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CHAPTER 4

The Relation between Income Status and the Pattern of Investment

THE first task of the analysis is to determine how the ownership of various types of financial assets is related to the personal income structure. There are two facets to such an inquiry, both of which are important in explaining the composition and distribution of asset ownership. Proportionately more persons in a high income group may own a particular type of asset than in a low income group; frequency of ownership, in other words, may be a function of income. Also, the dollar amount of holdings of different types of asset may vary systematically according to the income levels of individuals.

In the present inquiry the major aim in relating income to asset ownership—that is, to investment preference patterns—is to determine how savings are allocated at different income levels between equity and debt assets and between direct and indirect forms of debt obligations. For purposes of inferring the relation between income level and the manner of investing current savings, we look at the composition of financial asset holdings at different income levels. If savings are largely channeled into time deposits and related claims through financial intermediaries, important problems arise as to the manner in which these institutions invest their funds. If savers prefer debt rather than equity claims as an outlet for their savings, while the users of savings are inclined to avoid high debt ratios, other problems arise.

In relating income levels to investment preference patterns as revealed in a cross-section of asset holdings, we are observing only indirectly the process by which current savings are channeled into investment. Even if we could discover how the individuals in the sample chose to allocate their 1949 savings, and if this were related to their income levels, there would still be considerable doubt as to the true effect of income size on the pattern of individual investment preferences. The financial investments which many individuals hold may bear only an incidental relationship to their present or past economic status, and the form in which some or all

of their accumulated savings are held may be the result of quite unrelated circumstances.

Three factors other than income which may account for the types of assets which individuals hold appear significant. First, some assets may accrue to individuals through inheritance or in settlement of debts, and their retention in the same form may be involuntary in the sense that the owner may be reluctant to accept an apparent loss. Second, some individuals through their occupational attachments are more favorably situated to make certain investments than are others. For example, lawyers and bankers may have more opportunities to invest in small corporations than do doctors or teachers. Third, individuals differ in their familiarity with various types of investments: for instance, corporate managers and accountants probably have a higher regard for corporate stocks than do farmers or owners of other unincorporated businesses. Some other reasons for what may be termed "derived" investments—that is, assets acquired more or less as an incident to some special circumstance, in contrast to those deliberately selected with regard to their own merits from a broad range of alternative investments—are discussed in later chapters. Here it will suffice to observe that the operation of the responsible factors tends to obscure the relationship between income and investment preferences and introduces some degree of spurious correlation into the analysis. In the next chapter, for example, it is observed that managerial and self-employed persons (except farmers) are important holders of corporate stocks. Since managers and self-employed persons as a group have higher than average incomes, one cannot be sure what effect income level alone, as against occupational status, has upon the type of financial assets owned. One would have to consider the fact that significant differences in the occupations of persons composing the several income groups may account for the observed differences in types of assets held at various income levels. These are some of the problems encountered in trying, by an examination of the current holdings of financial assets by income groups, to infer the relation between income level and the direction in which current savings are channeled.

In addition to throwing light upon the sources of investment funds, information as to who owns particular types of assets is important in our general knowledge of finance. For example, a distribution of the dollar value of particular types of assets among different income groups enables one to say that, on the basis of the

evidence, proportionately more of the value of asset A is owned by the lowest income group (under $5,000) than of the value of asset B. While such matters are of no more than moderate interest to the economist, they are of very great practical value to the financial community which must grapple with the problems of selling financial assets. One section of this chapter, therefore, concerns the distribution of financial assets among income groups.

For reasons that will become evident, the conclusions on the distribution of financial assets among income groups are couched in rather general terms. The statistics are not completely free from ambiguities; beyond that, none of the distributions derived from either tax or interview survey data account for the sum total of particular types of assets known to be in the hands of individuals, as was seen in Chapter 3. It is evident that conclusions regarding the distribution of the dollar value of particular types of asset, therefore, rest on the assumption that the missing quantity of the financial asset is distributed in exactly the same manner as is the known quantity. In Chapter 3, some reason was indicated for doubting that assumption. Nevertheless, the major conclusions drawn from the distribution of assets among income groups are instructive.

Finally, it is clear that lines of cause-and-effect relationships run both ways between income and financial asset ownership. The last section explores some of the facets of that topic.

The Relation between Income and Financial Asset Ownership

The relation between personal income level and the ownership of financial assets may best be described as a product of two separate but related phenomena. On the one hand, the proportion of individuals holding a particular asset may differ substantially for different levels of income. In other words, frequency of ownership would be expected to vary not only as between types of assets at all income levels, but also as between income levels even for a single type of asset. On the other hand, the typical or average size of holding of a particular asset is also likely to differ as between income groups. Together, frequency of ownership and size of holding of a particular asset underlie more general aspects of the relation between income and the ownership of financial assets.

FREQUENCY OF OWNERSHIP

Caution is necessary in interpreting data from tax returns on

the frequency of ownership of financial assets. Many persons may forget or intentionally omit the reporting of minor amounts of interest and dividend receipts on their tax returns; while the dollar value of such assets may be small, the number of holders of such unreported assets may be a significant proportion of the total number of holders. It will be observed in Table 7 that Wisconsin taxpayers reporting some type of savings account

TABLE 7

Estimated Frequency of Ownership of Specified Types of Financial Asset by Wisconsin Individuals, 1949

Type of Asset	*Number of Holders*	*As Percentage of All Income Units*[a]
Some financial assets[b]	209,652	19.0%
Time deposits and related claims	135,743	12.3
Direct debt assets	66,230	6.0
Some corporate stock[c]	93,281	8.5
Traded stock	72,000	6.5
Untraded stock	46,189	4.2

Based on survey of tax returns, with returns of husband and wife both reporting income converted to a joint basis if not already so.

[a] Based on the number of income units in Wisconsin—1,102,380 families and single persons—given in the *1950 Census of Population*, Vol. 2, Part 49, Wisconsin, Chapter B, Table 32, p. 49.

[b] The number of holders of some financial asset of the types specified is less than the sum of the number of holders for all types because some individuals held more than one type.

[c] The number of holders of corporate stock is less than the sum of the number of holders of traded plus untraded stock because some individuals held stock of both types.

in 1949 appeared to make up about 12 per cent of all income units. This figure is considerably lower than that estimated on the basis of the 1949 Survey of Consumer Finances, where it was found that 44 per cent of all spending units owned one or more assets classified as savings deposits.[1] The discrepancy may be due to the tendency of many individuals, when making out their tax returns, to forget or to ignore the small amounts of income derived from savings accounts. It may be significant, nevertheless, that the returns indicated that approximately twice as many individuals held some form of indirect debt instrument (time deposits and the like) as held direct debt instruments (bonds, mortgages, etc.).

[1] "1949 Survey of Consumer Finances," *Federal Reserve Bulletin*, October 1949, p. 1197.

Holders of some type of corporate stock, either traded or untraded, apparently numbered 8.5 per cent of the total estimated income units; but the figure might be considerably larger if a correction were made for underreporting and to include holders who did not file and holders of stock which did not pay dividends in 1949. The estimate of the frequency of holders of traded issues —6.5 per cent of all units in Wisconsin—may be compared with the nationwide estimate for 1949 made by the Survey of Consumer Finances that 8 per cent of all spending units owned stock in corporations open to investment by the general public.[2]

There is some evidence that the frequency of stock ownership in Wisconsin in 1949 was quite close to that for the United States as a whole. A survey of the geographic distribution of holders of 494 over-the-counter stocks (excluding mutual funds) was made by the National Association of Securities Dealers in 1951.[3] The gross number of stockholders found in each state was compared with the total population for that state, though no attempt was made to correct for the fact that some holders had stock in two or more corporations. The comparable percentage figures, as computed in that survey, were 1.388 per cent for Wisconsin and 1.276 per cent for the United States as a whole.

In comparison to about 7 per cent for the holdings of traded stock issues, only about 4 per cent of the Wisconsin individuals sampled held stock in corporations whose equity securities were not traded on exchanges or in the organized over-the-counter market (Table 7). It may be added that the practice of holding both traded and untraded issues appears to have been considerably more prevalent in the higher than in the lower income groups, where it was more frequent for stock owners to hold either one type or the other.

The relationship between income and frequency of ownership for the four types of asset on which ownership data are available from the survey of Wisconsin tax returns is shown in Chart 1. Only three different income ranges are used because the total number of units in the various income groups is based on the 1950 population census, which did not provide detailed estimates above the $10,000 income level.[4] In spite of that limitation, frequency

[2] *Ibid.*, p. 1190.

[3] *1951 Stockholders-Distribution Survey*, Release of National Association of Securities Dealers, August 27, 1951, p. 2.

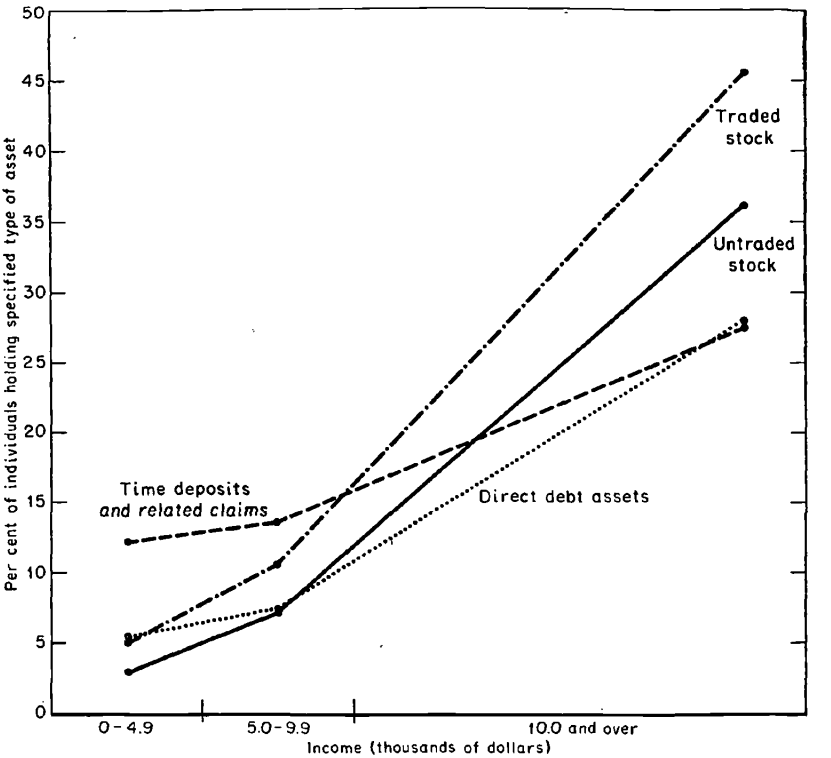
[4] Unless otherwise indicated, the classification of income levels as lower, middle, or upper used in this and subsequent chapters refers to the following class

of ownership of the various types of asset is observed to vary systematically with income, with some types showing greater variation than others. Frequency of ownership of time deposits and related claims changes least with income status, while frequency of ownership of direct debt assets shows a somewhat greater change with income level. It is the proportion of individuals holding some amount of corporate stock that shows the greatest increase as higher income groups are considered.

What about types of financial assets not covered by the Wis-

CHART 1

Estimated Frequency of Ownership of Specified Types of Financial Asset, 1949, for Income Groups of Wisconsin Individuals



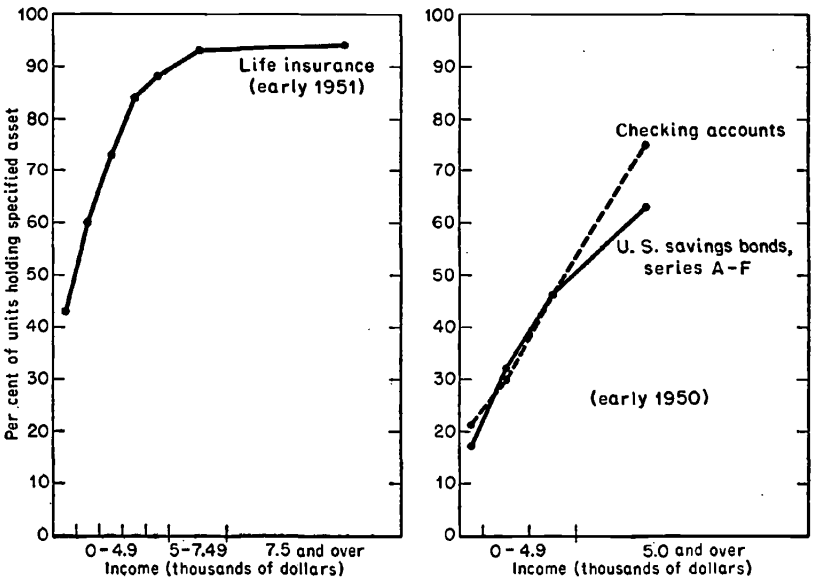
Based on Table A-5, and on number of families and single persons in Wisconsin given in Census of Population: 1950, Vol. 2, Part 49, Wisconsin, Chapter B, Table 32, p. 49. Readings are centered at midpoints of income class intervals, except that for the $10,000 and over class the approximate mean, $23,000, is used.

intervals: lower, $0 to $4,999; middle, $5,000 to $9,999; and upper, $10,000 and over.

consin data? Chart 2 shows the frequency of ownership of checking accounts and U.S. savings bonds (Series A to F) as disclosed by the Survey of Consumer Finances for early 1950, and the frequency of ownership of life insurance as shown by the 1951 survey. These estimates cover the entire United States and differ somewhat from the Wisconsin material in that spending units are the basis of the data. Furthermore, because tax and interview data differ in their inherent biases, the figures on frequency of ownership of the assets mentioned are not directly comparable with the Wisconsin data for other types of asset.

CHART 2

Estimated Frequency of Ownership of Specified Types of Financial Asset, for Income Groups of Spending Units in the United States



From Survey of Consumer Finances data for checking accounts and United States savings bonds in Federal Reserve Bulletin, December 1950, Table 9, p. 1593, and for life insurance in the Bulletin of December 1951, Table 15, p. 1526.

Readings are centered at midpoints of income class intervals except that for open-end classes the approximate mean is used: $8,000 for owners of checking accounts and savings bonds with incomes of $5,000 and over; $12,500 for owners of life insurance with incomes of $7,500 and over.

As is the case with time deposits and related claims, direct debt, and corporate equities, the frequency of ownership of life insurance, checking accounts, and U.S. savings bonds increases with income level. The smallest change with income level, at least in the lower

income ranges, occurs in the frequency of ownership of U.S. savings bonds. On the other hand, frequency of ownership of life insurance increases sharply to the $5,000 level, approximately, where it tends to level off as it approaches 100 per cent. In general the evidence on frequency of ownership obtained from the Survey of Consumer Finances is in harmony with that obtained from Wisconsin tax returns.

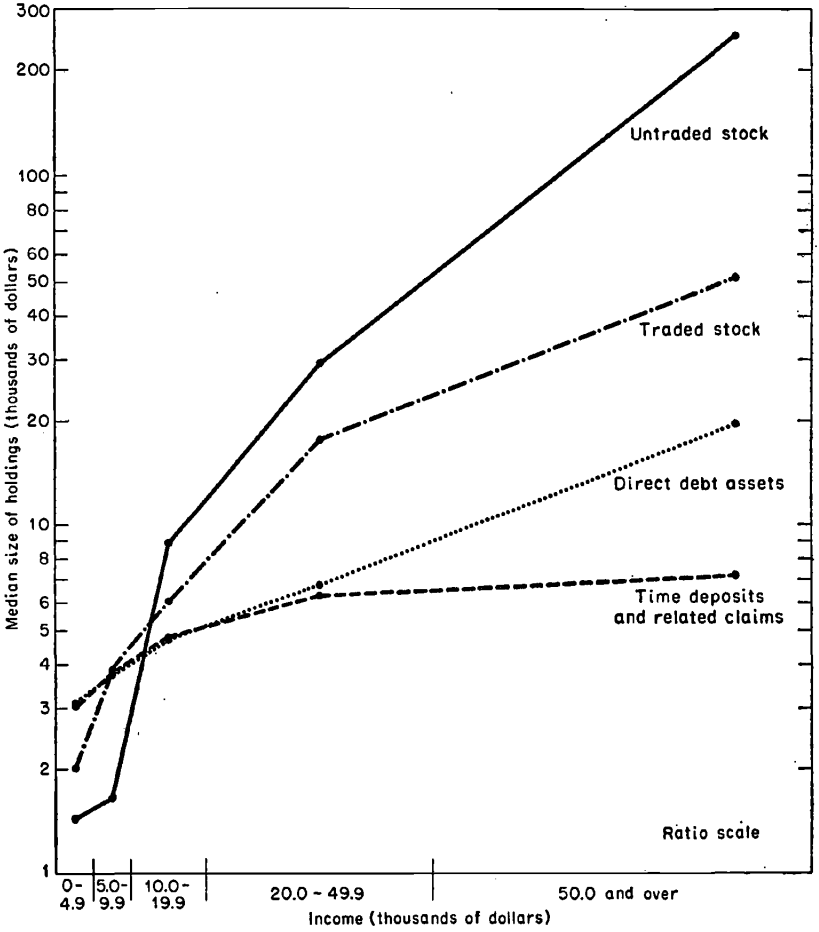
SIZE OF HOLDINGS

The median provides perhaps the best measure of size of holding for types of financial asset where the distribution may be expected to be more or less skewed. Of course, in computing the median holding of each asset type for each income group, only individuals holding some amount of one of the specified assets were taken into account; that is, the Wisconsin sample is limited to those tax returns (single ones, or joint or combined returns of husband and wife both reporting income) that evidenced ownership of financial assets. Chart 3, which shows the median amount of each of four types of financial asset for different income ranges, indicates that size of holding increases with income. The median amount of time deposits and related claims changes least with income, and the median amount of direct debt assets held shows only a slightly greater change. It is the amount of corporate stock held that changes most with level of income.

Because in Chart 3 the median amounts of holdings of each type of asset are plotted on a logarithmic scale against income, the variation in the rate of increase in size of investment as incomes increase is clearly evident. Insofar as it is appropriate to judge from cross-section analysis of the practices of many individuals what the behavior of a single individual would be, it appears that only a comparatively moderate increase in the amount of funds placed in time deposits and related claims or in direct debt assets would occur with an increase of income. When income rises into the highest range ($50,000 and over), the rate of accretion to time deposits and related claims becomes smaller, while the rate of accretion to direct debt assets (tax-exempt bonds for the most part) continues unabated. On the other hand, holdings of traded stock increase at a fairly constant rate up to the $50,000 income level, but at a perceptibly lower rate thereafter. The most marked change occurs in connection with untraded stock. Up to the $10,000 level there is little change in the amount of untraded stock held as in-

CHART 3

Median Size of Holdings of Specified Types of Financial Asset, 1949, for Income Groups of Wisconsin Individuals



Based on Table A-6. Readings are centered at midpoints of income class intervals, except that for the $50,000 and over class the approximate mean, $90,000, is used.

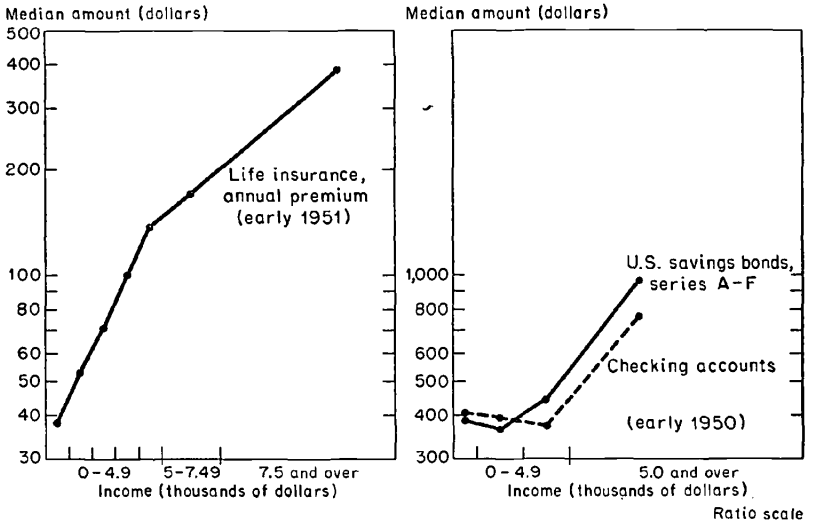
come increases, but a substantial increase in amounts held occurs in the $10,000-to-$19,999 income range and continues, though at a somewhat diminished rate, throughout the remaining range of incomes.

Computation of the median amount of holdings of other types of asset for different income groups is difficult because the frequency distributions of the Survey of Consumer Finances contain

an insufficient number of class intervals to permit accurate calculations. Nevertheless, Chart 4 shows estimates of median size of holding for three types of asset missing from the Wisconsin survey. If the calculations are correct, the median size of holdings of savings bonds and checking accounts shows little increase with income until somewhere past the $2,500 or $3,500 income mark. On the other hand, there seems to be a fairly steady increase in the size of life insurance holdings for successively higher income groups, at least judging from the median amount of premiums reported paid during 1950.

CHART 4

Estimated Median Size of Holdings of Specified Types of Financial Asset, for Income Groups of Spending Units in the United States



Computed from Survey of Consumer Finances data for checking accounts and United States savings bonds in Federal Reserve Bulletin, December 1950, Table 9, p. 1593, and for life insurance in the Bulletin of December 1951, Table 15, p. 1526.

Readings are centered at midpoints of income class intervals except that for open-end classes the approximate mean is used: $8,000 for owners of checking accounts and savings bonds with incomes of $5,000 and over; $12,500 for owners of life insurance with incomes of $7,500 and over.

The findings of the Wisconsin survey appear to be internally consistent in that for each type of asset both frequency of ownership and median size of holding increase with income in a fairly regular manner. On the other hand, the findings of the Survey of Consumer Finances concerning types of assets missing from the Wisconsin data lack that consistency. Whereas the frequency of

ownership of life insurance does not increase much in ranges of income beyond the $5,000 level, the median size of holding does increase substantially with income. Similarly, frequency of ownership of savings bonds and checking accounts increases sharply with income in the lower income groups, but the average size of holding in the same range shows little change. These results, of course, may merely represent errors in calculating medians from insufficiently detailed frequency distributions or they may be true measures of types of assets differing, in their relationship to income, from those covered in the Wisconsin sample.

Comprehensive Measures of Financial Asset Ownership

The two attributes of asset ownership whose relation to personal income we have been examining—size of holding and frequency of ownership—combine to produce a pattern of dollar amounts of various types of asset that are held by different groups. This section will deal with the composition of financial asset holdings in particular ranges of income, relating differences in composition to differences in income level. In addition, it will contrast the several types of financial asset according to the manner in which they are distributed among different income groups.

COMPOSITION OF FINANCIAL ASSET HOLDINGS

Table 8 shows the composition of financial asset holdings at various levels of income for the sample of Wisconsin individuals who reported receipt of interest or dividend income in 1949. Apart from the negative income group,[5] the higher the income group the larger the corporate equity component of total financial assets. Likewise, direct debt investment becomes more important as compared with time deposits and related claims. Even with demand deposits and federal government obligations missing from the account, debt assets—time deposits and related claims and direct debt—account for the major part of the financial assets held by individuals in the lower income group; only a small proportion of the holdings of the upper income groups are in debt form.

As one reads from low to higher income brackets, not only are

[5] The irregular behavior of the negative income group, whose data are supplied in the notes to this and subsequent tables, is undoubtedly the result of (1) the small number of sampled individuals coming within that category and (2) the peculiar and transitory nature of their incomes.

TABLE 8

Composition of Financial Asset Holdings for Income Groups of Wisconsin Individuals, 1949

Income	Time Deposits & Related Claims	Direct Debt Assets	Corporate Equity Assets	Total
$0-4,999	46.9%	22.9%	30.2%	100.0%
5,000-9,999	26.2	20.1	53.7	100.0
10,000-19,999	11.3	16.6	72.1	100.0
20,000-49,999	5.1	10.0	84.9	100.0
50,000 and over	1.2	5.5	93.3	100.0
All income groups[a]	24.5%	17.0%	58.5%	100.0%

Computed from Table A-3.

[a] Includes, besides the specified income groups, the small group reporting negative income, for whom the distribution (in the same order as above) was: 5.3%, 14.4%, 80.3%.

there substantial changes in the major types of assets held but definite trends are apparent within the major asset types themselves. Tables 9, 10, and 11 are constructed to show these variations. For successively higher income groups the major change in the category of time deposits and related claims is the tendency for individuals in the $5,000-to-$19,999 income groups to favor shares in savings and loan associations over similar investments carrying a lower return.

More pronounced changes of composition occur within the category of direct debt investments. In the lowest income group the

TABLE 9

Composition of Holdings of Time Deposits and Related Claims for Income Groups of Wisconsin Individuals, 1949

Income	Commercial Bank Savings Accounts	Savings & Loan Assn. Shares	Mutual Savings Bank Deposits	Credit Union Shares	Postal Savings Deposits	Total
$0-4,999	75.0%	20.8%	0.6%	1.7%	1.9%	100.0%
5,000-9,999	65.8	30.4	0.5	2.5	0.7	100.0
10,000-19,999	63.6	34.4	0.5	1.0	0.5	100.0
20,000-49,999	78.2	19.8	1.0	[a]	1.0	100.0
50,000 and over	73.8	23.8	2.4	[a]	[a]	100.0
All income groups[b]	72.7%	23.5%	0.6%	1.7%	1.5%	100.0%

Computed from Table A-3.

[a] Less than 0.05%.

[b] Includes, besides the specified income groups, the small group reporting negative income, whose holdings were divided between commercial savings bank accounts (76.9%) and savings and loan association shares (23.1%).

TABLE 10

Composition of Direct Debt Asset Holdings
for Income Groups of Wisconsin Individuals, 1949

Income	Notes of Individuals	Notes of Business Firms	State and Local Bonds[a]	Corporate Bonds	Total
$0-4,999	74.9%	12.9%	1.5%	10.7%	100.0%
5,000-9,999	55.8	25.4	3.0	15.9	100.0
10,000-19,999	50.9	27.7	3.8	17.6	100.0
20,000-49,999	34.1	35.1	12.0	18.8	100.0
50,000 and over	26.3	20.7	41.4	11.6	100.0
All income groups[b]	61.5%	19.7%	4.9%	13.9%	100.0%

Computed from Table A-3.

[a] Includes state, county, and municipal tax-exempt bonds.

[b] Includes, besides the specified income groups, the small group reporting negative income, for whom the distribution (in the same order as above) was: 61.9%, 6.7%, 3.8%, 27.6%.

TABLE 11

Composition of Corporate Equity Asset Holdings
for Income Groups of Wisconsin Individuals, 1949

Income	Traded Stock[a]	Untraded Stock[b]	Total
$0-4,999	77.2%	22.8%	100.0%
5,000-9,999	67.0	33.0	100.0
10,000-19,999	62.4	37.6	100.0
20,000-49,999	54.3	45.7	100.0
50,000 and over	43.1	56.9	100.0
All income groups[c]	60.5%	39.5%	100.0%

Computed from Table A-3.

[a] Based on market value.

[b] Based on market value equivalent.

[c] Includes, besides the specified income groups, the small group reporting negative income, for whom the distribution was: 78.9%, 21.1%.

notes of individuals and business firms are of overwhelming importance; in the high groups there is a pronounced shift to corporate bonds and to obligations of state, county, and municipal authorities. The predominance of the notes of individuals among direct debt investments, particularly in the low income group, deserves some comment. From an inspection of the original data it would appear that in the low income group the majority of such debt claims arose from real estate transactions; in the higher income groups, on the other hand, there is some evidence of a tendency for loans to be made between members of the same family, perhaps for security transactions. In the above-average income

group one occasionally finds an individual who apparently was in the small loan business, but the net weight of such cases in the total is probably small. Many of the notes of business firms had been taken by the principal stockholder of a small corporation from its own firm. The reason for the relatively heavy holdings of state, county, and municipal bonds in the higher income groups is, of course, the tax advantage given to income from that source.[6]

The definite shift within corporate equity assets from traded to untraded stocks revealed in Table 11 for successively higher income groups, is difficult to interpret. While it may indicate a propensity, increasing with income, to hold riskier assets, there are doubts as to the validity of that interpretation. Despite the greater cost and time that may be involved in disposing of untraded stocks, there is no a priori reason to believe that as a group they are riskier than traded stocks. Furthermore, a substantial proportion of the amount of untraded stock held was owned by officers or major executives of the issuing corporations; indeed, many individuals were found in the higher income groups undoubtedly because they owned such business interest stock.[7] Perhaps the most reasonable interpretation is that heavy ownership of untraded stocks—amounting to the possession of controlling interest in a business—is a basis of higher income status rather than that these holdings manifest investor preferences among high income individuals.

What about the composition of asset holdings if all major types of income-earning assets are included in the calculation and also assets held primarily for liquidity purposes, such as cash and deposits? As part of a broad study of the effects of taxation upon different segments of the economy, a group under the auspices of the Graduate School of Business Administration of Harvard University has recently published statistics on asset composition for a sample of "active investors." The sample consists of 746 individuals chosen from the contact files of investment firms and is heavily concentrated in the upper income groups. Although the sample is hardly representative of the population at large, it is interesting to contrast the effects of income upon asset composition shown by the Harvard sample with those shown by the

[6] Despite the fact that individuals in the low income groups derive little benefit from the tax exemption feature of state and local government obligations, their holdings are considerable. See *The Ownership of Tax-Exempt Securities, 1913-1953*, by George E. Lent (National Bureau of Economic Research, Occasional Paper 47, 1955).

[7] See pages 96-98.

sample of Wisconsin investors. Because the Harvard study was not confined to the financial assets covered in the survey of Wisconsin investors, but includes such assets as interest in unincorporated businesses, rental property, cash value of insurance and annuities, and so on, its data provide insight into areas of personal investment missed by the Wisconsin survey.

Table 12 shows asset composition in 1949 for the Harvard

TABLE 12

Composition of Asset Holdings for Harvard Sample of Individual Investors Grouped by Income, 1949

TYPE OF ASSET	INCOME OF INVESTOR					
	Under $7,500	*$7,500-12,499*	*$12,500-24,999*	*$25,000-49,999*	*$50,000-99,999*	*$100,000 and Over*
Cash, deposits, and U.S. government bonds	18%	21%	19%	13%	10%	14%
State and local securities	[a]	1	2	2	4	7
Senior corporate securities	8	6	3	4	3	5
Marketable common stock	40	34	28	27	19	28
Own business unincorporated	2	3	10	16	34	12
Own business incorporated	7	7	7	6	9	10
Other closely held corporations	1	2	6	6	7	6
Cash surrender value of insurance and annuities	6	9	9	7	4	3
Income-producing real estate	8	9	8	11	7	3
Notes and mortgages	1	[a]	1	2	2	[a]
Trusts[b]	6	5	6	6	1	12
Other	3	3	1	[a]	[a]	[a]
Total	100%	100%	100%	100%	100%	100%
Number of cases	193	173	156	120	42	24

From *Effects of Taxation: Investments by Individuals*, by J. Keith Butters, Lawrence E. Thompson, and Lynn L. Bollinger (Harvard University, 1953), Table A-13, p. 468. Excludes 38 respondents whose size of income was not known.

[a] Less than 0.5%.

[b] Trusts include only trust property not managed or controlled by the respondent or a member of his immediate family unit.

sample of active investors. The following broad generalizations seem to be evident from the data:

1. By successively higher income groups a declining proportion of total assets is kept in the form of:
   a. Cash, deposits, and U.S. government bonds
   b. Senior corporate securities (bonds and preferred stocks)
   c. Marketable common stock
   d. Insurance and annuities
2. By successively higher income groups an increasing proportion of total assets is kept in the form of:
   a. State and local securities
   b. Owned unincorporated business
   c. Owned corporate business
   d. Other closely held stocks

Comparisons of asset composition at different income levels as revealed by the Harvard and the Wisconsin sample are made difficult by differences both in their respective classifications of assets and in the class intervals of their income distributions. The Harvard data apparently show that corporate stocks as a group (marketable and closely held, combined) were a declining proportion of total assets for successively higher income groups, although the decline is interrupted in the topmost income class. This is the major point of disagreement in the two sets of data. It is undoubtedly attributable to the fact that the Harvard sample probably was drawn from a universe "more venturesome than the general population within the income (and presumably also the wealth) groups covered by the active investor sample, especially in the lower and middle income (and wealth) ranges covered."[8] As the Harvard report suggests, part of the reason for the bias of the sample toward the more venturesome investors is the relatively heavy weight of individuals residing in major metropolitan areas rather than in medium-sized and small cities or rural areas. The geographic bias may also account for the smaller importance of closely held stock in the asset holdings of the individuals in the Harvard than in the Wisconsin sample.[9]

It is interesting to note that although data from the Harvard sample do not confirm the conclusion that equity investment in the form of corporate stock increases with income, yet they do indicate that if equity investment is redefined to include interest in unincorporated businesses and rental property as well as corporate

[8] J. Keith Butters, Lawrence E. Thompson, and Lynn L. Bollinger, *Effects of Taxation: Investments by Individuals* (Harvard University, 1953), p. 469.
[9] See pages 100-102.

stocks, the equity proportion of total asset holdings increases substantially for successively higher income groups up to the very highest, where the proportion decreases. In view of this evidence and the nature of the biases in the Harvard sample, it is believed that the conclusion based upon the Wisconsin material is not disproved.

THE DISTRIBUTION OF FINANCIAL ASSETS

For much the same reason that the accuracy of frequency-of-ownership estimates derived from tax returns is dubious, estimates of the distribution of the dollar value of holdings of particular types of asset among income groups are suspect. It was evident in Chapter 3 that interest and dividend income reported on tax returns fell short of what might have been expected, and that therefore some proportion of the total value of each type of asset is missing from the survey estimates. Under these circumstances it is only proper to indicate that the distributions about to be presented assume that the missing amount of each type of asset is distributed in exactly the same manner as the known quantity.[10] Because of the inaccuracies probably resulting from that assumption, statements on the distribution of the dollar value of various types of asset among income groups will be couched in general terms only.

From Chart 5 it appears that in 1949 over half of the value of time deposits and related claims and about half of direct debt assets, but less than one-third of the total value of corporate stocks whether traded or untraded, were held by individuals with less than $5,000 income. Table 13 shows the estimated distribution of major types of financial assets missing from the Wisconsin data. Apparently from about one-half to two-thirds of the total value of checking accounts, of U.S. savings bonds, and of life insurance in 1950 was owned by individuals with incomes under $5,000.

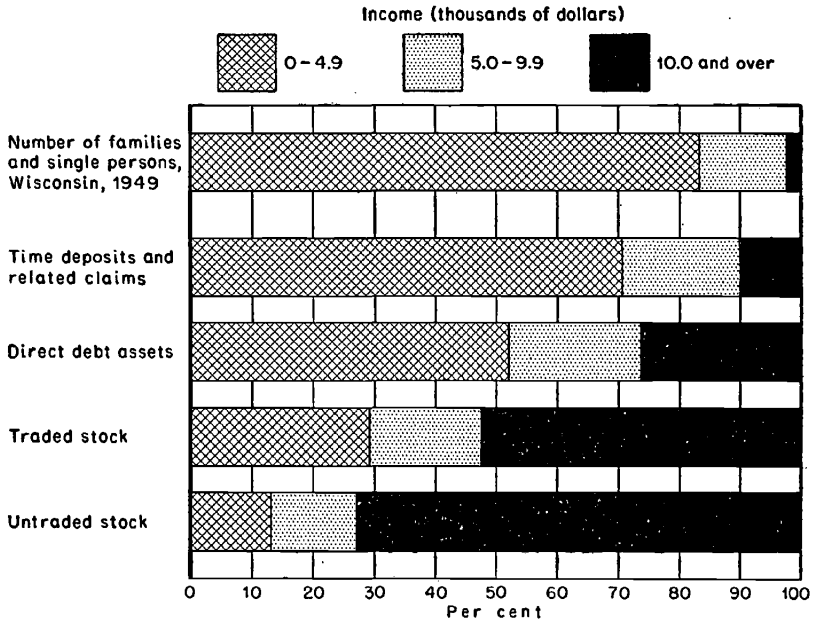
What can be said about the concentration of ownership of different types of asset according to income level in view of the known biases inherent in the data?

A comparison of the concentrations of debt and equity assets is made difficult by the likelihood of different degrees of underreporting in different income groups, discussed in Chapter 3. If underreporting could be eliminated, probably the contrast in the patterns of concentration for debt and equity assets would, if any-

[10] See pages 54 f.

CHART 5

Income Distribution of the Population and of Specified Types of Financial Asset Holdings of Wisconsin Individuals, 1949



Based on estimates of holdings given in Table A-3. Population data from Census of Population: 1950, Vol. 2, Part 49, Wisconsin, Chapter B, Table 32, p. 49.

thing, be somewhat greater than that shown by the tax returns. Since the percentage of receipts unreported at the lower income levels appears to be greater for interest than for dividends, a correction for underreporting would increase the estimated debt assets of the lower income groups more than their stockholdings; but the effects on the holdings of either debt assets or corporate stocks in the higher income groups, where the percentage of unreported receipts is smaller, would probably be negligible.

One question of perpetual interest concerns the concentration of ownership of traded stocks as distinguished from equities of closely held corporations. Here the Wisconsin results differ rather substantially from results obtained through other recent surveys. Table 14 shows distributions of traded or marketable corporate stock based on the Wisconsin and the Harvard sample for 1949 and as estimated from the Survey of Consumer Finances for 1952. For the sake of comparison the boundary between low and middle income groups is set at $10,000 rather than $5,000. The volume

TABLE 13

Estimated Distributions of Value of Checking Accounts, U.S. Savings Bonds, and Life Insurance Premium Payments in the United States, 1950, by Income Group

INCOME	CHECKING ACCOUNTS[a]		U.S. SAVINGS BONDS (SERIES A TO F)[a]		LIFE INSURANCE PREMIUM PAYMENTS[b]
	A	*B*	*A*	*B*	
$0-1,000	4%	6%	3%	5%	3%
1,-000-2,999	20	25	18	26	16
3,000-4,999	24	26	27	33	30
5,000 and over	53	43	52	36	51
Total	100%	100%	100%	100%	100%

[a] As of early 1950. The valuation data underlying the percentage distributions were estimated by first determining the number of spending units owning a specified type of asset in each size of holding class within income group, from percentage distributions given by the 1950 Survey of Consumer Finances (*Federal Reserve Bulletin*, June 1950, Table 4, p. 650, and December 1950, Table 9, p. 1593), and then multiplying the number of units in a group by an estimated typical value of holding for the group. In method A the median sizes of holding for income groups were calculated from the distribution of spending units by size of holding within income group, and then the medians were converted to assumed mean values by adjustment according to the curve of mean-median relationships found for holdings of time deposits and related claims by Wisconsin individuals (Table A-7). In method B the typical value used was the midpoint for each size-of-holding class, an assumed midpoint of $4,000 being chosen for the highest class ($2,000 and over).

[b] Represents the distribution of premiums only and therefore assumes a distribution of the cash surrender value of life insurance identical with the distribution of premium payments. Valuation figures were obtained by multiplying the average premium payments during 1950 for a given income group (as shown in *Life Insurance Fact Book, 1952*, Institute of Life Insurance, p. 14) by the estimated number of insured spending units in that income group in early 1951 (computed from data in "1951 Survey of Consumer Finances," *Federal Reserve Bulletin*, August 1951, Table 1, p. 921, and December 1951, Table 15, p. 1526).

of ownership in the income group below $10,000 as discovered by the Survey of Consumer Finances is the lowest, and that shown by the Wisconsin sample the highest, actually nearly half. It is conceivable that differences in the characteristics of the population in Wisconsin and the rest of the nation might be important in explaining some of the difference. For example, if Wisconsin stockholdings were more heavily concentrated in closely held corporations, as appears to be the case, we might expect to find fewer traded stocks in the higher income groups, where the closely held stocks tend to be concentrated.

In concluding the discussion of the distribution of financial asset ownership among income groups it seems worth while to re-emphasize basic skepticism as to the accuracy of survey findings showing,

TABLE 14

Estimated Distribution of the Value of Traded or Marketable Stocks by Income Group: Three Surveys Compared

INCOME OF HOLDER	WISCONSIN SAMPLE[a] (1949)	HARVARD STUDY[b] (1949)		SURVEY OF CONSUMER FINANCES[c] (1952)
		A	*B*	
Under $10,000	48%	30%	25%	20%
10,000-49,999	36	37	39	80
50,000 and over	16	33	36	
Total	100%	100%	100%	100%

[a] Computed from Table A-3.

[b] From *Effects of Taxation: Investments by Individuals*, by J. Keith Butters, Lawrence E. Thompson, and Lynn L. Bollinger (Harvard University, 1953), Table XVII-7, p. 438. The authors consider estimate A as a minimum estimate for concentration of marketable stock holdings in the income range of $10,000 and over, and estimate B as the more probable.

[c] From "Stock Ownership among American Families," by George Katona, John B. Lansing, and Peter E. deJanosi, *Michigan Business Review*, January 1953, p. 16.

for instance, that X per cent of a particular type of financial asset is held by individuals with incomes under $5,000 or is held by the group receiving $10,000 and over. Until data-collecting methods are improved to the point that survey results account for a greater proportion of the total amount known to be outstanding, we can never be sure that the amount of assets unaccounted for by a particular survey is uniformly or proportionately distributed among the several income groups rather than concentrated in a particular one. The present findings, therefore, are offered as merely indicative of the ranks of concentration of particular types of asset in stated income groups. Summarizing, it is found that the ranking of the various types of financial asset according to the proportion held by individuals with less than $5,000 income is as follows:

Rank	*Type of Asset*
1	Time deposits and related claims
2	Direct debt assets
	Checking accounts, savings bonds, and life insurance
3	Traded stock
4	Untraded stock

CAUSE AND EFFECT

So far in the analysis the implication has been that the income level of the individual determines the pattern of financial assets owned by him. Surely there is much to that view. A person of low or moderate income undoubtedly has a greater need for liquidity than a person of high income, merely because of the difficulty (time, sacrifice, etc.) involved in raising a given sum from either income or resources. Somewhat the same relationship may exist between market risk and income—a subject to be taken up in another chapter. Yet while the line of causation from income to type of asset held is undoubtedly of prime importance, there are other lines of causation which bear looking into.

Clearly, the relation between income and the pattern of financial asset ownership is not one-way. Total income is in part determined by investment income, and investment income in turn is determined by the composition of financial assets. In the Wisconsin sample, interest and dividends together amounted to only 4 per cent of total income for reporting taxpayers in the lowest income group, but to 39 per cent in the highest income group (Table 15). The presence of income-earning financial assets, therefore, is important

TABLE 15

Relative Importance of Reported Components of Income for Income Groups of Wisconsin Individuals Having Financial Assets, 1949

TYPE OF INCOME	INCOME (THOUSANDS)					TOTAL
	$0-4.9	*$5.0-9.9*	*$10.0-19.9*	*$20.0-49.9*	*$50.0 & Over*	
Wages and salaries	95.2%	86.5%	52.5%	52.5%	37.1%	75.4%
Interest	1.7	1.4	2.2	1.8	1.5	1.7
Dividends	2.2	2.9	10.3	16.9	37.2	11.7
Rent	0.1	0.7	2.0	1.7	0.9	0.6
Capital gains (or loss)	0.1	1.7	4.6	3.6	9.3	2.8
Business profits	0.6	5.3	20.9	12.3	4.8	4.2
Trust income	[a]	0.2	0.8	1.6	2.2	0.7
Partnership income	0.1	1.3	6.7	9.6	7.0	2.9
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Distributions are from survey estimates based on the sum of the income components reported on sampled tax returns. The sum of the reported income components differs from the total income reported on the tax forms by an amount representing the net difference between income from sources other than those indicated above and deductions of business expenses and nontaxable income previously reported under one of the identified components. This difference is relatively small, accounting for less than 5% of total reported income in each income class.

[a] Less than 0.05%.

in determining the general shape of the distribution of income. Although to eliminate the income yielded by financial assets would not disturb the ranking of the Wisconsin sample so long as income groups as a whole were considered, undoubtedly the individuals in the sample would be drastically reranked if each individual's non-interest and nondividend income only were considered.

Even more directly, the pattern of financial asset ownership affects income status. It has been observed that for the higher income groups a greater proportion of the amount of asset holdings is in high-paying corporate equities than for the low income groups, who tend to favor direct debt and deposit types of claims, assets which in good times tend to be less remunerative than corporate stocks. What does that phenomenon mean in terms of differences in investment income received by the various income groups? Table 16 indicates that the yield received by the topmost income group ($50,000 and over) is more than half again higher than the yield received on all financial assets held by the lowest income group (under $5,000), merely because of the greater proportion of high-income-earning assets in the former group. The measure used, the hypothetical yield in Table 16, considers only group averages for the three major types of assets and does not consider that part of the yield differences among income groups attributable to the superior selection of particular assets in any one general

TABLE 16

Actual and Hypothetical Yields from Financial Asset Holdings of Wisconsin Individuals Grouped by Income, 1949

Income	*Actual Yield*[a]	*Hypothetical Yield*[b]
$0-4,999	3.71%	3.70%
5,000-9,999	4.60	4.80
10,000-19,999	5.47	5.62
20,000-49,999	5.98	6.04
50,000 and over	6.79	6.32
All income groups[c]	4.94%	4.94%

[a] Computed from Tables A-1 and A-3.

[b] Calculated from actual yields on the major types of asset for all income groups combined—1.37% for time deposits and related claims, 4.81% for direct debt assets, and 6.47% for corporate equity assets—by weighting the yields according to the composition of a given income group's total holdings, Table 8.

[c] Includes, besides the specified income groups, the small group reporting negative income, for whom the yields were: 5.85%, 5.96%.

asset group. It is quite clear that differences in return on investments for broad groups of individuals shown in the table were, in 1949, due less to the canny selection of particular stocks by persons in the higher income groups than to their ability, willingness, or desire to hold a comparatively large proportion of assets in corporate issues of capital stock.

There remains the possibility that it is the total wealth status of the individual which is most important in determining the pattern of financial asset holdings and that the strong association between income and wealth produces a spurious correlation between income and the pattern of financial asset ownership. Table 17 shows the composition of asset holdings of the Harvard sample of active investors. Actually, while trust holdings, unincorporated businesses, and state and local securities tend to increase in importance with wealth, marketable common stock declines in importance, as do life insurance and the group including cash, deposits, and federal bonds. Even from this tabulation we do not know whether it is wealth or income which determines the pattern of financial asset holdings.

The best evidence on that question is from the Wisconsin sample and is shown in Chart 6, which is a study of the proportionate holdings of each type of financial asset simultaneously by income and by a rough measure of wealth, the amount of financial assets held. It appears that both income and wealth are important causative factors in determining the composition of an individual's financial assets. Within each income group, as individuals with larger financial asset holdings are considered, an increasing proportion of the amount held is found to consist of corporate equities.[11] Furthermore, within each size class of financial asset holdings corporate equities become more important the higher the income group. In the lower income group, as individuals with more assets are considered, the proportion of funds held in the form of direct debt investment is found to increase. That this is not true in the higher income groups is probably because corporate bond yields compare unfavorably with stock yields and because there is less need in the high income groups for safety of investment.

The finding that both income and wealth seem to be related to

[11] The use of book value to measure untraded stock holdings in Chart 16 (rather than the market value equivalent used elsewhere in the chapter) imparts some upward bias to the tendency for corporate equity holdings to increase with income and with size of asset holdings, but it probably does not affect the conclusion.

TABLE 17

Composition of Asset Holdings for Harvard Sample of Individual Investors Grouped by Wealth, 1949

TYPE OF ASSET	WEALTH OF INVESTOR						
	Under $25,000	*$25,000-49,999*	*$50,000-99,999*	*$100,000-249,999*	*$250,000-499,999*	*$500,000-999,999*	*$1,000,000 and Over*
Cash, deposits, and U.S. government bonds	35%	23%	23%	17%	15%	15%	10%
State and local securities	a	a	1	1	2	3	5
Senior corporate securities	3	5	5	5	4	4	4
Marketable common stock	36	39	35	31	27	30	21
Own business unincorporated	a	1	3	8	16	12	22
Own business incorporated	6	5	9	9	6	9	8
Other closely held corporations	1	2	3	4	6	5	7
Cash surrender value of insurance and annuities	15	13	11	9	6	6	2
Income-producing real estate	3	10	7	8	11	6	6
Notes and mortgages	1	a	a	a	1	a	1
Trusts[b]	a	2	2	6	5	9	14
Other	a	a	1	2	1	1	a
Total	100%	100%	100%	100%	100%	100%	100%
Number of cases	146	120	130	156	76	40	41

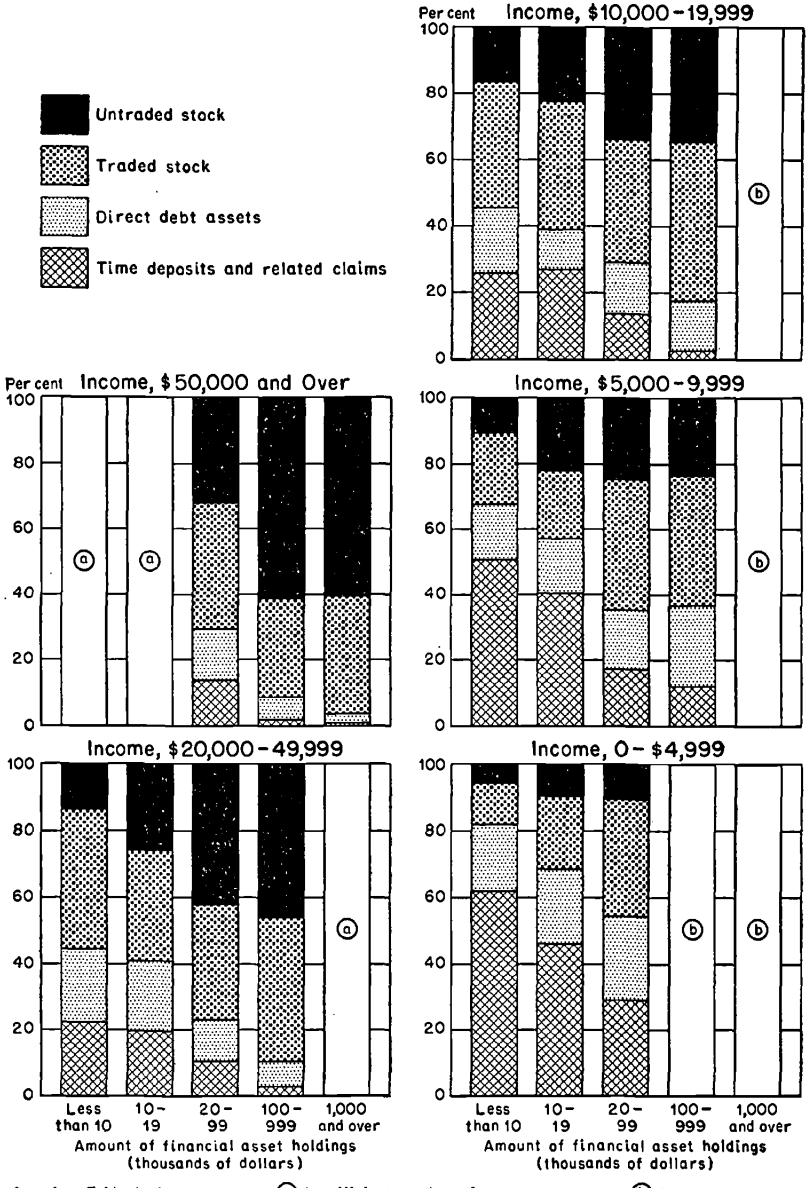
From *Effects of Taxation: Investments by Individuals*, by J. Keith Butters, Lawrence E. Thompson, and Lynn L. Bollinger (Harvard University, 1953), Table A-13, p. 468. Excludes 37 respondents whose wealth status was not known.

[a] Less than 0.5%.

[b] Trusts include only trust property not managed or controlled by the respondent or a member of his immediate family unit.

CHART 6

Composition of Financial Asset Holdings for Wisconsin Individuals Grouped by Size of Holdings within Income Group, 1949



Based on Table A-4. (a) Insufficient number of cases. (b) No cases.

the pattern of financial assets raises the question of which factor may be the more closely associated with asset composition. In the lower ranges of income and asset size, where the relationships (for the Wisconsin sample) are approximately linear, the proportion of the value of financial assets consisting of corporate equities seems to vary more with income than with the size of asset holdings. A doubling of income from $5,000 to $10,000, with asset size held constant, is accompanied by an increase of 10 percentage points in the proportionate amount of equity holdings, while a doubling of the amount of financial assets from $5,000 to $10,000, with income held constant, is accompanied by a rise of only about 6 percentage points. In the upper ranges of income and asset holdings the opposite appears to be the case. A doubling of income from $20,000 to $40,000 is accompanied by a rise of only about 2 percentage points in the proportionate amount of corporate equity assets, while a similar doubling of asset holdings, income held constant, is accompanied, as before, by a rise of about 6 percentage points in equities. One possible factor bearing on this problem comes in the next chapter, where we shall observe that particularly in the case of closely held issues, stock owners are frequently major executives of the corporation. Examination of the individual income tax returns left the very distinct impression that in some cases the ownership of stock in the corporation was a major qualification required of individuals drawing large executive salaries from small and medium-sized corporations. The ownership of particular financial assets, in other words, partially determines the size of wage and salary income. In the case of these so-called business interest holdings, therefore, there is good reason to believe that the character and size of investment assets may well play a causative role not only in determining that component of income derived directly from the investment but also in determining salary income through the exercise of prerogatives of control.

In addition there is the possibility, of course, that the unique character and abilities of certain individuals might lead them not only to occupations and particular situations more remunerative than the average, but also to choices of more remunerative types of investments. Such an explanation, presuming both a rather absolute form of economic motivation and the absence of restrictions upon accomplishing the desired results, would regard both income status and investment practices as subject to causation from variables in human personality and training.

The fairly obvious conclusion to be drawn from the foregoing discussion is that the lines of cause and effect running between investment practices of individuals and their economic status are exceedingly complex. At least in the lower income levels, the association of investment patterns and income is stronger than the association between investment patterns and the rather inadequate measure of wealth status afforded by the data. On the other hand, the amount and composition of asset holdings certainly affect income directly through investment earnings and occasionally affect the ability to earn labor rewards. Personality factors, including training, also may influence both income and type and size of investment holdings. In spite of the reasons to believe that income is not necessarily the determining variable in all cases, the evidence of positive association between income and investment composition is too consistent and the logic too convincing to be entirely refuted.

The principal findings of this chapter are:

1. For each type of financial asset, both the frequency of ownership and the median size of holding tend to increase for successively higher income groups.

2. There is a significant shift in the composition of financial asset holdings as measured by dollar value for successively higher income groups of the population. If only the financial assets covered in tax returns are considered, ownership shifts from predominantly debt assets of time deposit or direct type in the lowest income group to corporate equities in the higher income groups. In general, the trend toward increased equity ownership for higher income groups is apparent even if the analysis includes demand deposits, U.S. savings bonds, life insurance, ownership of unincorporated businesses, etc.

3. The various types of financial asset differ widely in their distribution among the income strata of the population. In general, the major holders of deposits, of life insurance, and of direct debt, including savings bonds, seem to be the lower income groups, while the higher income groups appear to be the major holders of corporate stocks.

4. Cause-and-effect relationships between the income level of the individual and the types of assets in which he chooses to invest funds are complex. The favored explanation is, of course, that income levels determine basic attitudes toward risk and liquidity and therefore the broad outlines of investment policy. However, investment policy in turn affects income, not only through direct

yields from investments but also because substantial holdings of stock in a corporation, especially if they constitute a controlling interest, may enhance the investor's opportunity to receive executive salaries.