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The Pattern of Financial
Asset Ownership

WISCONSIN INDIVIDUALS, 1949

CHAPTER 1

Summary of Findings

THIS study of financial asset ownership lies astride two broad areas of research. On the one hand, the nature of most of the data analyzed is such as to classify the study with many other studies of distributions of income and wealth. Financial assets, bonds, stocks, bank accounts, and the like, are a component of the wealth possessed by individuals,¹ and the distribution of such assets among income groups, wealth groups, occupational groups, and city size groups provides insight into the distribution of wealth in general. Financial assets are also income-earning assets, so that their distribution among the population inevitably determines a part of the distribution of total income.

On the other hand, financial assets are not only a component of wealth but they are the visible evidence or "tracks" of flows of investment funds, ancient and distorted or new and fresh, as the case may be. Hence the distribution of financial assets among income groups tells us something about the source of investment funds derived from individual savings. Moreover, differences in the composition of financial assets held by different income, wealth, occupational, and city size groups tell us something about the important variables affecting the flow of funds into debt or equity investment, and how changes in these variables arising from changes in the economic and social structure may be expected to affect the flow of funds from individuals into particular types of investment. It may be of interest, before summarizing major findings in some detail, to indicate briefly how they relate to recent developments in each of the broad areas concerned.

The study was not directed specifically to the problem of preparing or investigating distributions of income and wealth. Naturally, however, our data show the distribution of particular types of wealth by income strata of the population as well as by stratifications related to occupation and city size. Perhaps the most sig-

¹ Throughout the report the term "individual" will be used in a generic sense to distinguish natural persons from institutions, such as business firms, fiduciaries, and nonprofit organizations. Strict accuracy in that usage, to be sure, is impossible because much of the material is derived from sources which do not allow the separation of proprietors' personal accounts from those of their businesses. In any case, it is not meant to use the term individual to distinguish single persons from families of two or more.

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nificant findings in this area relate to the effect of the distribution of investment assets upon the distribution of income at any particular moment. Here the study follows the path pointed out by Milton Friedman in attempting to analyze the reasons for an observed distribution of income rather than attempting to develop the distributions themselves.² Broadly speaking, the study shows that groups of individuals with higher incomes and assets hold a greater proportion of their financial assets in corporate stocks, which are normally high paying as compared with debt assets and deposit claims. The result is that the distribution of income is affected not only by the gross distribution of wealth but by the effect of income and wealth status upon the types of assets chosen by different income groups *and* by the differences in yields of the various major types of financial assets. In addition, holders of stocks who have some degree of control of the issuing corporation in many cases receive salary income whose size may be affected by that control. There is a complicated interaction, in other words, between income and wealth distributions so far as the effect of investment income upon those distributions is concerned. This evidence appears to confirm the findings of Morris A. Copeland.³

The emphasis of the study has been less on providing analytical insight into distributions of income and wealth, and more on providing insight into the flow of funds. In language which perhaps oversimplifies the problems involved, attention is on the *stocks* of accumulated financial assets for what they tell us about the *flow* of individual savings into investment through financial institutions or as direct debt assets or as corporate equity assets.

Much concern has been expressed in recent financial literature over the relation between the present distribution of income and the ability of the economy to generate funds for equity as distinct from debt investment. As an economy moves toward greater equality in the distribution of income, one hypothesis goes, not only is aggregate personal saving reduced but a greater share of it is done by the lower and medium income groups, who might be expected to prefer institutional and debt forms of financial investment over equity outlets for their savings. Should the level of total personal income remain unchanged, nevertheless a reduction

² Milton Friedman, comment in *Conference on Research in Income and Wealth, Volume Thirteen* (National Bureau of Economic Research, 1951), pp. 55-60.

³ Morris A. Copeland, "The Social and Economic Determinants of the Distribution of Income in the United States," *American Economic Review*, Vol. XXXVII, No. 1 (March 1947), pp. 57-75.

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in the flow of funds for investment in equities would be expected to result from the changed income distribution. In part the verisimilitude of this and related hypotheses depends upon the existence of particular patterns of investment preference that are associated with the income level of the individual. The assumed preference in the low and medium income groups is for debt assets and institutional forms of investment, and in the upper income groups for equity assets.

Although a considerable part of present thinking on finance seems to be based upon the belief that such patterns of investment preference do exist, little attention has been paid to the phenomenon itself. Instead economic literature seems almost entirely concerned with developing the ramifications of such investment patterns. The present study is an attempt to set forth what is known about the pattern of investment preferences. It leaves to others the formulation of the implications of such a pattern.

The analysis deals almost entirely with the supply side of the equity capital problem. We find evidence from analyzing the types of financial assets held by individuals in different income ranges that the lower income groups are the major suppliers of funds in debt form—either directly, through bonds, mortgages, etc., or indirectly, through deposits held by financial intermediaries. The upper income groups, on the other hand, are the major suppliers of corporate equity funds.

This difference in the source of the bulk of equity as against debt funds is a result of two influences. First, as financial asset data are viewed from low to progressively higher income groups, the proportion of individuals holding corporate equity assets is found to increase sharply—more so than the proportions holding debt and deposit types of asset. Second, the median size of equity asset holdings increases, more than is the case with debt or deposit assets. These two influences—frequency of ownership and size of holding—undoubtedly reflect, at least in part, attitudinal differences in individuals of different economic status. The result appears to be that savings originating in the low and medium income groups tend to find quite different outlets than savings originating in high income groups. These findings tend to confirm the speculations of many persons as to the different forms taken by savings arising in the lower as contrasted with the higher income groups.

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The question whether the supply of equity capital is now, or has ever been, deficient is not considered because the problem of the necessary amount of new equity capital is not examined in this study, even though some of the most challenging questions in the field of finance lie in that area. For example, what is the effect of a progressive income tax on the supply of venture capital? Have we gone so far toward equality of income distribution that the possibility of stabilizing the economy at a high level of employment and output is threatened by an insufficiency of investment funds in appropriate form? Does the tax-exempt privilege of state and local government bonds draw the savings of high income individuals from equity investment? Should financial intermediaries be allowed to increase their investments in equities to offset the alleged drying-up of the accustomed source of such funds? These questions are beyond the scope of the present investigation, but no one of them can be answered adequately without a knowledge of the investment preference patterns of individuals and how they are related to income levels.⁴

Simon Kuznets points out that there is strong evidence of cyclical shifts in the proportion of total savings accounted for by the upper income groups. He then raises the question of the implications of such shifts for the economy if individuals at different income levels tend to have relatively set patterns of investment.⁵

⁴ For examples of problems in connection with which individual investment patterns at different income levels are deemed important, see the following: New York Stock Exchange, *Economic Progress: Tax Revision and the Capital Market* (New York, October 1947); National Association of Manufacturers, *Capital Formation under Free Enterprise* (New York, October 1948); Harry G. Guthmann, "The Movement of Debt to Institutions and Its Implication for the Interest Rate," *Journal of Finance*, March 1950, pp. 70-87; Paul L. Howell, "The Effects of Federal Income Taxation on the Form of External Financing by Business," and discussion by M. D. Ketchum, *Journal of Finance*, September 1949, pp. 208-26; C. R. Noyes, "The Prospect for Economic Growth," *American Economic Review*, March 1947, pp. 13-33.

⁵ Kuznets finds that the saving-income ratio for the upper income groups remains relatively stable, and that because the share of the top 5 per cent of income recipients in total income usually moves counter to the cycle, the share of the upper income group in total individual saving must be higher in depression than in prosperity. (See his *Shares of Upper Income Groups in Income and Savings*, National Bureau of Economic Research, Occasional Paper 35, 1950.) If then the preference of the upper income groups for equity investment and that of the lower income groups for investment in the form of debt assets and deposit claims are maintained relatively unchanged throughout the cycle, it follows that the proportion of savings seeking equity investment would tend to be greater in depressions than in boom times.

Whether and in what manner this tendency works itself out depends on how strictly the patterns hold in the face of changes in stock prices, interest rates, etc. This range of questions goes far beyond the scope of the present study.

The present study tends to show the presence of patterns of savings allocation characteristic of particular income groups. Cyclical changes in the proportion of saving accounted for by different income strata of the population would seem to react upon these patterns and produce variations in the proportion of individual financial investment taking debt versus equity form. Further research is needed to determine whether investment patterns are, in fact, relatively constant or whether they also vary over the cycle.

One of the major findings of the study is that the ownership of closely held or seldom traded corporate issues is enormously important in the total equity capital picture and is to a very great degree concentrated in the topmost income groups. Moreover, it is largely concentrated with individuals who receive wages or salaries from the issuing corporation; such persons hold nearly two-thirds of the total value of untraded stock. This finding lends credence to the belief that one of the real problems of small and growing businesses is that of obtaining funds without diminution of control over the corporation, a problem mentioned in nearly all studies of small business finance. A related finding is that investors tend to prefer local stocks (when available on comparable terms) over stocks of corporations located at a distance.

The last chapter of the report deals with the characteristics of the publicly traded stocks held by individuals and how they differ as between income groups. Here the study confronts certain institutional aspects of the marketing and transfer of corporate ownership. It analyzes the relation of income level to holdings of common versus preferred stocks, to stocks traded in various markets, yields of stocks, industry, degree of diversification, turnover, and price per share. Accordingly, the analysis is supplementary to recent studies of stocks and stock ownership.⁶

The subject of individual attitudes toward risk taking is taken up directly. There have been a number of theoretical discussions of the role of risk taking both in respect to profit theory and in relation to the theory of investment choice.⁷ But hitherto there has been almost no empirical evidence on the actual behavior of in-

⁶ See, for example, *Share Ownership in the United States*, by Lewis H. Kimmel (Brookings Institution, Washington, 1952), and *Character and Extent of Over-the-Counter Markets*, by G. Wright Hoffman (University of Pennsylvania Press, 1952).

⁷ See, for example, Irving Fisher's *Nature of Capital and Income* (New York, 1906); F. Lavington, *The English Capital Market* (London, 1921); J. M. Keynes, *A Treatise on Probability* (London, 1929) and *General Theory of Employment, Interest and Money* (London, 1936); G. L. S. Shackle, *Expectation in Economics* (Cambridge, 1949).

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dividuals toward risk taking. Upon examination of the corporate stock holdings of individuals by income group and by the size of corporate stock holdings themselves, it appears that the willingness to assume investment risks is greater at high than at low income levels, and that in any given income group the proportion of stockholdings that carry high investment risks is higher where the amount of stock held is small than where it is large. This finding bears out the conclusion reached by Friedman and Savage on theoretical grounds.⁸

From analysis of the characteristics of stock issues held by various income groups it is tentatively concluded that no rigid compartmentalization of equity markets exists but that there are gradual transitions in portfolio characteristics over the broad range of incomes. One suspects that some of the major observed differences in portfolio characteristics are reflections of the differing strength of various motives for investment for individuals in different economic strata of society.⁹ But the evidence suggests that broad generalizations, advancing simple unitary theories of investment motivation for particular income groups, are not adequate to describe the actions of investors.

The foregoing are the principal findings of the present study and those that most directly relate to other investigations. A more detailed summary will be presented after a section acquainting the reader with the nature of the data from which the findings emerge.

Source of Data

The primary basis of the report is a sample of personal state income tax returns filed in Wisconsin in 1949 and showing income from financial assets of some type. Since individuals filing returns in that state are required to itemize the specific sources of all interest and dividend income, with the exception of interest from federal obligations, it was possible to make estimates of the dollar value of the interest- and dividend-bearing assets which they held. The sample itself was selected so as to insure that there were sufficient cases for analysis in all income groups; that is, upper income

⁸ Milton Friedman and L. J. Savage, "The Utility Analysis of Choices Involving Risk," *Journal of Political Economy*, August 1948, pp. 279-304.

⁹ There are very few studies of the motivations affecting investment behavior. An intensive analysis has been made by J. Keith Butters, Lawrence E. Thompson, and Lynn L. Bollinger in their *Effects of Taxation: Investment by Individuals* (Graduate School of Business Administration, Harvard University, 1953). Additional information has been obtained by the Survey of Consumer Finances and by Kimmel, *op. cit.*

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groups were oversampled proportionately to the lower income groups. When husband and wife filed separate returns, their incomes and estimated asset holdings were combined to obtain a picture for the unit as a whole. Returns of fiduciaries, partnerships, and corporations were excluded from the sample in order to confine the analysis to the investment practices of individuals. By relating the interest and dividend receipts of the individuals in the sample to an estimate of the distribution of interest and dividend receipts by income groups for all persons filing Wisconsin income tax returns in 1949, blow-up factors were obtained which when applied to the estimated value of holdings of the sampled individuals gave aggregate state estimates of holdings of the various assets surveyed.

Because most of the findings are based upon estimates derived from income tax returns, certain limitations must be accepted that are inherent in the returns. Not all persons with income file tax returns, and not all income received by persons filing returns is reported. While about three-fourths of all persons living in Wisconsin either file returns or are reported as dependents by those who do file returns, there undoubtedly exist a small but significant number of individuals who may be relatively important holders of financial assets but who do not file returns: pensioners with net taxable income less than the filing requirement (\$800 for a single person or \$1,600 for a married couple) are an example.

There is also considerable underreporting of income, particularly income from interest and dividends. It has been estimated on a country-wide basis that 60 per cent of all nonfederal cash-interest payments and 33 per cent of all corporate dividend payments in 1947 went unreported on federal income tax returns in that year. Not all of this, of course, represents tax evasion. Experience with the Wisconsin state income tax returns is roughly comparable. Whether the missing interest and dividend income is distributed proportionately to the distribution of such receipts which are reported, or whether underreporting is more prevalent in certain population strata than in others cannot be ascertained. Results of a sample audit of federal tax returns for 1948, however, suggest that underreporting of interest and dividend income is more prevalent in the lower than in the higher income groups and that the greater differential underreporting as between different income groups occurs in the case of income from interest. This would suggest that estimates of holdings understate the amounts held by the lower income groups to a greater extent than those held by the upper income groups, and

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that the understatement would be particularly great in the case of debt assets, i.e. those yielding interest receipts.

The types of financial assets covered by the survey include, of course, only those on which interest and dividend income must be reported on the tax returns. Three broad types are distinguishable: deposits and related claims (savings accounts in commercial and mutual savings banks, savings and loan association shares, credit union shares, and postal savings deposits); direct debt assets (corporate bonds, obligations of state, county and municipal authorities, and notes and mortgages); and finally, corporate stocks, both traded and untraded issues. The interest receipts from deposit types of assets and from notes and mortgages were capitalized at prevailing interest rates characteristic for the specific type of institution. Bond interest receipts were capitalized at specific interest rates for each issue discovered, and the resulting principal amount was adjusted to market value.¹⁰ For traded stocks yearly dividend rates per share as indicated by the investment manuals were used to determine the number of shares of each issue held by persons in the sample, which when combined with price data allowed an estimate of the market value of the holdings. Dividends from untraded stocks were valued by reference to the Wisconsin corporate income tax returns to obtain an estimate of the book value of each holding of a particular issue. These book value estimates of untraded corporate stock holdings were then adjusted to a market value concept on the basis of known relationships between market and book value of stocks regularly traded.

The types of financial assets on which information is available from the Wisconsin tax returns account for about one-half of the total value of all financial assets held by individuals. The types of financial assets omitted from the Wisconsin survey because of lack of information include cash, demand deposits, insurance, and federal government obligations. Limited information on the ownership of demand deposits, savings bonds, and life insurance has been developed, however, from estimates of the Survey of Consumer Finances for the United States as a whole. Estimates for holdings of bonds in default and of stocks not paying dividends in 1949 are, of course, not available from income tax returns.

To the reader experienced in research it will be evident that there

¹⁰ Par value was used instead of market value in the case of obligations of state, county, and municipal authorities because of inability to distinguish maturity of issues when, as was frequently the case, the obligor had several issues of varying maturity at the same interest rate.

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are important hidden qualifications to the data, in view of which the findings are stated with reserve. Consider, for illustration, the problems involved in selecting 1949 as the base year. During a substantial portion of the year industrial activity was at a cyclical low; the level of industrial workers' incomes therefore tended to be somewhat nonrepresentative, and their stockholdings (which appeared to be meager) were probably attributed in some cases to income groups in which they would not normally occur. If a two-year average of income had been used as the base, the effect of such cyclical changes might have been reduced and inequalities in the distribution of financial asset ownership (as well as income) might have appeared to be different. Again, some corporations failed to pay dividends in 1949 because of the depressed level of business, and ownership of their stocks would not appear in our data. For such reasons, and because of the inherent biases involved in using income tax data, no computation of sampling error has been made. Chance errors arising from sampling would appear to be relatively slight, and therefore scarcely worth measuring, as compared with errors potentially many times larger arising from other sources.

The Relation of Income to Asset Holdings

The 3,462 personal income tax returns in the sample (which in the case of married couples with both husband and wife reporting income had been put on a joint basis if not already so) showed incomes in 1949 ranging from a negative amount to slightly over \$1 million. Negative income recipients, though mentioned in the tabulations, are excluded from the analysis because of the small number of cases; positive income recipients have been divided into five income groups, each with a sufficient number of cases for a somewhat detailed analysis. The classes used for most of the analysis are: \$0 to \$4,999, \$5,000 to \$9,999, \$10,000 to \$19,999, \$20,000 to \$49,999, and \$50,000 and over.

As the financial asset holdings of different income classes are viewed in ascending order of income, a considerable shift in portfolio composition appears. Time deposits and related claims together with direct debt assets make up a heavy share of the holdings of individuals with less than \$5,000 income; going up the scale, corporate stocks become progressively more important, until for the group with \$50,000 income and over they make up 93.3 per cent of the total dollar value of the assets surveyed. There is also a shift within the debt category. For progressively higher income

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groups direct debt assets make up a greater proportion, and assets consisting of deposits and related claims a lesser proportion, of the ever smaller debt component of the holdings.

Differences in the composition of financial asset holdings as between income classes of the population are traceable to two underlying phenomena: variations in the frequency with which certain types of asset are held, and variations in the average size of holdings of particular types. In these respects our findings are in substantial agreement with the view that individuals tend to invest first in relatively safe though low yielding assets, and only after obtaining some minimum amount of safe reserves, together with or in lieu of a larger income, do they invest to any great extent in more speculative but higher yielding assets. Individuals in the highest income group (\$50,000 and over) obtained almost twice as high a yield upon their total holdings of financial assets as did the lowest income group (under \$5,000), and most of the difference appears to be attributable to the fact that the low income groups as a whole are heavily invested in low yielding time deposits and related claims while the highest income group is heavily invested in corporate stocks.

Not only does the relative importance of the major types of financial asset vary with the holder's income status. Within two of the three major asset types, also, shifts in the composition of holdings appear as successively higher income groups are considered. Within the category of direct debt assets there is a considerable shift from notes and mortgages of individuals, an important investment outlet in the lowest income group, to obligations of business concerns and tax-exempt bonds in the higher income groups. Of even greater interest is the variation in the composition of corporate stock holdings. In the lower income groups the holdings of corporate stock consist largely of traded issues of publicly owned corporations; for successively higher income groups, untraded issues of closely held corporations become increasingly important. Only in the case of time deposits and related claims is the composition apparently little affected by differences in holders' incomes.

The different composition of asset holdings at various levels of income and accompanying differences in the frequency with which various types of asset are held produce a considerable variation as between types of asset in the concentration of holdings as measured by dollar value. About three-quarters of the dollar value of time deposits and related claims is held by the lowest income group (under \$5,000), and on the other hand about three-quarters of the

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dollar value of corporate stocks is held by income groups above the \$5,000 level. Demand deposits, United States savings bonds, and life insurance all seem to be types of asset whose ownership tends to be concentrated predominantly in the lower income groups, at least in comparison with corporate equities. Although a correction for underreporting of interest and dividend receipts would probably increase the indicated holdings of both equity and deposit types of asset more for the lower than for the upper income groups, such a correction would probably tend to reinforce the conclusion that most savings bonds, deposits, and related claims are owned by the income groups under \$10,000 and most corporate stock by the income groups over that figure.

The relation existing between the income level of the individual and the types of financial assets making up his investment portfolio appears to be complex and impossible of generalization. Certainly, both logical inference and the available facts point to the conclusion that in many cases it is the income level of the individual that tends to determine the broad outlines of portfolio composition. Upon evidence that affords only a crude measure of wealth (the amount of financial assets held), portfolio composition in the lower ranges of income seems to be somewhat more sharply affected by the income factor than by the wealth factor. On the other hand, income level itself for some individuals is more or less importantly determined by income from investments, and the type of investment held is of considerable importance in determining investment yields. In addition, undoubtedly some individuals are able to command superior executive salaries from closely held corporations because of control of the corporation through stock ownership. Finally, of course, certain individuals because of education and natural aptitudes might not only be able to command superior incomes but also be able to select the most productive investments. There are probably other factors tending to explain the complex lines of causation between portfolio composition and income, but they will not be gone into.

The Relation of Occupation and City Size to Type of Asset Holding

Along with income, occupation and city size are important factors affecting the pattern of ownership of financial assets. Individuals in the sample were classified by occupation as stated on the tax returns (in the case of a joint or combined return, as stated for the head of the unit), and by size of city according to residential mail-

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ing address and preliminary 1950 census population estimates. The analysis of the relation between these characteristics and financial asset holdings constitutes a major section of the study.

The most striking differences in frequency, concentration, and composition of asset holdings appear to be those connected with the occupational characteristics of the investor. Managerial and self-employed persons head or constitute about 10 per cent of the number of families and single persons in the United States. Among the sampled Wisconsin taxpayers, they made up 10 per cent of the holders of deposits and related claims, 18 per cent of the holders of direct debt assets, 20 per cent of the holders of traded stocks, and 28 per cent of the holders of untraded stocks. In value terms, however, the managerial and self-employed group was much more important, holding 14 per cent of the debt manifested by deposits and similar claims, 24 per cent of the direct debt, 31 per cent of the value of traded stocks, and 61 per cent of the value of untraded stocks.

In value terms a second group is of almost equal importance—individuals not gainfully employed. Constituting about 20 per cent of the population (that is, of the number of families and single persons), the group includes unemployed and retired persons, and those living on property incomes, insurance proceeds, gifts, etc.¹¹ In the Wisconsin survey material it includes, besides, some individuals whose occupation could not be determined. Individuals “not gainfully employed” made up 12 per cent of the holders of deposits and related claims, 26 per cent of the holders of direct debt assets, 21 per cent of the holders of traded stocks, and 22 per cent of the number of holders of untraded stocks. In value terms the group not gainfully employed was much more important, holding 19 per cent of the deposits and related claims, 38 per cent of the direct debt, 42 per cent of the traded stocks, and 23 per cent of the value of untraded stocks. The holdings of the group, of course, are greatly weighted by a relatively small number of individuals whose occupation might be termed “investments”; that is, persons living almost exclusively on property income.

¹¹ A subgroup, “housewives,” is shown separately; in the present sample it consists mainly of widows and single women living on income other than earnings. The income and assets of wives (whether or not gainfully employed) and of dependents (in the relatively few cases where a tax return reported income for them) were treated on a combined basis with those of the head of the unit. Cases where the returns showed that the husband worked only intermittently during 1949 and the unit was therefore classified under the wife’s occupation were very few.

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The remaining occupational groups—about 70 per cent of the population—constituted one-half or more of the number of holders of each type of asset, but in terms of dollar value they were important only as holders of debt assets, owning 67 per cent of all deposits and related claims and 38 per cent of all direct debt assets. In contrast, they held only 27 per cent of the total value of traded stocks and a still smaller proportion of the value of untraded stocks (16 per cent).

Occupational differences are shown somewhat more clearly by examining the composition of the financial asset holdings of various occupational groups. For farmers, semiskilled and skilled workers, and unskilled workers, time deposits and similar claims were important as compared with other assets. In the holdings of farmers, unskilled workers, and retired persons direct debt assets were also important. Groups having the largest concentration of traded stocks include professional persons, housewives, and individuals not gainfully employed. Only the group of managerial and self-employed individuals had a relatively high concentration of untraded stocks. In some of the occupational groups, typical income differences are important in explaining asset composition; thus only for farmers in the higher income ranges, rather than for all farmers, were debt assets an important part of holdings. In other groups income level was less important; for example, housewives in all income ranges held a large proportion of their assets in the form of traded stocks.

Differences in the composition of the financial asset holdings of individuals according to the size of community in which they live appear to be largely associated with the typical form of business organization found in communities of different sizes. Thus, in rural areas and small towns, where firms commonly are unincorporated proprietorships or partnerships, time deposits and related claims and direct debt instruments seem more important than in cities. In medium-sized cities characterized by small corporations, untraded stock issues are more important than in rural areas. In metropolitan centers, such as Milwaukee, traded corporate stocks—as a rule, issues of large corporations—have great importance. Income differentials between communities of various sizes are not sufficient to explain these tendencies, since in general they are apparent even within income stratifications.

The findings on the relationship of financial asset holdings to occupation and city size suggest that two important factors in the allocation of personal investment are the ability to invest in a business in which the investor is affiliated and the preference for local

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investment. The importance of these factors was tested directly in the case of corporate stocks.

In order to determine the importance of stock ownership by persons who are employees or officers of the corporation whose stock they hold, notation was made of all stocks in corporations from which the owner was receiving wages, salaries, or directors' fees. The blown-up estimates of the dollar value of holdings of such "business interest" stocks represented little more than 10 per cent of the holdings of traded issues but about two-thirds of the total value of untraded or closely held issues. Moreover, in the case both of traded and of untraded issues, business interest holdings increased in importance with the income level of the investor.

The preference for stock ownership in local concerns was tested in the case of traded issues only, since a large proportion of untraded issues were business interest holdings and therefore might be expected to be issues of local corporations. About 30 per cent of the value of traded issues held by Wisconsin individuals was found to consist of issues of corporations carrying out major production operations within the state. Furthermore, the result did not change when the tabulation was confined to holdings which were not of the business interest type.

These findings appear to shed new light on some of the problems faced in raising new equity capital for business enterprise. Apparently new and small companies may expect that one of the "costs" of capital will be a voice in the active management of the business, and that equity capital will be forthcoming in significant amounts only from certain occupational groups and from persons living in the immediate geographic area. Whether institutional arrangements may be set up to circumvent these difficulties is, of course, beyond the scope of this inquiry.

Characteristics of Traded Stock Holdings

In the process of estimating the value of traded stock held by all individuals in the universe sampled, it was necessary to assemble information on the 1949 price of the stock issues involved and the dividends paid per share. Accordingly, with a little additional effort it was possible to assemble information about other characteristics of stock issues held by sampled individuals—information such as the market in which the issues are traded, industry classification, yield, type of stock (i.e. common or preferred), and agency rating grade. An important part of the study was the attempt to relate the

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characteristics of traded stock issues to the income levels of the holders. The aim was twofold: first, to learn more about the motives for corporate equity ownership and the relation of income level to such motivation; second, to determine whether the individual market for corporate equities is a compartmentalized market, with different income groups holding separate types of stock, or whether the individual market for corporate equities is approximately homogeneous, with all income groups having about equal preference for all types of stocks. Two supplementary investigations were also included: the relation of turnover and of diversification to income of holder.

It is difficult to give an unequivocal statement of what is meant by differences in the market characteristics of stocks. In general, stocks traded on the New York Stock Exchange are those of large corporations with wide public ownership and some speculative appeal. Stocks traded on the American Stock Exchange are quite similar, although they tend to be issues of somewhat smaller corporations. Stocks traded on regional exchanges are quite likely to be less widely distributed, and those traded over the counter—with some exceptions, such as investment trust stocks—still less widely distributed. Perhaps the clearest general difference between types of market is that shown by the relative degree of turnover: stocks traded on the New York Stock Exchange have about twice the degree of turnover of stocks traded on regional exchanges and over the counter, while stocks traded on the American Stock Exchange experience about 50 per cent higher turnover than those traded on regional exchanges and over the counter. The degree of turnover is, of course, a crude measure of the degree of liquidity afforded to the issues traded in particular markets. Within each type of market, however, particular issues differ greatly in turnover, and over-all measures of turnover have all the faults usually inherent in such general measures.

When holdings of traded stocks for various income groups (including stocks regularly traded over the counter on which 1949 price and dividend information could be obtained) are viewed in ascending order of income, a slight shift is observed, in terms of dollar value, from issues traded on the New York Stock Exchange and the American Stock Exchange to issues traded on regional exchanges and over the counter. If untraded stock is included as part of the issues traded over the counter, the shift becomes considerably greater because of the proportionately heavier holdings of untraded stocks in the higher versus the lower income groups. Part

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of this difference in the market characteristics of stocks owned by various income groups may be the effect of real differences in preference for easily liquidated investment. Not all of it, however; for in part it reflects the uneven distribution of business interest holdings, which are more prevalent in the upper than in the lower income ranges, and many of which undoubtedly comprise issues that are traded on regional exchanges and over the counter.

The traded stock holdings of various income groups differ quite sharply according to the nature of the industry of the issuing corporation. In the lower income groups the stocks of investment trusts, utility companies operating in Wisconsin, and the American Telephone and Telegraph Company are important, as are issues of oil and gas extraction and integrated petroleum companies. In the higher income groups, stocks of pulp and paper, iron and steel, nonelectrical machinery, and trade corporations are important. In general the stock of manufacturing corporations is of considerably greater importance in the higher than in the lower income groups.

With some exceptions, these findings on the industry classification of stocks held by various income groups are roughly what might be expected if the lower income groups generally followed a conservative investment policy while the upper income groups followed a more speculative policy—at least if the traditional division of industries into conservative and speculative categories is accepted. Such a view, of course, does not explain the greater importance of petroleum stocks in the holdings of the lowest income group than for others, nor does it explain why many of the stockholders in the higher income groups—and among them, some investors holding twenty or more issues—were holders of stock in investment trusts.

Another instance consistent with the view that the lower income groups generally follow a conservative investment policy, while the upper income groups hold more speculative positions, is found in the analysis of the division between preferred and common shares in the traded stock holdings of various income groups. There is considerable variation in that respect along the income scale. About 15 per cent of the dollar value of traded stocks held by the lowest income group (under \$5,000) consists of preferred issues, while only about 6 per cent of the amount held by the highest income group (\$50,000 and over) represents preferred issues. In the case of untraded issues, the greater importance of preferred stocks in the holdings of the lower income groups is even more marked. These findings may be indicative of differences between income

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groups in attitudes toward risk taking, but undoubtedly much of the ownership of common issues in the higher income groups may be adjudged to be motivated by the desire for a voice in the control of corporate policy, particularly when the reason for a relatively high income may be attributed to the ownership of business interest stocks.

A more direct test of the relation between the income level of the investor and the quality of stocks held than is afforded by an analysis of industry characteristics or an analysis of the division between common and preferred issues was attempted by an examination of the agency rating grades of the traded stocks held.¹² Only those issues bearing ratings were included in the analysis; therefore issues of investment trusts, banks, insurance companies, and holding companies were excluded. In all, issues accounting for about three-quarters of the value of traded stocks held by Wisconsin individuals were included in the analysis.

As the portfolios of rated stocks of progressively higher income groups were considered, it was found that even though smaller proportions of the aggregate dollar value of holdings consisted of prime risk issues, there was only a slight shift into the most speculative issues. Considering the proportions of stock of all the various grades, the average risk for the aggregate portfolio of the highest income group (\$50,000 and over) was about two-fifths of one grade higher than the average risk for the lowest group (with incomes of less than \$5,000).

If, instead of measuring differences in risk taking in value terms, the risk-taking propensities of individuals in various income groups are measured without regard to differences in the amount of stock held, a slightly different picture is obtained. The lowest income group shows the greatest diversity of practices, having the largest proportions of individuals with either extremely safe or extremely risky positions in regard to their rated stocks, while the middle and upper income groups have the greatest proportions of stockholders with moderate risk positions.

Part of the reason why the difference in the propensity to assume investment risk, as shown by holdings of rated stock, was not greater than two-fifths of one rating grade between the lowest and highest income groups appears to lie in the inverse relationship between the quality and the amount of traded stocks held. Individuals

¹² The agency ratings used are those published by the Fitch Publishing Company for December 1949.

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were divided into groups according to the amount of traded stock holdings as well as by income, in order to determine the separate effects of each variable. In general, if individuals with the same amount of traded stock holdings but different income are considered, those in the higher income groups have positions of greater risk than those with lower incomes. On the other hand, if individuals in the same income class—but with different amounts of traded stock holdings—are considered, those with large amounts of traded stock holdings have more conservative positions, in general, than those with small amounts. Since there are many stockholders in the low income groups with small amounts of stocks, the apparent tendency for many of them to hold relatively speculative positions probably offsets, at least in some degree, the conservative positions of other individuals in the same income range.

The findings on differences in risk taking as between different income groups suggest that any simple generalization about the relation of income to risk is dangerous. There is a positive association between income and risk taking; yet individuals holding relatively risky positions make up a larger proportion of all stockholders in the lower than in the higher income groups. In part this seems to be accounted for by the fact that risk taking is negatively associated with the amount of the investment, and the low income groups include large numbers of individuals with only small holdings of traded stocks. There may well be, also, considerable geographic and temporal difference in the outlook of various income groups on the assumption of risk.

Do the higher income groups obtain higher yields (1949 dividends related to value) on their stockholdings than the lower income groups? So far as untraded stock holdings are concerned the answer is definitely yes, if book value rather than market price is taken as the basis of valuation. There is a difference of approximately two percentage points between the yield on the untraded stocks held by the lowest income group (under \$5,000) and the yield on those held by the highest income group (\$50,000 and over), and there is a fairly constant upward progression for successively higher income groups. On the other hand, the picture is less clear in the case of traded issues. For the first four income groups in ascending order, the yield on traded issues falls perceptibly, and then for the highest income group (\$50,000 and over) it rises.

Some part of the irregular behavior of traded stock yields along

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the income scale may result from the fact that in 1949 medium grade stocks had a higher yield than did either the prime quality or the most speculative issues. The topmost income group, since it had the greatest proportion of its total portfolio of traded stocks in the medium grade category, might well be expected to obtain higher yields than the lower income groups, where holdings were characterized by greater diversity in quality. Probably no simple explanation is sufficient to account for differences between income groups in yields obtained on stockholdings. It has been suggested, for instance, that individuals with high incomes could benefit from the standpoint of tax liability by purchasing issues of corporations which retained most of their earnings; that is, by choosing capital gains realized over a period of years rather than current dividends. If such a practice were followed, one would expect lower current yields in the higher than in the lower income groups. This expectation is clearly not borne out in the case of untraded stock; and for traded securities, yields fall slightly for successively higher income groups up to the \$50,000 level, then turn up sharply.¹³

As might be expected, diversification in traded stock holdings increases both with the income of the individual and with the amount of stocks held. In the lowest income group (under \$5,000) about two-fifths of the individuals holding traded stock were found to hold only one issue, and the average number of issues held was not quite four. In the highest income group (\$50,000 and over) only about one-eighth of the individuals had but one issue, and the average number of issues held was eighteen. Similar differences in degree of diversification are found when individuals are ranked according to the size of their traded stock holdings. For those holding less than \$500 the average number of issues held was not much above one; for those holding traded stocks valued at \$1 million or more the average was thirty-five different issues.

What income groups experience the greatest turnover of their traded stock holdings relative to the total value of the holdings? For all income groups the average value of stocks sold in 1949 was approximately 7 per cent of total holdings. Generally, the highest income group (\$50,000 and over) experienced the lowest

¹³ I am indebted to Daniel M. Holland of the National Bureau of Economic Research for pointing out that my test is indicative of the results spelled out above, but not conclusive. My test indicates that for income groups in ascending order the ratio of dividends to book value for untraded stocks increases. This does not, however, demonstrate that the ratio of dividends to earnings also increases, which is the relevant consideration.

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rate of turnover (about 4 per cent) while the income groups with \$5,000 to \$20,000 experienced the highest (about 8 per cent). It might be expected from the turnover figures that individuals in the low and medium income groups hold their shares for a shorter period of time than do those in the higher income groups, and tabulations of stocks sold during 1949 according to date of purchase appear to confirm that belief.

Price per share for traded stock issues held by various income groups was the last of the characteristics analyzed. Price behavior over the cycle has been observed to be somewhat more variable for issues with a low price per share than for issues with a relatively high price per share. This has sometimes led to the belief that low priced shares are favored by the lower income groups, whose purchases and sales are thought to vary greatly over the cycle. There is some evidence to indicate that proportionately more of the individuals in the lower and middle income groups had stockholdings with a low average price (\$20 per share and under) than in the higher income groups; but there is also evidence that the proportion of individuals with relatively high priced stock holdings (\$50 per share and over) was greater in the lower than in the higher income groups. The reason for this apparently contradictory evidence appears to lie in a combination of factors: in the positive association between quality and price per share, and in the fact that lower income individuals, as was observed earlier, tend toward greater extremes in risk position than do higher income individuals. If the analysis is confined to issues of the same quality, a positive association between income and price per share is found only in the case of low quality stocks, the reverse apparently being the case with high quality stocks.

Suggested Areas for Further Research

Perhaps the greatest need for research in the area with which we are concerned here is to determine whether, in fact, the flow of savings into investment through time is similar to that inferred by an examination of holdings of financial assets at one point in time. It has been remarked that changes in the economic status of individuals, inheritance, and change in the valuations of the assets themselves all act to distort the picture of the flow of savings that is obtained from an examination of holdings. It is likely that other factors also act to change the flow of funds from saving arising in particular income groups and going into par-

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ticular channels. One of the most interesting speculations is whether there are cyclical movements in investment preferences or whether individuals' patterns of preference as to saving and investment are fairly constant, varying largely in response to changes in income.

Perhaps almost equally important to an understanding of the flow of funds is the task of determining the reasons for major changes in the ownership of already existing financial assets. This topic also needs investigation from a cyclical standpoint. At times the theory has been proposed that a stock market boom is characterized by an enlarged distribution of stock ownership among the lower income groups, accompanied by a withdrawal of the higher income groups from corporate equity ownership, and that the reverse happens in declining markets. It is highly important that changes in the ownership of financial assets be explored at length to determine whether they accompany broad changes in the prices of such assets.

There are, of course, many ways of making a study with a time dimension. One obvious way is to draw comparable samples separated in time and to adjust the differences for known changes, such as changes in prices. This is not impossible to do from tax data, although the magnitude of the operation increases with the number of years to be covered. Another obvious method would be to interview investors; but the difficulty of obtaining data for past years by that means becomes greater the farther back one attempts to go, and the sampling problem seems to be more difficult in the interview approach, particularly with those income and occupational groups which contribute most of the savings and a major portion of equity funds.

One very important area of investigation is the psychological attitudes toward such factors as risk and liquidity. The few studies that have been made seem to have penetrated only a short distance into the motives for preferences in regard to risk and liquidity and why preferences appear to differ at different income levels. Because these matters lie at the bottom of much thinking in the fields of investment, interest theory, and taxation, it is surprising that so little work has been done upon them.

Finally, one cannot help but be struck with the paucity of data on the characteristics of corporate stocks. Historical records exist showing price, yield, earnings, some estimate of grade, and the like over many years; but investigation into the market behavior

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of stocks has largely been pointed toward discovering profit possibilities in particular securities rather than toward forming general conclusions about particular types and classes of stock. It would be interesting, for example, to determine whether the backward-turning yield curve shown on page 129 is true generally or only in certain years. These are studies that immediately come to mind; undoubtedly many other facets of inquiry that are touched on in the body of this report would prove fruitful areas for research.