it is true also of life insurance companies and state and local government pension funds.

CHAPTER 3

THE POSITION OF INSTITUTIONAL INVESTORS AND OF CORPORATE STOCK IN THE NATIONAL BALANCE SHEETS AND THE FLOW-OF-FUNDS ACCOUNTS OF THE UNITED STATES OF AMERICA, 1952–68

1. Scope and Limitations of Data and Their Analysis

The purpose of this chapter is to provide an overview of the structure and development of the balance sheets and flow-of-funds accounts of the main financial and nonfinancial sectors of the American economy during the years 1952–1968. This overview centers on corporate stock among assets and on financial institutions among sectors, and is intended to furnish a background for the more detailed studies of institutional investors' activities in the stock market during recent years which are being made by the Securities and Exchange Commission's Institutional Investors Study.

Because of the limited amount of time available for this study and because the basic framework of statistical data—the balance sheets and flow-of-funds statements for 1952–1968—could be completed only shortly before the date on which the report had to be submitted to the SEC, it has not been possible to subject the data to a substantial amount of analysis. A few attempts in this direction are made in parts of Chapters 4 and 5, but these are based essentially on data available before the material used in this chapter was assembled. The limitation to annual data, of course, precluded any detailed analysis of the effects of business cycles. The emphasis, therefore, was put on trends and structural changes.

Because of the limitations of time and resources noted above, and because of the unavailability of the extensive additional data which were collected by the Institutional Investors Study while this study was in progress, the latter necessarily had to be based essentially on existing statistical data insofar as financial assets were concerned, although a large part of the estimates of the level and changes in the stock of tangible assets—better known in their total for all sectors as national wealth—was developed specifically for this study.

The estimates of the market value of reproducible tangible assets and of their value in constant (1958) prices follow the perpetual inventory method, which has become accepted in this field in the postwar period, and were linked to existing estimates for 1952.[1] These estimates are explained in Appendix I. For most types of nonreproducible tangible assets (i.e., land) a new set of estimates were developed which is described in Appendix II. These figures are subject to substantial but indeterminate errors of estimation, as are all estimates in this field.

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[1] R. W. Goldsmith, *The National Wealth of the United States in the Postwar Period*, 1962.

Financial assets outstanding and annual flows were essentially derived from the latest version of the Federal Reserve Board's flow-of-funds statistics.[2] However, new estimates were developed for two nonfinancial sectors that are not shown separately in past flow-of-funds statistics and for a few types of financial institutions which also are omitted from previous statistics.[3]

The elimination of the holdings and transactions of these groups makes the new "household" sector considerably more homogeneous than the old one. Unfortunately it was not possible, due to lack of available data and of time and resources needed to develop new data, to eliminate holdings of and transactions in financial assets of a few nonprofit institutions, particularly churches and hospitals. It is felt, however, that the holdings and transactions of these groups are relatively small, particularly in the case of corporate stock. More serious for the analysis of the market for corporate stock is the inability to separate funds administered by nonbank trustees and by investment advisers, funds which are supposed to be of substantial size particularly in the latter case.

The new more narrowly defined "household" sector still includes more than 60 million households and unattached individuals with a wide range of income and wealth and with very different structures of balance sheets and of stock portfolios. An attempt, therefore, has been made, which is described in Appendix V, to allocate the total assets and liabilities of the household sector among about half-a-dozen groups classified by total wealth, using estate tax returns and occasional sample surveys of financial assets and liabilities of households as the basis of the allocation. These estimates are necessarily very rough, but they are important for an understanding of the capital market, and they deserve further development.

Of the groups for which balance sheets and flow-of-funds accounts were developed for this study, using partly existing and partly new data, five (personal trust departments, common trust funds, mortgage companies, closed end, etc., investment companies, and fraternal insurance organizations) were added as new subsectors to the existing subsectors of the financial institutions sector. Together these five groups in 1968 accounted for about 15 per cent of the assets and nearly one half of the stockholdings of all financial institutions, represented mostly by the assets of personal trust departments. With the addition of these five groups all financial institutions with substantial stockholdings during the postwar period are included in the statistics save investment advisers, who in 1969 administered for individual clients about 2 per cent of all corporate stock outstanding or about one-tenth of stock owned or administered by financial institutions covered by the statistics.

The figures for the stocks and flows of financial assets are also subject to errors of estimation the size of which cannot be precisely

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[2] This version is very similar to the figures published in *Flow-of-Funds Accounts 1945–1967* (Feb. 1968), Federal Reserve Bulletin, Nov. 1969, p. A 70ff; and *Flow of Funds . . . 4th Quarter 1969* (Feb. 1970), but embodies a number of minor revisions.

[3] For details see Chapter I. The derivation of these estimates is described in Appendices III and IV.

evaluated. These errors are particularly important in the case of the household sector because of its derivation as a residual. In order to improve the estimates of households' holdings of corporate stock, new estimates which are described in Appendix VII were prepared of the total market value of all corporate stock outstanding in the United States. A new estimate, described in Appendix I, was also made of corporate bonds outstanding, but it is still a very tentative one. The need for such a revised estimate is indicated by the fact that the residual between the previous estimate of the value of corporate and foreign bonds and the reported market value of the holdings of these securities by all sectors other than households—a residual measuring the holdings of corporate and foreign bonds by households (it is not as yet possible to separate the two components reliably)—was negative in some years, indicating either an underestimate of the amount outstanding or an overestimate of the holdings of other sectors.

Estimates of the flows (net purchases or sales) of long-term claims, particularly of marketable bonds, are subject—as already has been pointed out in Chapter I—to the shortcoming that they are derived as the difference between the book value of holdings at the beginning and end of the year, which usually is equal to original cost or close to it. In this method of calculation, realized capital gains and losses, as well as the less common write-ups or write-downs, are included in net purchases or sales. Fortunately the amounts of capital gains or losses realized when claims were sold, or of write-ups and downs, which have the same distorting effect on calculated flows, probably were relatively small during the postwar period, at least until 1965 when the sharp increase in interest rates and the corresponding fall in the prices of long-term claims started.

2. Main Characteristics of National and Sectoral Balance Sheets and Flow-of-Funds Accounts in the Postwar Period [4]

a. Growth of National Wealth

When putting the essential features of the national balance sheet of the United States during the period 1952–1968 into historical perspective, a few conclusions emerge, starting with the real infrastructure of tangible assets, which is summarized in Table 3–1.

(1) The average rate of growth of reproducible wealth per head in constant prices (excluding land, to which the concept of deflated values is difficult to apply) for the 17 years 1952-1968 of 2.2 per cent is substantially higher than the rate of 1.7 per cent observed for the period 1901 through 1929, but is slightly below the rate of 2.5 per cent for the second half of the nineteenth century. By this test therefore, the rate of growth of the real infrastructure of the United States in the postwar period was in line with the trend over the preceding hundred years.

[4] When Chapter 3 was written the final version of the figures shown in Appendix I was not available and preliminary estimates had to be used in some cases. Therefore, occasional discrepancies, mostly minor ones, exist between the figures of Chapter 3 and the corresponding figures of Appendix I.

Table 3-1

Distribution of Growth of Reproducible Tangible Civilian Wealth
Among Increases in Population, Price Level and Real Wealth per Head, 1850-1968

	Rate of Growth of Reproducible Tangible Wealth				Share in Growth of Total Reproducible Tangible Wealth			
	1952 to 1968 (1)	1930 to 1951 (2)	1901 to 1929 (3)	1851 to 1900 (4)	1952 to 1968 (5)	1930 to 1951 (6)	1901 to 1929 (7)	1851 to 1900 (8)
1. Nonmilitary wealth, current values	6.00	5.05	5.91	5.20	100.0	100.0	100.0	100.0
2. Population	1.55	1.10	1.62	2.40	25.9	21.8	27.4	46.2
3. Wealth per head	4.45	3.95	4.29	2.80	74.1	78.2	72.6	53.8
4. Price level	2.30	3.50	2.62	0.30	38.3	69.3	44.3	58
5. Real wealth per head	2.15	0.45	1.67	2.50	35.9	8.9	28.3	48.1
6. Real wealth	3.70	1.55	3.29	4.90	61.7	30.7	55.7	94.2

Sources:

Lines 1, 6	1952-1968	Appendix I,
	1929-1952	R. W. Goldsmith, The National Wealth of the United States in the Postwar Period (1962), p.114
	1850-1929	Op. cit. p. 37
Lines 2		Statistical Abstract of the U.S.
Lines 3		Col. 1 less col. 2
Lines 4	1850-1929	As for Cols. 1 & 6
	1929-1968	Difference between lines 3 and 5
Lines 5		Col. 6 less col. 2
Lines 6		Col. 5 plus col. 2

(2) Shifts within the real infrastructure during the postwar period were relatively small if measured in constant prices as in Tables 3–2 and 3–3.[5] The main changes are the increase in the share of consumer durables from 9 to nearly 12 per cent, and a small decline in the share of residential structures and inventories. These tendencies were similar in direction to shifts occurring during the first half of the century. There was no continuation, however, of the sharp decline in the share of nonresidential structures and the substantial increase in the share of producer durables observed in the earlier period. Similarly there was no major shift between the private and public sectors of the economy, although the share of the public sector increased slightly.

(3) In terms of current values and of aggregate rather than per head values, terms which for financial analysis are probably more important than the figures based on deflated values that have been used in the preceding paragraphs, there was a significant shift in favor of land, reflecting the more rapid rise in land prices than in the prices of other durable assets (Tables 3–4 and 3–5). This is contrary to past experience in which the share of land in total national wealth declined rapidly, mainly because of the reduced importance of agriculture in the economy.

(4) The average price level of reproducible tangible assets rose by approximately 2.3 per cent per year, or only slightly less than the 2.6 per cent of the period 1900–1929 and considerably less than the 3.5 per cent of the period of the 1930's and 1940's. All these rates were far above the only very small increase experienced over the second half of the nineteen century as a whole.

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[5] The figures for the years 1968, 1960, and 1952B are not strictly comparable to those for 1952A, 1929, and 1900 because of the difference in the price bases and because of differences in the methods of estimation (particularly the assumed length of life) and in the exact coverage of the various components of reproducible wealth. Such differences are particularly marked in the estimates for consumer durables. Comparisons for the entire period should therefore be made by linking changes within the two subperiods.

Table 3-2

The Reproducible National Wealth of the U.S. and its Main Components 1900-1968

Constant prices; $ bill.

	1968	1960	1952B	1952A	1929	1900
	1958 Prices			1947/49 Prices		
	(1)	(2)	(3)	(4)	(5)	(6)
I. Structures	1179	894	642	480	384	146
1. Private, residential	531	426	308	251	200	76
2. Private, non-residential	290	213	156	135	139	60
3. Public, non-military	358	255	178	94	45	10
II. Equipment	554	359	257	225	118	43
1. Private, prod. durables	285	192	147	106	60	21
2. Private, cons. durables	227	140	95	116	57	22
3. Public, non-military	42	27	15	3	1	0
III. Inventories[1]	204	143	125	98	64	32
IV. Reproducible wealth	1937	1396	1024	803	566	221

[1] Including livestock.

Sources: Cols. 1 to 3 Appendix I.
Cols. 4 to 6 Goldsmith, The National Wealth of the U.S. in the Postwar Period, 1962, p. 119/20.

Table 3-3

Distribution of the Reproducible National Wealth of the U.S., 1900-1968

Constant prices; per cent

	1968	1960	1952B	1952A	1929	1900
	1958 Prices			1947/49 Prices		
	(1)	(2)	(3)	(4)	(5)	(6)
I. Structures	60.9	64.0	62.7	59.8	67.9	66.0
1. Private, residential	27.4	30.5	30.2	31.3	35.3	34.3
2. Private, non-residential	15.0	15.3	15.2	16.8	24.6	27.2
3. Public, non-military	18.5	18.3	17.4	11.7	8.0	4.5
II. Equipment	28.6	25.7	25.1	28.0	20.8	19.5
1. Private, prod. durables[1]	14.7	13.8	14.4	13.2	10.6	9.5
2. Private, cons. durables	11.7	10.0	9.3	14.4	10.1	10.0
3. Public, non-military	2.2	1.9	1.5	0.4	0.2	0.0
III. Inventories	10.5	10.2	12.2	12.2	11.3	14.5
IV. Reproducible wealth	100.0	100.0	100.0	100.0	100.0	100.0

[1]Including livestock.

Sources: Cols 1 to 3 Appendix I.
Cols 4 to 6 Goldsmith, The National Wealth of the U.S. in the Postwar Period, 1962, pp. 127-28.

Table 3-4

The National Wealth of the U.S. and its Main Components, 1900-1968

Current values; $ bill.

	1968 (1)	1960 (2)	1952 (3)	1929 (4)	1900 (5)
I. Land	716	413	200	113.5	31.0
1. Private, agricultural	153	93	67	38.0	16.1
2. Private, non-agricultural	419	241	98	60.2	10.9
3. Public	144	79	315	15.3	4.0
II. Structures	1536	925	577	189.9	34.9
1. Private, residential	696	446	282	95.9	17.4
2. Private, non-residential	362	217	142	70.6	15.5
3. Public, non-military	479	261	153	23.4	2.0
III. Equipment	611	368	228	80.6	12.6
1. Private, producer durables	330	200	126	37.8	6.4
2. Private, consumer durables	234	141	90	42.2	6.1
3. Public, non-military	47	27	12	0.6	0.1
IV. Inventories[1]	216	147	111	38.0	9.9
V. Monetary metals	11	18	23	4.8	1.6
VI. Net foreign assets	50	25	14	12.4	-2.3
VII. National wealth	3141	1895	1153	439.2	87.7
VIII. Reproducible wealth	2425	1482	953	325.7	56.7

[1]Including livestock

Sources: Cols. 1 to 3 Line I Appendix II
Lines II-VI Appendix I

Cols. 4 and 5 Goldsmith, The National Wealth of the U.S. in the Postwar Period, 1962, pp. 117/118.

Table 3-5

The National Wealth of the U.S. and its Main Components, 1900-1968

Current values; per cent

	1968 (1)	1960 (2)	1952 (3)	1929 (4)	1900 (5)
I. Land	22.8	21.8	17.3	25.8	35.3
1. Private, agricultural	4.9	4.9	5.8	8.7	18.4
2. Private, non-agricultural	13.3	12.7	8.5	13.7	12.4
3. Public	4.6	4.2	3.0	3.5	4.6
II. Structures	48.9	48.8	50.0	43.2	39.8
1. Private, residential	22.2	23.5	24.5	21.8	19.8
2. Private, non-residential	11.5	11.5	12.3	16.1	17.7
3. Public, non-military	15.3	13.8	13.3	5.3	2.3
III. Equipment	19.5	19.3	19.8	18.4	14.4
1. Private, producer durables	10.5	10.5	10.9	8.6	7.3
2. Private, consumer durables	7.5	7.4	7.8	9.6	7.0
3. Public, non-military	1.5	1.4	1.0	0.1	0.1
IV. Inventories[1]	6.9	7.8	9.6	8.7	11.3
V. Monetary metals	0.4	0.9	2.0	1.1	1.8
VI. Net foreign assets	1.6	1.3	1.2	2.8	-2.6
VII. National wealth	100.0	100.0	100.0	100.0	100.0
VIII. Reproducible wealth	77.2	78.2	82.7	74.2	64.7

[1]Including livestock

Sources: Cols. 1 to 3 Table 3-2
Cols. 4 and 5 Goldsmith, The National Wealth of the U.S. in the Postwar Period, 1962, pp. 125/26.

(5) As a result the increase in the current value of total reproducible tangible wealth of 6 per cent per year was practically the same as that experienced in the period from 1900–1929, and it was only slightly higher than the rates prevailing from 1929 through 1952 and during the second half of the nineteen century.

(6) Distribution of the total rate of increase of the current value of reproducible tangible assets from 1952–68 was very similar to that observed in the 1900–29 period, population increase accounting for fully one-fourth, the price level for approximately two-fifths and the remaining 30 to 35 per cent representing an increase in real wealth per head. The distribution was, however, quite different in the second half of the nineteen century when price rises contributed very little while population increase accounted for almost one-half of the growth in the current value of reproducible tangible wealth; or in the 1930's and 1940's when sharp price increases contributed over two-thirds, and less than one-tenth of the rise in total current value was contributed by an increase in real reproducible tangible wealth per head.

b. The Growth of Financial Assets

(1) The situation is rather different in the case of financial assets, the relevant figures for which are shown in Table 3–6. In this case there are considerable changes both in the average rate of growth between the four periods distinguished and in the relative share of the three components in the aggregate rate of growth of the current value of financial assets. As in the case of the real infrastructure, a substantial similarity exists between the two periods 1952–68 and 1901–29, and both these periods differ considerably from the periods 1930–51 and 1850–1900.

Table 3-6

Growth of Financial Assets in U.S.A., 1900-1968

	All Financial Assets[1]	Claims							Corporate Stock		
		All	Against Non-financial Sectors			Against financial Institutions			All	Financial Institutions	Others
			All	Federal Government	Other	All[2]	Banking System[3]	Other[2]			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1968	3,917.4	2,791.2	1,509.0	333.2	1,175.8	1,282.2	487.3	794.9	1,126.2	290.9	835.3
1960	2,000.4	1,555.5	889.4	263.4	626.0	666.1	260.1	406.0	445.9	92.9	353.0
1952B	1,161.5	971.8	567.0	243.7	323.3	404.8	208.1	196.7	189.7	34.6	155.1
1952A	1,293.7	1,074.2[4]	615.3	278.6	336.7	458.9	270.3	188.6	219.5	25.0	194.5
1929	504.0	317.3[4]	204.5	18.2	186.3	112.8	61.6	51.2	186.7	22.0	164.7
1900	58.7	44.8[4]	30.6	1.3	29.3	14.2	8.1	6.1	13.9	2.7	11.2

[1] Excluding proprietors' equities in unincorporated business enterprises.

[2] Including all investment companies, fraternal insurance organizations, and from 1952B on personal trust funds administered by commercial banks. (Rough estimates of personal trust funds for 1900, $3 billion; for 1929, $30 billion and $60 billion for 1952A according to R. W. Goldsmith , Financial Intermediaries in the American Economy since 1900, p. 384.)

[3] Monetary authorities and commercial banks.

[4] Taken as equal to liabilities of all domestic sectors.

Sources: 1900, 1929, 1952A, Studies in the National Balance Sheet, 56/7, 72/3, 78/9, 100/101/ 1952B, 1960, 1968, Appendix I.

(2) In the postwar period 1952 through 1968, as in the first three decades of the current century, the market value of financial assets increased at an annual rate of nearly 8 per cent (Table 3–7). The rate of growth of the value of corporate common stock was substantially above that of the rate of growth of claims in both periods, but the difference was more pronounced in the postwar period. The rate of expansion of claims, as a matter of fact, was about the same in both periods with approximately 7 per cent per year. This rate also prevailed during the second half of the nineteen century, but it was considerably lower at 5 per cent in the 1930's and 1940's. On the other hand, the average rate of growth of the value of corporate common stock was slightly smaller in the second half of the nineteenth century (not too much importance should be attached to this difference as the amount of corporate stock outstanding was very small during the first few decades of this period), but of course, it was radically lower in the period 1930–51.

(3) It is only when account is taken of differences in the rate of population growth and, in particular, in the rate of change in the general price level that differences appear between the 1952–58 and 1901–29 periods, while those with the other two periods become even more accentuated (Table 3–8). In particular the rate of increase in the value of common stocks was considerably higher, with an annual average of 8 per cent in the period 1952–68, than in either of the other periods. The rate of growth of all financial assets (deflated per head) however, with slightly over 4 per cent, was fractionally below that observed during the second half of the nineteen century though it was considerably higher than that of the first three decades of this century and, of course, was far ahead of the rate prevailing between 1929 and 1951.

Table 3-7

Average Annual Rate of Growth of Financial Assets, 1901-1968

percent

	All Financial Assets[1]	Claims[2]							Corporate Stock[3]		
		All	Against Non-financial Sectors			Against Financial Institutions			All	Financial Institutions	Others
			All	Federal Government	Other	All	Banking System	Other			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1961-1968	8.8	7.6	6.8	3.0	8.2	8.5	8.2	8.8	12.4	15.4	11.4
1952B-1960	7.0	6.1	5.8	1.0	8.6	6.4	2.8	9.5	11.2	13.2	10.8
1952B-1968	7.9	6.8	6.3	2.0	8.4	7.5	5.5	9.1	11.8	14.2	11.1
1930-1952A	4.2	5.4	4.9	12.6	2.6	6.3	6.6	5.9	0.7	0.6	0.7
1901-1929	7.7	7.0	6.8	9.5	6.6	7.4	7.2	7.6	9.4	7.5	9.7
1901-1952A	6.7	6.3	6.0	10.8	4.8	6.9	7.0	6.8	5.5	4.4	5.6

[1]Does not include proprietors' equities in unincorporated businesses.

[2]Face value.

[3]Market value.

Source: Table 3-6.

Table 3-8

Distribution of Growth of Financial Assets Among Increase in Population, Price Level and Deflated Assets per Head, 1850-1967

	Rate of Growth of Assets (p.c. per year)				Share in Growth of Total Assets			
	1952 - 1968 (1)	1930 - 1951 (2)	1901 - 1929 (3)	1850 - 1900 (4)	1952 - 1968 (5)	1930 - 1951 (6)	1901 - 1929 (7)	1850 - 1900 (8)
				I. All Financial Assets				
1. Market value	7.90	4.40	7.70	6.70	100	100	100	100
2. Population	1.55	1.10	1.62	2.40	20	25	21	36
3. Assets per head[1]	6.35	3.30	6.08	4.30	80	75	79	64
4. Price level[2]	2.20	2.50	2.50	0	28	57	32	0
5. Deflated assets per head[3]	4.15	0.80	3.50	4.30	53	18	45	64
Deflated assets[4]	5.70	1.90	5.20	6.70	72	43	68	100
				II. Claims				
1. Market value	6.80	5.70	7.00	6.60	100	100	100	100
2. Population	1.55	1.10	1.62	2.40	23	19	23	36
3. Assets per head[1]	5.25	4.60	5.38	4.20	77	81	77	64
4. Price level[2]	2.20	2.50	2.50	0	32	44	36	0
5. Deflated assets per head[3]	3.05	2.10	2.88	4.20	45	37	41	64
6. Deflated assets[4]	4.60	3.20	4.50	6.60	68	56	64	100
				III. Corporate Common Stock				
1. Market value	11.70	0.70	9.30	7.00	100	100	100	100
2. Population	1.55	1.10	1.62	2.40	13	157	17	34
3. Assets per head[1]	10.15	-0.40	7.68	4.60	87	-57	83	66
4. Price level[2]	2.20	2.50	2.50	0	19	357	27	0
5. Deflated assets per head[3]	7.95	-2.90	5.16	4.60	68	-415	56	66
6. Deflated assets[4]	9.50	-1.80	6.80	7.00	81	257	73	100

[1] For cols. (1) to (4) Line 1 less line 2

[2] Gross national product deflator

[3] Line 3 less line 4

[4] Line 1 less line 4

Sources: Cols. 1 and 5 Appendix I
Cols. 2,3,6, and 7 Table 3-6

Table 3-9

Structure of Financial Assets, 1900-1968

percent

	All Financial Assets[1]	Claims[2]							Corporate Stock[3]		
		All	Against Non-financial Sectors			Against financial Institutions			All	(1) Financial Institutions	Others
			All	Federal Government	Other	All	Banking System	Other			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1968	100.0	71.3	38.5	8.5	30.0	32.7	12.4	20.3	28.7	7.4	21.3
1960	100.0	77.7	44.4	13.2	31.3	33.3	13.0	20.3	22.3	4.6	17.6
1952B	100.0	83.7	48.8	21.0	27.8	34.9	17.9	16.9	16.3	3.0	13.4
1952A	100.0	83.0	47.6	21.5	26.0	35.5	20.9	14.6	17.0	1.9	15.0
1929	100.0	63.0	40.6	3.6	37.0	22.4	12.2	10.2	37.0	4.4	32.6
1900	100.0	76.3	52.1	2.2	49.9	24.2	13.8	10.4	23.7	4.6	19.1

[1] Does not include proprietors' equities in unincorporated businesses.

[2] Face value

[3] Market value

Source: Table 3-6

(4) The process of a considerable secular and practically uninterrupted increase in financial assets has been accompanied by substantial changes in the structure of financial assets (Table 3–9). The chief characteristic is the increasing share of corporate stock from one-sixth at the end of 1952 to nearly three-tenths in 1968 (and probably still one-fourth at the end of 1969). Among claims the share of the liabilities of financial institutions has remained practically unchanged at approximately one-third of all financial assets. The decline in the share of all claims is therefore concentrated on the liabilities of the nonfinancial sectors whose share in total financial assets fell from slightly less than one-half in 1952 to somewhat below two-fifths in 1968. Here the decline occurred mostly in the debt of the federal government whose share in total financial assets declined sharply from over one-fifth to only one-twelfth during this period. It should be remembered, however, that at the end of 1952 relationships were still affected by the extraordinary expansion of the federal debt during World War II. Compared to 1929 or 1900 the decline in the share of claims in total financial assets is concentrated in the liabilities of nonfinancial sectors other than the federal government. This share stood at 30 percent at the end of 1968 compared to 37 percent in 1929 and to as much as 50 percent in 1900.

c. Total National Assets

National assets, defined as the sum of tangible and financial assets, increased, as Table 3–10 shows, between the end of 1952 and 1968 from $2,300 billion to fully $7,000 billion (market value or reproduction cost), or at an average annual rate of 7¼ percent. This was substantially above the average of 5½ percent for the first half of the century, and the 4 percent for the period 1930–52. It was higher, though only slightly, even compared to the 6½ percent for the first three decades of the century.

Table 3-10

The Growth of National Assets of the U.S., 1900-1968

End of	Aggregate ($ bill.)			Per Head ($ 000)		
	National wealth (1)	Financial assets (2)	National assets (3)	National wealth (4)	Financial assets (5)	National assets (6)
1900	88	59	147	1.1	.8	1.9
1929	439	502	941	3.6	4.1	7.7
1952A	1186	1294	2480	7.6	8.3	15.9
1952B	1153	1162	2315	7.4	7.5	14.9
1960	1895	2001	3896	10.5	11.0	21.5
1968	3141	3917	7058	15.6	19.4	34.9

Source: Tables 3-4 and 3-6

If the increase in the current value of national assets is adjusted for the increase in population and the decline in the purchasing power of the dollar as measured by the national product deflator (Table 3–11) it appears that the rate of increase in the postwar period was considerably higher than in the first half of the century as a whole and that it was slightly above even the rate prevailing from 1901 through 1929. The more appropriate but much more difficult and problematical deflation by price index specific to the different components of national assets—a deflation intended to transform the current value figures into measurements of quantities—also seems to indicate that the rate of expansion of national assets in the postwar period was more rapid than it had been in either the first three or five decades of this century.

d. The Financial Interrelation Ratio

More directly relevant to the connection of the financial superstructure to the real infrastructure is the "financial interrelations ratio," the ratio of the total market value of financial assets to national wealth. The figures are shown in Table 3–12 for six benchmark dates since the turn of the century (1900, 1929, 1945, 1952, 1960, and 1968) for all financial assets as well as for their main components.

Table 3-11

Rates of Growth of National Assets and Components

1952-68 vs. 1901-51

percent per year[1]

	1901-51 (1)	1952-68 (2)	Difference (3)
I. National Assets in current prices	5.60	7.20	1.60
1. Tangible assets[2]	5.20	6.50	1.30
a. Reproducible tangible assets	5.70	6.10	0.40
b. Land	3.80	8.30	4.50
2. Financial assets	6.10	7.90	1.80
a. Claims	6.20	6.80	0.60
b. Equities	5.30	11.80	6.50
3. Debt	6.30	6.80	0.50
4. Net worth	5.10	7.10	2.00
II. General price level	2.50	2.10	-0.40
III. Population	1.40	1.65	0.25
IV. National assets in constant (1929) prices on basis of general price level	3.10	5.10	2.00
V. National assets per head at constant price	1.70	3.45	1.75
VI. Financial interrelations ratio (I3:I1)	0.95	1.30	0.35

[1]Calculates on basis of value at beginning and end of period.

[2]Includes gold and net foreign assets.

Sources: 1900-51 Studies in the National Balance Sheet of the U.S. Vol. I p. 54, ff Vol. II p. 117 ff.
1952-68 Tables 3-4 and 3-7.

Table 3-12

The Financial Interrelations Ratio, 1900-1968

percent of national wealth

	All Financial Assets	Claims[2]							Corporate Stock[3]		
		All	Against Non-financial Sectors			Against financial Institutions			All	(1) Financial Institutions	Others
			All	Federal Government	Other	All	Banking System	Other			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1968	124.7	88.9	48.0	10.6	37.4	40.8	15.5	25.3	35.9	9.3	26.6
1960	105.6	82.1	46.9	13.9	33.0	35.1	13.7	21.4	23.5	4.9	18.6
1952B	100.8	84.3	49.2	21.1	28.0	35.1	18.0	17.1	16.5	3.0	13.5
1952A	109.1	90.6	51.9	23.5	28.4	38.7	22.8	15.9	18.5	2.1	16.4
1929	114.8	72.3	46.6	4.1	42.4	25.7	14.0	11.7	42.5	5.0	37.5
1900	66.7	50.9	34.8	1.5	33.3	16.1	9.2	6.9	15.8	3.1	12.7

[1]Does not include proprietors' equities in unincorporated businesses

[2]Face Value

[3]Market Value

Sources: 1900-1951A Studies in the National Balance Sheet, pp. 54/5, 72/3, 78/9, 100/101
Financial Intermediaries, pp. 340 (for Col. 7) and Appendix F (for Col. 10)

1951B-1968 Flow-of-Funds Accounts 1945-1968, pp. 52/61; (Appendix I for Cols. 9-11)

The postwar period 1952–68 witnessed a substantial increase in the overall financial interrelations ratio from 1.01 to about 1.25.[6, 7] Most of the increase occurred during the second half of the period. Between the end of 1951 and 1960 the ratio went up by 5 percentage points while between 1960 and 1968 it increased by 20 points, or nearly one-fifth. The 1968 value of the financial interrelations ratio was still considerably below the value reached at the end of World War II when price and wage controls and the sharp expansion of government debt and bank credit combined in lifting the ratio to an unprecedented level. The ratio was considerably higher, however, than the peaks reached before World War II in 1929 and again in 1939.[8]

Considerable differences are observed in the movements of the components of the financial interrelations ratio, differences which are closely connected with basic developments in the postwar financial economy. The ratios for both main components of financial assets increased between the end of 1952 and 1968. While the ratio of claims to national wealth rose only from 0.84 to 0.89, the parallel ratio for corporate stock more than doubled from 0.17 to 0.36, mainly due to an increase in stock prices by about 350 per cent or an average rate of fully 9 per cent per year (reduced by mid-1970 to about 220 per cent or 6½ per cent per year). As a result the ratio of the market value of corporate stock to national wealth in 1968 was close to its all-time peak of the late 1920's.

Here again considerable differences exist between the first and the second half of the postwar period. The ratio of the value of stocks to national wealth increased by 7 points each in the period 1952–1960 but by over 12 points in 1961–68, i.e., by fully two-fifths and one-half respectively of its starting value. On the other hand, the ratio of claims to national wealth, after declining slightly in the first period, advanced by 7 points, or nearly one-tenth during the 1960's.

For better understanding it is necessary to distinguish claims owed by nonfinancial sectors from those incurred by financial institutions. The first of these ratios decreased fractionally over the whole period. On the other hand, the ratio of claims against financial institutions to national wealth advanced over the period by five points or by one-seventh. As a result, the ratio of claims against financial institutions to those against the nonfinancial sectors had risen to 0.80 in 1968 compared to 0.72 at the beginning of the period.

Significant changes also occurred within the two main categories of claims. In the case of claims against nonfinancial sectors the share

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[6] The level of these figures is somewhat below some other estimates (e.g., R. W. Goldsmith and R. E. Lipsey, *Studies in the National Balance Sheet of the United States*, Vol. I, p. 80) partly because the latter define some items in the national balance sheet on a grosser basis and include proprietors' equity in unincorporated business enterprises as a separate asset.

[7] The sharp decline in stock prices since late 1968 has somewhat reduced the current value of the ratio. As of mid-1970 it may be estimated to have fallen to below 1.20.

[8] If gross national product is used as the denominator of the ratio instead of national wealth the direction of the movement is the same, but the changes are more pronounced. Thus, the ratio of the value of financial assets to national product rose from 3.7 in 1951 to 5.0 in 1968. The differences between the movements of the two ratios are, of course, due to changes in the wealth-income ratio.

of the federal government declined sharply, from nearly 45 per cent at the end of 1952 (already down substantially from the nearly two-thirds in 1945) to not much over one-fifth at the end of 1968, as the absolute amount of Treasury securities outstanding increased by only 40 per cent in the face of an almost fourfold increase in the debt of business, households and state and local governments. Similarly among claims against financial institutions the liabilities of the banking system declined from one-half in 1952 (and fully two-thirds in 1945) to only approximately two-fifths in 1968. Thus, the structure of claims changed in the direction of an expansion of the share of corporate, household, and state and local government debt and the liabilities of nonbank financial institutions at the expense of the liabilities of the federal government and the banking system.

Developments during 1969 and the first half of 1970, which are not covered in the statistical framework underlying this study, particularly the decline in common stock prices by about one-fourth, have undone a substantial part of the changes that occurred during the postwar period and particularly during the 1960's. Thus, the share of the market value of stock to national wealth may be estimated to have fallen back in mid-1970 to well below 0.30 against the ratio of 0.36 which it had reached at the end of 1968, but to remain well above the value it had at the end of 1960. Similarly, the stocks-claims ratio in the national balance sheet was down to approximately 30 per cent by mid-1970 against 40 per cent at the end of 1968, thus returning to the levels prevailing at the beginning of the century, but still remaining considerably above the minimum of about one-fifth reached between the end of World War II and 1952.

The movements of the financial interrelations ratio during this century are easier to follow in Table 3–13, which shows the average annual rate of change between five benchmark dates. Compared to an average annual rise of 1.1 per cent for the entire period 1900–1968—a trend which would double the ratio every 65 years—the average rate of increase of the ratio in the postwar period 1952–68 was 1.3 per cent. This was the result mainly of a very rapid rise at the rate of 2.1 per cent per year in the second half of the period in which a sharp increase in the value of financial assets, both stocks and claims, was combined with a relatively slow (6½ per cent) rate of growth of national wealth at current prices. Even this rate remained considerably below the extraordinarily rapid increase in the rate in the 1920's which was close to 4 per cent per year for the period 1923–29, the result primarily of a very rapid rise in the value of stock outstanding at an annual rate of 13½ per cent—well above that the postwar period or its two halves—in the face of a much slower rate of increase in the volume of claims (5½ per cent) and a relatively modest expansion in national wealth at current prices (4 per cent).

Table 3-13

Average Annual Rate of Growth in Financial Interrelations Ratio, 1901-1968

	All Financial Assets[1]	Claims[2]							Corporate Stock[3]		
		All	Against Non-Financial Sectors			Against Financial Institutions			All	Financial Institutions	Others Issuers
			All	Federal Government	Other	All	Banking System	Other			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1961-1968	2.1	1.0	0.9	-3.4	3.60	1.9	1.6	2.1	5.5	8.3	4.6
1952-1960	0.6	-0.3	-0.6	-5.3	2.1	0	-3.5	2.8	4.5	6.3	4.1
1952-1968	1.3	0.3	-0.1	-4.4	1.8	0.9	-0.9	2.5	5.0	7.3	4.3
1930-1951	-0.2	1.0	0.6	8.2	-1.8	1.9	2.2	1.4	-3.9	-4.0	-5.3
1901-1929	1.9	1.2	1.0	3.6	0.8	1.6	1.5	1.8	3.5	1.7	3.8
1901-1951	1.0	1.1	0.8	5.5	-0.3	1.7	1.8	1.6	0.3	-0.8	0.5

[1]Does not include proprietors' equities in unincorporated businesses.

[2]Face Value

[3]Market Value

Source: Table 3-12

Table 3–14, which uses gross national product as denominator instead of national wealth, shows generally the same movements and relations. This is to be expected, as these ratios are linked to the financial interrelations ratio by the capital-output ratio (national wealth divided by national product) which has not moved sharply between the five benchmark years. The ratios of financial assets to national product are given, although they are conceptually inferior to the financial interrelations ratio (the denominator being the flow rather than the stock dimension) because figures on national product are available for many more dates and countries than are those for national wealth. Some differences in the movements of the two sets of ratios are, however, noticeable if the two halves of the postwar period are compared. Because the capital-output ratio increased considerably between 1952 and 1960 and declined slightly from 1960 to 1968, the increase in the ratio of financial assets to national product is about the same in the two halves of the period while the ratio of financial assets to national wealth (the financial interrelations ratio) increases much more rapidly in the second than in the first half of the postwar period.

e. Distribution of National Assets and Their Main Components Among Sectors

In view of the rapid expansion of the economy and the sharp changes that have occurred during the postwar period in the prices of land, structures, and corporate stock, it is remarkable that the distribution of national assets and its two main components, tangible and financial assets, as shown in Table 3–15, changed little during the postwar period.

Table 3-14

Relation of Financial Assets to GNP

percent

	All Financial Assets[1]	Claims[2]							Corporate Stock[3]		
		All	Against Non-financial Sectors			Against financial Institutions			All	(1) Financial Institutions	Others
			All	Federal Government	Other	All	Banking System	Other			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1968	452.4	322.3	174.2	38.5	135.7	148.1	56.3	91.8	130.1	33.6	96.5
1960	397.2	308.6	176.4	52.3	124.1	132.2	51.6	80.6	88.5	18.4	70.1
1952B	336.0	281.1	163.9	70.5	93.4	117.2	60.2	56.9	54.9	10.0	44.9
1952A	374.4	310.9	178.1	80.6	97.5	132.8	78.2	54.6	63.5	7.2	56.3
1929	488.8	307.8	198.4	17.7	180.7	109.4	59.7	49.7	181.1	21.3	159.7
1900	404.8	309.0	211.0	9.0	202.1	97.9	55.9	42.1	95.9	18.6	77.2

[1]Does not include proprietors' equities in unincorporated businesses

[2]Face Value

[3]Market Value

Source: Table 3-6

The shares of the three largest sectors, in terms of their total assets, changed only fractionally. Households increased their share very slightly; the share of business declined moderately from 26 to 22 percent, mainly because of a substantial relative decline in the share of farm business from nearly 6 to 3½ percent; and the share of finance rose fractionally from 18 to 20 percent. The two government sectors together accounted for 11 percent of national assets in 1952, 1960, and 1968. However, the share of the federal government declined considerably over the period while that of state and local governments increased.

The distribution of tangible assets also showed only moderate changes, the most important of which was the increase in the share of state and local governments from 12 to 17 percent and a small decline in the share of business from 44 to 40 percent, again attributable mainly to agriculture. The shifts are more pronounced if attention is focused on the two main components, land and reproducible tangible assets. Changes in the distribution of the value of land are dominated by the sharp decline in the share of agriculture from 34 to 21 percent, reflecting the less rapid—though in absolute terms still very substantial—increase in the price of farm land. This was offset by substantial increases in the shares of households, corporate business, and state and local governments, all reflecting the rapid appreciation of urban land. More interesting are changes in the distribution of reproducible assets, because they result largely from differences in the rate of increase of capital formation rather than predominantly from price changes as is the case for land. Such changes, however, were moderate—a substantial increase in the share of state and local governments from 12 to 17 percent, small declines in the shares of household and corporate business, and a substantial reduction in the share of agriculture.

Financial assets in the aggregate showed only small changes in distribution, a modest increase in the share of households and a decline in that of business. The share of financial institutions remained practically stable at slightly below one-third of the total.

Table 3-15

Distribution of National Assets and Chief Components Among Main Sectors; 1952, 1960 and 1968

All domestic sectors = 100

	Households (1)	Nonprofit institutions (2)	Nonfinancial business: Total (3)	Nonfinancial business: Corporations (4)	Nonfinancial business: Unincorporated: Agriculture (5)	Nonfinancial business: Unincorporated: Other (6)	Federal Government (7)	State and local Government (8)	Finance (9)
I. Total Assets									
1952	43.9	1.3	25.6	16.2	5.8	3.6	4.9	6.2	17.8
1960	45.1	1.6	23.2	15.8	4.5	3.2	4.2	7.2	18.2
1968	45.4	1.7	21.9	15.1	3.7	3.1	3.5	7.8	19.7
II. Tangible Assets									
1952	34.6	2.1	44.3	25.2	12.4	6.6	6.5	12.1	0.5
1960	36.2	2.4	38.8	24.1	9.7	6.7	6.4	14.4	0.7
1968	34.2	2.8	38.8	24.6	8.6	6.6	5.4	16.8	0.9
1. Land									
1952	29.4	3.2	49.8	10.6	33.8	5.4	5.4	11.9	0.3
1960	36.1	3.6	40.6	13.6	22.6	4.4	4.5	14.7	0.6
1968	35.1	4.0	39.8	14.4	21.3	4.1	4.7	15.5	1.9
2. Reproducible Assets									
1952	35.8	1.8	43.9	28.4	7.7	6.9	6.7	12.2	0.5
1960	36.3	2.7	38.6	27.1	6.0	6.5	7.0	14.3	0.8
1968	33.9	2.5	38.9	27.7	4.8	7.4	5.6	17.2	0.9
III. Financial Assets									
1952	51.3	0.7	10.3	9.0	0.6	1.2	3.6	1.5	31.6
1960	52.2	0.9	10.3	9.0	0.3	0.9	2.4	1.3	32.3
1968	53.2	0.9	9.0	8.2	0.2	0.2	2.1	1.4	32.9
1. Short term claims									
1952	28.7	0.0	24.1	19.8	1.4	2.9	9.2	2.3	34.2
1960	32.0	0.0	25.0	21.8	0.8	2.4	6.2	2.5	33.6
1968	35.3	0.0	22.2	20.2	0.4	1.6	5.7	3.0	32.3
2. Long term claims									
1952	45.5	0.7	2.1	2.1	-	-	0.6	2.7	49.1
1960	46.5	0.7	0.9	0.9	-	-	0.7	1.6	49.7
1968	44.2	0.5	0.6	0.6	-	-	0.7	1.5	52.3
3. Corporate Stock									
1952	76.8	3.3	-	-	-	-	-	-	19.9
1960	73.5	3.0	-	-	-	-	-	-	23.5
1968	74.6	2.3	-	-	-	-	-	-	22.9

(continued)

Table 3-15 (continued)
Distribution of National Assets and Chief Components Among Main Sectors; 1952, 1960 and 1968
All domestic sectors = 100

	Households (1)	Nonprofit institutions (2)	Nonfinancial Business: Total (3)	Nonfinancial Business: Corporations (4)	Nonfinancial Business: Unincorporated: Agriculture (5)	Nonfinancial Business: Unincorporated: Other (6)	Federal Government (7)	State and local Government (8)	Finance (9)
IV. Liabilities									
1952	9.8	0.4	19.8	17.0	1.4	1.3	25.1	3.4	41.7
1960	13.9	0.6	20.9	17.7	1.5	1.7	16.9	4.8	42.8
1968	14.7	0.7	22.0	17.9	1.8	2.2	11.9	4.0	45.9
1. Short term debt									
1952	8.3	0.0	20.3	17.9	1.5	0.9	15.1	0.5	55.8
1960	11.2	0.1	20.9	17.4	1.6	1.9	13.6	0.5	53.7
1968	15.2	0.3	25.5	20.9	2.2	2.3	11.7	0.9	46.4
2. Long term debt									
1952	12.1	0.7	16.3	13.0	1.6	1.7	37.1	6.5	27.2
1960	17.8	1.2	17.5	14.1	1.7	1.8	21.9	9.2	32.4
1968	18.3	1.3	20.1	15.3	2.7	2.1	15.2	9.2	35.9
V. Net worth									
1952	65.4	1.9	29.3	15.7	8.6	5.1	-7.9	8.0	2.7
1960	63.8	2.1	25.0	14.6	6.3	4.1	-3.4	8.6	3.4
1968	63.7	2.2	21.7	13.3	4.8	3.6	-1.6	9.7	3.9

Source: Appendix I.

There were more movements in the distribution of the main types of financial assets, particularly short-term claims. Here the share of households increased considerably from 29 to 35 per cent while that of business declined from 24 to 22 per cent, probably reflecting both a carryover at the beginning of the period of excess liquidity from the war and the more effective management of liquid assets in the following two decades. The share of financial institutions showed a small net decline between 1952 and 1968. The distribution of long-term claims changed little, as a small decline in the share of households and a relatively substantial reduction in that of business were offset by an increase in the share of financial institutions from 49 to 52 per cent, which testifies to the continuing high degree of institutionalization of long-term debt financing. The distribution of corporate stock, particularly interesting for this investigation, changed little. The share of financial institutions rose from 20 to 23 per cent.

Much more pronounced changes appear in the distribution of debt among the sectors and reflect primarily the small expansion of the federal debt in absolute terms and its sharp reduction in proportion to all debt from 25 to 12 per cent. As a consequence the share of all other sectors increased, although in varying proportions. The increase was sharpest for households, whose share rose from 10 to 15 per cent of the total, and was substantial in relative terms for state and local governments with a rise from 3½ to 4 per cent. The increase in the share of business was moderate. On the other hand, the share of financial institutions increased from 42 to 46 per cent, another indication of the continuing institutionalization of the financial process. Changes were similar in direction and extent for short- and

for long-term debt, the declining share of the federal government being somewhat more pronounced in the case of long-term debt, where its share was cut by three-fifths, than for short-term obligations.

In view of the relative stability of the distribution of tangible and financial assets and liabilities among sectors, it is not astonishing that changes in the share of net worth were also moderate. The most important of these was the reduction, and indeed the near disappearance, of the negative net worth (excess of debt over assets) of the federal government.[9] Next in importance was the decline in the share of unincorporated business, both farm and nonfarm business, which is responsible for most of the reduction of the share of total business from 20 to 22 per cent of national net worth.

The changes in the distribution of national assets and their components just discussed are, of course, the results of differences in the growth rate of the aggregates and main components, of the assets, of the different sectors that are shown in Table 3–16.

For the period as a whole, for which total assets increased at an average rate of 7.0 per cent per year, the most rapidly expanding sectors were nonbank financial institutions, with an average annual growth rate of 9.1 per cent, while the slowest-growing sectors were unincorporated agricultural businesses with a rate of only 4.0 per cent a year. Ranking of the sectors was similar in the two subperiods, although the lead of the nonbank finance sector was much smaller in the second than in the first half of the period and the most slowly growing sector in the second subperiod was the federal government rather than agriculture, which held that position in the first subperiod.

[9] If military assets, excluded from Table 3–15 and throughout this discussion, were included, the federal government's net worth would be positive throughout, but probably declining.

Table 3-16

Growth of Total Assets of Main Sectors, 1952-1968

1952 = 100

		1952 = 100		Annual Growth Rate (per cent)		
		1960	1968	1953 to 1960	1961 to 1968	1953 to 1968
		(1)	(2)	(3)	(4)	(5)
I.	Households	169	305	6.8	7.6	7.2
II.	Non-profit institutions	197	376	8.8	8.4	8.6
III.	Unincorporated business	135	213	3.8	5.9	4.8
	1. Agricultural	127	188	3.0	5.0	4.0
	2. Other	148	254	5.0	7.0	6.0
IV.	Nonfinancial corporations	160	274	6.0	6.9	6.5
V.	Federal government	144	212	4.7	4.9	4.8
VI.	State and local government	191	372	8.4	8.7	8.6
VII.	Finance	169	327	6.8	8.6	7.7
	1. Banking system[1]	127	235	3.0	8.0	5.5
	2. Other	210	416	9.7	8.9	9.3
VIII.	All sectors	165	296	6.5	7.6	7.0
IX.	General price level (GNP deflator)	118	142	2.1	2.3	2.2

[1]Federal Reserve system and commercial banks.

Source: Appendix I

These rates of growth are the combined result of the sector's saving, its net external financing and the increase in prices which affected its assets. For all sectors together, external financing and the residual primarily reflecting valuation changes (price increases), each accounted for approximately two-fifths of the increase in the value of assets between 1952 and 1958 as well as in both subperiods leaving one-fifth to net saving. The share of valuation changes, however, was considerably higher than this for households and very much lower for financial institutions because the share of corporate stock in their total assets was low. External financing entirely dominated the increase in assets of the finance sector and, next to it, of the federal government, and was least important for households. Equity financing, however, was almost negligible in the two sectors in which it existed—nonfinancial corporations and finance—in both cases it accounted for only about 3 per cent of the expansion of assets including, and 5 per cent excluding, valuation changes.

An understanding of the changes in the distribution of national assets and its components among sectors and of the rate of growth of total assets of the different sectors requires an analysis of the balance sheets and flow-of-funds accounts of these sectors. While both statements have been constructed on an annual basis for the period from 1952 to 1968 there was not sufficient time available after their completion for an adequate analysis. This, it is hoped, will be presented before long in a separate document. For the purposes of this report we shall have to be satisfied with a summary of the structure of the sectoral balance sheets for the three benchmark dates of 1952, 1960, and 1968 presented in Tables 3–17 and 3–18 and with a listing of a number of changes regarded as being significant. This limitation is to some extent justified because some aspects of the structure of and changes in financial assets of households are discussed in Chapter 5, Section 2; because a breakdown of the assets of the household sector by size of wealth for at least one recent date is presented in Appendix V; and because the position of corporate stock in the balance sheets and flow-of-funds of financial institutions forms the subject of Section 5 of this chapter.

Table 3-17

Structure of Sectoral Balance Sheets, 1952, 1960 and 1968

Per cent of Total Assets

	Households			Nonprofit Institutions[1]			Unincorporated Business[2]			Nonfinancial Corporations			Federal Government[3]			State & Local Govts.[4]			Finance		
	1952 (1)	1960 (2)	1968 (3)	1952 (4)	1960 (5)	1968 (6)	1952 (7)	1960 (8)	1968 (9)	1952 (10)	1960 (11)	1968 (12)	1952 (13)	1960 (14)	1968 (15)	1952 (16)	1960 (17)	1968 (18)	1952 (19)	1960 (20)	1968 (21)
I. Tangible Assets	38.2	38.3	33.3	69.5	68.7	70.3	87.7	91.0	93.0	69.4	68.9	68.6	57.6	66.1	63.3	86.6	89.6	89.3	0.4	0.6	0.8
1. Land	5.2	7.7	7.1	19.0	22.9	22.9	33.0	35.3	35.6	5.3	8.4	9.0	9.2	11.2	13.4	15.2	20.4	19.1	0.1	0.3	0.5
2. Reproducible assets	33.0	30.6	26.2	50.5	45.8	47.4	56.7	55.7	57.4	64.1	60.5	59.6	46.4	54.9	49.9	71.4	69.2	70.2	0.3	0.3	0.3
a. Structures	25.0	23.4	19.6	45.3	41.8	44.7	22.2	25.4	30.5	28.9	27.0	25.2	40.8	43.8	41.5	67.1	64.1	64.7	0.2	0.2	0.2
b. Producer durables	-	-	-	5.1	4.0	2.6	18.7	19.9	16.5	19.2	20.7	21.2	4.9	7.1	6.3	4.2	5.2	5.4	0.1	0.1	0.1
c. Consumer durables	8.0	7.2	6.6	--	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
d. Inventories	-	-	-	-	-	-	15.8	10.4	10.4	16.0	13.2	13.1	2.8	5.0	2.0	-	-	-	-	-	-
II. Financial Assets	61.8	61.3	66.7	30.5	31.3	29.7	10.3[10]	9.0[10]	7.0[10]	30.6	31.1	31.4	42.4	33.9	36.7	13.4	10.4	10.7	99.6	99.4	99.2
1. Short term claims	12.7	12.2	13.6	.3[9]	.3[9]	.6[9]	9.1	8.5	5.3	18.1	24.3	24.3	39.0	27.9	31.1	7.3	6.3	7.1	38.9	32.6	32.9
2. Long term claims	18.7	18.4	16.8	9.7	8.4	5.7	-	-	-	2.1[11]	1.5[11]	0.8[11]	2.4	3.4	3.9	6.1	4.1	3.6	51.6	51.8	49.1
3. Corporate stock	12.9	16.8	24.4	18.7	20.1	20.5	-	-	-	-12	-12	-12	-	-	-	-	-	-	7.7	13.0	16.9
4. Miscellaneous assets	17.5[8]	16.6[8]	11.8[8]	1.8	2.5	3.0	1.2	1.5	1.7	4.1	5.8	6.4	1.0	2.5	1.6	-	-	-	1.4	2.0	2.4
III. Total Assets	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
IV. Liabilities	8.4	11.1	11.6	10.3	15.1	16.6	11.1	16.0	22.1	40.1	41.4	44.0	206.5	159.6	133.6	21.0	25.0	22.9	92.0	90.2	89.8
1. Short term[5]	3.5	4.1	4.7	0.0	0.9	2.3	4.6	7.6	9.5	14.6	16.3	17.9	58.8	56.9	51.9	1.6	1.2	1.6	63.5[13]	56.4[13]	55.1[13]
2. Long term[6]	5.0	7.0	6.9	10.3	14.1	14.3	6.5	8.4	12.6	25.5	25.1	26.1	145.4	101.9	81.7	19.4	23.8	21.3	28.5	33.8	33.6
V. Net Worth	91.6	88.9	88.4	89.7	84.9	83.4	88.9	84.0	77.9	59.9	58.6	56.0	2.4	0.7	0.0	79.0	74.9	77.1	8.0	9.8	10.2
VI. Total Assets, $ billion	1132	1948	3540	33	65	125	236	315	510	413	664	1137	118	165	249	156	297	580	440	738	1427

[1] Covers only foundations and educational institutions

[2] Agricultural and non-agricultural businesses

[3] Excludes military assets

[4] Excludes state and local pension funds which are included in cols. 19-21

[5] Includes miscellaneous liabilities

[6] Mortgages only in cols. 1-9

[8] Mostly equity in unincorporated business enterprises at value of their net worth (Line V., cols. 7-9)

[9] Only currency and demand deposits

[10] Only financial assets primarily associated with business activities; hence excludes securities and insurance claims of proprietors.

[11] Bonds only

[12] Intercorporate stockholdings excluded

[13] Includes currency and demand deposits (1952: 30.8%; 1960: 20.2%; 1968: 14.5%).

[7] Constituents of long-term claims of household sector (per cent)

	1952	1960	1967
a. Bonds	5.3	4.2	2.8
b. Mortgages	1.6	1.6	1.0
c. Life Insurance	5.5	4.6	3.6
d. Pension funds*	3.0	4.9	6.0
e. Personal trust funds	3.8	3.9	4.2

Source: Appendix I.

Table 3-18

Structure of Balance Sheet of Unincorporated Farm and Non-farm Business Enterprises, 1952, 1960 and 1968

percent

	Farm Enterprises			Non-farm Enterprises		
	1952 (1)	1960 (2)	1968 (3)	1952 (4)	1960 (5)	1968 (6)
I. Tangible Assets	94.3	95.7	96.6	82.0	84.4	88.4
1. Land	46.0	49.7	55.3	12.0	13.7	12.6
2. Reproducible assets	48.3	46.0	41.3	70.0[3]	70.7[3]	75.8[3]
a. Structures	20.0	20.8	18.2	25.7	28.5	43.7
b. Producer durables	12.6	12.9	12.4	28.7	29.1	21.8
c. Consumer durables	-[1]	-[1]	-[1]	-	-	-
d. Inventories	15.9	12.3	10.7	15.6	13.2	10.2
II. Financial Assets	5.7	4.1	3.4	17.8	15.5	11.6
1. Short term claims	4.9	3.1	2.2	15.9	13.2	9.3
2. Long term claims	-	-	-	-	-	-
3. Corporate stock	-	-	-	-	-	-
4. Miscellaneous assets	0.8	1.0	1.2	1.9	2.3	2.3
III. Total Assets	100.0	100.0	100.0	100.0	100.0	100.0
IV. Liabilities	9.5	12.6	18.6	13.6	20.1	26.8
1. Short term	4.6[2]	5.8[2]	8.6[2]	4.7[2]	9.9[2]	10.8[2]
2. Long term	4.9	6.8	10.0	8.9	10.2	16.0
V. Net Worth	90.5	87.4	81.4	86.4	79.9	73.2
VI. Total Assets, $ billion	146	187	276	90	133	229

[1] Including livestock

[2] Mortgages

[3] Of which residential structures 16.4; 16.3; 26.6.

Source: Appendix I.

1. The main change in the structure of the balance sheet of the household sector is the increase in the share of corporate stock from 13 per cent at the end of 1952 to 25 per cent in 1968, a change completely due to the rise in stock prices during the period as households showed a net sales balance of stock for the period as a whole.

2. Apart from the effects of the increase in stock prices on the distribution of assets of households some interest attaches to the increase in the share of short-term claims, mainly claims against financial institutions; the decline in the share of residential structures in contrast to the increase in the share of land which again reflects a price movement; the possibly unexpected decline in the share of consumer durables which is attributable to the relatively slower rise in their prices; and to the modest increase in the debt-asset ratio, both for consumer credit and for home mortgages.

3. In agriculture the main change on the asset side is the sharp increase in the share of land from 46 to 55 per cent, reflecting a rapid increase in prices; and the proportionally even sharper decline in the share of livestock and other inventories. At the same time the debt-asset ratio, which had fallen to historically very low levels during World War II, doubled between 1952 and 1968, both for short- and for long-term liabilities.

4. Changes in the structure of assets of unincorporated nonfarm business enterprises were dominated by the sharp increase in the share of structures in the 1960's mainly reflecting the rapid acceleration of multifamily residential construction. This development is also responsible for most of the rapid increase in mortgage debt in the 1961–68 period. The proportionally very pronounced decline in the share of producer durables, inventories, and liquid assets reflects the relatively low rate of growth of unincorporated nonfarm enterprises outside the real estate field.

5. Changes in the structure of the balance sheets of nonfinancial corporations were relatively small. The sharp increase in the share of land, of course, again reflects price movements. The declining share of structures continues a long-term trend.

6. The outstanding feature in the changes in the structure of the federal government is the reduction of the debt-asset ratio by one-third and the even sharper reduction in the long-term debt ratio, the result of a relatively small expansion of the absolute volume of debt in the face of a substantial increase in both the volume and price of assets.

7. Changes are again relatively small in the structure of the balance sheets of state and local government over the period as a whole, a substantial increase in the debt-asset ratio during the first period being partly undone in the second subperiod.

8. In the financial sector the main changes, at the high level of aggregation of Table 3–17, are a sharp increase in the share of corporate stock in assets from 8 to 17 per cent; the reduction in the share of

short-term claims in total assets from nearly 40 to 30 per cent, mainly during the first subperiod; and the halving of the share of monetary liabilities in total liabilities and net worth, also primarily occurring during the first subperiod. These two changes reflect the much lower rate of growth of the assets of the banking system compared to nonbank financial institutions during the first subperiod, a development which did not continue during the second subperiod.

3. The Determinants of New Issues and Total Assets of Financial Institutions

It remains to inquire briefly into the relation of some basic economic factors to the volume of new issues by financial institutions and the size of their total assets in the postwar period. These factors have been selected because statistics are available for them and the algebraic relations are simple, but they are only the immediate statistical determinants of the two magnitudes studied—new issues and assets of financial institutions. Each of them is, in turn, dependent on many other factors. An exploration of these ultimate factors would be necessary to an understanding of the level and movements of financial institutions, issues and assets, but it would go far beyond the boundaries of this summary survey.

In Table 3–15 the decomposition of the change in assets of financial institutions discussed in Chapter 1 is applied to flow-of-funds data for the period 1952 through 1969. This means that the ratio of the change in the issues of financial institutions (monetary authorities, commercial banks, nonbank financial institutions, and federally sponsored lending agencies as defined in the flow-of-funds statistics) to gross national product is regarded as the sum of two ratios, (1) the ratio of the change in money outstanding to gross national product and (2) the ratio to national product of the change in household thrift deposits and claims against insurance organizations plus their purchases of open-end investment company stock. These two numerators leave (3) a rather heterogeneous remainder that includes, among other things, the issues of financial institutions other than the banking system, insurance organizations and investment companies, the issues of financial institutions to nonhouseholds (including, e.g., the recently important large certificates of deposit and Eurodollars), and changes in the net worth of all corporate financial institutions. The second ratio, in turn, is the product of four ratios: the ratio of personal disposable income to gross national product (ρ); the ratio of gross saving (as defined in the national accounts) to personal disposable income (σ); the ratio of the acquisition of financial assets by households to their personal saving (χ_1); and the ratio of the change in thrift deposits, claims against insurance organizations, and acquisitions of open-end investment companies stock to the net acquisition of financial assets (χ_2).

Table 3-19

Determinants of New Issue Ratio of Financial Institutions

1952-1969

	Aggregate issue ratio[1]	Money issue ratio[2]	Household claims against financial institutions					Residual
			Total[3]	ρ[4]	σ[5]	X_1[6]	X_2[7]	(1)-(2+3)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1952	7.93	1.90	4.60	.69	22.0	.42	.74	1.43
1953	6.42	0.00	4.58	.69	22.4	.39	.75	1.84
1954	7.62	1.23	4.82	.71	21.2	.37	.87	1.57
1955	7.59	0.58	4.55	.69	22.4	.41	.71	2.46
1956	6.30	0.43	4.82	.70	22.8	.41	.73	1.05
1957	6.17	0.16	5.15	.70	22.3	.37	.88	.86
1958	8.41	1.30	5.68	.71	21.4	.43	.85	1.43
1959	6.76	0.30	5.06	.70	21.5	.43	.78	1.40
1960	7.25	0.02	5.06	.69	20.6	.34	1.03	2.17
1961	9.65	1.08	6.06	.70	20.8	.41	1.00	2.51
1962	10.42	0.80	6.79	.69	21.3	.45	1.04	2.83
1963	10.50	0.98	6.43	.69	21.1	.50	.90	3.09
1964	10.64	1.17	6.49	.69	22.4	.48	.87	2.98
1965	11.05	1.11	6.80	.69	23.0	.49	.88	3.14
1966	8.58	0.35	5.45	.68	23.7	.42	.83	2.78
1967	11.20	1.80	6.95	.69	23.8	.47	.91	2.45
1968	11.35	1.24	6.00	.68	24.0	.41	.88	4.11
1969	8.50	0.71	4.00	.68	23.3	.34	.74	3.79

[1]Increase in liabilities of financial institutions plus sales of investment company stock divided by gross national product (per cent).

[2]Change in demand deposits and currency divided by GNP (per cent)

[3]Change in household claims against financial institutions plus sales of investment company stock devided by GNP (per cent).

[4]Ratio of personal disposable income to gross national product.

[5]Gross personal saving divided by personal disposable income (per cent).

[6]Ratio of acquisition of financial assets by households to personal saving.

[7]Ratio of change in household claims against financial institutions to personal saving.

Source of basic data: Flow-of-Funds Accounts

For the seventeen-year period 1962–68 the aggregate-issue ratio averaged about 9 percent, ranging from 6.2 to 11.3 percent (see Table 3–19). The money-issue ratio fluctuated without a definite trend from −0.2 to +1.9 per cent with an average of about 0.85 per cent for the entire period. The ratio of changes in thrift deposits, claims against insurance organizations, and acquisition of stock of open-end investment companies to gross national product averaged about 5½ per cent with a low of 4.6 and a high of 6.9 per cent and a slow upward trend over the period. As a result, the remainder term averaged about 2½ per cent, ranging between 1.1 and 4.0 per cent and also showing an upward trend. The sharp rise in the second half of the 1960's is partly due to the greatly increased importance of large certificates of deposit, commercial paper by banks holding companies, and Eurodollar deposits. The irregular movements of the residual are, in part, a reflection of its heterogeneous character and the fact that it absorbs all errors in the other three terms.

Of the four components of ratio (2), above, the first, ρ, averaged slightly under 70 per cent with only small fluctuations from year to year and without a trend. Fluctuations were also fairly small in the gross personal saving ratio (σ), which ranged from 20.6 to 23.8 per cent with an average of about 22 per cent and only a very mild and not very definite upward trend. Annual fluctuations were considerably larger in the two other components: χ_1 averaged about 42 per cent, fluctuating between 34 and 49 per cent. Similarly, χ_2, which had an average for the period as a whole of 90 per cent, fluctuated between a low of 74 and a high of 103 per cent. As the result, ratio (2) showed an upward trend from about 4½ per cent in the early 1950's to about 6½ per cent in the 1960's.

The crucial feature of the increasing trend in the new issue ratio of financial institutions in the postwar period, then, are the movements in the share of saving through financial institutions (disregarding check deposits with commercial banks)—sharply upward from the early 1950's to the peak of 1960–62, when saving through nonmonetary financial institutions came to account for the totality of personal financial saving; then slowly downward with troughs in 1966 and 1969, two years of marked "disintermediation" accompanying extraordinarily high levels of interest rates on marketable fixed-interest bearing securities.

There is some indication that some, if not most, of the changes in the ratios are associated with business cycle movements. The relationship, however, is not very definite, which is not astonishing, since only annual data are used and the postwar recessions were relatively short and did not coincide with calendar years. All that can possibly be said is that the total aggregate issue ratio as well as most of its components are positively associated with the business cycles showing in general the highest values during the up-swing. However, these values are reached in some cases in the earlier and in others in the later phases of the upswing. One component, however, saving through thrift deposits, claims against insurance organizations and open-end investment company shares, is inversely related to the business cycle, reaching its highest values usually in or close to recession years. An

attempt to relate some of these series to each other and to broad economic factors such as interest rates using econometric methods is made in Chapter 5, Section 2.

Since most of the assets of financial institutions consist of claims that do not vary in market value or are subject only to relatively small fluctuations (fluctuations, moreover, that are not reflected in the customary statistics), the value of reported assets is essentially equal to the sum of past net acquisitions of assets, a magnitude which in turn is equal to the cumulation of net issues broadly defined to include retained earnings. An explanation of the level and movements of net issues by financial institutions thus provides at the same time most of the explanation of the trend in assets of financial institutions.

This assertion must be qualified because financial institutions have in the postwar period held an increasing proportion of their assets in the form of corporate stock, which is subject to considerable price fluctuations. The share of corporate stocks in total assets rose from 7 per cent at the end of 1951 to 17 per cent in 1966 if personal trust funds are included, while the advance was from 3 to 11 per cent if they are excluded, as in the flow-of-funds statistics used here. As a result, part of the change in the reported value of the assets of financial institutions reflects changes in stock prices rather than net purchases. This part may be estimated at one-eighth of the total reported increase in assets for the whole period 1952–1968 if personal trust funds are included and at one-twelfth if they are excluded. Since stock prices have fluctuated considerably over this period as has the intensity of net purchases of stocks by financial institutions, and since the ratio of stocks to total assets varies for the different types of financial institutions, the relative importance of the change in stock prices has fluctuated sharply over time and as between institutions.

4. The Supply of Corporate Stock

The outstanding characteristic of the supply of stock of nonfinancial corporations during the postwar period is its very low absolute and relative level. For the entire seventeen-year period from 1952 through 1968, gross issues of corporate stock averaged approximately $3.5 billion. Because retirements amounted to nearly $2 billion per year, the annual increase in the net supply of stock was only about $1½ billion. Gross cash issues alone averaged about $2½ billion per year, while annual net cash issues were below $1 billion. The proportion of stock issued by financial corporations (other than investment companies, which are excluded from all these statistics) is so small that the figures can be regarded as applicable as well to nonfinancial corporations alone. More details and annual data for these issues will be found in Chapter 4, Section 1.

How small these figures are becomes evident when they are compared on the one hand with the total value of outstanding stock and on the other with the relevant figures from the balance sheets and flow-of-funds statements of nonfinancial corporations, or when they are compared with the historical record for the period before World War II (see Table 3–20).

Table 3-20

Growth of Supply of Main Types of Financial Instruments, 1952-1968

Per cent per year[1]

	1952-60 (1)	1961-68 (2)	1952-68 (3)
I. Corporate Stock			
1. Value of stock incldg investment companies	9.70	12.04	10.80
2. Outstanding excldg investment companies	9.54	11.74	10.65
3. Value of Cumulated issues[2] incldg investment companies	1.71	1.37	1.55
4. Value of Cumulated issues[2] excldg investment companies	1.34	0.42	0.90
II. Claims			
1. Seven main types	6.15	7.34	6.71
2. U.S. government securities	1.14	3.12	2.06
3. State & local government securities	10.84	8.03	9.51
4. Corporate bonds	7.61	7.66	7.64
5. Home mortgages	11.82	7.46	9.74
6. Other mortgages	9.22	12.71	10.85
7. Consumer credit	10.55	9.15	9.89
8. Bank loans n.e.c.	8.41	10.45	9.37

[1] Geometric rate of increase between beginning and end of period.

[2] Value of stock outstanding at beginning of period plus net issues during period

Source: Flow of Funds Accounts 1945-1968; Federal Reserve Bulletin, Nov. 1969.

The net additions to the supply of corporate stock during the postwar period averaged approximately one-half of 1 per cent of the value of outstanding corporate stock [10] compared to rates of between 8 and 11 per cent for other important financial instruments except U.S. Government securities (Table 3–16). These ratios are very low compared to either the period between the turn of the century and World War I or the 1920's, during both of which the average volume of net stock issues was in the order of 2 per cent of the average market value of all corporate stock outstanding.[11]

In Table 3–21 annual net new issues of stock in the postwar period are compared with bond issues and other external financing by nonfinancial corporations, on the basis both of absolute figures and of ratios to gross national product in order to eliminate the influence of the strong upward trend in national product. The table also shows the value (market value for stocks; face value for other issues) of issues outstanding throughout this period.

It is immediately evident that the sharp increase in the value of corporate stock outstanding is due predominantly to the rise in stock prices rather than to net new issues for most individual years as well as for the period as a whole: Net new issues, at $25 billion is dwarfed by the increase in the value of stock outstanding of about $700 billion.

[10] The figure of 1.6 per cent of Table 3–20, line I 3, is considerably higher because it does not allow for the sharp rise in stock prices over this period.

[11] Based on net issues and estimates of value of corporate stock outstanding in Goldsmith, Lipsey, and Mendelson, *Studies in the National Balance Sheet of the U.S.*, Vol. 2, Princeton of NBER, 1963, pp. 72ff.

Table 3-21

The Supply of Stock of Non-financial Corporations 1952-1969

Year	Issues Outstanding[1]				Net New Issues				Issues Outstanding[1]		Net New Issues	
	Total	Stocks[2]	Bonds	Other debt	Total	Stocks	Bonds	Other debt	Total	Stock	Total	Stock
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	$ bill								Percent of GNP			
1952	318.3	152.8	44.1	121.4	11.2	2.3	4.9	4.0	92.1	44.2	3.24	0.67
1953	325.1	151.2	48.1	125.8	9.7	1.8	3.9	4.0	89.2	41.5	2.66	0.49
1954	392.1	213.7	51.3	127.1	5.8	1.6	3.3	0.9	107.5	58.6	1.59	0.44
1955	459.4	257.9	54.1	147.4	25.0	1.9	2.8	20.3	115.4	64.8	6.28	0.48
1956	477.2	259.2	57.8	160.2	18.6	2.3	3.7	12.6	113.8	61.8	4.44	0.55
1957	450.7	222.0	64.3	164.4	13.0	2.4	6.5	4.1	102.2	50.3	2.95	0.54
1958	560.2	318.5	70.1	171.6	14.8	2.1	5.8	6.9	125.2	71.2	3.30	0.47
1959	613.9	351.3	73.0	189.6	22.8	2.2	2.8	17.8	127.9	72.6	4.71	0.45
1960	623.4	348.4	76.3	198.7	13.8	1.6	3.3	8.9	123.8	69.2	2.74	0.32
1961	722.7	444.5	80.9	197.3	20.8	2.5	4.6	13.7	139.0	85.5	4.00	0.48
1962	691.1	390.4	85.3	215.4	22.9	0.6	4.4	17.9	123.3	69.7	4.01	0.11
1963	822.2	496.9	89.6	235.7	23.7	-0.3	4.4	19.6	139.2	84.1	4.01	-0.05
1964	914.3	567.9	94.7	251.7	22.4	1.4	5.1	15.9	144.6	89.8	3.54	0.22
1965	999.3	616.6	99.5	283.2	35.9	0	4.8	31.1	145.9	90.0	5 24	0
1966	988.4	566.8	110.2	311.4	39.9	1.2	10.7	28.0	131.8	75.6	5.32	0.16
1967	1191.2	738.2	125 0	328.0	33.2	2.3	14.9	16.0	150.1	93.0	4.18	0.29
1968	1328.8	828.9	136.8	363.1	46.2	-0.8	11.8	35.2	153.5	95.7	5.34	-0.09

[1]Market value at end of year (Appendix I)

[2]Excluding intercorporate holdings.

Sources: Flow of Funds Accounts 1945-1968, (Cols. 6-8) Flow of Funds Accounts, 4th Quarter 1969.

Similarly, the amounts raised by nonfinancial corporations through the sale of stock are very small compared to aggregate or total external financing. Thus, for the entire period 1952–68, gross issues of stock accounted for only 6 per cent of total sources of funds of nonfinancial corporations and for about 16 per cent of their total external financing. Since retirements were equal to about three-fifths of gross issues the share of net issues of corporate stock in total sources of funds of nonfinancial corporations was below 3 per cent and even their contribution to external financing was as low as about 7 per cent. Moreover, there was a sharp decline in both ratios between the 1950's (1952–59) and the 1960's (1960–68). During the 1950's gross issues of corporate stock accounted for about 7½ per cent of total financing and 17 per cent of external financing of nonfinancial corporations, while the contribution of net issues to total financing was about 5 per cent and that to external financing 13 per cent, retirements accounting for somewhat less than one-third of gross new issues. In the 1960's, on the other hand, gross issues contributed less than 5 per cent to total financing and less than 15 per cent to external financing, and the net contribution of corporate stock to financing amounted to not much over 1 per cent of total sources of funds and to only about 3 per cent of external financing, since retirements were equal to about four-fifths of gross new issues. These data are presented in greater detail in Chapter 4.

There is no satisfactory explanation for the extraordinarily low level of the issuance and the net increase in the supply of corporate stock in the period 1952–68, although numerous partial explanations have been advanced. Prominent among these are the tax advantages of debt financing, interest being deductible from corporate income but dividend not; the relatively high level of internal financing, particularly through rapidly increasing depreciation allowances following the liberalization in tax legislation in the early 1960's; the aversion of many managers to the dilution of stockholders' equity by issuing new stock at prices that are regarded as being below their intrinsic value (e.g., the reproduction cost of assets less liabilities), a situation particularly common during the earlier part of the period when stock prices were low; a disinclination to share control with new or outside stockholders, a factor applicable primarily to closely held and smaller corporations; and the high cost of issuing stock, particularly in small amounts.[12] An attempt to explore a new approach to the explanation of this remarkable phenomenon is made in Sections 2, 3, and 5 of Chapter 4. One of the results of this attempt is negative, the other two are positive.

On the negative side it proved impossible to establish econometrically definite and reliable relationships between, on the one hand, gross

[12] Securities and Exchange Commission, *Cost of Flotation of Registered Equity Issues, 1963–1965*, May 1970.

issues, retirements, and net issues of stock by nonfinancial corporations, and on the other economic factors such as changes in national product, in corporate capital expenditures or profits, in prices, and in yields on bonds or stocks. This failure may be due to an insufficient amount of experimentation, given the limited resources available for this aspect of the investigation, with alternative sets of data or alternative methods of econometric analysis; or to insufficient disaggregation, i.e., the limitation to totals for very large groups of corporations and the impossibility of separating straight preferred stock, convertible preferred stock, and common stock issues; or to the use of only annual data; or to peculiarities of the period 1952–68. It is entirely possible, however, that econometric explanation of corporate stock issues in this period will remain unsatisfactory until, and even after, we are in a position to compare individual corporations that have issued stock with those, otherwise similar, that have not found it necessary or advisable to resort to equity or to any external financing. An attempt in this direction, necessarily on a small scale, has been made in Chapter 4, Section 5.

Of positive value is, first, the hypothesis suggested by the econometric analysis, a hypothesis which will need further and more extensive testing, that the sale of corporate stock for cash (in contradistinction to exchange issues) has in the postwar period been regarded by corporate management in most industries as the least desirable form of financing, resorted to only when debt financing, short or long, public or private, was impossible. This hypothesis, of course, is entirely compatible with the sudden sharp increase in cash offerings of stock by nonfinancial corporations in 1969 and 1970 when corporate profits declined and debt financing became extraordinarily difficult and expensive.

The second positive result of the econometric analysis concerns the cash retirements of stock. These were found to be positively correlated with both the total volume of internal financing and with stock prices if all three variables are measured in terms of the deviation of the annual values from their trend values for the period 1952–1967. Stocks retired through exchange for debt securities of other corporations were found to be positively though weakly correlated to an index of merger activity in the American economy.

It is worth noting that the volume of issues of corporate stock has turned up sharply since the end of the period studied. Thus, the cash offerings of corporate stock in 1969 shot up to over $9 billion, 50 per cent above the volume of 1968 and more than 2½ times that of the 1963–67 average and almost three times as high as the issues of any year during the postwar period before 1968. The new higher level of issues of corporate stock apparently is continuing in 1970, the volume of issues being estimated to reach that of 1969.[13] Even more dramatic

[13] Bankers Trust Company, *The Investment Outlook for 1970*, New York, 1969, Table 11.

is the increase in net new issues (all issues less retirements) from less than $1 billion a year in 1963–67—and a negative figure of about $1 billion in 1968—to $4.3 billion in 1969 and an expected fully $5 billion in 1970.[14] These figures nevertheless are equal to only about three-quarters of 1 per cent a year of the market value of all corporate stock outstanding, a ratio which is still well below the 2 per cent level prevailing in the first decade of the century and during the 1920's.

It remains to be seen whether this sudden upward surge in the issuance of corporate stock in 1969 and 1970 is a temporary phenomenon, associated with the credit stringency and the extremely high cost of debt financing, or whether it presages a sharp change in the methods of financing nonfinancial corporations and in the share of corporate stock in the total issuance of financial instruments.

While it is thus not yet possible to provide a satisfactory explanation of the basic factors responsible for the low level of the volume of new issues of corporate stock during the postwar period and to allocate the responsibility among them, it may be worthwhile to put the new issues of corporate stock of nonfinancial corporations into a broader framework, following the suggestion made in Chapter 1. This approach treats the ratio of net issues of stock of nonfinancial corporations to gross national product, a ratio which may be regarded as possibly the least objectionable simple measure of the importance of these issues in the economy, as being a result of four relationships: the share of the issues of corporate stock in total external financing of nonfinancial corporations: the relationship of total external financing to the capital expenditures of nonfinancial corporations, a relationship which assumes that capital expenditures are one of the important factors determining the volume of external financing; the share of nonfinancial corporations in national gross capital formation; and finally the well-known national capital formation ratio, i.e., the proportion of total gross capital formation to gross national product. Such a breakdown, of course, is useful only if some of the ratios are relatively stable or if they follow a reasonably simple pattern so that movements of the ratio on which interest centers—here the proportion of stock issues of nonfinancial corporations to national product—depend chiefly on the movements of one or two other factors. Annual data on these ratios are given in the upper part of Table 3–22; the

[14] Actual issues during the first half of 1970 were running at an annual rate of $5½ billion. (Flow of Funds . . . Second Quarter 1970.)

lower part shows the average values for business cycles that can be distinguished in the 1952–68 period.[15]

We then find that during the period from 1952 through 1968 the national gross capital formation ratio averaged 28.1 per cent; the share of nonfinancial corporations in national, capital formation averaged 28.0 per cent so that the average ratio of gross capital formation of nonfinancial corporations to gross national product was 7.9 per cent. Since the share of external financing in gross capital formation of nonfinancial corporations averaged 50.7 per cent, and the share of net issues of corporate stock in total external financing of nonfinancial corporations amounted, on the average, to 10.2 per cent, the ratio of net issues of stock of nonfinancial corporations to gross national product averaged 0.4 per cent.

Two of the four ratios that determine the proportion of stock issues by nonfinancial corporations to gross national product, namely, the national capital formation ratio and the relationship between external financing of nonfinancial corporations and their capital expenditures (columns 1 and 4 in Table 3–22), show no trend over the period, as can be seen from the similarity of the cycle averages. On the other hand, a slight upward trend appears in the share of nonfinancial corporations in national capital formation, the proportion rising from 26 per cent for the first cycle to 33 per cent in 1965–68, though it is doubtful whether this trend will continue. Such a trend implies an increase in the proportion of stock issues of nonfinancial corporations to national product if the other three ratios are stable. The sharp decline observed in the ratio of nonfinancial corporations stock issues to national product (Table 3–22, column 7) from 0.50 per cent in the first cycle to 0.09 per cent in 1965–68 or 0.15 per cent in 1960–68—is due exclusively to the fall in the share of corporate stock in the external financing of nonfinancial corporations (Table 3–22, column 6) from 17 per cent in the first cycle to only 2 per cent in 1965–68. The decline in the ratio of nonfinancial corporations' stock issues to national product thus is due to the change, permanent or not, in the method of external financing of corporations, not to changes in the national capital formation ratio, the share of nonfinancial corporations in national capital formation, or the relationship between external financing and capital expenditures of nonfinancial corporations.

[15] The dating of business cycles follows the annual chronology of the National Bureau of Economic Research. The long cycle starting in 1960 and probably ending in 1969 has been split in two at the end of 1964 because of the very different character of the capital market in general and the market for corporate stock in particular in the two periods.

Table 3-22

The Determinants of the Ratio of Corporate Share Issues to Gross National Product, 1952-1968

	$\frac{k_n}{y}$ (1)	$\frac{k_c}{k_n}$ (2)	$\frac{k_c}{y}$ (3)	$\frac{e}{k_c}$ (4)	$\frac{e}{y}$ (5)	$\frac{a}{e}$ (6)	$\frac{a}{y}$ (7)
			I. Annual Data				
1952	.272	.260	.071	.425	.030	.221	.0067
1953	.267	.253	.067	.337	.023	.217	.0049
1954	.268	.221	.059	.268	.016	.276	.0044
1955	.303	.262	.079	.794	.063	.076	.0048
1956	.300	.286	.086	.515	.044	.124	.0055
1957	.291	.270	.079	.368	.029	.188	.0054
1958	.261	.234	.061	.538	.033	.143	.0047
1959	.281	.272	.076	.623	.047	.096	.0046
1960	.278	.279	.078	.351	.027	.117	.0032
1961	.267	.264	.070	.572	.040	.119	.0048
1962	.278	.283	.079	.525	.041	.026	.0011
1963	.282	.274	.077	.507	.039	-.013	-.0005
1964	.286	.287	.082	.408	.033	.066	.0022
1965	.297	.309	.092	.580	.053	.000	.0000
1966	.295	.348	.103	.510	.053	.030	.0016
1967	.277	.330	.091	.455	.041	.070	.0029
1968	.277	.321	.089	.615	.055	-.017	-.0009
			II. Cycle Averages				
1953-57	.287	.258	.074	.505	.038	.170	.0050
1957-60	.276	.260	.072	.505	.036	.130	.0046
1960-64	.278	.277	.077	.482	.037	.057	.0021
1965-68	.287	.327	.094	.539	.029	.021	.0009
1952-68	.281	.280	.079	.507	.040	.102	.0041

Legend

y = gross national product

k_n = national, k_c = corporate } gross capital formation

e = total issues, a = stock issues } of nonfinancial corporations

Source of basic data: Flow-of-Funds Accounts, 1945-1968

On an annual basis the national capital formation ratio, the share of nonfinancial corporations in national capital formation, and the relationship between nonfinancial corporations' capital expenditures and their external financing were all high late in the upswing (1955–56; 1959; 1965–66). As a result the ratio of total external financing by nonfinancial corporations to national product (Table 3–22, column 5) was then at a high level: 5.4 per cent in 1955–56, 5.3 per cent in 1965–66, and 4.7 per cent in 1959 in the weak upswing of 1957–60. The share of corporate stock in the total external financing of nonfinancial corporations was highest in 1954, 1957, 1961 and 1967, i.e., in the recession or early in the upswing. As a result, the movements of the ratio of nonfinancial corporations' stock issues to national product showed little relationship to the cycle either during the 1950's or the 1960's, although during the second period they were at a much lower average (4.9 per cent for the period 1952–61 against 0.9 per cent for 1962–68).

5. The Position of Financial Institutions in Holdings of and Transactions in Corporate Stock

Since the stock portfolios of the main types of financial institutions will be discussed in Chapter 5, Section 3, and annual statistics of the aggregate holdings and net purchases and sales of corporate stock by about twenty groups of financial institutions will be presented in Appendix I, it may suffice here to summarize the most important figures, both in the stock and the flow dimensions.

The basic figures for flows—the annual net purchases of all corporate stock by the main types of financial institutions for which primary data are available—are shown in Table 3–23. The distribution of the annual totals among main types of institutions is shown in Table 3–24. Table 3–25, which presents the ratio of annual net purchases or sales by each type of institution to the value of its stockholdings at the beginning of the year, indicates how rapidly the portfolios have been expanded. The annual net purchases of corporate stock are then related to all purchases of financial assets by these institutions to yield a ratio which indicates the proportion of the year's acquisition of financial assets that had been allocated to corporate stock (Table 3–26); to all new net issues of corporate stock (Table 3–27); and finally to the total value of all corporate stock outstanding, excluding intercorporate holdings and open-end investment company stock (Table 3–28). These ratios should give an idea of the influence of net purchases and sales by financial institutions in the market for corporate stock.[16]

[16] All tables omit the groups of financial institutions without or with only small (in absolute amounts) holdings of corporate stock, viz., commercial banks, savings and loan associations, credit unions, federal lending institutions, closed-end investment companies, brokers and dealers, mortgage companies, finance companies, and fraternal insurance organizations. Their omission does not affect the discussion, as their total stockholdings amount to only a small fraction of the group included in the tables (about 5 percent in 1968 although over 10 percent in 1954). The tables omit personal trust funds because no reliable information is available on them. Rough estimates of the net purchases by personal trust funds, closed-end investment companies, and brokers and dealers are, however, occasionally used in the text. The tables on holdings of stocks (Tables 3–29 to 3–31) include the first two of these three groups.

Table 3-23

Net Purchases or Sales (-) of Corporate Stock by Financial Institutions
1952-1969

$ bill.

	Total (1)	Savings Banks (2)	Life Insurance Companies (3)	Pension Funds: Private (4)	Pension Funds: State & Local (5)	Other Insurance Companies (6)	Open-end Investment Companies (7)
			Annual Data				
1952	1.42	0.11	0.16	0.48	0.02	0.18	0.47
1953	1.51	0.10	0.09	0.55	0.02	0.19	0.56
1954	1.60	0.14	0.27	0.71	0.02	0.16	0.30
1955	1.59	0.08	0.07	0.74	0.03	0.16	0.51
1956	1.72	0.05	-0.00	0.94	0.03	0.14	0.56
1957	2.24	0.06	0.04	1.14	0.05	0.13	0.82
1958	2.74	0.10	0.08	1.38	0.06	0.13	0.99
1959	3.53	-0.05	0.19	1.74	0.08	0.27	1.30
1960	3.69	0.02	0.35	1.95	0.09	0.26	1.02
1961	4.34	0.07	0.47	2.26	0.15	0.26	1.13
1962	4.14	0.15	0.43	2.20	0.20	0.25	0.91
1963	3.67	0.12	0.25	2.17	0.21	0.16	0.76
1964	4.36	0.10	0.55	2.21	0.27	0.10	1.13
1965	5.68	0.17	0.71	3.12	0.35	0.09	1.24
1966	6.21	0.04	0.27	3.68	0.49	0.39	1.34
1967	9.59	0.22	1.06	4.99	0.67	0.59	2.06
1968	10.39	0.25	1.43	4.71	1.28	1.07	1.65
1969	12.60	0.30	1.60	4.90	1.80	1.50	2.50
			Cycle Averages				
1952-57	1.65	0.09	0.11	0.75	0.03	0.16	0.51
1957-60	3.08	0.03	0.16	1.56	0.07	0.20	1.07
1960-69	6.28	0.14	0.68	3.20	0.51	0.42	1.33
1960-64	4.05	0.10	0.40	2.18	0.19	0.21	0.97
1965-69	8.86	0.19	1.00	4.35	0.88	0.71	1.73
1952-69	4.54	0.11	0.45	2.22	0.32	0.34	1.10

Source of basic data for Tables 3-23 to 3-31: Appendix I.

Table 3-24

Distribution of

Net Purchases or Sales (-) of Corporate Stock by Financial Institutions

1952-1969

percent

	Total	Savings Bank	Life Insurance Companies	Pension Funds		Other Insurance Companies	Open-end Investment Companies
				Private	State & Local		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Annual Data						
1952	100.0	7.7	11.3	33.8	1.4	12.7	33.1
1953	100.0	6.6	6.0	36.4	1.3	12.6	37.1
1954	100.0	8.8	16.9	44.4	1.3	10.0	18.8
1955	100.0	5.0	4.4	46.5	1.9	10.1	32.1
1956	100.0	2.9	0.0	54.6	1.7	8.1	32.6
1957	100.0	2.7	1.8	50.9	2.2	5.8	36.6
1958	100.0	3.6	2.9	50.4	2.2	4.7	36.1
1959	100.0	-1.4	5.4	49.3	2.2	7.6	36.8
1960	100.0	0.5	9.5	52.8	2.4	7.0	27.6
1961	100.0	1.6	10.8	52.1	3.5	6.0	26.0
1962	100.0	3.6	10.4	53.1	4.8	6.0	22.0
1963	100.0	3.3	6.8	59.1	5.7	4.4	20.7
1964	100.0	2.3	12.6	50.7	6.2	2.3	25.9
1965	100.0	3.0	12.5	54.9	6.2	1.6	21.8
1966	100.0	0.6	4.3	59.3	7.9	6.3	21.6
1967	100.0	2.3	11.1	52.0	7.0	6.2	21.5
1968	100.0	2.4	13.8	45.3	12.3	10.3	15.9
1969	100.0	2.4	12.7	38.9	14.3	11.9	19.8
	Cycle Averages						
1952-57	100.0	5.5	6.7	45.5	1.8	9.7	30.9
1957-60	100.0	1.0	5.2	50.6	2.3	6.5	34.7
1960-69	100.0	2.2	10.8	51.0	8.1	6.7	21.2
1960-64	100.0	2.5	9.9	53.8	4.7	5.2	24.0
1965-69	100.0	2.1	11.3	49.1	9.9	8.0	19.5
1952-69	100.0	2.4	9.9	48.9	7.0	7.5	24.2

Table 3-25

Growth of Stock Portfolio of Financial Institutions, 1952-1969

percent

	Total	Savings Banks	Life Insurance Companies	Pension Funds		Other Insurance Companies	Open-end Investment Companies
				Private	State & Local		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
				Annual Data			
1952	13.4	55.0	7.3	34.3	-	4.6	16.2
1953	12.4	33.3	3.8	30.6	20.0	4.4	17.0
1954	11.9	35.0	10.4	29.6	20.0	3.6	8.6
1955	8.6	13.3	2.1	23.1	30.0	2.7	9.4
1956	7.1	7.1	-	15.4	30.0	2.0	8.1
1957	8.4	8.6	1.1	16.0	25.0	1.8	10.4
1958	10.5	12.5	2.4	18.4	30.0	1.9	13.4
1959	9.5	-5.6	4.6	15.0	26.7	3.2	11.1
1960	8.5	2.5	7.6	13.4	30.0	2.9	7.3
1961	9.3	8.8	9.4	13.7	37.5	2.8	7.6
1962	6.6	16.7	6.8	9.6	33.3	2.2	4.5
1963	6.2	12.0	4.0	9.9	26.3	1.4	4.2
1964	6.0	8.3	7.7	8.0	27.0	0.8	5.1
1965	6.9	13.1	9.0	9.3	26.9	0.6	5.2
1966	6.3	2.9	3.0	9.3	30.6	2.5	4.3
1967	10.3	14.7	12.0	13.0	31.9	4.3	7.1
1968	8.5	14.7	12.1	9.5	45.7	6.0	4.2
1969	8.8	15.8	12.1	8.2	43.9	8.3	5.4
				Cycle Averages			
1953-57	9.5	20.1	3.9	22.8	25.6	2.9	10.0
1957-60	9.6	4.3	3.8	16.0	28.1	2.5	12.0
1960-69	7.6	11.2	8.2	10.3	32.9	2.9	5.4
1960-64	7.3	10.8	6.9	11.0	31.4	2.1	5.6
1965-69	8.3	11.7	9.4	10.1	35.9	4.3	5.2
1952-69	8.7	13.5	6.2	15.6	29.0	2.9	8.1

Table 3-26

Ratio of Net Acquisition of Corporate Stock by Financial Institutions to their Total Acquisition of Financial Assets, 1952-68

percent

	Insurance Organizations				Open-end Investment Companies	Mutual Savings Banks
	Life Insurance Companies	Pension Funds: Private	Pension Funds: State & local	Other Insurance Companies		
	(1)	(2)	(3)	(4)	(5)	(6)
	Annual Data					
1952	4.3	27.8	-0.0	15.4	80.0	5.6
1953	2.0	25.0	-0.0	14.3	100.0	5.3
1954	5.9	33.3	-0.0	18.2	75.0	4.5
1955	1.8	30.4	-0.0	20.0	71.4	5.0
1956	-0.0	33.3	-0.0	16.7	75.0	5.0
1957	-0.0	35.5	6.3	10.0	88.9	5.6
1958	1.9	43.8	6.7	8.3	83.3	3.8
1959	3.6	45.9	5.0	17.6	71.4	-0.0
1960	7.0	47.5	4.3	25.0	72.7	-0.0
1961	8.2	57.5	8.0	23.1	71.4	4.3
1962	5.9	52.4	8.0	10.5	78.6	3.0
1963	2.9	48.9	8.3	18.2	75.0	2.8
1964	6.4	44.9	10.7	10.0	63.6	2.2
1965	8.0	55.4	12.1	8.3	60.0	5.0
1966	3.6	60.7	12.5	19.0	40.0	-0.0
1967	11.7	74.6	15.2	26.1	136.4	3.7
1968	15.1	73.4	30.2	32.4	60.0	6.5
	Cycle Average					
1953-57	2.2	31.8	0.8	16.7	79.0	5.0
1957-60	3.0	43.7	5.7	14.5	78.5	2.2
1960-68	9.6	57.8	12.6	18.8	73.1	3.2
1960-64	6.0	50.5	8.3	16.5	72.2	2.8
1965-68	9.6	66.0	17.5	21.4	74.1	3.8
1952-68	5.2	46.5	7.5	17.2	76.6	3.7

Table 3-27

Ratio of Net Acquisitions of Corporate Stock by Financial Institutions to All Net Issues of Corporate Stock, 1952-1968

percent

	Total	Mutual savings banks	Life insurance cos.	Pension Funds		Other insurance cos.	Open-end investment cos.
				Private	State & local		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
			Annual Data				
1952	45.1	3.5	5.1	15.2	0.6	5.7	14.9
1953	62.9	4.2	3.8	22.9	0.8	7.9	23.3
1954	60.4	5.3	10.2	26.8	0.8	6.0	11.3
1955	53.0	2.7	2.3	24.7	1.0	5.3	17.0
1956	44.2	1.3	0	24.2	0.8	3.6	14.4
1957	56.1	1.5	1.0	28.6	1.3	3.3	20.6
1958	63.9	2.3	1.9	32.2	1.4	3.0	23.1
1959	83.4	-1.2	4.4	40.6	1.9	6.3	30.3
1960	101.6	0.6	9.6	53.7	2.5	7.2	28.1
1961	70.1	1.1	7.6	36.5	2.4	4.2	18.3
1962	130.6	4.7	13.6	69.4	6.3	7.9	28.7
1963	269.9	8.8	18.4	159.6	15.4	11.8	55.9
1964	116.6	2.7	14.7	59.1	7.2	2.7	30.2
1965	171.6	5.1	21.5	94.3	10.6	2.7	37.5
1966	111.5	0.7	4.8	66.1	8.8	7.0	24.1
1967	137.4	3.2	15.2	71.5	9.6	8.5	29.5
1968	197.2	4.7	27.1	89.4	24.3	20.3	31.3
			Cycle Averages				
1953-57	54.3	3.1	3.7	25.4	0.9	5.1	16.2
1957-60	75.4	0.9	3.9	38.0	1.8	4.9	26.1
1960-68	144.6	3.6	14.3	78.5	9.2	7.3	31.7
1960-64	144.9	4.1	13.0	38.1	7.3	7.3	33.0
1965-68	144.2	2.9	14.7	76.6	12.0	9.0	29.3
1952-68	103.4	3.1	9.1	53.9	5.2	6.3	26.0

Table 3-28

Ratio of Net Acquisitions of Corporate Stock by Financial Institutions to Net Issues excluding Intercorporate and Investment Company Issues, 1952-1968

percent

	Total (1)	Mutual savings banks (2)	Life insurance companies (3)	Pension Funds		Other insurance cos. (6)	Open-end investment companies (7)
				Private (4)	State & Local (5)		
1952	57	4	6	19	1	7	17
1953	80	5	5	29	1	10	30
1954	78	7	13	35	1	8	15
1955	77	4	3	36	2	8	25
1956	65	2	0	35	1	5	21
1957	82	2	2	42	2	5	30
1958	111	4	3	56	2	5	40
1959	137	-2	7	68	3	11	51
1960	207	1	20	110	5	15	57
1961	146	2	16	76	5	9	38
1962	524	19	54	279	25	32	115
1963	-1184	-39	-81	-700	-68	-52	-245
1964	357	8	45	181	22	8	93
1965	-1721	-52	-215	-946	-106	-27	-376
1966	437	3	19	259	35	28	94
1967	415	10	46	216	29	26	89
1968	-1423	-34	-196	-645	-175	-147	-226

Table 3-29

Holdings of Corporate Stock by Financial Institutions, 1951-1968

$ bill

	Total (1)	Insurance Organizations				Open end investment companies (6)	Other investment companies (7)	Mutual savings banks (8)	Personal trust funds (9)
		Life insurance companies (2)	Pension Funds		Other insurance companies (5)				
			Private (3)	State local government (4)					
1951	33.2	2.2	1.4	0.0	3.9	3.5	3.0	0.2	19.0
1952	36.3	2.4	1.8	0.1	4.3	3.4	3.2	0.3	20.8
1953	37.2	2.6	2.4	0.1	4.5	3.6	3.3	0.4	20.3
1954	51.1	3.3	3.2	0.1	5.9	5.5	4.7	0.6	27.8
1955	63.4	3.6	6.1	0.1	6.9	7.1	5.7	0.7	33.2
1956	67.8	3.5	7.1	0.2	7.2	8.0	5.2	0.7	35.9
1957	63.3	3.4	7.5	0.2	6.7	7.5	4.8	0.8	32.4
1958	85.7	4.1	11.6	0.3	8.4	11.8	5.6	0.9	43.0
1959	97.1	4.6	14.5	0.3	9.1	14.4	5.9	0.8	47.5
1960	102.0	5.0	16.5	0.4	9.4	15.5	5.9	0.8	48.5
1961	131.8	6.3	22.9	0.6	11.8	21.3	6.6	0.9	61.4
1962	124.8	6.3	21.9	0.8	11.1	19.6	6.5	1.0	57.6
1963	150.2	7.1	27.7	1.0	13.0	23.7	7.6	1.2	68.9
1964	164.8	7.9	33.5	1.3	14.7	25.8	7.8	1.3	72.5
1965	186.8	9.1	39.7	1.6	15.3	33.3	6.9	1.4	79.5
1966	178.3	8.8	38.5	2.1	13.8	31.1	6.5	1.5	76.0
1967	221.9	11.8	49.5	2.8	17.7	43.1	8.7	1.7	86.6
1968	252.7	13.2	59.6	4.1	18.1	50.5	9.4	1.9	95.9

Source: Flow of Funds Accounts and Appendix I (for cols. 7 and 9)

Table 3-30

Distribution of

Holdings of Corporate Stock by Financial Institutions, 1951-1968

Percent

	Total (1)	Insurance Organizations				Open-end investment cos. (6)	Other investment cos. (7)	Mutual savings banks (8)	Personal trust funds (9)
		Life insurance cos. (2)	Pension Funds		Other insurance cos. (5)				
			Private (3)	State & local government (4)					
1951	100.0	6.6	4.2	0.0	11.7	10.5	9.0	0.6	57.2
1952	100.0	6.6	5.0	0.3	11.8	9.4	8.8	0.8	57.3
1953	100.0	7.0	6.5	0.3	12.1	9.7	8.9	1.1	54.6
1954	100.0	6.5	6.3	0.2	11.5	10.8	9.2	1.2	54.4
1955	100.0	5.7	9.6	0.2	10.9	11.2	9.0	1.1	52.4
1956	100.0	5.2	10.5	0.3	10.6	11.8	7.7	1.0	52.9
1957	100.0	5.4	11.8	0.3	10.6	11.8	7.6	1.3	51.2
1958	100.0	4.8	13.5	0.4	9.8	13.8	6.5	1.1	50.2
1959	100.0	4.7	14.9	0.3	9.4	14.9	6.1	0.8	48.9
1960	100.0	4.9	16.2	0.4	9.2	15.2	5.8	0.8	47.5
1961	100.0	4.8	17.4	0.5	9.0	16.2	5.0	0.7	46.6
1962	100.0	5.0	17.5	0.6	8.9	15.7	5.2	0.8	46.2
1963	100.0	4.7	18.4	0.7	8.7	15.8	5.1	0.8	45.9
1964	100.0	4.8	20.3	0.8	8.9	15.7	4.7	0.8	44.0
1965	100.0	4.9	21.3	0.9	8.2	17.8	3.7	0.7	42.6
1966	100.0	4.9	21.6	1.2	7.7	17.4	3.6	0.8	42.6
1967	100.0	5.3	22.3	1.3	8.0	19.4	3.9	0.8	39.0
1968	100.0	5.2	23.6	1.6	7.2	20.0	3.7	0.8	38.0

Source: Table 3-29

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Table 3-31

Ratio to Holdings of Corporate Stock[1] by Financial Institutions to Total Corporate Stock Outstanding, 1951-1968

percent

	Total	Insurance Organizations				Open end investment companies	Other investment companies	Mutual savings banks	Personal trust funds
		Life insurance cos.	Pension Funds		Other insurance companies				
			Private	State & local government					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Annual Data								
1951	18.9	1.3	0.8	-0.0	2.3	1.7	1.3	0.1	11.4
1952	19.9	1.3	1.0	0.0	2.4	1.9	1.7	0.2	11.4
1953	20.6	1.4	1.3	0.0	2.5	2.0	1.8	0.2	11.4
1954	20.6	1.3	1.3	0.0	2.4	2.2	1.9	0.2	11.3
1955	21.6	1.2	2.1	0.0	2.4	2.4	1.9	0.2	11.4
1956	23.0	1.2	2.4	0.0	2.5	2.7	1.8	0.2	12.2
1957	23.8	1.3	2.8	0.1	2.5	2.8	1.8	0.3	12.2
1958	22.7	1.1	3.1	0.1	2.2	3.1	1.5	0.2	11.4
1959	23.1	1.1	3.4	0.1	2.2	3.4	1.4	0.2	11.3
1960	24.2	1.2	3.9	0.1	2.2	3.7	1.4	0.2	11.5
1961	23.6	1.1	4.1	0.1	2.1	3.8	1.2	0.2	11.0
1962	26.2	1.3	4.6	0.2	2.3	4.1	1.4	0.2	12.1
1963	24.9	1.2	4.6	0.2	2.1	3.9	1.3	0.2	11.4
1964	24.2	1.2	4.9	0.2	2.2	3.8	1.1	0.2	10.6
1965	24.4	1.2	5.2	0.2	2.0	4.3	0.9	0.2	10.4
1966	25.6	1.3	5.5	0.3	2.0	4.5	0.9	0.2	10.9
1967	25.0	1.3	5.6	0.3	2.0	4.8	1.0	0.2	9.7
1968	24.0	1.3	5.6	0.4	1.7	4.8	0.9	0.2	9.1
	Cycle Averages								
1951-57	20.0	1.3	1.7	0.0	2.4	2.3	1.7	0.2	11.6
1957-60	21.7	1.2	3.4	0.1	2.3	3.3	1.5	0.2	11.6
1960-68	24.9	1.3	4.9	0.2	2.1	4.2	1.1	0.2	10.7
1960-64	24.7	1.2	4.4	0.2	2.2	3.9	1.3	0.2	11.3
1964-68	25.4	1.3	5.4	0.3	2.0	4.4	1.0	0.2	10.1
1951-68	22.7	1.2	3.3	0.1	2.2	3.3	1.4	0.2	11.2

[1] Excluding investment company shares

Sources: Tables 3-23 and 3-29

Similar information is provided in the stock's dimension on the holdings, at market value, of corporate stock of financial institutions. Thus, Table 3–29 shows the absolute values of the holdings at each year end from 1951 through 1968. Table 3–30 expresses these figures as percentages of the holdings of all financial institutions, thus showing changes in the distribution of these holdings within the financial institutions sector; and Table 3–31 relates the holdings of corporate stock by the main types of financial institutions to totals outstandings, again excluding intercorporate holdings and open-end investment company stock from outstandings.

Since net purchase and sales balances of the different groups of financial institutions are substantially larger than their gross purchases and sales it is also necessary to appraise the intensity of stock trading of the different groups, i.e., the turnover ratio of their stock portfolios (Table 3–32), and to look at their share in the trading on the single and most important market for stocks in the United States, the New York Stock Exchange (Table 3–33).

From this material the following main conclusions emerge regarding the role of financial institutions, in the aggregate and for their main types, in the market for corporate stock.

TABLE 332

per cent

Common Stock Activity Rates, 1955-1969

Year	Noninsured Private Pension Funds	Open-End Investment Companies	Life Insurance Companies	Fire and Casualty Insurance Companies	New York Stock Exchange
1955	11.8	15.9	11.8	N.A.	17
1956	11,8	18.6	11.5	N.A.	14
1957	11.9	18.8	12.0	N.A.	13
1958	12.0	21.7	13.0	N.A.	14
1959	11.7	19.8	10.9	N.A.	15
1960	11.1	17.6	10.1	N.A.	12.4
1961	12.1	20.0	13.5	N.A.	15.2
1962	9.7	17.3	9.8	7.1	12.0
1963	11.0	18.6	11.2	7.8	13.1
1964	10.8	18.7	11.9	8.0	13.2
1965	11.3	21.2	13.6	8.2	14.5
1966	12.7	33.5	15.8	8.3	19.7
1967	18.2	42.3	18.5	9.9	25.8
1968	18.9	46.6	26.2	15.7	29.0
1969	22.3	49.8	28.1	26.1	32.7

Source: U.S. Securities and Exchange Commission, Statistical Bulletin, April, 1970., p. 25.

Table 3-33

Distribution of Stock Trading on New York Stock Exchange
Total Number of Shares = 100

Date	Public Individuals (1)	N.Y.S.E. members (2)	Institutions & Intermediaries: Total (3)	Comm'l Banks[1] (4)	Brokers and dealers[2] (5)	Invest. cos.[3] (6)	Other (7)
Sept. 1952	57.0	18.4	24.6	7.1	4.6	3.9	9.0
March 1953	61.4	19.3	19.3	6.2	4.7	2.4	9.0
March 1954	56.4	20.1	23.5	7.5	4.3	2.7	9.0
Dec. 1954	62.3	20.2	17.5	5.3	3.9	1.4	6.9
June 1955	59.2	21.3	19.5	6.5	3.9	1.7	7.4
March 1956	58.9	21.0	20.1	6.8	3.7	2.2	7.4
Oct. 1957	54.3	22.4	23.3	8.8	3.4	2.0	9.2
Sept. 1958	55.8	21.3	22.9	5.7	3.4	13.8	
June 1959	53.5	23.7	22.8	9.2	3.2	10.4	
Sept. 1960	52.6	23.1	24.3	9.4	2.6	4.0	7.3
Sept. 1961	51.4	22.4	26.2	.	.	.	.
May 1962	56.9	24.4	18.7	.	.	.	.
Oct. 1963	53.4	22.7	23.9	9.0	2.6	4.8	7.5
March 1965	48.5	20.1	31.4	.	.	.	.
Oct. 1966	43.2	24.3	32.5	12.6	2.0	8.4	9.6
Jan/Dec. 1969	33.4	24.2	42.4	15.9	3.1	12.3[4]	10.9[5]

[1] Including trust departments

[2] Excluding members of N.Y.S.E.

[3] Open end companies only until 1960.

[4] Includes hedge funds (1.7).

[5] Includes insurance companies (2.1), nonbank trusts or estates (1.5), noninsured pension funds (2.1) and other (5.2).

Sources: Cols. 1-3: for 1952-62, NYSE, Public Participation in the Stock Market, May 1962
for 1966, 1969, NYSE, Public Transactions Study, 1969.

Cols. 4-7: for 1952-60, NYSE, The Institutional Investor and the Stock Market, 1960.
for 1963, NYSE, Institutional Activity, Week of October 24, 1966, 1966.
for 1966-69, NYSE, Public Transactions Study, 1969.

Table 3-34

Share of Valuation Changes in Growth of Assets of Financial Institutions[1]

1952-1968

$ bill.

	Increase in			Valuation Change	
	Assets of financial institutions (1)	Stock holdings (2)	Net Stock Purchases (3)	Absolute value (4)	Share in (1) per cent (5)
1952-55	115	14	6	8	7
1956-60	168	22	12	10	6
1961-64	339	51	16	35	10
1965-68	263	45	31	14	5
1952-68	885	132	65	67	8

[1]Not including closed end investment companies, brokers and dealers and personal trust funds.

Source: Flow-of-Funds Accounts 1945-1968, except for personal trust funds from Appendix I.

1. The value of the corporate stock held by all financial institutions increased from about $35 billion at the end of 1951 to $250 billion in 1968 or at an average rate of slightly more than 12 per cent a year.[17] The average rate of growth was more rapid in the 1950's (about 15 per cent a year) than in the 1960's (about 11 per cent).

2. Most of the increase in the value of stockholdings—about two-thirds to judge by the figures of the groups of institutions for which information on net purchases is available—reflected the rising level of stock prices over the period. Variations of stock prices, e.g., have hardly any noticeable effect on the changes in assets of banks and thrift institutions, but account in some years for a considerable proportion of the total variation in assets of institutions such as pension funds, non-life-insurance companies, investment companies, and personal trust funds.

3. The decisive increases occurred in two sectors, private pension funds, whose holdings rose dramatically from $1½ billion to $60 billion; and open-end investment companies whose holdings shot up from $3 billion to $46 billion. In absolute amount the increase in the value of the holdings administered by personal trust funds was also very large—they are estimated to have risen from slightly less than $20 billion to nearly $100 billion—but proportionately the rise was much smaller than for the other two leading groups and most of it, possibly more than four-fifths, was due to an increase in stock prices.

4. As a result radical changes occurred in the distribution of stockholdings of financial institutions among the main groups of them. The share of private pension funds rose from 5 to 25 per cent while that of open-end investment companies advanced from 10 to nearly 20 per cent. The sharpest decline occurred in the holdings administered by personal trust funds, whose share fell from almost two-thirds of the total in 1951 to only two-fifths in 1968. The share of non-life-insurance companies also declined substantially from 13 to 8 per cent, and a smaller reduction occurred in the share of life insurance companies. (This would disappear if the comparison were limited to common stock.)

5. From the point of view of the capital market the share of financial institutions in the total value of corporate stock outstanding (excluding intercorporate holdings and open-end investment companies and disregarding the small holdings of foreign stocks by financial institutions) is more important than the dollar value of holdings. This share rose from 18 to 24 per cent, the advance being about equally divided among the 1950's and the 1960's. While this is a substantial rise it does not imply a radical change in the distribution of ownership of American corporations. However, since the share of corporate stock administered by personal trust funds declined slightly, sharp increases occurred in the share of the holdings of the other types of financial institutions. For all of them together the share increased from 6 per cent in 1951 to 14 per cent in 1968. Here again, the increase was about equally large in percentage points in the 1950's and the 1960's, but proportionately it was more pronounced during the first half of the period. Particularly impressive increases in the share in

[17] By mid-1970 the figures were approximately $200 billion and 10 per cent a year.

total corporate stock outstanding were registered by private pension funds with an advance from less than 1 per cent to 6 per cent and by open-end investment companies whose share advanced from less than 2 to almost 5 per cent.

6. The influence of financial institutions in the market for corporate stock, however, is more adequately reflected in the flow dimension. The net acquisition of common stock by the six groups of financial institutions for which information on net purchases or sales is available amounted to over $80 billion in the period 1952–1969 (Table 3–23). Over two-thirds of them furthermore were made during the second half of the period (1961–1969) with peaks of more than $10 billion each in 1968 and 1969. Net purchases by these financial institutions did not fall below $3 billion in any year since 1959.

7. By far the largest purchases were made by private pension funds ($4 billion) and by open-end investment companies ($16 billion). By comparison the net purchases of non-life-insurance companies, life insurance companies, and personal trust funds administered by banks and trust companies were considerably smaller. What may be equally important, they were much more irregular, although in absolute amounts they were by no means negligible.

8. Since no direct information is available on the net purchases and sales of these other important groups of institutional holders of corporate stock—bank trust departments, closed-end investment companies, and brokers and dealers—the results of their transactions must be inferred from the movements of the known or estimated values of their stock portfolios and of those of a stock price index assumed to reflect the structure of their portfolios. This somewhat hazardous procedure suggests that for the entire period 1953–1968 personal trust departments bought on balance approximately $15 billion of corporate stock, such net purchases being concentrated in the last three years of the period. This would add only about one-fifth to the known net purchases of the six groups for the period as a whole, but would increase net purchases in 1966–68 by more than one-third.

The inferred net purchases of the other two groups—closed-end investment companies and brokers and leaders—were too small significantly to affect the figures of Table 3–23, either for the period as a whole or for subperiods of substantial length.

9. Because of the low volume of new issues of corporate stock during this period the net purchases of financial institutions have been in excess of the total increase in the supply of corporate stock in every year since 1958. For the entire period, the known net purchases by financial institutions of $90 billion were three times as large as total new issues. The discrepancy, moreover, showed a clearly increasing trend over the period. While from 1952 through 1960 the know net purchases of corporate stock by financial institutions were only about equal to total net issues of all corporate stock (excluding investment company stock), from 1961 through 1969 net issues of about $10 billion were dwarfed by the known net purchases of financial institutions, which amounted to more than $65 billion (see Table 3–34). As a result (since foreign investors also had a small net purchase balance) large amounts of corporate stock were transferred from domestic individual ownership to that of financial institutions. These transfers may be

estimated during the 1960's at about one-tenth of the entire portfolio of corporate stock (excluding investment companies) held by households at the beginning of the period and amounted to an only slightly smaller fraction during the first half of the period (1952–1959).

10. On the average, the net purchases by financial institutions amounted to 1 per cent of corporate stock outstanding (excluding intercorporate holdings and investment company stock). It is remarkable that the ratio was fairly stable, keeping between 0.8 and 1.2 per cent of total stock outstanding in ten of the seventeen years of the period and being only slightly higher (averaging 1.5 per cent) in another four years (1961 and 1966–68). They were substantially lower in only two years in the period (1955 and 1964).

11. The importance of financial institutions as traders in corporate stock is evident in two statistics, in the velocity of turnover of their portfolios and in their share of stock trading on the New York Stock Exchange. From both bodies of data it is evident that the participation of financial institutions in stock trading during the postwar period increased at least as much as their share in total corporate stock outstanding.

12. While financial institutions, as determined by the perodic surveys of the NYSE, accounted for about one-fifth of all trading on the exchange in the mid-1950's and for one-fourth of public trading (i.e., excluding trading by brokers and dealers), their share rose considerably and almost continuously during the 1960's to reach about two-fifths of total trading and over one-half of public trading during the first half of 1969.

13. The turnover ratios of the stock portfolios of financial institutions, indicative of the intensity of their trading activities, rose for all types of institutions from 1955 (when the statistics begin) through 1969. The increase was most pronounced for open-end investment companies in which the velocity rose from one-sixth of the portfolio in 1955 and one-fifth in 1965 to one-half in 1968 and 1969. This acceleration was due to the spread of the performance orientation, involving numerous but relatively short-term engagements and increasing emphasis on in-and-out trading. The same sharp acceleration in turnover ratios in the late 1960's can be observed in the other main groups of financial institutions. Although it occurred here later than in the case of open-end investment companies—in 1967 or 1968 rather than in 1966—it was no less pronounced. Thus the turnover ratio of life insurance companies nearly doubled between 1966 and 1969 as did that of private pension funds, while the turnover ratio of fire and casualty companies more than tripled. The ratios for all of these groups, however, still remained well below those for open-end investment companies. The acceleration of trading by financial institutions was about in line with the movements of the overall turnover ratio on the New York Stock Exchange, which increased from 15 per cent in 1965 and 20 per cent in 1966 to 33 per cent in 1969.

14. The sharp increase in the net purchases of corporate stock by financial institutions in the 1950's and 1960's was the result of two factors, the increase in the total funds available for investment and the change in investment policy that allocated a larger share of available funds to the acquisition of corporate stock. While the first factor

was the result of basic forces in the economy which were only in part under the influence of the institutions themselves, the changes in portfolio policy were largely autonomous, although they were in some cases influenced by changes in the statutes governing the investments of the respective institutions.

The share of corporate stock in the net acquisition of financial assets sharply increased over this period for all types of financial institutions, excluding investment companies, which always had invested the bulk of their funds in corporate stock. Comparing three-year averages to avoid erratic movements the share of corporate stock in total net acquisitions of financial assets increased from 1952–54 to 1967–69 for uninsured private pension funds from less than 30 to over 80 per cent; for state and local pension funds, from 1½ per cent to 25 per cent; for non-life-insurance companies, from 15 to nearly 40 per cent; and for mutual savings banks, from 4 to over 6 per cent. It is this dramatic change in investment policy, discussed in somewhat more detail in Chapter 5, Section 2, that must be regarded as the most important aspect of the activities of financial institutions in the market for common stock in the postwar period.

6. Participation of Foreign Investors in the American Stock Market

The transactions of foreign investors in American corporate stock are of particular interest for three reasons: (1) They are sometimes an important factor in the demand for or the supply of stock. In that respect foreigners are in the same position as institutional and noninstitutional groups of domestic investors as buyers or sellers of stock or as financial corporations as issuers. (2) To the extent of net foreign purchases or sales of American corporate stock there may be a net sales or purchase balance by all domestic investors. (3) These transactions are important to the balance of payments and thus, indirectly, to monetary policy. Continuous substantial net purchases of American corporate stock by foreign investors obviously permit larger net imports of commodities and services, larger net exportation of capital, or larger accumulation of monetary metals than would otherwise be possible, while protracted net sales have the opposite effect.

From 1952 through 1968 the net purchases of American corporate stock by foreign investors totaled $3.7 billion as shown in Table 3–35.[18] This amount is small compared to the net purchases by some domestic investor groups, particularly investment companies ($15 billion) and uninsured pension funds ($33 billion), during the same period and equals only 5 per cent of net purchases by all domestic financial institutions, but it is substantial in relation to the total increase in the supply of stock. Net foreign stock purchases were about one-seventh of total net stock issues in the period 1953–68 and accounted for about one-fourth of total net cash issues. From 1952 through 1968, American open-end investment companies sold $1.5 billion or about 4 per cent of their shares to foreigners. If the redemption rates had been the same for foreign as for domestic stockholders (about 50 percent) open-end-company shares would have accounted for about one-fifth of the net purchases of American corporate stock by foreigners.[19]

[18] For the methods of calculating the figures and their limitations, see Appendix VII.
[19] Based on figures in *Mutual Fund Fact Book 1970*, pp. 14, 68 ff.

Table 3-35

Transactions by Foreign Investors in U. S. Corporate Stock

1958-1968

	Trading[1]	Average holdings[2]	Turnover ratio	Trading on securities exchanges[3]	Share of foreigners[4]	Net purchases	Trading / Net purchases	Stock price changes[5]
	$ bill.			$ bill	per cent	$ bill		per cent
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1958	2.85	7.20	.40	77	3.7	-.05	- 57.0	34.0
1959	4.08	8.85	.46	104	3.9	.36	11.3	7.3
1960	3.75	9.35	.40	90	4.2	.21	17.8	- .5
1961	5.81	10.55	.55	128	4.5	.33	17.6	20.5
1962	4.41	11.05	.40	110	4.0	.11	40.1	5.1
1963	5.25	11.40	.46	129	4.1	.19	27.6	2.0
1964	6.51	13.15	.50	145	4.5	-.35	- 18.6	12.9
1965	7.77	14.20	.55	189	4.1	-.51	- 15.2	8.8
1966	9.82	13.60	.72	247	4.0	-.34	- 29.8	-10.4
1967	15.31	14.05	1.09	324	4.7	.75	20.4	14.8
1968	23.97	17.50	1.43	394	6.1	2.27	10.6	9.5

[1]Purchases plus sales

[2]Average of value of holdings at beginning and end of year

[3]Twice volume of trading (35th Annual Report of U.S. Securities and Exchange Commission,)p. 193

[4]Slightly too high because trading by foreigners off exchanges is disregarded.

[5]Moody's 500 stock average; year-end to year-end.

Thus the net purchases or sales by foreign investors are likely to have exercised a considerable effect on the supply-demand situation in corporate stock during the period, and certainly during those parts of it when either net sales or net purchases were substantial in relation to the increase in the total supply of corporate stock. In 1956, e.g., net foreign purchases were equal to 7 percent of all net new stock issues and to 10 percent of issues excluding investment companies, which may be the more relevant comparison since probably only a small fraction of foreign purchases was directed toward investment company issues. The corresponding ratios were as high as 15 and 33 percent respectively, and in 1968 large net foreign purchases occurred in the face of a small net reduction in the supply of domestic corporate stock.

These purchases, however, resulted in the transfer of only approximately 0.5 percent of the total amount of American corporate stock into foreign hands. The percentage was considerably higher in individual issues popular with foreign investors.

There is little evidence of a trend over the entire postwar period in the net purchase or sales balance of American corporate stock by foreign investors (Table 3–36). Small purchase balances prevailed from 1952 through 1963, except for a very small sales balance in 1958, a year of recession, and a somewhat larger than average purchase balance in 1956, 1959, and 1961, all years in which stock prices rose substantially. Movements were more pronounced during the last half-dozen years. Foreigners' sales exceeded their purchases by $1.2 billion from 1964 through 1966, a period in which American stock prices advanced substantially. This was due mainly to sales of American stock held by the British government, a transaction presumably reflecting that country's contemporary balance of payments difficulties. On the other hand, heavy purchase balances developed during 1967 and particularly during 1968, when they exceeded $2.2 billion in the period in which American stock prices reached their peak. The volume of net purchases was much reduced in 1969, when stock prices began to decline.

Table 3-36

Relation of Net Purchases of American Corporate Stock by Foreigners to Total Issues and Outstandings, 1952-1968

	Net purchases ($ bill.) (1)	Relation (per cent) to: Net issues of domestic corporate stock (2)	Domestic corporate stock outstanding (3)	Net purchases by domestic financial institutions (4)
1952	.00	0	0	0
1953	.06	2.5	0.027	4.0
1954	.14	6.1	0.054	8.8
1955	.13	4.8	0.040	8.2
1956	.26	7.0	0.074	15.1
1957	.14	3.6	0.042	6.2
1958	-.05	-1.4	-0.013	-1.8
1959	.36	8.8	0.076	10.2
1960	.21	6.6	0.042	5.7
1961	.33	6.3	0.057	7.6
1962	.11	4.2	0.018	2.7
1963	.19	19.0	0.030	5.2
1964	-.35	-10.6	-0.047	-8.0
1965	-.51	-17.0	-0.061	-9.0
1966	-.34	- 6.9	-0.040	-5.5
1967	.75	15.6	0.081	7.8
1968	2.27	59.7	0.201	21.8
1952-1968 Average	.22	5.9	0.032	5.1

It is apparent from an examination of the net purchases column of Table 3–35 that until recent years, foreign purchases of U.S. stocks were insignificant. The single most influential cause of the recent apparent shift in investor attitudes in favor of U.S. equities has been expansion of investor interest and mutual fund sales activities abroad. Both newly formed and older, more established open-end investment companies have aggresively sought out new markets outside the United States for their own shares on the strength of their performance during the mid-sixties. Overseas expansion and concomitant changes in attitudes were conditioned to some extent by a U.S. government program of encouraging and removing barriers to investment in U.S. securities by foreigners.

The 1965 and 1968 direct investment restraint programs, aimed at alleviating pressure on the U.S. balance of payments, forced American firms to increase their reliance on the Eurobond market to maintain foreign direct investment levels. The unprecendented increase in new issues of U.S. securities on this market provided new opportunities for the European investor to purchase American equity, often in the form of convertible bonds.

European investment behavior during the period under discussion was further influenced by exogenous economic and political factors that probably induced capital migrations to the United States. Among them were currency instability, the 1967 Middle East crisis, the 1968 events in France, and the Soviet invasion of Czechoslovakia.

Since foreign holders of American shares participated in the generally upward trend in stock prices during the period the aggregate value of their holdings of American corporate securities increased sharply from about $3 billion at the end of 1951 to nearly $20 billion 17 years later. Of the increase in value, about five-sixths were due to the rise in stock prices and less than one-sixth to net purchases. The share of foreign investors in the total market value of corporate stock outstanding (excluding intercorporate holdings) stayed at around 2 per cent throughout the period. Since it may be assumed that foreign holdings of American corporate stock are heavily concentrated in issues listed on the New York Stock Exchange their share there may be about 3 percent.

As in the case of domestic investor groups the purchase and sales balances of foreign investors are the result of much larger transactions. From 1958 through 1968, the only period for which these figures are available, purchases and sales combined came to $90 billion, about thirty times as large as the net purchase balance of $3.0 billion. Assuming that most of the trading took place on exchanges, foreign investors would have accounted for about 4 per cent of total stock trading against a share of only 2 per cent in holdings of American corporate stock. This indicates that the velocity of turnover of foreign investors' portfolios of American corporate stock was higher than the average for all domestic investors. The average ratio of slightly over 60 per cent for the period 1958–68 compares with one of a little over 20 per cent for all stocks listed on exchanges (excluding intercorporate holdings). The ratio is even higher than that for American individual holders of corporate stock and is closer to that of the more actively trading institutional holders of corporate stock, viz., open-end invest-

ment companies.[20] This is not unexpected as a probably considerable part of foreign holdings of American corporate stock are in the hands of or administered by financial institutions. As is the case for American investors, particularly institutional holders of corporate stock, the turnover ratio, which had been fairly stable at around 50 per cent from 1958 through 1965, rose rapidly in the last three years of the period, exceeding 135 per cent in 1968. Thus foreign investors in American corporate stock conformed in this respect also to the behavior of American investors and apparently were no more immune than they to the speculative fever of the late 1960's.

European investors (or more correctly, investors handling their transactions in American securities through European banks, brokers, or dealers) accounted for about two-thirds of the total trading in American corporate stock by foreigners. About one-half of this amount was accounted for by transactions from Switzerland, and it is certain that residents of that country were responsible for only part of the volume originating there. British investors or organizations originated about one-fifth of all European transactions and about one-seventh of all transactions by foreign investors. Canadian investors accounted for almost one-fifth of all foreign trading in American corporate stock, Latin American investors, for about one-tenth; and the rest of the world, not much more than 5 per cent. Net purchases of American securities, however, were distributed in a quite different way among the different regions. Thus Canadian investors, although originating less than one-fifth of all foreign purchases and sales, were on balance purchasers and accounted for more than two-fifths of the net purchase balance of all foreign investors. In contrast, British investors had net sales balances in most years, and for the period as a whole they showed a sales balance of more than $1.1 billion, probably in part a result of British foreign exchange control. Details about the geographic distribution of transactions, sales balances, and holdings by foreign investors may be followed in Tables 3–37 to 3–39.

[20] For the velocity of their stock portfolios, see Table 3–32.

Table 3-37

Net Purchases or Sales (-) of U.S. Corporate Stock
by Foreign Investors in Main Regions, 1952-1968
$ bill.

	All Countries (1)	Canada (2)	United Kingdom (3)	Switzer-land (4)	Other European (5)	Latin America (6)	Other Countries (7)
1952	.00						
1953	.06						
1954	.14						
1955	.13						
1956	.26						
1957	.14						
1958	-.05	-.05	0	.01	-.04	.01	-.02
1959	.36	-.02	.02	.21	.09	.03	.03
1960	.21	-.01	-.04	.12	.10	.01	.03
1961	.33	-.03	-.01	.16	.10	.04	.07
1962	.11	.04	-.04	.13	.02	-.02	-.02
1963	.19	.00	.20	-.03	0	.01	.01
1964	-.35	.04	-.18	-.22	-.02	.03	0
1965	-.51	.05	-.40	-.12	-.04	-.01	-.01
1966	-.34	.23	-.52	-.06	-.06	.04	-.03
1967	.75	.27	-.12	.25	.21	.08	.06
1968	2.27	.38	-.03	.82	.78	.15	.17

Source: Treasury Bulletin, various issues

Table 3-38

Activities of Foreign Investors in U.S. Corporate Stocks by Main Regions, 1958-1968

$ bill.

	Trading (1)	Net purchase (2)	Increase in value of holdings (3)	Average holdings (4)	(1)/(2) (5)	(2)/(3) (6)	Turnover ratio (1)/(4) (7)
Canada	16.44	.90	2.39	1.68	18.2	.38	9.8
Europe	59.05	1.31	8.57	8.57	45.0	.15	6.9
Switzerland	30.67	1.27			24.2		
U.K.	12.54	-1.12			11.2		
Other Europe	15.84	1.16			13.7		
Latin America	8.90	.40	.92	.94	22.3	.43	9.5
Other countries	5.14	- .41	1.56	.63	12.5		8.2
All foreign countries	89.53	2.27	13.44	11.82	40.0	.17	7.6

Table 3-39

Foreign Holdings of U.S. Corporate Stock, 1953 - 1968

$ bill.

End of	Total (1)	Canada (2)	Western Europe (3)	Latin America (4)	Other Countries (5)
1953	3.65	.68	2.53	.29	.15
1954	5.25	.94	3.66	.42	.23
1955	6.58	1.09	4.64	.52	.33
1956	6.96	1.09	4.97	.56	.34
1957	6.09	.88	4.42	.49	.30
1958	8.31	1.17	6.03	.66	.45
1959	9.36	1.25	6.86	.74	.51
1960	9.30	1.21	6.84	.73	.52
1961	11.81	1.46	8.71	.93	.71
1962	10.34	1.24	7.70	.79	.61
1963	12.49	1.49	9.31	.94	.75
1964	13.84	1.73	10.16	1.08	.87
1965	14.60	1.93	10.53	1.17	.97
1966	12.64	1.93	8.74	1.08	.89
1967	15.51	2.54	10.51	1.27	1.19
1968	19.53	3.27	12.99	1.41	1.86

Sources: Survey of Current Business, various issues

Chapter 4

The Supply Of Equity Securities, 1952–68

This chapter describes trends in the supply of equity financing during the years 1952 to 1968 and trends in corporate financing over the period. An attempt is also made to identify the determinants of the volume of equity financing for nonfinancial corporations and for several subsectors within that group; namely, manufacturing, utilities, and communications. In addition, an attempt is made to explain equity financing behavior by studying a sample of large manufacturing corporations each of which made at least one issue of common stocks during the period. Finally, an attempt is made to identify the determinants of the volume of equity securities retired.

1. Trends in the Supply of Equity Securities, 1952–68

During the period under study domestic corporations issued $58.3 billion of new equity securities and at the same time retired $31.8 billion of outstanding equity securities. As a result net new issues over the period added $26.5 billion to the stock of outstanding equity securities. Yearly data on new issues and retirements are presented in Table 4–1.

Table 4-1

Domestic Corporate Securities Issued and Retired,[1] 1952-68

(millions of dollars)

	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
ISSUES																	
1. Cash issues	1,933	1,815	2,029	2,820	2,937	2,927	1,906	2,554	2,071	3,748	1,738	1,361	3,093	2,272	2,513	2,873	4,549
2. Conversions of debt into stocks																	
a. Cash	194	125	213	203	169	55	253	41	7	5	1	*	4	0	0	0	(
b. Stock issued	541	366	752	802	694	277	851	451	308	236	122	163	156	392	530	1,071	992
3. Exchanges[2]	0	0	0	2	11	39	17	6	4	20	11	5	15	0	1	23	92
4. Other additions[3]	75	113	188	151	317	203	324	572	569	783	652	657	782	813	1,388	944	914
5. Deductions[4]	157	203	182	359	207	193	280	247	234	337	268	240	282	275	263	187	491
6. Total issues	2,586	2,216	2,999	3,619	3,920	3,309	3,070	3,378	2,725	4,454	2,255	1,948	3,748	3,205	4,169	4,664	6,052
RETIREMENTS																	
7. Called for payment	98	115	397	590	187	42	123	85	95	157	298	425	403	602	121	118	88
8. Repurchases and other retirements[5]	46	170	712	1,008	1,112	507	608	861	869	1,546	1,232	1,688	1,804	2,519	2,344	2,390	5,401
9. Exchanges[2]	0	0	68	176	103	69	233	77	123	106	88	206	212	199	755	244	2,362
10. Deductions[6]	0	0	0	48	30	23	21	22	58	5	52	122	107	79	218	355	897
11. Total retirements	145	284	1,196	1,725	1,373	596	943	1,002	1,029	1,804	1,567	2,197	2,317	3,242	3,000	3,107	6,959
12. Net issues less retirements	2,441	1,932	1,802	1,893	2,548	2,713	2,127	2,376	1,696	2,650	688	-249	1,431	-37	1,169	2,267	-906

[1] Excluding investment company shares.

[2] Exchange transactions are covered only when they involve the issuance and retirement of different types of securities, e.g., debt issues for equit issues.

[3] Includes issues, such as sales by affiliated companies, private sales to foreigners, and sales to employees.

[4] Deductions are made for certain transactions, such as foreign issues sold in the U.S., sales to other corporations, and estimated amounts of issues offered but not sold.

[5] Repurchases by public tender, open-market repurchases, and cash payments in connection with liquidations, reorganizations, and mergers.

[6] Retirements of issues held by other corporations and in item 8 and 9.

NOTE: Data prior to 1935 are not strictly comparable with the current period because of differences in coverage. Transactions reflecting mergers liquidations, as well as adjustments for intercorporate transactions were not covered. An asterisk means less than half a million dollars.

SOURCE: Securities and Exchange Commission, Branch of Capital Markets.

While the total market value of outstanding stocks of domestic corporations increased by $983.4 billion between 1952 and 1968, net new issues accounted for only 2.7 percent of this increase, with the balance arising from appreciation of outstanding issues. Moreover, there has been a significant decline over the period in the contribution of net new issues to the growth in market value of equity securities. Between 1953 and 1959, 6.6 percent of the increase in market value was attributable to new issues whereas they accounted for only 1.2 percent of the increase between 1960 and 1968.

The data in Table 4–2 show that, over the period as a whole, manufacturing corporations accounted for almost 32 percent of gross new issues, while public untility corporations, communications corporations, and others (including mining, transportation, fire, insurance, real estate, and commercial corporations) each accounted for between 23 and 24 percent of gross new issues. However, there have been some shifts in the roles of the individual sectors as sources of new equity securities between the 1950's and 1960's. Corporations in both manufacturing and in the miscellaneous group have increased their share in gross new issues between these two periods, while the shares of both public utility and communications corporations have declined. Additional detail on new issues and retirements by sector is given in Table 4–3.

Table 4-2

Distribution of Gross New Issues of Equity Securities, by Industry, 1952-68
(percent)

Year	Manufacturing	Utilities	Communications	Other
1968	40.9	15.2	2.3	41.6
67	50.7	15.7	10.6	23.0
66	43.1	13.3	14.4	29.2
1965	37.6	18.7	17.4	26.3
64	15.8	17.2	48.4	18.2
63	27.4	22.2	25.8	24.6
62	26.1	26.4	16.6	30.9
61	25.8	16.9	33.3	24.0
1960	35.9	25.3	13.3	25.5
59	29.7	31.6	13.5	25.2
58	16.2	34.4	35.2	14.2
57	51.1	25.3	6.5	17.1
56	29.1	20.5	31.6	18.2
1955	30.3	24.5	24.5	20.7
54	15.4	31.3	33.0	20.3
53	8.7	50.7	28.6	12.0
52	24.3	32.9	31.6	11.2
		Annual Averages		
1952-68	31.5	23.1	21.7	23.7
1960-68	33.7	19.0	20.2	27.1
1952-59	25.6	31.4	25.6	17.4

Table 4-3: Net New Issues of Corporate Stock By Industry, 1952-1968

(Millions of dollars)

	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
All industries																	
New issues	2,586	2,216	2,999	3,619	3,920	3,309	3,070	3,378	2,725	4,454	2,255	1,948	3,748	3,205	4,169	4,664	6.057
Retirements	145	284	1,196	1,725	1,373	596	943	1,002	1,029	1,804	1,567	2,197	2,317	3,242	3,000	2,397	6,959
Net change	2,441	1,932	1,802	1,893	2,548	2,713	2,127	2,376	1,696	2,650	688	-249	1,431	-37	1,169	2,267	- 900
Manufacturing																	
New issues	629	193	463	1,096	1,140	1,690	496	1,004	977	1,147	589	534	593	1,204	1,798	2,365	2,477
Retirements	104	133	607	814	685	283	542	562	515	733	831	1,198	1,109	1,774	1,767	1,532	4,319
Net change	525	61	-145	282	455	1,407	-46	442	462	415	-242	-664	-516	-570	32	833	-1,842
Extractive																	
New issues	n.a.	54	125	125	140	72	81	44	47	57	48	43	89	75	78	139	318
Retirements	n.a.	11	101	104	272	29	10	9	76	619	282	276	468	100	532	27	52
Net change	n.a.	42	23	22	-133	43	72	35	-29	-562	-234	-233	-379	-25	-454	112	266
Electric Gas & Water																	
New issues	850	1,124	940	888	803	837	1,057	1,067	689	753	596	433	643	600	556	734	922
Retirements	4	54	146	40	7	22	30	39	54	49	116	188	167	504	22	83	30
Net change	845	1,069	794	849	796	815	1,027	1,028	635	704	479	245	476	96	534	652	892
Railroad																	
New issues	1	--	5	7	1	*	--	--	--	1	1	*	1	33	9	64	53
Retirements	16	12	41	242	52	32	109	18	26	43	9	9	4	38	22	9	81
Net change	-15	-12	-35	-236	-51	-32	-109	-18	-26	-42	-8	-9	-3	-5	-10	55	-28
Other transportation																	
New issues	42	6	5	46	62	48	33	68	18	42	21	74	57	109	766	204	170
Retirements	*	13	19	70	42	16	17	49	34	7	37	84	84	105	38	98	292
Net change	42	-8	-15	-24	20	32	16	20	-16	35	-17	-10	-27	4	728	108	-122
Communication																	
New issues	817	634	989	888	1,238	215	1,080	457	363	1,483	374	502	1,814	559	600	494	167
Retirements	*	12	7	8	42	26	10	12	8	26	17	55	115	41	27	28	46
Net change	817	622	982	879	1,196	189	1,070	445	356	1,457	357	447	1,699	518	573	466	-120
F.I.R.E.																	
New issues	179	177	366	483	473	374	250	427	439	664	419	276	429	439	166	189	611
Retirements	7	12	145	308	177	102	92	129	107	136	160	182	144	449	256	318	1,355
Net change	172	165	220	175	297	272	158	298	331	528	319	94	285	-10	-90	-121	-744
Commercial & other																	
New issues																	
Retirements	119	30	107	86	64	72	73	309	193	307	207	86	122	185	193	472	1,337
Net change	14	37	130	139	95	86	134	182	210	192	175	205	225	229	336	303	782
	105	-6	-23	-53	-31	-14	-61	127	-17	115	33	-119	-104	-45	-143	169	755

Note: An asterisk means less than half a million dollars.

Source: Securities and Exchange Commission

n.a. = not available

Throughout the period, the bulk of new issues has apparently been rather small. Table 4–4 shows that individual issues of $15 million or more have accounted, on average, for only 30 percent of gross new issues, although the individual sectors exhibit considerable variation in this respect. Large issues have accounted for slightly more than 50 percent of total issues by public utility corporations, and this is by far the largest share. Large issues by communications corporations have accounted for an average of 30 percent of total issues by corporations in that sector, while the large issues have accounted for approximately 24 percent of the total in manufacturing and approximately 18 percent in the miscellaneous sector.

Table 4-4

Large Equity Issues as a Percent of Total, by Sector, 1953-67

	Manufacturing and Extractive	Utilities	Communications	Other	Total
1953	14.7	45.2	3.7	34.6	28.9
54	20.6	27.0	----	43.0	19.4
55	39.5	46.1	6.1	20.8	28.6
56	18.2	34.9	48.7	39.9	35.5
57	57.2	51.8	24.5	23.9	48.7
58	14.0	3.7	4.2	12.9	22.7
59	11.6	2.2	28.3	16.1	27.5
1960	8.4	42.9	6.2	3.4	15.4
61	5.0	61.6	69.2	14.6	38.1
62	4.9	62.5	----	3.0	18.8
63	13.3	49.2	9.5	5.5	18.6
64	----	50.6	79.3	17.0	49.9
65	27.2	32.8	12.8	14.2	22.6
66	44.3	73.5	16.9	7.0	34.0
67	15.1	80.0	11.6	28.2	27.2
Annual average	23.5	50.6	30.4	17.5	30.3

Perhaps the most striking trend in the supply of equity securities over the period has been the dramatic increase in the volume of retirements. The data in Table 4–5 indicate that, with the exception of the earliest years of the period, a relatively small proportion of the retirements represents preferred stock called for payment. In particular, such retirements accounted for less than 5 percent of the total in the years 1966–68 when approximately 35 percent of the total amount of retirements during the period occurred. Most retirements fall into the category of repurchases by the issuing corporations and retirements associated with mergers and liquidations. Within this category there is some evidence that the bulk is accounted for by repurchases on the part of the initial issuer.

Table 4–6 shows estimates, derived by Leo Guthart, of the market value of shares repurchased by corporations listed on the New York Stock Exchange from 1954 to 1963. In six of the ten years these estimated repurchases accounted for over 50 percent of the retirements falling into the category of repurchases and retirements associated with mergers and liquidations. The balances listed as exchanges (i.e., exchanges of debt for equity securities) are probably closely associated with merger activity.

As can be seen by referring back to Table 4–3 it is manufacturing corporations which are responsible for most of the retirement of stocks. In most years such corporations account for somewhat more than half of all retirements, and in only one year (1961) were they responsible for less than 45 percent of total retirements. Most of the balance in retirements is accounted for by firms in the extractive industries, in fire insurance and real estate, and in the commercial and other group. Retirements by firms in the utility, transportation, and communications groups generally account for a very small proportion of total retirements.

Table 4-5

Distribution of Total Retirements, by Type, 1952-68

(percent)

	Called for Payment	Repurchases and Other Retirements	Exchanges
1968	1.1	68.8	30.1
67	4.3	86.8	8.9
66	3.8	72.8	23.4
65	18.1	75.9	6.0
64	16.8	74.4	8.7
63	18.3	72.9	8.9
62	18.4	76.1	5.4
61	8.7	85.5	5.9
1960	8.7	79.9	11.3
59	8.3	84.1	7.5
58	12.8	63.1	24.2
57	6.8	81.9	11.1
56	13.3	79.3	7.3
55	33.3	56.9	9.9
54	33.2	59.5	7.4
53	40.5	59.5	----
52	68.1	39.9	----

Table 4-6

Market Value of Shares Repurchased by New York Stock Exchange Companies, 1954-63

	Estimated Repurchases by NYSE Companies* (millions of dollars)	Percent of Total Repurchases and Other Retirements
1963	1,302.9	77.2
62	1,056.7	85.8
61	793.6	47.8
1960	598.4	68.9
59	647.5	75.2
58	465.7	76.6
57	382.3	75.4
56	414.3	37.3
55	387.8	38.5
54	273.9	38.5

*Data from Leo A. Guthart, "More Companies are Buying Back Their Stock," Harvard Business Review, March-April, 1965, Exhibit 1, p. 44.

2. Trends in Corporate Financing

The net supply of equity securities reflects, of course, corporate decisions as to uses and sources of funds. By far the largest corporate use of funds is for capital expenditures. Table 4–7 shows that throughout the period under consideration over 60 percent of total funds used were allocated to capital expenditures. As is to be expected, the proportion spent varies closely with the general level of business activity. Variations in the proportion of funds used for capital expenditures are offset primarily by compensating variations in the acquisition of financial assets. In most years capital expenditures and the acquisition of financial assets together account for slightly more than 90 percent of total uses, and there is no apparent trend in this figure. Capital expenditures and acquisition of financial assets averaged 90.7 percent of yearly total uses during 1952–59 and 91.0 percent during 1960–68.

The remaining 10 percent of funds has been used for the retirement of outstanding debt and equity securities. Within this component of total uses there has been a noteworthy, if not dramatic, increase in the importance of retirements of equity issues. While such retirements accounted for 2.0 percent of uses on average during the years 1952–59, retirement of stock consumed 3.2 percent of funds annually during the period 1960–68. At the same time the annual average proportion of funds used for the retirement of debt securities declined from 7.3 percent in the fifties to 5.8 percent during the sixties.

Table 4-7

Sources and Uses of Funds, All Nonfinancial Corporations, 1952-59

(percent of total uses)

		1952	1953	1954	1955	1956	1957	1958	1959
Total (billions of $)		33.2	29.3	32.6	55.2	46.8	43.9	45.1	57.1
Uses of Funds (percent)									
Capital expenditures		73.5	84.0	66.3	57.1	76.7	79.0	60.5	64.6
Net average of financial assets		19.0	8.5	17.8	33.7	13.5	13.7	29.0	28.4
Retirements		7.5	7.5	16.0	9.2	9.8	7.3	10.4	7.0
Stock		.3	1.0	3.7	3.1	3.0	1.4	2.0	1.8
Bonds		7.2	6.5	12.3	6.1	6.8	5.9	8.4	5.2
Sources of Funds (percent)									
Gross internal		63.9	72.0	71.5	52.9	61.8	69.7	65.4	61.3
External		36.1	28.0	28.5	47.1	38.2	30.3	34.6	38.7
Stocks		7.8	7.5	9.2	6.5	8.3	7.5	6.9	6.0
Bonds		22.0	22.9	23.9	13.8	16.7	21.9	21.5	12.4
Other		6.3	-2.4	-4.6	26.8	13.2	.9	6.2	20.3
	1960	1961	1962	1963	1964	1965	1966	1967	1968
Total(billions of $)	47.8	58.0	65.3	70.5	71.3	93.7	100.1	93.7	115.8
Uses of Funds (percent)									
Capital expenditures	81.6	63.3	67.4	64.7	73.1	67.0	77.0	77.4	66.3
Net average of financial assets	9.8	26.7	24.5	25.1	18.0	24.7	15.5	14.4	23.0
Retirements	8.6	10.0	8.1	10.2	8.9	8.3	7.5	8.2	10.7
Stock	2.1	3.1	2.5	3.1	3.2	3.4	3.0	2.3	6.0
Bonds	6.5	6.9	5.6	7.1	5.7	4.9	4.5	5.9	4.7
Total Sources (percent)									
Gross internal	72.0	61.4	64.0	62.3	70.8	60.4	61.2	65.3	54.4
External	28.0	38.6	36.0	37.7	29.2	39.6	38.9	34.7	45.6
Stocks	5.6	7.8	3.5	2.7	5.2	3.4	4.2	5.0	5.3
Bonds	16.9	15.9	13.2	15.0	15.0	13.6	15.6	22.7	16.8
Other	5.4	15.0	19.3	20.0	9.0	22.6	19.1	7.0	23.5

The major proportion of funds used by corporations is internally generated primarily from depreciation reserves and retained earnings. While internally generated funds exhibited short-run variation, they showed no apparent trend at this level. In most years such funds accounted for more than 60 percent of total sources. Over the years 1952–59 internally generated funds accounted for 64.8 percent of the funds used each year; they accounted for 63.5 percent during the years 1960–68. As a consequence the role of external financing, except for short-run variations, has remained relatively unchanged throughout the period.

The sources of external finance, however, show significant shifts over the period. In particular the role of both debt and equity securities as sources has been markedly lower in the 1960's than in the 1950's. While issues of debt securities provided, on average, 19.4 percent of total funds annually from 1952–59 this proportion fell to 16.1 percent during 1960–68. More dramatic is the reduced importance of new equity issues as a source. Such issues accounted for 7.5 percent of total funds on average from 1952–59 but for only 4.8 percent of total funds from 1960–68. These reductions in the role of securities have been offset by a marked increase in the proportion of funds supplied by other sources, primarily commercial banks. Bank debt and other sources, which provided, on average, 8.3 percent of total funds during the 1950's, supplied almost twice that, or 15.6 percent, in the 1960's.

Thus there are two trends in corporate financial behavior which have acted to limit the supply of equity securities during the period under study. On the one hand, corporations as a group have increased the extent to which funds have been used to retire their outstanding equity issues. On the other hand, there has been a notable shift away from the issuance of new equity securities as a source of funds. Explanations for these two trends would, to a large extent, provide explanations for the behavior of the supply of equity securities during the 1950's and 1960's.

Before proceeding to examine some explanations for these trends, however, it would be desirable to examine corporate financial behavior on a less aggregative basis. This can be done for three broad sectors—manufacturing, electric and gas utilities, and communications. Information on uses and sources of funds, other than that relating to retirements and issues of debt and equity securities, is available from reports of various regulatory agencies. Thus data for manufacturing were calculated from the FTC–SEC Quarterly Surveys of Manufacturing; data for electric and gas utilities, from reports on class A and B privately owned electric utilities and natural gas pipelines and utilities filed with the Federal Power Commission; and data for class A telephone companies, from reports filed with the Federal Communications Commission. Such data do not cover all firms in these categories; and, particularly in the case of the FTC–SEC Survey of Manufacturing, changes in number and identity of reporting firms introduce additional errors. Nevertheless, included firms account for very high percentages of total activity in each sector. Furthermore, these data should provide reasonably reliable indicators of trends in the relative importance of various sources and uses of funds within each sector. Information on the financing behavior of a miscellaneous group of firms including those in transportation, mining, commercial, and fire, insur-

ance, and real estate was obtained by subtracting the data for manufacturing, utilities, and communications from the flow-of-funds data for all nonfinancial corporations.

Annual average percentage data on the uses and sources of funds are presented for each sector for the periods 1952–59 and 1960–68 in Table 4–8; yearly data for each sector are in Tables 4–9 through 4–12. The relative constancy of the proportion of funds used for reductions in liabilities which was observed at the aggregate level extends only to the manufacturing sector. Utilities and the miscellaneous group both exhibit a tendency toward increasing use of funds for the retirement of securities, though the tendency is much more pronounced for the latter group. In communications, however, there is a contrary trend toward a reduction in the use of funds for retirements. Likewise, the trend toward a decrease in the proportion of funds used for the retirement of debt securities at the aggregate level does not extend uniformly to the individual sectors. While retirement of debt securities absorbed a decreasing proportion of funds in manufacturing and communications, utilities showed a slight increase, and the miscellaneous group exhibited no change. The one aggregate tendency which extends to each sector without exception is an increase in the proportion of funds used to retire outstanding equity securities. While the proportion of funds so used is still relatively minor in each sector, the proportion has approximately doubled in the 1960's as compared to the 1950's in both the communications and the miscellaneous sectors, and quadrupled in the utility sector. Thus, one of the important trends influencing the supply of equity securities has apparently been a general phenomenon throughout the corporate sector.

Table 4-8

Comparative Sources and Uses of Funds, Annual Averages, 1952-59 and 1960-68
(percent of total uses)

	All Nonfinancial Corporations		Manufacturing		Utilities		Communications		Miscellaneous	
	1952-59	1960-68	1952-59	1960-68	1952-59	1960-68	1952-59	1960-68	1952-58	1960-68
Increase in Assets	90.7	91.0	92.1	92.9	89.2	85.8	79.6	92.5	86.6	77.5
Retirement of debt securities	7.3	5.8	5.4	4.0	9.9	11.0	19.8	6.2	6.6	6.6
Retirement of equity securities	2.0	3.2	2.5	3.1	.8	3.2	.7	1.3	1.6	3.2
Net Reduction in other liabilities	----	----	----	----	----	----	----	----	5.2	12.7
Total	100	100	100	100	100	100	100	100	100	100
Internal funds	64.8	63.5	70.9	57.9	27.7	38.4	22.5	34.9	75.8	79.3
External funds	35.2	36.5	29.1	42.1	72.3	61.6	77.5	65.1	24.2	22.7
Equity	7.5	4.8	4.3	2.8	17.5	8.7	35.6	23.7	2.9	3.0
Debt securities	19.4	16.1	14.9	9.7	41.0	34.5	40.3	32.8	14.5	16.2
Net increase in other liabilities	8.3	15.6	9.1	30.3	13.8	18.5	1.9	8.5	6.8	3.5

Table 4-9

Sources and Used of Funds, Manufacturing Corporations, 1952-68

(percent of total uses)

	Increase in Assets	Debt Retirement	Stocks Retirement	Total Uses	Internal Funds	External Funds	Equity	Debt Sec.	Other
1968	91.4	3.0	5.6	100.0	45.9	54.1	3.2	8.8	42.1
67	93.4	3.9	2.6	100.0	54.7	45.3	4.1	16.5	24.7
66	94.3	3.0	2.7	100.0	52.0	48.0	2.8	9.6	39.6
1965	93.4	3.4	3.2	100.0	53.2	46.8	2.2	8.1	36.6
64	93.1	4.0	2.9	100.0	63.0	37.0	1.6	7.4	30.6
63	91.4	4.8	3.8	100.0	65.3	34.7	1.7	10.5	22.5
62	93.0	4.3	2.7	100.0	63.9	36.1	1.9	8.7	25.5
61	93.1	4.4	2.5	100.0	57.0	43.0	3.9	11.3	27.8
1960	92.9	4.9	2.2	100.0	65.8	34.2	4.1	6.6	23.5
59	94.2	4.0	1.8	100.0	55.4	44.6	3.3	5.1	36.2
58	89.9	6.7	3.4	100.0	84.8	15.2	3.2	20.6	-8.6
57	94.2	4.5	1.3	100.0	72.1	27.9	8.0	12.9	7.0
56	87.8	7.8	4.4	100.0	72.5	27.5	7.3	18.1	2.1
1955	93.2	4.2	2.6	100.0	53.8	46.2	3.5	6.6	36.2
54	88.1	6.9	5.0	100.0	84.8	15.2	3.8	18.6	-12.9
53	94.6	4.4	1.0	100.0	78.9	21.1	1.6	13.9	5.6
52	95.0	4.3	.7	100.0	65.0	35.0	4.5	23.1	7.4

Table 4-10

Sources and Uses of Funds, Public Utility Corporations, 1952-67

(percent of total use)

	Increase in Assets	Debt Retirement	Stocks Retirement	Total Uses	Internal Funds	External Funds	Equity	Debt Sec.	Other
1968									
67	85.6	6.6	7.8	100.0	25.4	74.6	6.9	39.0	28.7
66	91.0	6.5	2.5	100.0	44.4	55.6	6.2	36.1	13.3
1965	83.1	10.2	6.7	100.0	38.9	61.1	8.0	28.2	24.9
64	86.4	11.0	2.6	100.0	47.8	52.2	9.9	32.7	9.6
63	76.8	20.3	2.9	100.0	41.6	58.4	6.9	34.2	17.3
62	83.8	14.4	1.8	100.0	38.9	61.1	9.0	33.7	18.4
61	89.9	9.3	.8	100.0	34.7	65.3	11.8	35.3	18.3
1960	89.7	9.5	.8	100.0	35.3	64.7	11.1	36.5	17.1
59	91.5	7.9	.6	100.0	34.5	65.5	16.0	34.0	15.4
58	87.5	11.3	.5	100.0	31.0	69.0	17.3	46.1	5.6
57	93.8	5.9	.3	100.0	24.8	75.2	11.6	41.7	21.9
56	91.8	8.0	.2	100.0	30.6	69.4	15.3	33.7	20.5
1955	88.6	10.5	.9	100.0	27.4	72.6	18.8	34.6	19.2
54	76.2	21.0	2.8	100.0	22.9	77.1	17.9	54.7	4.5
53	92.3	6.6	1.1	100.0	26.4	73.6	24.6	42.6	6.4
52	92.1	7.9	---	100.0	24.1	75.9	18.6	40.4	16.9

Table 4-11

Sources and Uses of Funds, Communications Corporations, 1952-67

(percent of total use)

	Increase in Assets	Debt Retirement	Stocks Retirement	Total Uses	Internal Funds	External Funds	Equity	Debt Sec.	Other
1968									
67	97.8	1.5	.7	100.0	37.8	62.2	10.9	39.8	11.6
66	97.6	1.7	.7	100.0	35.7	64.3	14.3	41.2	8.8
1965	96.6	2.3	1.1	100.0	39.8	60.2	15.9	20.7	23.6
64	92.2	4.5	3.3	100.0	33.5	66.5	50.6	16.8	-1.4
63	81.8	16.0	2.2	100.0	40.9	59.1	18.6	32.0	8.6
62	97.0	2.2	.8	100.0	29.7	70.3	13.8	45.9	10.4
61	80.5	18.5	1.0	100.0	26.8	73.2	49.7	23.5	----
1960	96.5	3.1	.4	100.0	35.1	64.9	15.8	42.5	6.6
59	91.9	7.6	.5	100.0	37.8	62.2	24.9	33.0	5.9
58	74.9	24.8	.3	100.0	22.8	77.2	35.2	41.0	1.0
57	94.7	3.7	1.6	100.0	26.3	73.7	11.1	68.4	-5.8
56	83.7	14.6	1.7	100.0	16.7	83.3	51.9	30.5	.8
1955	78.7	21.0	.3	100.0	18.7	81.3	33.3	37.0	10.9
54	63.7	35.8	.5	100.0	24.5	75.5	48.5	29.9	-2.9
53	78.7	20.8	.5	100.0	17.2	82.8	35.4	44.4	3.4
52	70.3	29.7	---	100.0	16.2	83.8	44.3	37.8	1.6

Table 4-12

Sources and Uses of Funds, Miscellaneous Corporations, 1952-67

(percent of total use)

Year	Increase in Assets	Retirement of Debt Securities	Retirement of Equity	Net Retirement of Other Debt	Total Uses	Internal Funds	External Funds	Equity Securities	Debt Securities	Net Increase of Other Debt
1968										
67	57.8	7.5	2.5	32.2	100.0	78.7	21.3	2.8	18.4	----
66	65.7	6.6	4.2	23.5	100.0	81.3	18.7	3.8	14.9	----
1965	84.6	6.8	3.1	5.5	100.0	78.5	21.5	2.7	18.8	----
64	73.9	6.1	3.2	16.8	100.0	79.6	20.4	2.1	18.2	----
63	91.6	5.7	2.7	----	100.0	65.3	34.7	1.3	18.5	14.8
62	92.5	5.1	2.4	----	100.0	74.7	25.3	2.4	9.5	13.4
61	84.4	8.0	5.0	2.5	100.0	79.9	20.0	5.0	15.0	----
1960	69.7	6.7	2.6	21.0	100.0	80.0	20.0	3.6	16.4	----
59	89.2	6.5	2.2	2.2	100.0	81.2	18.8	4.3	14.5	----
58	91.1	6.9	2.0	----	100.0	66.5	33.5	2.0	11.8	19.7
57	76.1	6.9	1.9	15.0	100.0	81.8	18.9	3.1	15.7	----
56	92.7	4.7	2.6	----	100.0	66.5	33.5	2.6	10.3	20.6
1955	88.4	6.1	5.5	----	100.0	64.0	36.0	3.7	17.7	14.6
54	82.6	9.4	2.9	5.1	100.0	81.9	18.1	3.6	14.5	----
53	80.0	5.6	.8	13.6	100.0	80.0	20.0	1.6	18.4	----
52	93.0	7.0	---	----	100.0	83.6	16.4	2.3	12.5	1.6

The absence of any substantial trend in the role of external financing at the aggregate level obscures more varied behavior at the level of the individual sectors. There has, in fact, been a dramatic increase in the role of external financing for manufacturing corporations, with 42.1 percent of funds coming from external sources on average over the years 1960–68 as compared with only 29.1 percent during 1952–59. At the same time there have been substantial reductions in the role of external funds in the utility and communications sectors and a more minor reduction in their role in the miscellaneous group.

The trend toward decreasing reliance on equity issues as a source of funds was, nevertheless, common to all sectors other than the miscellaneous group, where there was an inconsequential increase in the share of funds derived from new equity issues. Of the other three sectors the decline in the role of equity financing was pronounced in communications, where the average annual share of new equity in total financing fell from 35.6 percent in the fifties to 23.7 percent in the sixties, and in the utility sector, where the fall was from 17.5 percent to 8.7 percent between the two periods. As in the case at the aggregate level, the three sectors in which the share of equity financing was declining—manufacturing, utilities, and communications—also exhibited reductions in the role of debt securities as a source of funds, and in all three sectors their reliance on other forms of debt financing increased. The expanded role of other forms of debt financing was most dramatic in manufacturing, where the share of such debt rose from an annual average of 9.1 percent to 30.3 percent between the 1950's and the 1960's, and in communications, where it rose from 1.9 percent to 8.5 percent. In contrast to these sectors, the miscellaneous sector exhibited a slight increase in the role of debt securities and a substantial reduction in the role of other debt financing as sources of funds.

There were, then, significant intersectoral variations in financing behavior during the period. But both trends when observed at the aggregate level, the most important for explaining the supply of equity securities, seem broadly to have characterized the pattern of behavior within sectors. In all sectors retirement of equity absorbed an increasing share of funds, while in all but the miscellaneous group the role of equity and debt security issues as sources of funds has been declining with an accompanying shift toward greater reliance on other forms of debt financing.

3. Determinants of the Composition of External Financing

Broadly speaking the sources of funds for firms may be divided, as we have done in the preceeding tables, into four categories: (1) internal funds, (2) debt securities, (3) equity securities, and (4) other sources including bank loans, trade debt, profit tax accruals, and mortgages. Whatever level of funds firms wish to raise, they can be expected to distribute these requirements over the various sources in such a way as to minimize the total cost of funds for a given level of financing. As a consequence the composition of financing should shift in response to changes in the relative costs of obtaining funds from the several sources.

Let us assume that in any period a firm has some desired level of total financing, TF^*, which is equal to its desired increase in physical capital plus replacement investment, plus its desired increase in financial assets.[1] The financing problem of the firm is then that of determining the level of funds to be raised from each source in such a way as to minimize cost subject to the constraint that the sum of the funds raised be equal to the desired level of financing.

Among the four sources of funds recognized here, internal funds have the special attraction that the firm incurs no transactions costs in their use. Thus, while it may be difficult in practice to determine the opportunity cost of the marginal dollar of internal funds reinvested in the business, it would seem safe to assume that the cost of any given amount of funds will be minimized if it can be obtained from internal funds. Consequently, funds will be raised from the other three sources only if desired financing exceeds the amount of internally generated funds available. The excess of desired financing over internal funds gives the firm's required level of external financing, *REF*. With this simplification, the financing problem becomes one of obtaining the required level of external financing at minimum cost.

The cost of funds from any source is made up of the interest charges the firm must pay plus certain transactions costs such as arranging for bank loans or flotation costs in the case of bond or equity financing. While these transactions costs tend to be relatively insensitive to the amount of funds raised the interest rates which must be paid are likely to increase with the amount raised from any source. This means that the marginal cost of funds from each source increases with the amount raised.

In addition, the levels of the cost curves probably differ among the sources of funds. Thus, because of the special tax advantages of debt financing, the cost curves for both bond and "other" financing lies below that for equity financing over some range. Furthermore, if, as seems likely, the transactions costs of obtaining "other" funds are lower than the flotation costs of securities, the cost curve will be below both those for bond and equity financing over some range.

These properties of the cost curves mean that an optimal, i.e., cost minimizing, financial policy need not involve the use of all sources of external funds. Rather there will be some level of required external financing below which it would be optimal to rely solely on "other financing". Let us denote this level as *REF'*. There will be another level of required external financing *REF''* below which cost minimization requires that no funds be obtained from equity issues. Thus firms whose required external funds fall below *REF'* and *REF''* will use both "other" and bond financing while only those firms with requirements in excess of *REF''* would use all three sources. This dependence of optimal financing policy for individual firms upon their level of required external financing relative to two critical levels *REF'* and *REF''* makes it difficult to analyze the determinants of financing behavior.

[1] This might be formalized through the use of an accelerator-adjustment model of desired total financing but that would serve no useful purpose at this juncture.

Since we must rely on aggregate data on the amounts of different types of financing and on total external financing we can only attempt to explain financing behavior by equations such as;

$$\overline{F}=\alpha_0+\alpha_1\overline{EF}+\alpha_2 r_f+\alpha_3 r_b+\alpha_4 r_c$$

$$\overline{B}=\beta_0+\beta_1\overline{EF}+\beta_2 r_f+\beta_3 r_b+\beta_4 r_c$$

$$\overline{E}=\eta_0=\eta_1\overline{EF}+\eta_2 r_f+\eta_3 r_b+\eta_4 r_c$$

where $\overline{F}$ = aggregate "other" financing

$\overline{B}$ = aggregate bond financing

$\overline{E}$ = aggregate equity financing

$\overline{EF}$ = aggregate external financing

r_f = interest rate on "other" funds

r_b = interest rate on bonds

r_c = required rate of return on equity

But because the optimal financing policy for individual firms depends upon required external funds relative to the critical levels REF' and REF'', the "other" financing equation should have as separate variables: (1) external financing by firms which have requirements less than REF'; (2) external financing by firms which have requirements between REF' and REF''; and (3) external financing by firms with requirements greater than REF''. Similarly, the bond equation should have as separate variables: (1) external financing by firms with requirements less than REF', and (2) external financing by firms with requirements between REF' and REF''. Finally, the equity financing equation should have as a variable only the external financing by firms with requirements in excess of REF''. The use of aggregate external financing as a single variable in each of the equations thus introduces errors which limit the usefulness of analysis of aggregate data for making inferences about financing behavior at the firm level.

One consequence of such errors will be a reduction of the estimated explanatory power of the model as measured by the coefficient of multiple determination, R^2. This in itself might not be too serious

provided the problem is recognized. Nevertheless, since the errors lead to a magnification of unexplained variance the standard errors of the estimated coefficients will be magnified. Thus, even if the properties of the errors are such as to still lead to unbiased estimates of these coefficients casual application of standard significance tests is to be avoided.

But even more serious problems may beset the analysis if the magnitudes of the errors are correlated with other explanatory variables in the model. And there is some reason to expect this to be the case since the critical levels of required external financing, *REF'* and *REF''*, are not independent of the interest rates on funds from the various sources. It is therefore quite likely that the errors arising from the use of aggregate external financing as an explanatory variable are correlated with other variables in the model. As a consequence estimates of the coefficients in the model are likely to be biased in unknown directions and magnitudes.

All of this suggests extreme caution is necessary in making inferences on the basis of aggregate financial data. Yet something may be gained from it. The nearer together are the total cost curves of the various sources of funds the more firms there are whose external financing requirements are greater than *REF''*, and hence the smaller is the error introduced by estimating the financing equations by using aggregate external financing as an explanatory variable. Thus, if the assumption of nearly identical cost functions were true, the estimated equations would have closely similar R^2's. If on the other hand, firms view the cost of "other" financing as significantly lower than the cost of bond financing over a large range and the cost of bond financing as lower than that of equity financing over a substantial range, then the errors introduced by using aggregate external financing as an explanatory variable should be least for the "other" financing equation and the greatest for the equity financing equation. Consequently, if the assumptions on the cost curves were true we should expect R^2 to be highest for the "other" financing equation, lowest for the equity-financing equation, and intermediate for the bond-financing equation. Since it is commonly believed that such a hierarchy of the sources of funds exists it would be interesting to see to what extent actual financing behavior supports the belief.

Table 4-13

Estimated Financing Equations, All Nonfinancial Corporations, 1952-67

Dependent Variable	Constant	$\overline{EF}$	r_b	r_e	r'_e	R^2	d
$\overline{F}$	15.910	.859*	-4.770*	-1.017	------	.892*	1.933
		(.102)	(1.659)	(.633)			
$\overline{B}$	-18.099	.116	4.586*	1.045*	------	.742*	2.100
		(.085)	(1.388)	(.529)			
$\overline{E}$	2.189	.025	.184	-.028	------	.226	1.891
		(.031)	(.510)	(.194)			
$\overline{F}$	7.821	1.000*	-4.400*	------	-.296*	.890*	1.561
		(.126)	(1.434)		(.161)		
$\overline{B}$	-8.524	-.002	3.893*	------	.254*	.733*	1.516
		(.110)	(1.215)		(.136)		
$\overline{E}$	1.041	.004	.412	------	.041	.269	2.115
		(.039)	(.427)		(.048)		

Note: Figures in parentheses are standard errors. (*) indicates significance at the 5 percent level or better on a one-tailed test.

Regressions of F, B, and E on EF and measures of r_f, r_b and r_e are presented in Table 4–13. The rate on short-term commercial bank loans was taken as a measure of r_f, while the rate on AAA corporate bonds was taken as a measure of r_b. Two measures of r_e were used. The first was the inverse of the current price-earnings ratio for the Standard and Poor's composite group. The second was constructed by taking the earnings price-ratio for the Standard and Poor's composite group and adding to it the trend rate of growth of earnings per share of stocks in the same group. The trend used was calculated for each observation year by computing a semilogarithmic regression of earnings per share for the observation year and the preceding four years. The measures are denoted r_e and r'_e, respectively. Initial results showed the measures of r_f and r_b to be almost perfectly correlated; so r_f was eliminated; the regressions reported here used only r_b and r_e.

The resulting pattern of R^2 conforms with the expectations based on the proposition that "other" financing is viewed as much less costly than the other forms of financing and that equity financing is viewed as the most costly. The magnitudes of all coefficient estimates are sensitive to the specification of r_e, but neither the explanatory power of the equations nor the signs of the coefficients are. While the interest rate coefficients are mostly insignificant or barely so, what is more disturbing is their sign pattern. The coefficient of r_b has the right sign in the "other" financing and in the equity financing equation, while r_e has the right sign in both the bond and equity financing equations. Of the incorrect signs the most disturbing is the positive sign on r_b in the bond equation, since the estimated coefficient is highly significant. One explanation for this result would be that in periods of tight money when both r_f and r_b rise, the availability of funds from the "other" sources contracts, and firms are forced into the debt securities market even though at the market rates they would prefer not to enter. In terms of the underlying specification of the financing model the perverse sign on r_b in the bond equation is an indication that the parameters of the "other" funds cost function, a_0 and a_1, are not constant over time but increase as interest rates rise.

Table 4-14

Estimated Financing Equations, Manufacturing Corporations, 1952-67

Dependent Variable	Constant	$\overline{EF}$	r_b	r_e	r_e'	R^2	d
$\overline{F}$	10.788	.937* (.082)	-2.666* (1.374)	-.579 (.415)	------	.966*	1.813
$\overline{B}$	-9.751	.042 (.670)	2.285* (1.175)	.534 (.355)	------	.619*	2.120
$\overline{E}$	-1.172	.020 (.023)	.392 (.381)	.057 (.115)	------	.508	1.099
$\overline{F}$	5.567	.976* (.097)	-2.023* (1.056)	------	-.146 (.105)	.966*	1.374
$\overline{B}$	-4.176	.025 (.086)	1.529 (.944)	------	.106 (.094)	.590*	1.496
$\overline{E}$	-1.230	.003 (.025)	.451 (.279)	------	.037 (.028)	.560*	1.189

Note: Figures in parentheses are standard errors. (*) indicates significance at the 5 percent level or better on a one-tailed test.

Table 4-15

Estimated Financing Equations, Utility Corporations, 1952-67

Dependent Variable	Constant	$\overline{EF}$	r_b	r_e	r'_e	R^2	d
$\overline{F}$	.320	.477*	-.025	-.195	------	.771*	2.226
		(.126)	(.259)	(.164)			
$\overline{B}$	-.787	.478*	.127	.106	------	.619*	2.704
		(.111)	(.227)	(.144)			
$\overline{E}$	.483	.045	-.102	.088	------	.440	1.641
		(.057)	(.118)	(.075)			
$\overline{F}$	-1.843	.398*	.183	------	.042	.761*	2.398
		(.117)	(.173)		(.047)		
$\overline{B}$	.280	.517*	.005	------	-.009	.798*	2.778
		(.102)	(.151)		(.041)		
$\overline{E}$	1.564	.085	-.186	------	-.034	.498*	1.716
		(.049)	(.073)		(.020)		

Note: Figures in parentheses are standard errors. (*) indicates significance at the 5 percent level or better on a one-tailed test.

Table 4-16

Estimated Financing Equations, Communications Corporations, 1952-67

Dependent Variable	Constant	$\overline{EF}$	r_b	r_e	r'_e	R^2	d
$\overline{F}$	-.374	.116 (.141)	.107 (.119)	-.020 (.093)	------	.298	2.606
$\overline{B}$	-.328	.319* (.145)	.447* (.122)	.303* (.096)	------	.691*	2.106
$\overline{E}$	3.654	.565* (.207)	-.554* (.174)	-.283* (.136)	------	.533*	2.889
$\overline{F}$	-.645	.085 (.160)	.121 (.089)	------	.014 (.033)	.305	2.574
$\overline{B}$	-.533	.229 (.221)	.183 (.122)	------	.028 (.045)	.452*	1.809
$\overline{E}$	1.178	.686* (.268)	-.304* (.149)	------	-.042 (.055)	.395	2.261

Note: Figures in parentheses are standard errors. (*) indicates significance at 5 percent level or better on a one-tailed test.

Similar equations were estimated for the manufacturing, utilities, and communications sectors. The results are presented in Tables 4–14 to 4–16. For manufacturing the rate on AAA industrial bonds was used as a measure of r_b while r_e and r'_e were calculated using the procedures outlined above and employing earnings-price ratios and earnings per share data for Standard and Poor's industrial stocks. For both utilities and communications r_b was based on data for AAA utility bonds; and r_e, on Standard and Poor's utility stocks.

The results show little variation from those for all nonfinancial corporations when r_e is measured by the current earnings-price ratio. The explanatory power is highest for the "other" financing equation for both manufacturing and utilities, but is lower than those for bond and equity financing for communications. In all three sectors the sign on r_e in the "other" financing equation is negative rather than positive; however, in no instance is the estimated coefficient significantly different from zero. Both in manufacturing and in utilities the sign on r_b is negative rather than positive, although the coefficient is significant only for the manufacturing equation. Once again this suggests that, while the market rates for "other" funds and bonds move closely together, a rise in rates is accompanied by a contraction in the availability of "other" funds, forcing firms to seek alternative sources.

This is further borne out by the positive sign on r_b in the bond equation for each sector and by its significance in both manufacturing and communications. The coefficient on r_e in the bond financing equations is also positive in all cases, as it should be, although it is significant only in communications.

The equity financing equation performs rather poorly in all cases. While the equation explains slightly more than 50 percent of the variance in equity financing for both manufacturing and communications, it does less well for utilities. While all coefficients are significant in the equity financing equation for communications, none is individually significant in the equations for manufacturing and utilities. Furthermore, the sign on r_b is negative rather than positive in both manufacturing and communications, while the sign on r_e is positive rather than negative in both manufacturing and utilities.

As was the case for nonfinancial corporations as a group, using the more sophisticated measure of the cost of equity capital has little qualitative impact on the results, although there are often substantial changes in the magnitudes of the coefficient estimates. In general, the equations employing r_e have slightly different R^2's, and the standard errors of the coefficients on r_b and r'_e are smaller, while the standard errors of the coefficients of $\overline{EF}$ are slightly larger. These changes are probably due to the fact that r'_e is less strongly correlated with r_b and more highly correlated with $\overline{EF}$ than is the simpler measure of the cost of equity capital, r_e. In any event the changes have no material effects on the observations made above.

As a whole these rather disappointing results nevertheless seem to indicate that for nonfinancial corporations as a whole and for the subsectors we have examined, equity financing is a source of last resort

except for communications firms. Put another way, for almost all corporations equity capital is viewed as a markedly inferior substitute for funds from other sources. As a result changes in relative costs of equity as measured by the approximate required rate of return to holders of equity have very little impact on most firms' financing decisions. In addition most firms seem to prefer to raise funds by means other than the issuance of securities. They resort to securities not in response to changes in the relative costs of funds as measured by market interest rates but in response to contractions in the availability of other types of funds, a condition which is imperfectly reflected by changes in interest rates.

4. Equity Financing by Large Manufacturing Corporations

As a further test of the financing decision model presented in the previous section a study was undertaken of the determinants of the volume of equity financing by large manufacturing corporations which had issued common stock during some year of the period under study. Fifty industrial corporations had at least one equity issue in excess of $15 million in the period 1953–67. A sample of 50 corporations was randomly drawn from Fortune's 500 for 1968, making a total sample of 100 corporations. An attempt was then made to determine all equity issues of these 100 corporations and their predecessors during the years 1953–67.

Only 53 of the 100 corporations were found to have made equity issues during the period. These corporations had 63 issues of common stocks totaling $2,848.2 million and 29 issues of preferred stocks totaling $524.7 million. Since it was decided to concentrate on issues of common stock and since data on certain characteristics of the issuing firms were lacking in some cases, a number of issues had to be deleted from the sample. In the end, our sample was composed of 35 firms that had made a total of 43 issues of common stocks during the period.

In line with the model presented in the previous section, it was postulated that the volume of equity financing by the ith firm in year t could be expressed by

$$E_{it}=\gamma_0+\gamma_1 EF_{it}+\gamma_2 r_{b_{it}}+\gamma_3 d_{it}+\gamma_4 r_{e_{it}}+u_{it}$$

where E_{it} = dollar value of common stock issued
EF_{it} = total external financing
$r_{b_{it}}$ = the yield on corporate bonds
d_{it} = the firm's debt-equity ratio
$r_{e_{it}}$ = the required rate of return on equity
u_{it} = a random error term

The debt-equity ratio was added to the equation, since a firm's capital structure is widely believed to influence the cost of funds to it. More specifically, traditional views of corporate financing would indicate that the cost of additional debt financing is higher, the higher the existing debt-equity ratio. On the other hand, those views suggest that, at least up to some point, firms with higher debt-equity ratios should be able to raise additional equity on more favorable terms. For both these reasons one would expect the debt-equity ratio to be an important determinant of equity financing and for the coefficient on the ratio to be positive.

Unfortunately, estimation of such an equation from the available sample raises several problems. Since no firm in the sample had more than two issues during the period, time series estimation of the equity financing equation for individual firms was not possible. Likewise, in no single year were there enough firms which issued common stocks to constitute a sample of acceptable size for cross-sectional estimation. As a result it was necesary to pool observations, treating each issue and the characteristics of the issuing corporation as an observation.

Pooling of the observations in this way raises several problems. First, the parameters of the financing equation may not have remained constant over the period. To allow for this possibility the equation was estimated in three ways: (1) pooling all 43 observations; (2) using only the observations on issues between 1953 and 1959; and (3) using only the observations on issues between 1960 and 1967.

Second, if there is little variability among firms in the sample with respect to debt-equity ratios and at the same time the sample firms tend on average to have quite different debt-equity ratios from firms which did not issue equities, then we might find this variable to have no influence on equity financing behavior even though it was an important determinant of equity financing. This, however, does not seem to be a problem. The average debt equity ratio for firms in the sample is 0.45 with a standard deviation of 0.44. Data from the *FTC-S&C Quarterly Survey of Manufacturing Corporations* indicates that over the period studied the average debt equity ratio for firms with assets in excess of $25 million has varied between 0.4 and 0.6.

Third, the importance of the required rate of return on equity might be similarly disguised if there were little variability in required rates of return among firms in the sample and these firms at the same time had required rates of return quite different from firms which did not issue equity securities. Again this does not seem to be the case. The average earnings-price ratio for firms in the sample was 5.64 percent with a standard deviation of 2.89. Over the period studied the average earnings-price ratio for Standard & Poors Industrials was 6.8. Thus, sample firms did apparently tend to have below average earnings-price ratios but there was at the same time considerable variation among them in this respect.

Fourth, the data could mask the importance of interest rates as a determinant of equity financing if most issues occurred in years with high interest rates. Such bunching of observations would tend to reduce the amount of a variation in the interest rate variable particularly since that variable has the same value for all firms in any one year. This does appear to be a real problem since over half of the issues in the sample occurred in the four years 1956 (5 issues), 1957 (10 issues), 1966 (5 issues), and 1967 (6 issues).

These considerations indicate that the results to be presented should be viewed as highly tentative and, at best, suggestive. Much larger samples need to be analyzed with more sophisticated models and techniques in order to gain a solid understanding of the determinants of equity financing.

Table 4-17

Deflated Equity-financing Equations Based on Current Earnings-Price Ratio

Time Period	Number of Issues	Dependent Variable	Constant	$\frac{EF_t}{A_{t-1}}$	$\frac{r_b}{A_{t-1}}$	$\frac{d}{A_{t-1}}$	$\frac{r_e}{A_{t-1}}$	$\frac{i}{A_{t-1}}$	R^2
1953-67	43	$\frac{E}{A_{t-1}}$	.089	.068* (.039)	-.732 (3.038)	-7.196 (5.865)	-1.409* (.530)	16.461 (13.430)	.750*
1953-59	23	$\frac{E}{A_{t-1}}$	.069	.382* (.103)	-2.519 (6.624)	-12.845* (7.164)	-1.767 (1.090)	27.019 (28.837)	.632*
1960-67	20	$\frac{E}{A_{t-1}}$	.073	.038 (.042)	3.118 (6.179)	4.997 (10.058)	-2.142* (1.090)	.147 (25.250)	.860*

Note: Figures in parentheses are standard errors. (*) indicates significance at the 5 percent level or better on a one-tailed test.

Table 4-18

Deflated Equity-financing Equations Based on Current Earnings-Price Ratio Plus Trend Rate of Growth of Earnings per Share

Time Period	Number of Issues	Dependent Variable	Constant	$\frac{EF}{A_{t-1}}$	$\frac{r_b}{A_{t-1}}$	$\frac{d}{A_{t-1}}$	$\frac{r'_e}{A_{t-1}}$	$\frac{1}{A_{t-1}}$	R^2
1953-67	43	$\frac{E}{A_{t-1}}$	.086	.041 (.038)	4.257 (2.619)	-17.868* (5.809)	.039 (.058)	-6.849 (11.055)	.704*
1953-59	23	$\frac{E}{A_{t-1}}$	.064	.360* (.118)	4.743 (5.264)	-13.900* (7.788)	-.068 (.124)	-7.747 (19.576)	.582*
1960-67	20	$\frac{E}{A_{t-1}}$	.066	.044 (.047)	-2.058 (6.338)	-.166 (12.738)	.001 (.074)	19.235 (26.546)	.818*

Note: Figures in parentheses are standard errors. (*) indicates significance at the 5 percent level or better on a one-tailed test.

Data on the value of common issues were obtained from records maintained by the Federal Reserve Board. Total external financing and debt-equity ratios were computed from balance sheet and income statements of issuing corporations published in *Moody's Industrials Manual.* The corporate bond yield variable was taken as the yield on AAA corporate industrial bonds. The same two measures of the required return on equity capital used in the previous section were also employed here. These measures were calculated from data in *Moody's Industrials* and *Moody's Handbook of Common Stocks.* Common issues and external financing were measured in millions of dollars. Bond yields and required return on equity were expressed as percentages, but the debt-equity ratio was expressed simply as a ratio.

The initial regressions that were run had uniformly very low R^2's and seemed to indicate the presence of heteroskedasticity. To counteract this problem all variables were deflated by the total assets of the issuing corporation in the year prior to the issue (A_{t-1}), and $1/A_{t-1}$ was entered as an independent variable. The results of this estimation when the required rate of return on equity is measured by the current earnings-price ratio are shown in Table 4–17. Table 4–18 shows the results when the required return on equity is measured by the current earnings-price ratio plus the trend rate of growth of earnings per share over the previous five years.

These regressions were estimated with a constant term; however, in strict accordance with the model specified above, the constant term in the regressions should be zero. For that reason, the regressions were rerun with the constant term forced to zero. The resulting equations had very substantially lower and statistically less significant R^2's than the equations reported in Tables 4–17 and 4–18, indicating that the size of the firms as measured by total assets exerted a significan independent effect on the amount of equity financing.[2] Consequently additional regressions using undeflated values of the variables and including A_{t-1} as an independent variable were run. These results are reported, for each of the measures of the required return on equity, in Tables 4–19 and 4–20. On the whole the undeflated form of the equation which included A_{t-1} as an independent variable seems to provide the more reliable estimates, not only because the R^2's are higher for that formulation but also because deflation of the variables by A_{1-t} introduced rather high (.8 or higher) levels of intercorrelation among the independent variables.

[2] It should be noted that external financing and size, as measured by the previous period's total assets, are not highly correlated. The simple correlations are .140 for the sample as a whole, .025 for the 1953–59 subsample; and .497 for the 1960–67 subsample.

Table 4-19

Undeflated Equity-financing Equations Based on Current Earnings-Price Ratios

Time Period	Number of Issues	Dependent Variable	Constant	EF	r_b	d	r_e	A_{t-1}	R^2
1953-67	43	E	74.149	.269* (.060)	-10.639 (9.918)	-17.157 (13.899)	-2.955 (2.372)	.047* (.004)	.833*
1963-69	23	E	117.224	.788* (.166)	-25.245 (23.898)	-22.045 (22.621)	-2.312 (3.272)	.042* (.004)	.897*
1960-67	20	E	-17.778	.120* (.037)	8.878 (0.162)	-11.500 (8.864)	-5.204* (2.119)	.078* (.006)	.959*

Note: Figures in parentheses are standard errors. (*) indicates significance at the 5 percent level or better on a one-tailed test.

Table 4-20

Undeflated Equity-financing Equations Based on Current Earnings-Price Ratio plus Trand Rate of Growth of Earnings per Share

Time Period	Number of Issues	Dependent Variable	Constant	EF	r_b	d	r'_e	A_{t-1}	R^2
1953-67	43	E	386.398	.267* (.061)	-5.258 (9.160)	-17.458 (14.157)	-.147 (.266)	.046* (.004)	.826*
1953-59	23	E	77.133	.799* (.169)	-18.190 (21.594)	-20.717 (22.861)	-.124 (.452)	.041* (.004)	.890*
1960-67	20	E	-16.923	.107* (.045)	4.613 (10.762)	-13.959 (10.500)	.026 (.200)	.078* (.007)	.939*

Note: Figures in parentheses are standard errors. (*) indicates significance at the 5 percent level or better on a one-tailed test.

But regardless of the formulation of the equation there is little evidence to suggest that equity financing decisions are sensitive to the bond yield, the measures of the required return on equity capital, or the debt-equity ratio. The coefficient on r_b is not significant in any equation and has the wrong sign in seven of the twelve regressions. While the coefficient of the debt-equity ratio is significant in three equations, it has the wrong sign in each of those cases and in six additional ones. The current earnings-price ratio has the right sign in all six regressions in which it is entered but is significant in only half of them and is never significant for the 1953–59 subsample. When the required return on equity is measured by the current earnings-price plus the trend rate of growth of earnings per share its coefficient is never significant and is negative only in the regressions for the 1953–59 subsample. These observations suggest that the current earnings-price ratio is a more satisfactory approximation to the required rate of return on equity in explaining equity financing behavior.

Nevertheless, total external financing and the size of the issuing corporation appear to be the overriding determinants of equity financing. The total external financing as an important determinant of the magnitude of equity financing is, of course, not surprising. The positive and significant coefficient on the size of the corporation seems to indicate that larger firms can raise equity capital on more favorable terms, other things equal.

Both of the formulations which employ the current earnings-price ratio indicate a fall in the coefficients on both total external financing and on the required return on equity in the 1960's. On the other hand, both formulations indicate an increase in the coefficients on the bond yield, the debt-equity ratio, and the size of firm. It is interesting to note that all of these shifts are in accord with what would be expected if funds were more easily available from sources other than the securities market during the 1960's than they were in the 1950's. In terms of the model presented in the previous section, such an increase in availability would be reflected in decreases in the values of the parameters of the total cost curve for other financing. These decreases would in themselves give rise to the observed pattern of changes in the coefficients of the equity financing equations. This suggests that an explanation for the reduced reliance on both equity and bond financing in the sixties as opposed to the fifties may lie in an increase in the availability of funds from sources other than the securities markets.

These findings require further qualification, however, because the dependent variable, equity financing, is included in total external financing. The two are thus quite highly correlated and it is this correlation which accounts for a substantial portion of the explanatory power of the equations presented above.

To avoid this problem the ratio of equity financing to total external financing was regressed on bond rates, current earnings price ratios, and debt-equity ratios. To allow for shifts in this equity financing function over time, dummy variables were introduced to permit a different intercept for each year. In this formulation none of the coefficients, including those for the dummy variables, was significant. In addition the signs on both the earnings-price ratio and the debt-equity ratio were contrary to expectations.

These results reinforce the finding that the volume of equity financing is not sensitive to the cost of equity capital relative to the cost of funds from other sources—at least in the ranges encountered over the period studied here. Additional tests indicate that the decision to engage in equity financing, irrespective of the amounts so raised, is also insensitive to indicators of the relative cost of capital.

It might be expected that, even though the volume of equity financing was not closely related to earnings-price ratios, firms which engaged in some equity financing would tend to have below average earnings-price ratios. However, only 54 percent of the issues in our sample took place at times when the issuing corporation had earnings-price ratios below the average for all manufacturing corporations. This percentage is not statistically significantly different from what would be expected if issuing corporations were equally likely to have above or below average earnings-price ratios.

Similarly, only 49 percent of the issues were made by corporations which had debt-equity ratios in excess of the average for all manufacturing corporations at the time of issue. Comparison of the debt-equity ratios of issuers with the average debt-equity ratio for corporations in the same (SIC 2-digit) industry group showed that issuers had above average debt-equity ratios in the case of 59 percent of the issues. Once again this percentage is not statistically different from what would be expected if issuers were equally likely to have debt-equity ratios above or below the average for firms in the same industry.

5. Determinants of Retirements

To the extent that retirements of equity securities are not associated with merger activity or liquidations or the retirement of preferred stocks they reflect a decision by management that cash distributions to stockholders are a more attractive use of funds than the internal investment opportunities available to the firm. Various other reasons have been offered for retirements, such as the desire to increase the debt-equity ratio. However, if a firm has sufficient profitable investment opportunities, the preferred method of increasing its debt-equity ratio would be engage in debt financing. Consequently, retirement of equity should only occur when internal fund flows exceed the amount that can profitably be absorbed by the investment opportunities available to the firm. Of course, dividend payments offer an alternative means of distributing excess cash to the stockholders. But if the excess cash were distributed in the form of dividends, stockholders would become liable for tax on the full amount of the distribution and at ordinary income tax rates. On the other hand, when cash distributions are accomplished through stock repurchases shareholders need only pay tax, at capital gains rates, on the excess of the repurchase price over the initial purchase price of the shares retired.

For corporations as a group, internal fund flows have not in any year exceeded the amounts by which they have been willing to add to their physical and financial assets, and they have absorbed funds from other sectors in every year. Nor is there, as we have seen, any observable tendency for the ratio of internal funds to other capital expenditures or total asset expansion to increase over the period for corporations as a group.

These observations do not, however, rule out the possibility that individual corporations have at times during the period experienced internal cash flows in excess of the amounts they could profitably reinvest in the business. Furthermore, one might expect to observe a high positive correlation between internal fund flows and stock repurchases. At the same time, one might expect firms to be more prone to distribute excess cash through repurchases of their stocks when stock prices are low. Consequently, a negative correlation between stock prices and repurchases is to be expected.

A regression of cash retirements (T) on Standard and Poor's index of stock prices (SP) and on the level of internal funds over the period gave the following result:

$$T_t = \underset{(.012)}{-.771 + .018\, SP_t} + \underset{(.020)}{.025\, IF_t}$$

$$R^2 = .910$$

However, these results are unreliable because all the variables exhibit strong time trends over the period. Thus the correlation coefficient of stock prices on time is .986; that between internal funds and time is .965; and that between repurchases and time is .917. As a result stock prices and internal funds are highly correlated ($r = .970$), and the above equation provides only a slightly better prediction of repurchases than a simple time trend.

As an alternative, the deviations of T_t from its trend value were regressed on the deviations of stock prices and internal funds from their trend values with the following results:

$$\overline{T_t} = \underset{(.017)}{0.0 + .043\, \overline{SP_t}} + \underset{(.018)}{.032\, IF_t}$$

$$R^2 = .542$$

While both stock prices and internal funds are significant in this equation, repurchases are apparently more closely related to stock prices than to internal funds, and the relationship is positive rather than negative. This strange result is probably a statistical quirk arising from the use of highly aggregated data. Consequently, while it seems reasonable to attribute the rising trend in repurchases to rising liquidity in some corporations, no satisfactory test of that explanation can be performed with the data on hand.

The other quantitatively important category of retirements includes cases where stock has been retired with debt securities issued in exchange. These types of retirements have also shown an upward trend over the period, and, as noted earlier, the most obvious explanation for this lies in the rising trend of merger activity over the period. A regression of the value of exchanges (EX) on the estimated market value of acquired firms (M) gave the following results:[3]

$$EX_t = \underset{(.020)}{-43.728 + .053\, M_t}$$

$$R^2 = .395$$

[3] The market value of mergers was estimated by applying the average of market to book value for Standard and Poor's stocks to estimates of the assets value of large mining and manufacturing firms acquired as reported by the Federal Trade Commission.

Thus, while the expected relationship exists, merger activity alone provides a relatively weak explanation of the value of exchanges. This is not surprising, since it is unlikely that the percentage of the total value of mergers consummated through exchanges has been constant from year to year throughout the period.

6. Summary

While the value of outstanding equity securities has grown substantially over the period studied, a minor proportion of this growth is accounted for by net new issues and the proportion has been declining. This is a reflection of two phenomena which have characterized corporate financing in all nonfinancial sectors; namely a trend away from equity securities relative to other types of financing and an increasing trend in the retirement of equity securities as a proportion of total uses of funds.

The first of these trends is particularly surprising in the face of a general trend toward lower earnings-price ratios on common stocks relative to bond yields. Indeed, statistical studies of equity financing behavior based on time series data for the aggregate of all nonfinancial corporations and for the manufacturing, utilities, and communications subsectors indicate that equity financing decisions are quite insensitive to changes in the costs of equity capital, as measured by the required rate of return on equity, and the cost of debt capital as measured by market interest rates. This same insensitivity of equity financing behavior to market measures of the costs of funds from various sources is also found in studying the determinants of the volume of equity financing by individual manufacturing corporations.

Both of these findings suggest that equity financing is a "source of last resort." Nonfinancial corporations seem to turn to equity financing only when all other sources of capital have been exhausted. This further suggests that the decline in the share of funds raised through issues of equity securities in the 1960's relative to the 1950's may be due to an increase in the availability of external funds from other sources, particularly bank credit.

The rising trend in the share of funds used to retire equity seems most reasonably explained by the growth of internally generated funds relative to internal investment opportunities for some corporations. Tests of this hypothesis are, however, hampered by lack of appropriate data. At the aggregate level, cash retirements are not highly correlated with internal funds flow once the strong time trends are removed from both variables. Nor is there any evidence that retirements behavior is strongly influenced by the behavior of stock prices. The rising trend of non-cash retirements, that is, exchanges of debt for equity, might plausibly be explained by trends in merger activity. However, since the share of mergers consummated through exchanges of debt for equity is likely to vary widely from year to year, there is not a strong correlation between the volume of exchanges and the estimated market value of mergers.