

CONVERSION OF FARM ASSETS FOR  
RETIREMENT PURPOSES

Thesis for the Degree of Ph. D.  
MICHIGAN STATE UNIVERSITY

Warren Ford Lee

1970



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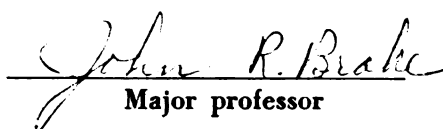
CONVERSION OF FARM ASSETS  
FOR RETIREMENT PURPOSES

presented by

Warren Ford Lee

has been accepted towards fulfillment  
of the requirements for

Ph.D. degree in Agricultural  
Economics

  
Major professor

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ABSTRACT

CONVERSION OF FARM ASSETS FOR RETIREMENT PURPOSES

By  
Warren Ford Lee

The single proprietorship is the predominant form of business organization for agricultural production in the United States. The growth cycle of the single proprietorship firm is closely related to the life cycle of the owner-operator, and generally the business terminates with the disinvestment stage when his labor, management and capital are voluntarily or involuntarily withdrawn from the business. Old age and the accompanying decline in physical health eventually make it impractical for elderly people to continue active farming. The basic financial problem confronting the retiring farmer is to convert farm assets to sources of retirement income with a minimum of capital loss. The closely related personal problem of disinvestment is to achieve a retirement situation which is consistent with his personal goals. The objectives of this study were to describe the financial and personal characteristics of retirement age farmers and to recommend disinvestment strategies which would fulfill their financial and personal goals.

A small random sample of farmers and retired farmers age 60 and over was interviewed during July and August of 1969 to obtain information on their financial positions and

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retirement goals and to determine the constraints which would affect their retirement programs. The survey results indicated that most elderly farmers have not made adequate arrangements for converting their assets to sources of retirement income or for transferring their estates to their heirs. Usually retirement is a gradual process in which nonreal estate assets are allowed to depreciate out over a period of several years. As a group, the survey respondents were receiving very low income returns from their productive assets, yet they expressed a negative attitude toward nonfarm securities such as common stocks, bonds, and mutual funds. Nonfinancial retirement goals apparently account for their reluctance to completely liquidate their farm assets upon reaching retirement age.

The two basic retirement alternatives which were analyzed were: (1) complete liquidation of the farm business and (2) retaining the farmland and renting it out. These alternatives were analyzed on the basis of financial and personal retirement goals, capital losses, and estimated amounts of real annual income. Life expectancy probability data were used to insure a high probability that the estimated annual income would be maintained for a sufficient period of time.

A comparative analysis of eight investment alternatives indicated that during periods of economic prosperity, both farm and nonfarm equities would be superior to fixed income securities such as bonds, land contracts and

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mortgages. The fixed income securities would have yielded the highest returns during a hypothetical period of economic depression. The total annual returns to nonfarm equity securities were slightly higher but much more variable than were the returns to farm real estate. Nonfarm equities historically have provided higher and more stable income returns than farm real estate. Nonfarm equity and fixed income securities are superior to farm real estate, land contracts, farm mortgages, and annuities on the basis of liquidity, but farm real estate is much easier to manage for the typical retiring farmer.

Liquidation of farm assets results in capital losses ranging from about 11 percent to nearly 40 percent of the value of productive assets owned prior to liquidation. Farmers who retain their farm assets during retirement also incur capital losses in the form of depreciation and possibly additional estate transfer costs, but these losses could not be accurately estimated. Given a combination of depressed stock prices and historically high bond yields, the expected rates of return on nonfarm securities would be high enough to compensate for normal amounts of capital losses.

Either of the two retirement alternatives would be suitable for most medium and high net worth situations. Their comparatively strong financial position would permit them to tolerate the risks associated with nonfarm securities or the illiquidity and lack of flexibility associated with an investment in farm real estate. The liquidation alternative

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with a low cost form of retirement housing would be more suitable for most low net worth situations. A reasonable compromise between the liquidation and rental alternatives could be achieved by retaining the farm dwelling when the farm is sold. This compromise alternative would minimize capital losses in addition to fulfilling most of the more important personal retirement goals.

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CONVERSION OF FARM ASSETS FOR RETIREMENT PURPOSES

By

Warren Ford Lee

A THESIS

Submitted to

Michigan State University

in partial fulfillment of the requirements  
for the degree of

DOCTOR OF PHILOSOPHY

Department of Agricultural Economics

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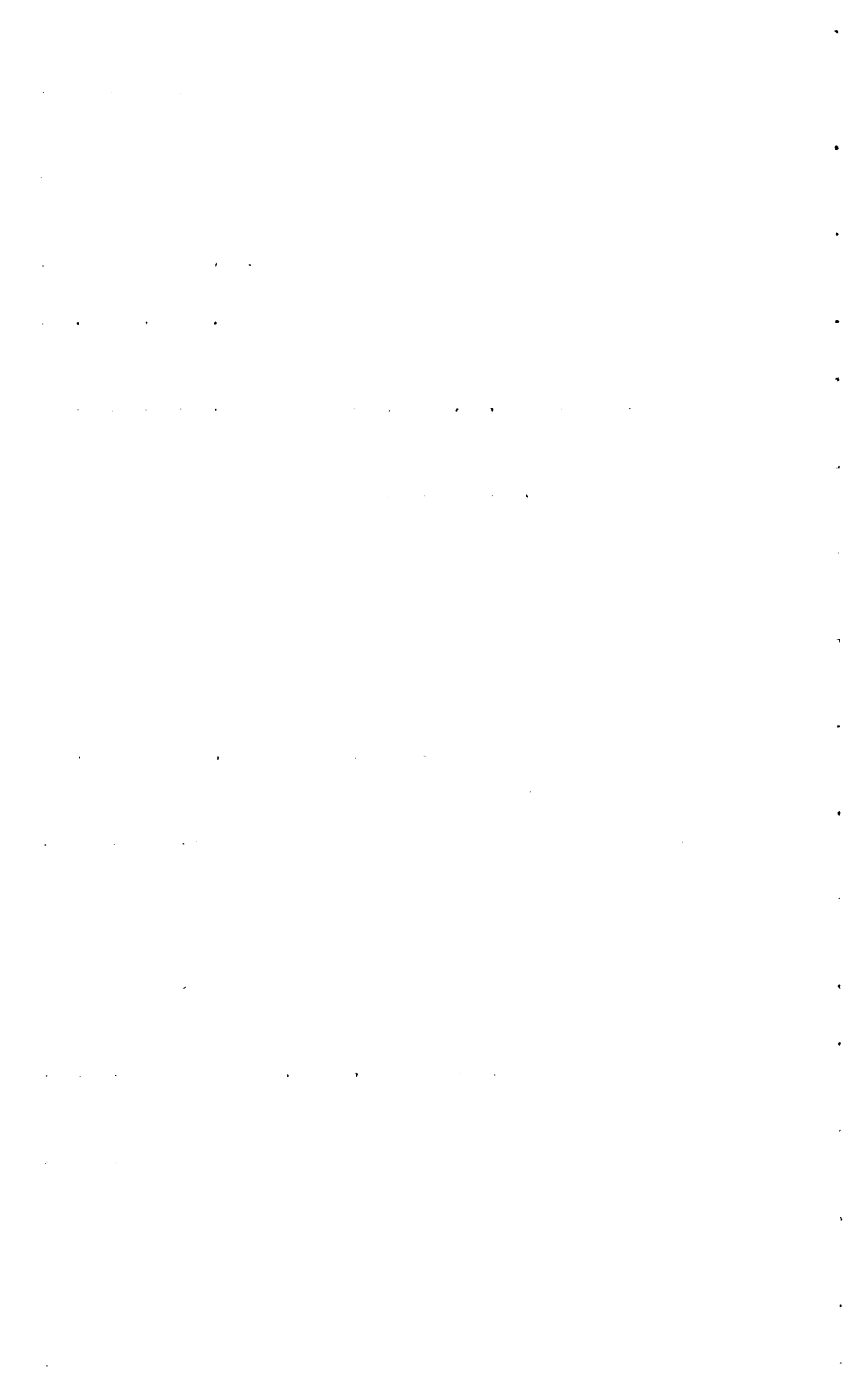
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## CHAPTER I

### INTRODUCTION

#### The Problem Area

This study focuses on the disinvestment stage of the farm firm growth cycle. It examines the financial and personal problems confronting older farmers who decide to leave active farming because of age, ill health, or simply a desire for a more leisurely way of life.

The magnitude of the problem of retiring from farming can be expressed in terms of the number of farmers who are approaching or have reached retirement age. According to the 1964 Census of Agriculture, 548,291 farm operators, about 17.4 percent of the total number of farmers in the United States, had reached or exceeded the typical nonfarm retirement age of 65. Another 742,334 farm operators, about 23.5 percent of the total, were 55 to 64 years of age. Most of the farmers in this latter age group will be faced with the problems of leaving active farming during the next two decades.

About 36 percent of the age 65 and over farmers operated "commercial farms" (Economic Classes I through V inclusive). The remaining 350,558 age 65 and over farmers

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were operating "part-retirement" farms. Part-retirement farms are those with a value of sales of farm products of \$50 to \$2,499 operated by persons 65 years of age or over. The census definition also suggests that most of these part-retirement farms are farms on which the income from nonfarm sources exceeds the value of sales of agricultural products.<sup>1</sup>

According to the Census data, then, two-fifths of our farmers are approaching or have reached the end of their active farming careers. The assets which they control must somehow be converted to sources of retirement income and eventually they must be transferred to another generation of farm operators.

#### Objectives of the Study

Little is known about the disinvestment stage because the research effort in agricultural finance has focused on firm growth and expansion and, to a lesser extent, on the intergeneration transfer of farm assets. This study will attempt to narrow this research gap. The specific objectives are:

- 1) To describe the important financial and personal characteristics of retirement age farmers.
- 2) To recommend disinvestment strategies which will fulfill the financial and personal goals of retirement age farmers.

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<sup>1</sup>U.S., Department of Commerce, Bureau of the Census, 1964 United States Census of Agriculture, Vol. II, Chapters 5 and 6.

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### Description of the Disinvestment Stage

The predominant form of business organization in agricultural production in the United States is the single proprietorship. In a single proprietorship, the firm growth cycle typically follows the life cycle of the proprietor. The pattern of farm firm growth has been described as consisting of four consecutive stages--the establishment stage, the expansion stage, the consolidation stage, and the disinvestment or withdrawal stage.

During the establishment stage, the proprietor decides to enter farming, and he plans the type and size of farm. He also accumulates the resource base needed to begin farming by means of renting, borrowing, saving, inheritance, etc. In the expansion stage, the resource base and the productive capacity of the firm are increased in order to increase profits and net worth. During the consolidation stage, emphasis is placed on maintaining and stabilizing the income stream.<sup>2</sup> In the disinvestment or withdrawal stage, the proprietor, either voluntarily through planned retirement or involuntarily through illness or death, withdraws his labor, management, and capital from the business.

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<sup>2</sup>J.R. Brake and M.E. Wirth, The Michigan Farm Credit Panel: A History of Capital Accumulation, Research Report No. 25. (East Lansing: Michigan State University, Agricultural Experiment Station, Department of Agricultural Economics, 1964).

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### Importance of the Study

There are several reasons why disinvestment might be a critical stage that is easily mismanaged.

First, the value of the firm is usually relatively high at the beginning of the disinvestment stage; hence, much is at stake when decisions are made on the use or liquidation of these assets.

Second, time may be an important factor. The establishment, expansion, and consolidation stages of the growth cycle may occur over a period of from 20 to 40 years, but circumstances such as illness can force the firm into the disinvestment stage very suddenly.

Third, the kinds of problems which farmers may encounter during the disinvestment stage are very different from those which they deal with during the earlier stages. The training and experience acquired from managing the technical and financial aspects of a farm business are of little help in analyzing sale or transfer alternatives, rates of return and risks of nonfarm investments, social security regulations, estate planning, etc. Furthermore, there is very little information available on the subject of retiring from farming.

Finally, the disinvestment stage may involve some difficult personal problems. There may be family members who wish to take over the farm business and special arrangements must be made to facilitate the transfer of the assets. Ill health or the inability to adjust to a new



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Class IV
Class V
Class VI
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way of life can make the transition from active farming to retirement very difficult.

As was indicated earlier, a substantial number of farmers in the United States are approaching or have already reached retirement age. A second dimension of the disinvestment problem is the income status of retirement age farm people. The Census data do not include those people who have already left active farming, but they do provide some indication of the aggregate amounts and sources of income for those who have continued to farm beyond the age of 65.

Table I-1 gives a comparison of the Economic class breakdown for the under 65 and 65 and over farmers in 1964.

Table I-1.--Economic Class Comparison of Under Age 65 and Age 65 and Over Farm Operators, 1964

Economic Class	Farm Operators Under Age 65		Farm Operators Age 65 and Over	
	Number	Percent	Number	Percent
Class I	132,473	5.1	9,441	1.7
Class II	244,620	9.4	15,278	2.8
Class III	433,979	16.6	33,117	6.0
Class IV	446,607	17.1	58,007	10.6
Class V	362,198	13.9	81,720	14.9
Class VI	348,272	13.3	*	*
Part-Time	639,409	24.5	*	*
Part-Retirement	*	*	350,558	63.9
Abnormal	<u>2,008</u>	<u>0.1</u>	<u>170</u>	<u>0.1</u>
Total	2,609,566	100.0	548,291	100.0

Source: Calculated from: U.S., Department of Commerce, Bureau of the Census, 1964 United States Census of Agriculture, Vol. II, Chapter 6.

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The 65 and over commercial farmers made up slightly over six percent of the total number of farmers, and they accounted for 7.6 percent of the aggregate value of products sold. The 350,558 part-retirement farmers made up over 11 percent of the total number of farmers, but accounted for less than one percent of the aggregate value of farm products sold.

Census data on the nonfarm income of farm residents is reported on a household basis, and there are separate tabulations for total nonfarm income of all household members and nonfarm income of household members other than the farm operator. These two tabulations were combined to calculate the sources and aggregate amounts of farm operator income from nonfarm sources shown in Table I-2.

The under age 65 farm operators derived most of their nonfarm income from wages and salaries. Social security, pensions, etc., and investment income in the form of rent, interest, and dividends were the major sources of nonfarm income for both groups of age 65 and over farmers. Over half of the aggregate income received by the part-retirement farmers was derived from social security benefits, pensions, veteran and welfare payments.

Apparently the part-retirement farmers who, by definition, receive low average farm incomes also receive comparatively less income from nonfarm sources. The part-retirement farmers averaged \$810 in sales of farm products and \$1,431 in nonfarm income in 1964. The 65 or over commercial farmers had average farm receipts of \$13,683 and

Table I-2.--Income of Farm Operators from Nonfarm Sources, 1964 (Amount figured in Million Dollars)

Farm Operators	Farm Operators Age 65 and Over
	Commercial Part-retirement

Table I-2.--Income of Farm Operators from Nonfarm Sources, 1964 (Amount Figures in Million Dollars)

Income Sources	Farm Operators Under Age 65			Farm Operators Age 65 and Over		
	Farm Operators Under Age 65		Percent By Source	Commercial Farm Operators		Part-retirement Farmers
	Amount	Percent		Amount	Percent By Source	Amount Percent By Source
Wages and Salaries Nonfarm Business or Profession	4,313.3	65.5		47.7	13.2	83.6 16.7
Social Security, Pensions, Veteran and Welfare Payments	895.5	13.6		31.0	8.6	26.7 5.3
Rent from Farm and Nonfarm Property, Interest, Dividends, etc.	1,188.2	18.0		123.1	34.1	278.4 55.5
Total	6,587.9M	100.0		361.8M	100.0	501.7M 100.0
Average Off Farm Income Per Farm	\$2,524			\$1,830		\$1,431

Source: Calculated from: U.S., Department of Commerce, Bureau of the Census, 1964 United States Census of Agriculture, Vol. II, Chapters 5 and 6.

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Net Farm Income
Nonfarm Income
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Nonfarm Income
Other Members
of Household
Total Income
Household
Average Household
Size
Average Income
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average  
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Source:

average nonfarm receipts of \$1,830. All under 65 farmers averaged \$12,382 in farm sales and \$2,524 in nonfarm income.

The estimated net average household incomes from all sources are shown in Table I-3. These data clearly indicate that the part-retirement farmers received much lower average family incomes from farm and nonfarm sources than did either of the other two groups of farmers. The income differential is particularly evident when the data are adjusted for household size.

Table I-3.--Estimated Average Household Income by Sources,  
1964

	Operators Under 65	<u>Operators Age 65 and Over</u>	
		Commercial	Part-retirement
Net Farm Income <sup>a</sup>	\$3,715	\$4,091	\$ 243
Nonfarm Income of Operator	2,524	1,830	1,431
Nonfarm Income of Other Members of Household	<u>850</u>	<u>764</u>	<u>663</u>
Total Income per Household	\$7,089	\$6,685	\$2,337
Average Household Size	3.8	2.8	2.1
Average Income per Person	\$1,866	\$2,387	\$1,113

<sup>a</sup>Net farm income was estimated to be 30 percent of the value of farm products sold.

Source: Calculated from: U.S., Department of Commerce, Bureau of the Census, 1964 United States Census of Agriculture, Vol. II, Chapters 5 and 6.



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One further reflection of the apparent income disparity among the three groups of farmers is the availability of convenience assets which are a generally accepted indication of the level of living. Table I-4 gives the percentages of households having telephones, televisions, refrigeration, and automobiles for the three groups of farmers. A substantially lower percentage of the part-retirement farm residences contained these convenience assets.

Table I-4.--Percentage of Farms Having Convenience Assets

	All Farmers Under 65	Age 65 and Over	
		Commercial	Part-retirement
Telephone	77.0	81.5	67.2
Television	88.9	85.0	79.8
Home Freezers	74.6	70.6	58.0
One or More Automobiles	85.7	83.7	67.3

Source: U.S., Department of Commerce, Bureau of the Census, 1964 United States Census of Agriculture, Vol. II, Chapters 5 and 6.

A comprehensive study on income and wealth by the Board of Governors of the Federal Reserve System provides comparative income estimates for the population as a whole.<sup>3</sup>

<sup>3</sup>Dorothy S. Projector and Gertrude S. Weiss, Survey of Financial Characteristics of Consumers (Washington, D.C.: Board of Governors of the Federal Reserve System, 1966).

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It should be recognized that the income estimates in the Federal Reserve study and the estimates for the farm population were derived by different methods; hence, they are not strictly comparable. Also, the Federal Reserve study was based on a survey of income and wealth for 1962, whereas the Census of Agriculture data are for 1964. However, the data are believed to be a valid indication of the relative income positions.

The income estimates in Table I-5 suggest that the household incomes of farmers in both the under age 65 group and age 65 and over commercial farmer group are slightly higher than the mean incomes for all households in the U.S. The households headed by the part-retirement farm operators apparently receive lower incomes than any other group, although, retired persons in general receive comparatively low incomes.

Table I-5.--Comparative Income Estimates for Farm and Nonfarm Households

Households of:	Average Annual Income
Total Population--All Age Groups (1962) <sup>a</sup>	\$6,378
Total Population--Heads 65 or Over (1962) <sup>a</sup>	4,105
Total Population--Heads Retired (1962) <sup>a</sup>	2,820
Farm Operators--Under 65 (1964) <sup>b</sup>	7,089
Commercial Farmers 65 or Over (1964) <sup>b</sup>	6,685
Part-retirement Farm Operators (1964) <sup>b</sup>	\$2,337

<sup>a</sup>Dorothy S. Projector and Gertrude S. Weiss, Survey of Financial Characteristics of Consumers (Washington, D.C.: Board of Governors of the Federal Reserve System, 1966).

<sup>b</sup>From Table 5.

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A third dimension of the disinvestment problem is the amount of assets now controlled by older farmers which must be transferred to younger farm operators.

There are no data on the value of assets held by elderly farmers. However, it may be assumed that their share of the total agricultural plant would be approximately proportional to their contribution to total production. In 1968, the total value of agricultural assets, including household and financial assets was 283.5 billion dollars.<sup>4</sup> Since the age 65 and over farmers accounted for about 8.5 percent of the aggregate value of total sales of agricultural products, their share of the total value of agricultural assets would be approximately 24 billion dollars.

Since farm real estate constitutes nearly 70 percent of the total value of agricultural assets, data on the participation of elderly farmers and estates in the farm real estate market is indicative of the rate at which ownership of these assets is being transferred. Retired farmers and estates each accounted for 16 percent of the total number of farm transfers in the United States in 1968. Since the total value of farm real estate sales for the year was 5.36 billion dollars, the dollar value of farm real estate sales by retired farmers and estates was approximately

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<sup>4</sup>U.S., Department of Agriculture, Economic Research Service, Farm Production Economics Division, Agricultural Finance Review, Vol. 29, Supplement (April 1969).

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1.7 billion dollars.<sup>5</sup> Since farm real estate constitutes 70 percent of the assets, the total amount being transferred annually would be approximately 2.4 billion dollars.

To summarize the importance of the study, old age and the accompanying decline in physical ability can bring about several very difficult problems for a farmer. Assets must be converted to sources of retirement income and transferred to younger farmers. There are indications that a large number of farmers are approaching the disinvestment stage or have already reached it. In terms of their income status, most elderly farmers receive less cash income than either younger farmers or elderly people in general. Both the estimated size of the asset holdings of older farmers and estates and the rate at which ownership of these assets is being transferred also suggest that disinvestment is an important area for research.

#### Other Related Research

As suggested earlier, the problems of retiring from farming have been overlooked compared to the emphasis on firm growth. Nevertheless, some of the previous studies suggest trends in the use of certain disinvestment strategies as well as some of the advantages and disadvantages of these strategies for retiring farmers.

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<sup>5</sup>U.S., Department of Agriculture, Economic Research Service, Farm Real Estate Market Developments (August 1969).



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One method of getting out of farming is to sell the farmland and chattels and leave active farming completely. Frequently the retiring farmer provides financing for the purchaser in the form of a land contract or by taking back a mortgage on the property. In their study of land contracts, Hill and Fitzgerald consider some of the advantages and disadvantages of contracts from the sellers point of view. Some of the advantages are reductions in capital gains tax payments, satisfaction of helping a young farmer become established, safety of principal and stability of income, and ease of sale due to low down payment requirements. Disadvantages for the seller include the need to collect payments, and the need to inspect the premises and insure that property taxes and insurance premiums are paid.<sup>6</sup>

A study of the land market in Michigan by Cotner, Wirth and Irwin indicates that retiring farmers comprise an important component of the land market. Retiring farmers accounted for 48 percent of the land supplied via purchase and 33 percent of the land supplied via renting over the period 1959 to 1963. This study also suggests that many farmers retire gradually by selling or renting out part of their land and staying in farming on a smaller scale.<sup>7</sup>

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<sup>6</sup>E.B. Hill and J.W. Fitzgerald, The Land Contract as a Farm Finance Plan, Special Bulletin No. 431 (East Lansing: Michigan State University, Agricultural Experiment Station, Department of Agricultural Economics, 1966).

<sup>7</sup>M.L. Cotner, M.E. Wirth, and G.D. Irwin, Participants in the Land Market: A Profile of Renters, Buyers, and Sellers in Lower Michigan, Research Report No. 12 (East Lansing: Michigan State University, Agricultural Experiment Station, Department of Agricultural Economics, 1964).

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Another method of retiring from farming is to transfer the business to family members via a planned estate and there are several publications which consider this aspect of the disinvestment problem. A North Central Regional Committee study on family farm transfers describes many alternatives such as co-ownership, wills, trusts, outright sale, gifts, etc.<sup>8</sup> Harrison, Scott, and Baker have shown that linear programming is a potentially useful tool for solving the complex legal and financial problems of estate planning. They developed a multi-period linear programming model with a five-year planning horizon. The objective function was to maximize the net value of the estate transferred to the heirs at the end of the planning period.<sup>9</sup> Hepp and Kelsey have published a bulletin on estate planning and farm transfers.<sup>10</sup> Estate planning and farm transfer are obviously important parts of the disinvestment stage, particularly for wealthier farmers. However, the previous research in these areas does not adequately deal with the problems of asset management during the interim period between retirement and death.

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<sup>8</sup>North Central Regional Committee, Family Farm Transfers and Some Tax Considerations, Special Bulletin No. 436 (East Lansing: Michigan State University, Agricultural Experiment Station, 1961).

<sup>9</sup>G.A. Harrison, J.T. Scott, and C.B. Baker, "The Use of Linear Programming in Estate Planning," Illinois Agricultural Economics, Vol. 8 (July 1968).

<sup>10</sup>R.E. Hepp and M.P. Kelsey, A Study Outline for Estate Planning and Farm Transfer, Ag. Econ. Misc. Series No. 1966-11 (East Lansing: Michigan State University, Cooperative Extension Service, 1966).

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Another method of leaving active farming is to transfer the control of the business to a son or other member of the family prior to the time of death by means of a partnership agreement or family farm corporation. Hill discusses some of the points to consider when forming such a partnership.<sup>11</sup>

Very little of the related research on disinvestment deals explicitly with the problem of generating retirement income from farm assets. In a study of land values using the landlord approach, Huff found that farm landlords in Michigan received an average return of 5.46 percent in net rental income, exclusive of capital gains.<sup>12</sup> Kost compared the investment characteristics of farm real estate and common stocks over the period 1950 to 1963. He concluded that the total rate of return on common stock was larger and showed greater yearly fluctuation.<sup>13</sup> The studies by Huff and Kost are relevant to the problems of disinvestment because keeping the real estate and renting it out or

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<sup>11</sup>E.B. Hill, Father-Son Farming Agreements: Some Important and Troublesome Features, Research Report No. 56 (East Lansing: Michigan State University, Agricultural Experiment Station, Department of Agricultural Economics, 1966).

<sup>12</sup>H.B. Huff, "Land Values and Valuation: A Landlord Approach" (unpublished M.S. thesis, Department of Agricultural Economics, Michigan State University, 1967).

<sup>13</sup>W.E. Kost, "Investing in Farm and Nonfarm Equities" (unpublished M.S. thesis, Department of Agricultural Economics, Michigan State University, 1967).

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liquidating it and investing in nonfarm securities are logical alternatives for the retiring farmer.

The problems of retiring from farming and adjusting to old age have been the focus of several studies by rural sociologists over the past two decades. These studies are too numerous to summarize individually; however, the following summary of a South Dakota study is indicative of the type of work which has been done by rural sociologists in the area of retiring from farming.

Opinions of a random sample of 575 farmers from three Eastern South Dakota counties were analyzed to appraise the meaning of retirement and the attitudes toward retirement for those now actively engaged in agriculture.

Of farm operators interviewed in the spring of 1962, 85% expected to retire, although less than a third had made definite plans for their retirement years. The average preferred age for retirement was 62.

In describing what retirement would mean, most farmers anticipated this would involve a move to a different house, preferably in the rural area close to the farm where they had spent most of their lives. They hoped to live with their spouse in their own home. Sixty-five percent felt retirement would bring a considerable reduction in amount of physical labor; 21% expected this labor would be eliminated completely. At the same time, only 38% expected management activities would be reduced considerably and 43% felt it would be reduced completely.

These farmers expected that social security benefits and income from the farm would be their most important sources of income at retirement age.

They expected the most important factor for happiness during retirement would be their state of health. Access to friends and sufficient income were also considered important to enjoyment of retirement.

Operators who expected retirement to reduce their labor to none and change their residence, indicated the most favorable attitudes toward retirement. Younger farmers expressed more favorable opinions than older farmers. Other characteristics associated with a



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favorable attitude toward retirement were: more formal education, conceiving health as "good", high morale, anticipation of adequate retirement income, and more participation in nonfarm organizations.<sup>14</sup>

An excellent summary of several studies by rural sociologists on the problems of the elderly in rural America published in 1967 leads the editor to conclude that the combination of low fixed incomes, low productive capacity, and rural location places these people among the most disadvantaged in our society.<sup>15</sup> Included in this disadvantaged group are many retirement age farmers whose problems are the focus of this study.

#### Outline of the Study

Some of the aspects of the disinvestment problem have been introduced in Chapter I. Chapter II introduces the basic problem of selecting an investment portfolio according to an investor's risk-returns utility function. Some of the possible components of a retired farmer's investment portfolio are analyzed empirically on the basis of the amount and variability of their historical returns. These investment alternatives are also analyzed in terms of

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<sup>14</sup>H.M. Sauer, W.W. Bauder, and J.E. Biggar, Retirement Plans, Concepts, and Attitudes of Farm Operators in Three Eastern South Dakota Counties, Bulletin 515 (Brookings: South Dakota State University, Rural Sociology Department in cooperation with Farm Population Branch, ERS, USDA, June 1964).

<sup>15</sup>E. Grant Youmans, ed., Older Rural Americans: A Sociological Perspective (Lexington: University of Kentucky Press, 1967).

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their advantages and disadvantages for retired farmers. To fulfill the objective of describing financial and personal characteristics, a sample of retirement age farm people in Michigan was interviewed. The procedures used in this survey are described in Chapter III and the results are presented in Chapter IV. In Chapters V and VI the information from the survey is combined with the analyses of the investment alternatives to recommend retirement investment portfolios for individuals whose situations are typical of the survey results. Chapter VII contains a summary of the results and implications of the study along with suggestions for further research.

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## CHAPTER II

### INVESTMENT STRATEGIES FOR RETIRING FARMERS

Disinvestment was broadly defined as the process of voluntarily or involuntarily withdrawing from active farming. This process may occur very suddenly, or it may occur gradually over a period of several years. As the disinvestment stage progresses, the farmer becomes increasingly dependent on investment income, social security benefits and perhaps other pension income. Thus, the amount of income which a retired farmer receives depends largely on the amount of assets which he has accumulated and on the way in which these funds are invested.

Retiring farmers differ from other investors in several ways. Perhaps the most important difference is their general lack of familiarity with nonfarm investments such as stocks, bonds and mutual funds. As a result, many older farmers have overlooked excellent investment opportunities entirely. A second difference is that retiring farmers already own farm real estate and other farm assets which in themselves constitute an investment portfolio. Therefore, ownership of farm real estate is a very logical alternative for most retired farmers whereas farmland would not normally be considered by the nonfarm investor. Retiring farmers are usually more dependent upon investment income

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than are people retiring from nonfarm occupations because nonfarm workers generally have higher social security and other pension income. Thus, the successful selection of an investment portfolio is of utmost importance to the retired farmer.

It is not possible to provide a complete guide to investing in the limited space available. The objectives of this chapter are to place the investor's problem in conceptual perspective, define and classify risk and returns and recommend a general scheme for classifying investment alternatives so that their characteristics can be analyzed in detail. This chapter is based largely on literature in the field of securities analysis and it relies heavily on secondary sources of data.

### The Concept of a Risk-Returns Utility Function<sup>1</sup>

The retiring farmer can be regarded as an investor whose objective is to maximize utility, where utility is a function of risk and expected returns.

In Figure II-1, one investor's utility function is illustrated as the family of solid indifference curves  $U_1$ ,  $U_2$ ,  $U_3$ . The general shape of these curves indicates that the rational investor prefers higher expected returns to lower values and that he exhibits risk-aversion. Thus,

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<sup>1</sup>This discussion of the investor's preference function is based on William F. Sharpe, "Capital Asset Prices: A Theory of Market Equilibrium Under Conditions of Risk," The Journal of Finance, Vol. XIX, No. 3 (September, 1964), pp. 425-42.



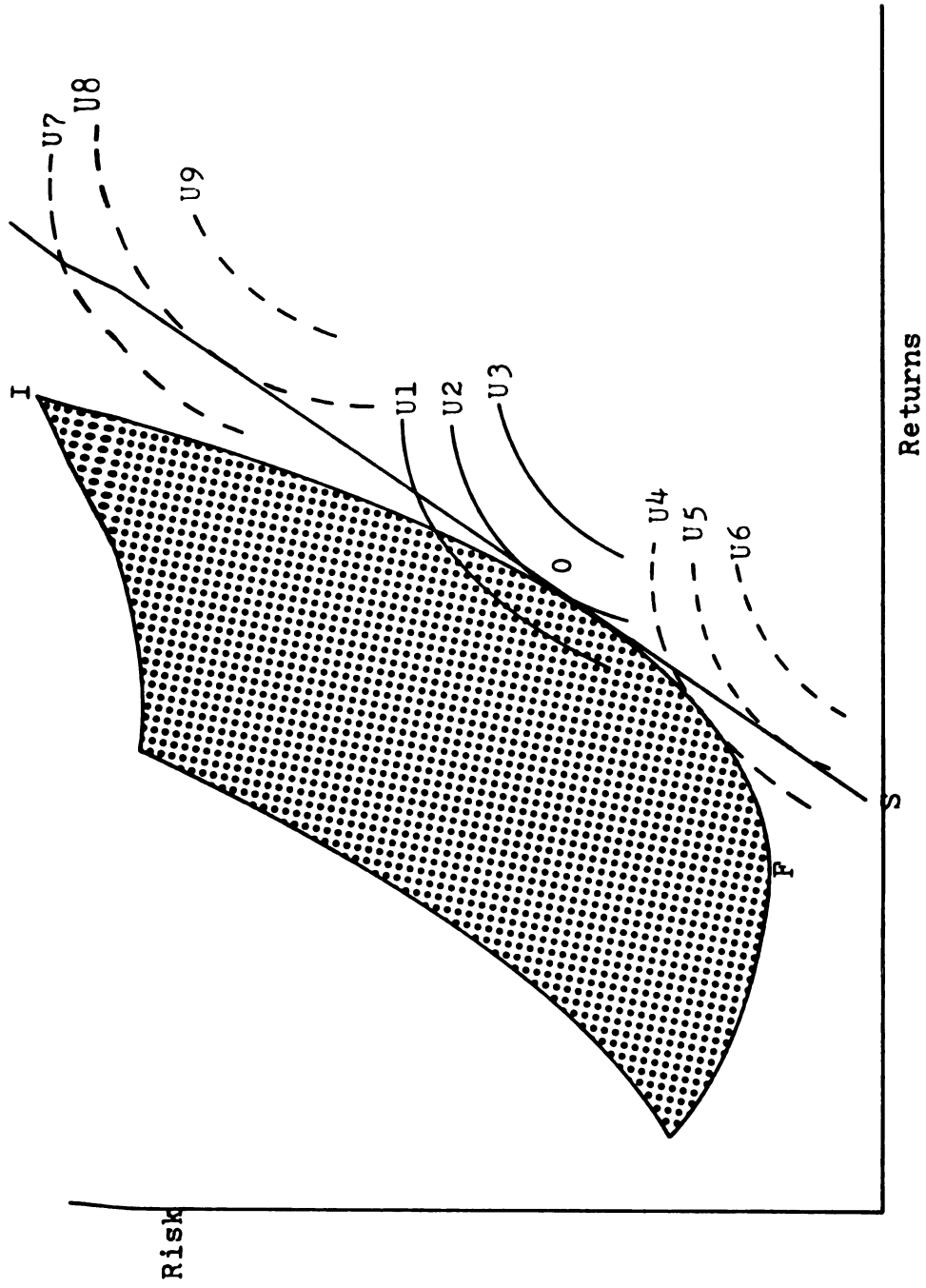


Figure II-1.--The Investor's Utility Function

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any movement down and/or to the right in Figure II-1 is in the direction of increasing utility.

All possible risky investment portfolios are represented by the shaded area in Figure II-1. The boundary IOF is the set of "efficient" portfolios in the sense that any portfolio lying on IOF has higher expected returns and/or a lower amount of risk than any portfolio in the shaded area. The usual tangency solution shows that this investor will select portfolio 0 which lies on the highest attainable indifference curve,  $U_2$ .

According to this analysis, the investor, having selected the combination of risky assets represented by portfolio 0, next decides how his total available investment funds will be allocated between the portfolio of risky assets and the riskless investment, cash which is held in an insured savings account. The riskless asset is represented by point S on the horizontal axis. If his preference function is of the form  $U_1, U_2, U_3$ , he will put all of his funds into portfolio 0. The investor with preference function  $U_4, U_5, U_6$  would hold part of his funds in the form of cash while the investor with indifference curves  $U_7, U_8, U_9$  would borrow funds to acquire additional units of portfolio 0, which is equivalent to holding a negative balance in savings.

This conceptual description of the investment problem suggests that an investment portfolio is a highly personal matter. Individual preferences determine the

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components of the portfolio as well as the proportion of funds which will be invested in risky assets. It also indicates the need for a systematic method of evaluating the risk and expected returns of the possible components of the portfolio.

### Defining and Measuring Risk

An investor purchases assets for the purpose of earning a return. Risk is defined as the probability of losing all or part of the initial capital invested in an asset. In general, the higher the expected returns, the greater is the amount of risk which must be assumed.

The probability of losing one's initial capital investment depends upon two factors. First, it depends upon the probability that the price of the asset will decline below the acquisition cost. Second, it depends upon the probability that the asset will have to be liquidated at a time when the market price is depressed.

The usual measure of the probability that an asset's market price will be less than its acquisition cost is the variance of the returns. The variance of historical returns provides only an approximate indication of risk because the amount of risk associated with an investment is entirely dependent upon future conditions.

In appraising these future conditions, four types of investment risk must be considered. Business risk refers to the probability of a decline in the asset's earning

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power. For example, a decline in the net earnings per share of a company will, ceteris paribus, result in a decline in the price of that company's common stock. Market risk refers to the probability that investors' attitudes toward an asset will change, even in the absence of any fundamental change in earning power. For example, if a large number of investors decided that farmland was no longer a good investment, the price of farmland would, ceteris paribus, decline. Interest rate risk refers to the probability that the general level of interest rates will increase. An increase in interest rate level will, ceteris paribus, result in a decline in the value of an income producing asset. Purchasing power risk is the probability that the real value of the asset will decline because of an increase in the general price level.<sup>2</sup>

The probability that an asset will have to be liquidated when its market price is depressed varies from one individual to another. A wealthy investor who receives more than enough income to meet his day to day cash expenditures would be less likely to have to liquidate assets when their prices are temporarily depressed; however, the investor who has a low net worth and a low income should always be in a position to sell some of his assets to meet unexpected expenditures. In general, a wealthy investor

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<sup>2</sup>For a more detailed discussion of the four types of investment risk see Kost, "Investing in Farm and Non-farm Equities," pp. 8-11.

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or one whose expenditure pattern is relatively stable can accept a more variable stream of returns than an investor who is less wealthy or who has a highly variable expenditure pattern.

Older investors, such as retired farmers, must allow for the possibility that their assets may have to be liquidated to pay for unexpected medical expenditures or, in the event of death, to settle the estate. Tables II-1 and II-2 contain life expectancy probability data calculated from the 1959-61 United States Life Tables.<sup>3</sup> These life expectancy probability tables show, for the typical range of retirement ages, the probabilities associated with different remaining lifetimes. For example, Table II-1 indicates that a 70 year old male has a 9 percent chance of reaching the age of 90, and Table II-2 indicates that a 70 year old female has a 15 percent chance of reaching age 90. Although life expectancy functions are nonlinear, interpolation can be used to obtain accurate estimates of probabilities not shown in the tables.

These tables are also useful for estimating the number of years for which retirement income will be needed. A retiree with a low net worth might wish to gradually use up his capital to cover his living costs and he may be willing to assume, say, a 20 percent chance of running out of funds before he dies. In this case, a 70 year old couple

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<sup>3</sup>U.S., Department of Commerce, Bureau of the Census, United States Life Tables: 1959-61.

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Table II-1.--Life Expectancy Probability Table for Males

Remaining Lifetime (Years)	Present Age						
	50	55	60	65	70	75	80
	Probability of Remaining Lifetime						
5	.94	.92	.87	.82	.75	.65	.50
10	.86	.80	.71	.61	.48	.32	.18
15	.75	.65	.53	.39	.24	.11	.04
20	.62	.49	.34	.20	.09	.02	*
25	.46	.32	.17	.07	.02	*	*
30	.30	.16	.06	.01	*	*	*
35	.15	.06	.01	*	*	*	*
40	.05	.01	*	*	*	*	*
45	.01	*	*	*	*	*	*
Mean Life Expectancy	23.2	19.4	16.0	13.0	10.3	7.9	5.9

\*Indicates probability of less than .01.

Table II-2.--Life Expectancy Probability Table for Females

Remaining Lifetime (Years)	Present Age						
	50	55	60	65	70	75	80
	Probability of Remaining Lifetime						
5	.97	.96	.94	.90	.84	.74	.58
10	.93	.90	.84	.75	.62	.43	.23
15	.87	.81	.70	.55	.36	.17	.05
20	.78	.67	.52	.32	.14	.03	.01
25	.66	.50	.30	.13	.03	.01	*
30	.48	.29	.12	.03	*	*	*
35	.28	.11	.02	*	*	*	*
40	.11	.02	*	*	*	*	*
45	.02	*	*	*	*	*	*
Mean Life Expectancy	28.1	23.8	19.7	15.9	12.4	9.3	6.7

\*Indicates probability of less than .01.

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should plan for about 16 1/2 years for the husband and 18 1/2 years for his wife. This example illustrates clearly why the frequently cited mean life expectancy statistics should not be used in planning retirement income needs. The average remaining lifetimes for a 70 year old man and woman are only 10.3 years and 12.4 years respectively. If these figures were used, the couple would be assuming approximately a 50 percent chance of using up their assets before their death.

It should be remembered that these life expectancy data represent the average experience for the white population of the United States and the estimates should be adjusted for the physical condition of the individual user. For example, a 70 year old who is in poor health would have a lower probability of reaching age 90 than the data indicate.

#### Defining and Measuring Returns

The total rate of return from an investment consists of two components: an income rate of return and a price rate of return. These two components are also referred to as realized and unrealized income, since income which results from an increase in the price of an asset presumably cannot be used until the asset is sold. Boyne argues that unrealized income does affect the asset owner's welfare because he can reduce the amount of saving from conventional income and

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still maintain the same rate of increase in real wealth.<sup>4</sup>

In the analysis of investment alternatives for retiring farmers, both the price and income rates of return are considered. Even though unrealized income can be "converted" to conventional income either by reducing savings as suggested by Boyne, or by actually liquidating a part of the holdings of the asset whose value has increased, the conventional income or yield from an asset is normally more or less valuable to the investor than an equal dollar amount of unrealized income. Conventional income is more certain; hence, the investor uses a lower discount rate in valuing the conventional income stream than he would for the unrealized income stream. Also, if unrealized income is converted to conventional income by liquidating asset holdings, the investor must pay selling costs in the form of sales commissions, etc. For some investors unrealized income may be worth more than conventional income because of the lower marginal tax rate on capital gains. Thus, the tax saving might offset the uncertainty and selling expenses associated with unrealized income.

It is difficult to say a priori whether an individual investor would prefer conventional income or unrealized income. Kost defines the total rate of return as

$$R_t = R_{y_t} + \lambda R_{p_t} \text{ where } R_t \text{ is the total rate of return, } R_{y_t} \text{ is}$$

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<sup>4</sup>David H. Boyne, Changes in the Real Wealth Position of Farm Operators, 1940-1960, Technical Bulletin 294 (East Lansing: Michigan State University, Agricultural Experiment Station, Department of Agricultural Economics, 1964), p. 30.

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the income rate of return and  $R_{pt}$  is the price rate of return and  $\lambda$  is the relative importance attached to unrealized income versus realized income. He suggests that  $\lambda$  may be greater or less than one depending upon the relative weight one attaches to the two sources of income.<sup>5</sup>

#### Desirable Investment Characteristics

A desirable investment should offer a high level of expected returns and a low probability of capital loss. The preceding discussion suggests that both returns and risk must be analyzed within the context of the individual investor's situation.

The amount of expected returns and risk associated with an asset are related to three important investment characteristics--liquidity, management requirements, and leverage.

Liquidity refers to the ease with which an asset can be bought or sold. An asset should be readily marketable and it should be capable of being traded in small units. An asset which can be sold quickly, at low cost and in small units is preferable to one which requires a longer period of time and/or greater expense to liquidate. Liquidity is important because it permits the investor to convert price returns to conventional income returns very readily.

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<sup>5</sup>Kost, "Investing in Farm and Nonfarm Equities," p. 61.

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An investment portfolio should be easy to manage. Assets which can be safely purchased after only a small amount of analysis are preferable to assets which require extensive analysis prior to purchase and close supervision thereafter. This management factor implies that investors should generally restrict their purchases to familiar investments on which accurate information is readily available.

Leverage refers to the relative amount of borrowed funds which can be used to purchase an asset. As long as the rate of return exceeds the cost of borrowed funds, the investor can increase the net return on his equity by borrowing to purchase additional units of the asset; however, the use of leverage also increases the probability of losing the initial capital investment. The leverage factor is an important consideration for many investors, but the negative attitude toward debt expressed by many older farmers indicates that leverage is probably not important to most retiring farmers.

### An Analysis of Eight Investment Alternatives

#### Asset classification

In selecting assets for a retirement income portfolio, it is first necessary to decide on the relative proportion of equity assets and fixed income assets.

Equity assets such as common stocks and farmland entitle the investor to the usual rights of ownership, the most important being the right to participate in management

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decisions and receive a proportionate share of the profits. Fixed-income assets such as bonds or land contracts entitle the investor to only a limited share of the profits of a firm, and generally, they do not afford him the right to participate in the management of the business.

The distinction between equity assets and fixed income assets is very important because equity assets typically involve a greater degree of both business risk and market risk, while fixed income securities are subject to interest rate risk and purchasing power risk.

The assets analyzed here were classified as follows:

Equity assets: Farmland

Common stocks (industrials and  
utilities)

Mutual funds ("growth" and "income")

Fixed income assets: Corporate bonds

Government bonds (long and  
short term)

This list, while not exhaustive in any sense, is representative of the investment alternatives which might be considered by the retiring farmer. The list also provides a standard of comparison for analyzing other alternatives. For example, nonfarm real estate is an equity asset which can be compared with farmland, common stocks and mutual funds. Land contracts and savings accounts are fixed-income assets which can be compared with the bonds.

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### Performance criteria

Each of the investment alternatives was examined in terms of how well it fulfills the following criteria:

1. Expected returns
2. Variability of returns
3. Risk
4. Management requirements
5. Liquidity

### Empirical analysis of historical performance

The expected returns and the variability of these returns were estimated empirically for each of the eight investment alternatives assuming that a hypothetical investment of \$1000 was made in 1955 and the security was held until 1968. It was assumed that the income returns were not reinvested and that any capital gains were left to accumulate. Published price index data were all adjusted to the 1955 base year for purposes of comparison.<sup>6</sup>

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<sup>6</sup>The sources of the price indexes and annual yields are as follows:

Industrial stocks, utility stocks and bonds: Standard and Poor's Trade and Securities Statistics, Security Price Index Record, 1968 Edition (Orange, Conn.: Standard and Poor's Corporation, Publishers, 1969).

Mutual funds: Arthur Wiesenberger Services, Investment Companies 1969--Mutual Funds and Other Types (New York: Nuveen Corporation, 1969), p. 121.

Farm real estate: U.S., Department of Agriculture, Economic Research Service, Farm Production Economics Division, Agri-cultural Finance Review, Vol. 30, Supplement (Jan. 1970).

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Investment results were computed in the usual manner as an annual percentage rate-of-return based on the asset value at the beginning of the preceding year. In addition, the annual dollar returns were also computed. Many retired persons are dependent upon their investment income for living expenditures; hence, they are particularly interested in the amount and variability of these dollar returns. Because of changing asset values, rankings among the alternatives based on year-to-year rates of return would not always be the same as rankings based on the dollar returns.

The year-to-year variability of returns is indicated by the standard deviations of both the dollar and annual rates of return. The standard deviation should be interpreted only as an indication of variability, not as a complete measure of risk. It does partially indicate the degree of risk because a high standard deviation for the price returns would suggest a higher probability that the asset's price might be much lower than its acquisition cost at any given time.

#### Limitations of the empirical analysis

One shortcoming in the empirical analysis was the use of aggregated index and yield data. The degree of diversification implicit in an aggregate series cannot possibly be achieved by the individual investor.

Other shortcomings arose from deficiencies in the data. In order to achieve comparability, price index and

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annual yield data were needed for all eight alternatives. The farm real estate price index for the State of Michigan was used because it best represents the experience of the survey respondents. The only available annual yield data for farm real estate were for the entire United States.

The Standard and Poor's Corporation data on stock price indexes and yields were used because they are widely recognized as being the best indicators of total market performance. The Standard and Poor's bond price indexes were unsuitable for this analysis because they indicate the current bond price assuming a constant number of years to maturity. For example, both the 1955 and 1968 price indexes for corporate bonds assumed that the bond carried a nominal coupon yield of 4 percent with 20 years-to-maturity. Actually, a 20 year-4 percent bond purchased in 1955 would have only seven remaining years-to-maturity by 1968 and its price would be higher than that of a 4 percent bond which still had 20 years-to-maturity. The bond price indexes used in this study were calculated from actual yield data by discounting the remaining annual coupon income and the face value at the current yields for each year covered by the study.

There are several published indexes of mutual fund performance, however, those constructed by Arthur Wiesenberger Services are the only ones which were comparable with the price and yield data on the other investment alternatives. The other mutual fund price indexes are based on the

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assumption that all, or part of the income returns are reinvested annually. Unfortunately, the Wiesenberger indexes go back only as far as 1958. It was assumed that the price performance of both the growth and income funds between 1955 and 1958 was the same as the Standard and Poor's index of 500 common stocks. This assumption would tend to underestimate the mean return of the growth funds and overestimate the mean return of the income funds.

The Wiesenberger indexes are computed for four types of funds--growth funds, growth income funds, balanced funds and income funds. Growth funds and income funds were selected because they represent the two extremes in relative emphasis on capital gains and dividend income yield. These indexes are based on the combined experiences of only five of the largest funds in each category and the basis for selecting these five funds is somewhat obscure. Thus, the indexes probably do not adequately reflect the overall performance of all mutual funds.

All investment alternatives were based on a net initial investment of \$1000. That is, acquisition costs such as brokerage commissions were disregarded. Brokerage commissions and other purchase costs typically vary with the amount purchased and with the individual investor's situation. The omission of brokerage fees from common stocks and bonds does not seriously affect their relative positions; however, in some cases adjustments must be made for the costs associated with purchasing and selling mutual

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fund shares and farmland. With the exception of approximately 70 "no load" funds, mutual funds charge a sales commission of between 8 and 9 percent of the amount purchased. In the case of farmland, the typical retiring farmer would have to consider capital gains taxes and added housing costs in addition to the realtor's commission if he were to sell his farm and invest in other securities.

#### Results of the empirical analysis

The means and standard deviations of the price returns, income returns and total returns for all eight investment alternatives are summarized in Table II-3. All results were rounded to the nearest dollar or one-tenth of one percent.

The growth funds and Standard and Poor's index of 425 industrial stocks were the two best equity alternatives in terms of mean annual total dollar returns. The relative ranking among the five types of equity assets depends upon whether the investor prefers price returns or income returns. Table II-4 shows these alternative rankings. In general, the rankings would be the same if based on mean annual percentage rates of return.

The relative ranking of the equities on the basis of the variability of returns is shown in Table II-5. Farm real estate provided much more stable total dollar returns than the other four equity assets; however, it ranked fifth behind all other equity alternatives on the basis of the stability of the income returns. The profitability





Table II-3.--Performance of Eight Investment Alternatives, 1955 to 1968

	Price Returns			Income Returns			Total Returns		
	Dollars	Ann'l Rate	Std.	Dollars	Ann'l Rate	Std.	Dollars	Ann'l Rate	Std.
	Mean Dev.	Mean Dev.	Std.	Mean Dev.	Mean Dev.	Std.	Mean Dev.	Mean Dev.	Std.
<b>Equity Assets</b>									
Farm Real Estate	68	38	5.0	2.7	52	18	3.8	1.0	120 45 8.8 2.6
Indust. Stocks	118	142	7.8	9.9	56	11	3.6	0.5	174 144 11.4 10.1
Utility Stocks	86	166	6.4	10.3	68	15	4.1	0.7	154 161 10.5 10.2
Income Mut. Funds	67	121	5.3	8.9	56	7	4.4	0.3	123 123 9.7 9.1
Growth Mut. Funds	157	263	9.9	14.6	24	9	1.5	0.2	181 266 11.4 14.7
<b>Fixed Income Assets</b>									
Corporate Bonds	-13	29	-1.4	3.1	30	0	3.4	0.2	17 29 2.0 3.2
Long Term Govt. Bonds	-4	23	-0.4	2.5	28	0	3.0	0.1	24 23 2.6 2.5
Short Term Govt. Bonds	-1	11	-0.1	1.1	35	8	3.5	0.8	34 12 3.4 1.2



Table II-4.--Ranking of Equity Investment Alternatives in Decreasing Order of Mean Annual Dollar Returns

Rank	Price Returns	Income Returns	Total Returns
1	Growth Mutual Funds	Utility Stocks	Growth Funds
2	Industrial Stocks	Income Funds <sup>a</sup>	Industrial Stocks
3	Utility Stocks	Industrial Stocks <sup>a</sup>	Utility Stocks
4	Farm Real Estate	Farm Real Estate	Income Funds
5	Income Mutual Funds	Growth Funds	Farm Real Estate

<sup>a</sup>Income returns were equal.

Table II-5.--Ranking of Equity Investment Alternatives in Increasing Order of the Standard Deviation of the Dollar Returns

Rank	Price Returns	Income Returns	Total Returns
1	Farm Real Estate	Income Funds	Farm Real Estate
2	Income Funds	Growth Funds	Income Funds
3	Industrial Stocks	Industrial Stocks	Industrial Stocks
4	Utility Stocks	Utility Stocks	Utility Stocks
5	Growth Funds	Farm Real Estate	Growth Funds

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of a farm business is subject to exogeneous factors such as weather conditions and market prices; thus, farm real estate held either as part of a farm business or rented out on a share lease would be expected to yield a highly variable income return.

Very few general recommendations for choosing equity assets can be made because the choice depends upon the individual's preferences for returns and the variability of these returns. Most retiring farmers presumably require high returns and the stability of these returns is important. Industrial stocks which ranked second in mean annual dollar returns and third in variability would, on the basis of past performance, appear to be a suitable alternative for the retired investor who is concerned mainly with total returns. The retiree who desires high income returns and low variability might consider the income mutual funds which ranked second in mean annual dollar returns and first in stability.

The period 1955 to 1968 was one of generally rising interest rates and the price returns performance of the three types of bonds illustrates the effects of interest rate risk and purchasing power risk on the performance of fixed income securities. The price and income returns of all five types of equity assets increased by more than enough to compensate for inflation induced purchasing power losses but the prices of the bonds showed an absolute decline, as shown in Table II-3.

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Some fixed income assets should probably be included in all investment portfolios. They tend to stabilize the income stream and capital gains can be realized during periods of falling interest rates. Fixed income securities also provide a hedge against a severe general decline in equity prices such as the one which occurred in 1929. During a period of rising interest rates, however, the fixed income securities should be short term, preferably less than five years to maturity, because long term bonds involve a greater amount of exposure to interest rate risk. The 15 year government bonds which carried a nominal coupon yield of 2.8 percent in 1955 would have provided an annual income return of \$28 but the mean total return was only \$24. The investor who initially purchased a lower yielding 2.4 percent, four year maturity government bond in 1955, held it to maturity and reinvested in another four year government bond at the prevailing and generally higher, yield, etc. would have earned an average of \$34 per year.

Under the "buy and hold" policy assumed in this analysis, both the long term government bonds and the corporate bonds would have provided completely stable dollar income returns, assuming that the bond issuer did not default on the annual coupon obligations. In the case of the government bonds the probability of default is negligible; however, corporate bonds do occasionally go into default.

Performance of the eight  
investment alternatives during  
a hypothetical depression

A serious limitation which is common to most studies of the historical performance of securities is the use of a specific time period. The period 1955 to 1968 used in the preceding analysis was one in which interest rates, corporate profits and the general price level all increased. These conditions accounted for the favorable performance of all five types of equity assets and for the comparatively mediocre performance of the fixed income securities. The investor who believes that similar conditions will continue to prevail in the future should devote a relatively large proportion of his portfolio to equity securities; however, if profits and interest rates are expected to decline, fixed income securities would provide better results.

In order to illustrate the performance of the eight investment alternatives under less favorable economic conditions, the data on their performance were examined in reverse order, i.e., it was assumed that an initial net investment of \$1,000 was made in each alternative in 1968 and held until 1955. A few of the characteristics of this hypothetical "depression" are worth noting. For example, the yield on high grade corporate bonds would have declined from 6.1 percent to 3.0 percent. The Standard and Poor's index of 500 stocks would have declined from 99.1 to 40.5; however, the yields on common stocks would have increased slightly from 3.2 percent to 4.1 percent. The average value



of farm real estate in Michigan would have declined from \$294 per acre to \$136. The consumer price index of all goods and services would have declined from 120.9 to 93.3.

The summary of the performance of the five equity assets and three types of bonds during the hypothetical depression period is given in Table II-6. The fixed income securities would have out performed the equity assets on the basis of both the amounts and variability of the returns. Capital losses on the equity assets would have ranged from an average of \$36 per year on farm real estate and the income mutual funds to \$52 per year on the growth mutual funds. These losses would have been partially offset by the income returns; however, holders of any of the five equity assets would have incurred net losses. The superiority of the higher yielding longer term bonds when interest rates decline is evident from the relative performance of the fixed income securities. The investor who initially purchased a 6.1 percent, 20-year corporate bond would have received average total returns of \$76 annually. The purchaser of the lower yielding four year government bonds would have received an average of only \$44 annually.

The comparative performance of the eight investment alternatives under the actual conditions which prevailed from 1955 to 1968 and under the conditions which prevailed during the hypothetical depression clearly illustrate why the investor must make an accurate forecast of the future. The symmetry of the analyses for the periods of prosperity and

Table II-6.--Performance of Eight Investment Alternatives During a Hypothetical Depression, 1968 to 1955

	Price Returns			Income Returns			Total Returns					
	<u>Dollars</u>	<u>Ann'l Rate</u>	<u>Dollars</u>	<u>Ann'l Rate</u>	<u>Dollars</u>	<u>Ann'l Rate</u>	<u>Dollars</u>	<u>Ann'l Rate</u>				
	Std. Mean Dev.	Std. Mean Dev.	Std. Mean Dev.	Std. Mean Dev.	Std. Mean Dev.	Std. Mean Dev.	Std. Mean Dev.	Std. Mean Dev.				
Equity Assets												
Farm Real Estate	-36	21	-4.8	2.4	26	10	3.4	1.0	-10	16	-1.4	2.2
Indust. Stocks	-47	56	-6.5	8.6	21	4	3.2	0.5	-26	56	-3.3	8.8
Utility Stocks	-40	78	-5.2	8.9	30	7	3.7	0.6	-10	81	-1.5	9.0
Income Mut. Funds	-36	64	-4.4	8.4	29	3	4.1	0.4	-7	64	-0.3	8.7
Growth Mut. Funds	-52	86	-7.4	13.3	7	2	1.3	0.1	-45	85	-6.1	13.3
Fixed Income Assets												
Corporate Bonds	15	36	1.4	3.2	61	0	5.3	0.3	76	36	6.7	3.5
Long Term Govt. Bonds	4	22	0.4	2.1	53	0	4.9	0.2	57	22	5.3	2.2
Short Term Govt. Bonds	1	14	0.1	1.4	43	8	4.3	0.8	44	15	4.4	1.5

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depression is useful for determining basic investment strategies. For example, if the probabilities of prosperity and depression are 80 percent and 20 percent respectively, he should try to achieve a corresponding balance between the equity and fixed income assets in his portfolio.

### Other investment criteria

The selection of assets cannot be based entirely on historical performance. This section examines the alternatives on the basis of how well they fulfill the other characteristics of a desirable investment.

#### Farm real estate

Perhaps the most important advantage of farm real estate as an investment alternative for the retiring farmer is the fact that he already owns it. There are no acquisition costs and it is a familiar investment. Also, whether he operates a farm business or rents the land to a tenant, he can exercise a considerable degree of control in managing the asset. Keeping the farm real estate is also consistent with many of the non-financial retirement goals of retired farmers.

There are two main disadvantages associated with an investment in farmland. First, for elderly persons, it can be difficult to manage. Second, it does not fulfill the liquidity requirement of a desirable investment.

Many older farmers and landlords may be unable to generate a satisfactory income return from their farm assets.

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Operating a viable farm business or finding and retaining a good tenant can be difficult for an elderly person. These management problems would be even more serious for a surviving widow.

Farm real estate fails to meet the liquidity requirement of a desirable investment because, although it can be sold relatively easily, it cannot generally be sold in small units. Thus, it is not possible to convert price returns to conventional income by gradually selling part of the asset.

In some situations, keeping the farm real estate during retirement is probably the best alternative. It may be possible to continue farming with the help of a family member as a partner. In this case, an equitable partnership agreement should be drawn up.<sup>7</sup> When the demand for rental farmland is strong, renting the farm out on either a cash or share lease should provide enough retirement income. A cash lease would generally provide a slightly lower but more stable retirement income.<sup>8</sup> If the farm is rented out, the retiring farmer and tenant should use a written lease agreement which insures that both parties share of the income is proportional to their respective share of the expenses.<sup>9</sup>

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<sup>7</sup>See Hill, Father-Son Farming Agreements.

<sup>8</sup>Huff found that the average rate of return from share-crop leases was 40 percent higher than that of cash leases. See Huff, "Land Values and Valuation".

<sup>9</sup>F.J. Reiss, What is a Fair Crop-Share Lease?, Circular 918 (Urbana: University of Illinois, Co-operative Extension Service, 1965).

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If a partner or tenant is not available, the elderly farmer would be well advised to liquidate his investment in the farm real estate and chattels before he is forced to do so because of ill health or other adverse circumstances. In general, the liquidation value of an on-going, properly managed farm business will be much greater than the value of a business which has been allowed to deteriorate because of the operator's age.

#### Common stock

Two groups of common stocks were analyzed for their historical performance. Standard and Poor's Index of 425 industrial stocks represents about 80 percent of the total number of shares listed on the New York Stock Exchange, and it consists of what may be regarded as high grade industrial corporations; that is, larger companies with established earnings and dividend records. The Standard and Poor's index of 55 utility stocks represents the type of stock which retired persons are generally interested in. Typically, the utilities offer higher income yields and a steady growth in value. It should be noted that many industrial stocks also have similar characteristics.

Common stocks fulfill the liquidity requirement much better than farm real estate. Historically, stocks have also provided higher total annual returns, but both the industrial and utility stocks have yielded higher and more stable income returns.



The most important disadvantage of common stocks for the retiring farmer is their management requirements.

Common stocks must be carefully analyzed prior to purchase and the portfolio must be closely supervised thereafter.

Fundamentally, selecting common stocks is similar to finding a good tenant or deciding how a farm business will be operated. Management ability, financial strength, market prices and other factors which will affect the profitability of the business must be considered. However, the analysis of common stocks requires information to which a majority of retirement age farm people do not have access.

Another disadvantage of common stocks is their high degree of market risk. A change in investors' attitudes, particularly among the large institutional investors, can cause the price of a stock to decline severely within a few hours even though there may have been no real change in that corporation's earning power. In general, common stock investors tend to collectively overreact to both favorable and unfavorable reports about a corporation's profit potential.

Although the novice common stock investor is handicapped by his lack of experience, the potential advantages of common stocks for many retiring farmers are great. People who are totally unfamiliar with the subject should read one or two good textbooks on securities analysis and become familiar with the sources of current and historical information.

A portfolio of high grade common stocks purchased at reasonable prices can be expected to provide stable income

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returns. In addition, the price returns will more than compensate for losses in purchasing power due to inflation. The high liquidity of common stocks also permits the investor to convert price returns to conventional income at any time--an important feature for most retired farmers.

#### Mutual funds

Mutual funds are open-end investment companies. That is, they continuously offer new shares for sale and they always stand ready to redeem outstanding shares in cash at the current asset value. The current asset value is the market value of all securities in the fund's portfolio. There are also closed-end investment companies whose securities are traded like any other corporate issue. The price of the common stock of a closed-end investment company maybe above or below the current asset value.

The most frequently cited advantage of buying mutual fund shares instead of common stocks is that the mutual funds provide the small investor with needed diversification and they relieve him of the time and expense of analyzing and selecting his own securities. The mutual fund portfolios are managed by professional securities analysts who use information and facilities which are not generally available to the small investor; thus, their performance should be superior to that which the novice investor could achieve. The investor can select a fund with investment objectives which are similar to his own and generally, he can convert his shares to cash at any time.



There are several disadvantages associated with mutual funds. First, the initial selection of one or two funds from the approximately 550 available poses a problem. This selection must be made with great care because many funds have exhibited consistently poor performance. Several studies of the records of mutual funds have concluded that the overall performance of the funds has been no better than the individual investor could have achieved from a random selection of common stocks.<sup>10</sup>

The high sales commissions, commonly called "load" fees, charged by most mutual funds constitute a disadvantage for the short-term investor or for the investor who must be prepared to liquidate all or part of his portfolio on short notice. In addition to the sales commission of 8 to 9 percent of the initial purchase price, most funds charge an annual management fee of about 1/2 of 1 percent of the average net asset value. Many of the contractual plans call for payment of the "load fee" during the early years of the contract. The net effect of these fees is to substantially reduce the investor's net return below that which he could have achieved by purchasing his own securities, particularly if he finds it necessary to liquidate his shares within a few years after purchase.<sup>11</sup> The prospective purchaser of mutual

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<sup>10</sup>For example, see Irwin Friend and Douglas Vickers, "Portfolio Selection and Investment Performance," The Journal of Finance, Vol. XX, No. 3 (September, 1965), pp. 391-413.

<sup>11</sup>For a good analysis of the effect of the load fees on returns, see Stuart B. Mead, "Mutual Funds from the Investors Viewpoint," MSU Business Topics (Winter, 1967), pp. 45-53.

fund shares should be aware that there are approximately 70 "no load" funds which do not charge a sales commission, although, many no load mutual funds charge a redemption fee when shares are liquidated. Shares in the no load funds can be obtained either through a brokerage firm or by corresponding directly with the head office of the mutual fund.

Since the portfolios of mutual funds consist mainly of common stocks, their performance can be expected to be similar to that of a personally selected portfolio of stocks. In general, they can be regarded as a good substitute or compliment for other equity assets in the portfolio.

Retiring farmers would be well advised to consider mutual funds. They should select a small to medium sized mutual fund which has objectives similar to their own. Generally, this would mean a fund which emphasizes a stable annual income return with a moderate capital gain. Funds which restrict their portfolios to the stocks of certain "emerging" or "growth" industries should be avoided. Contractual plans which call for the purchase of a specified number of shares at regular intervals would generally be unsuitable for a retired farmer; however, a younger farmer who wishes to save money for retirement might use one of these regular investment plans.

An attempt should be made to select only those funds which have exhibited consistently good performance over a period of several years in both "up" and "down" markets.

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This is difficult since in recent years, at least, the top performing funds during rising markets have been among the poorest performers during declining markets.

#### Bonds and other fixed-income securities

The three types of bonds have exhibited very poor historical performance compared to the equity assets. However, during a period of historically high interest rates, both corporate and government bonds would be an excellent investment for retired people.

Bonds are an excellent investment in terms of both liquidity and management requirements. Government bonds can be purchased safely without any analysis and they can be resold at any time through a brokerage firm or a bank.

Corporate bonds do require some analysis and supervision because they are subject to business risk. A corporation which experiences a drastic decline in earnings may default on its bond interest payments, and a complete business failure often results in the loss of at least part of the face value of the bond even if it is held to maturity.<sup>12</sup> The purchaser of corporate bonds should also realize that

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<sup>12</sup>Since 1944 the default rate on corporate bonds has been very low. Between 1944 and 1965, 120 corporate bond issues having a total par value of \$496.1 million went into default. This default rate was less than 0.1 percent of the total par amounts outstanding. Only 45 of the issues offered after 1943 went into default. See Thomas R. Atkinson, Trends in Corporate Bond Quality, Studies in Corporate Bond Financing Number 4 (New York: National Bureau of Economic Research, Columbia University Press, 1967), pp. 42-49.



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most corporate issues carry a "call" provision, meaning that the bond issuer reserves the right to retire the bond at the issuer's option prior to maturity. Generally, bonds are more likely to be called under conditions which are advantageous to the issuer and disadvantageous to the bond investor, that is, when prevailing interest rates on new financing are lower than the coupon rate on the bond. If a bond is called, the investor then must repurchase a new and usually lower yielding bond.<sup>13</sup>

Many retiring farmers who sell their farms provide financing for the purchaser through a mortgage, or more commonly, a land contract. Land contracts suffer from the same basic disadvantages as do bonds, mortgages and other fixed income securities, i.e. they involve a high amount of both interest rate risk and purchasing power risk. In addition, land contracts lack the liquidity and ease of management associated with bonds. The investor who is forced to liquidate a land contract must find a buyer in a very limited market and often he must accept a substantial discount in order to convert the contract to cash. Land contracts require a careful analysis of the potential borrower's repayment ability and some supervision is required after the loan is made. The land contract does offer protection against default; however, selling the property

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<sup>13</sup>For a more complete discussion of the effects of the call feature see Harold G. Fraine and Robert H. Mills, "Effect of Defaults and Credit Deterioration on Yields of Corporate Bonds," The Journal of Finance, Volume XVI, No. 3 (September, 1961), 427n.

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to satisfy past due payments under a land contract is usually a distasteful procedure, particularly for an elderly person.

In certain cases, the potential advantages of land contracts may make them superior to bonds. The sale of the farm on a land contract with a downpayment of 30 percent or less permits the seller to spread the capital gains tax over the repayment period of the contract. A land contract may help to sell the farm at a higher price because the availability of low equity financing will generally attract a larger number of potential purchasers. In certain cases, a retiring farmer may be able to sell the farm on a contract and retain a life interest in the farm dwelling. This type of arrangement would have obvious financial and personal benefits for many retiring farmers.

Another type of fixed income security which is frequently recommended for retirement income purposes is the annuity. Annuities are contracts sold by insurance companies which guarantee the purchaser a monthly or annual income for as long as he lives. Generally, if the purchaser dies relatively soon after the income payments begin, the payments are made to his estate or survivors for a specified additional period of time. If he should die before the payments begin, the cash value of the contract would be paid to his estate. Some annuities provide a specified amount of income. Variable annuities typically provide a higher income which may vary slightly depending upon the returns from the insurance company's investment portfolio.

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The most important advantage of annuities is the virtually certain lifetime income. Insurance companies invest the funds derived from annuity sales in high quality securities and in addition, they are required to carry reserves to protect the annuity holder.

An important disadvantage of annuities is their comparatively low rate of return. Annuities cannot be compared directly with other investment alternatives because the actual rate of return to the purchaser depends upon how long he lives. Table II-7 shows the number of years needed to realize specified rates of return. In this example, a 65 year old male pays \$10,000 for a variable annuity contract which currently pays an annual income of \$900 for life or for 10 years certain.<sup>14</sup> The probabilities of realizing any particular rate of return can be obtained from the life expectancy data presented earlier in this chapter. For example, a 65 year old male has a probability of 0.4 of living to age 80 or beyond, thus, he has a probability of 0.4 of realizing a 4 percent rate of return. The probability that he will realize an 8 percent return is only about 0.03. Based on the mean life expectancy of 12.9 years for 65 year old males, this annuity offers a rate of return of only about 2.2 percent.

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<sup>14</sup>The data for this example were furnished by the Lansing, Michigan, office of the Massachusetts Mutual Life Insurance Company.

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Table II-7.--Relationship Between Life Expectancy and  
Realized Rate of Return from an Annuity<sup>a</sup>

Rate of Return (Percent)	Number of Years of Life Expectancy
1	11.8
2	12.7
3	13.7
4	15.0
5	16.6
6	18.9
7	22.2
8	28.6

<sup>a</sup>Based on a \$10,000 variable annuity contract for a 65 year old male which pays \$75.03 per month or \$900 annually.

Annuities offer no protection against inflation, and the purchaser of an annuity virtually gives up the control of his capital. Once the income payments commence, the contract cannot be sold or converted to cash.

The most highly liquid fixed income assets are the various forms of savings accounts, savings certificates, certificates of deposit, etc. Aside from purchasing power risk, savings accounts are virtually risk-free, but they normally provide comparatively low rates of return. Liquid funds are an important part of the investment portfolio because they permit the investor to meet unexpected



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expenditures without liquidating other securities at a possibly inopportune time, i.e., when market prices are temporarily depressed.

### Summary

The composition of a retirement investment portfolio depends upon the individual's preferences for risk and returns. Some investors are willing to accept a highly variable and less certain income to achieve high returns. Others are willing to sacrifice returns for stability and greater certainty.

In this chapter, the historical returns and the variability of these returns was analyzed for eight investment alternatives which might be considered by retiring farmers. The performance of these alternatives during a hypothetical period of economic depression was also studied. These analyses illustrate the importance of varying the proportions of fixed income and equity securities in the portfolio according to the outlook for future economic conditions.

The empirical analysis is useful for estimating expected returns and returns variability under varying economic conditions; however, the selection of assets for an investment portfolio must also be based on their exposure to risk, their management requirements and their liquidity. All of the investment alternatives have certain important advantages and disadvantages for retiring farmers.

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## CHAPTER III

### SURVEY PROCEDURE

To learn more about the wide range of situations confronting retirement age farm people, a small sample of farmers and retired farmers was drawn and personal interviews were conducted during July and August of 1969. This chapter contains a description of the procedure used in this survey.

#### Definition of the Population

The population was defined as farmers and retired farmers age 60 or over, including people who had worked at full or part-time jobs throughout their farming careers. Farmers were defined as full owners, part-owners, or tenants who had operated farms for at least 10 years and who were recognized as farmers in their communities. The minimum age of 60 was used so that the population would be limited to people who were personally concerned with retiring from active farming. People who had retired to the farm from a nonfarm occupation and people who left active farming several years before retirement age to take up a nonfarm occupation were excluded from the population.

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### Sampling Procedure

The respondents were selected randomly from an area in Southern Lower Michigan which, according to the 1964 Census of Agriculture, accounts for about 80 percent of the state's gross value of agricultural sales.<sup>1</sup>

Ten townships were selected from the sampling area. The probability that any particular township would be selected was weighted according to the total number of farms in each township enumerated in the 1959 Census of Agriculture, the last census for which township data were readily available.

The sampling area included all counties except Oakland and Wayne lying south of a line running east from Lake Michigan, along the north sides of Oceana, Newaygo, Mecosta, Isabella, Midland, Bay, and Huron counties. Oakland and Wayne counties were excluded to avoid sampling from the Detroit and surrounding metropolitan areas. The townships selected were Niles and Sodus in Berrien county, Eaton Rapids in Eaton county, North Shade in Gratiot county, Allen and Wheatland in Hillsdale county, Sebawa in Ionia county, Greenwood in St. Clair county, Elkland in Tuscola county and Arlington in Van Buren county. Following the selection of these townships, the cooperative extension offices for the eight counties involved were asked to provide

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<sup>1</sup>Calculated from: K.T. Wright and D.A. Caul, Michigan's Agriculture, Extension Bulletin 582 (East Lansing: Michigan State University, Cooperative Extension Service, August 1967).

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the name of a contact within each township whom they thought would be willing to provide a list of potential interview respondents. In eight out of the ten townships, township supervisors were recommended and in the other two townships, older farmers known to be familiar with most residents in their townships were used. These 10 contacts within each township were then visited in person and asked to prepare a list of about 12 to 15 people who would meet our population specifications. They were asked to provide the name, mailing address, telephone number and, for those still residing in the township, the plat map location, for each person on the list. They were each given up to ten days to prepare their lists and send them into the Department. Ten potential survey respondents were selected randomly from each list of 12 to 15 persons.

In order to increase the response rate, a letter was mailed to each prospective survey respondent explaining the nature of the study and requesting his cooperation. A sample copy of this letter is shown in the Appendix.

The ten potential respondents from each township accounted for about 36 percent of the average total number of age 60 and over farmers in the sampling area. There were 1,530 farms in the 10 townships in 1959. Assuming that there was a 30 percent decline in the number of farms over the period 1959 to 1969 and that 25 percent of the farm operators are age 60 or over, the total number of potential respondents in 1969 would have been approximately 268.



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### Questionnaire Design

The questionnaire used to interview the survey respondents was designed to obtain fairly detailed information on the following variables.

1. Biographic information
  - (a) Age, marital status, family size, etc.
  - (b) Education
  - (c) Farm and nonfarm employment history
2. Financial and nonfinancial retirement goals
  - (a) Satisfactory and minimum income levels
  - (b) Work and leisure activities
  - (c) Family considerations
3. Financial position
  - (a) Sources and amounts of income during 1968
  - (b) Living costs during 1968
  - (c) Present net worth
4. Estate management programs
5. Opinions on investment alternatives
6. Actual or proposed retirement programs

A copy of the questionnaire is shown in the Appendix. Questions designed for all respondents were printed on white paper. Yellow paper was used for questions 10 to 13 for retired respondents and green paper was used for questions 14 to 17 for those who were still farming. The color coding of the questionnaire was used to help the interviewer locate the correct sections, and it may have helped to maintain the respondent's interest in the interview. Wherever possible,

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questions concerning very personal information such as net worth were placed near the end of the questionnaire. An attempt was made to alternate more difficult questions with easier questions to increase the chances of obtaining complete answers to all questions. For those questions which required an ordering of the respondent's preferences, a list of all permissible responses was presented by the interviewer on a small card.

Two major drafts of the questionnaire were tested before the final version was selected. The first draft was pretested on four people whose names were provided by a County Extension Director. A second draft was used in one of the townships included in the study. It was possible to use the data from the second pretest because only minor changes were incorporated into the third version of the questionnaire.

#### An Evaluation of the Survey Procedure

The sampling procedure was designed to obtain a reasonably random selection of elderly farmers and retired farmers at the minimum possible cost. One alternative procedure would have been to have the county extension personnel submit lists, but this method was rejected because of the probable bias toward the more outgoing type of farm operator presumed to be served by the extension service. Another alternative which was considered was to call on all farms within the sample townships, but this method was

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rejected because of the high costs involved. Only about one farm residence out of five would have yielded an eligible respondent, and it would have been impossible to write to them in advance of the interview.

The procedure did result in one fairly serious source of bias. The contacts were more likely to provide the names of persons still residing on their farms than of people who had retired and moved away from the community. An attempt was made to avoid this problem by specifically asking the contacts to include the names of some people who had moved out of the townships upon retiring but most of them indicated that very few, if any, people had retired in this manner.

The survey began with a potential list of 100 respondents. One of the township contacts failed to send in a list of names, leaving a potential sample size of 90. The breakdown of these 90 possible interviews was as shown in Table III-1.

There were two main difficulties with the questionnaire. First, information on income and living costs was dependent upon the recall ability of the respondent. Very few respondents had records which they could consult, and often they were unable to provide estimates. For example, the respondents frequently did not know the amount of their household grocery expenditures. For this reason, the interviewer was instructed to have both the husband and wife present during the interview if at all possible. A second source of difficulty was the reluctance of some respondents



Table III-1.1.--Tabulation of Survey Response by Townships

Township	Useable Questionnaires	Uncooperative	Ineligible (Age)	Unable to Contact	Incomplete Questionnaires
Niles	6	1	0	2	1
Sodus	7	1	0	2	0
Eaton R.	9	0	0	0	1
N. Shade	1	6	0	2	1
Allen	4	2	2	1	1
Wheatland	7	2	0	1	0
Sebewa	5	3	0	2	0
Greenwood	6	2	0	2	0
Elkland	5	2	0	1	2
TOTAL	50	19	2	13	6



to divulge information on income, net worth, and other personal information. The problem of nonresponse was not unique to this particular study although it was believed more serious than usual because of the particular age group being interviewed. No attempt was made to estimate the nonresponse error, but it was observed that the incidence of nonresponse was probably higher among the wealthier respondents.<sup>2</sup> This tendency would result in underestimates of the true means of income, asset and debt variables.

Incomplete questionnaires were normally excluded from the final tabulation of the results. In a few cases, questionnaires which were complete except for one or two items were used. Fifty questionnaires were selected for analysis. Forty-three people provided complete net worth statements, 40 gave complete income statements, and 36 questionnaires contained complete estimates of total annual living costs.

#### Suggestions for Future Surveys

The comparatively low response rate in the survey can be partially attributed to certain procedures which were used to minimize interviewing expenses. Nevertheless, it was possible to obtain detailed financial and personal information from a sample of elderly farm people who, as a group, are known to be generally reluctant to participate in surveys.

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<sup>2</sup>For a discussion of this problem, see Projector and Weiss, Survey of Financial Characteristics of Consumers, pp. 58-61.

The letter which was mailed in advance of the interview was extremely useful in achieving good rapport between the interviewer and the respondents. The use of such a letter is recommended for future surveys of this type.

Local contacts such as township supervisors are also very helpful when a subset of the farm population is being studied. The contacts used in this study were generally very cooperative in providing lists of names according to the specified criteria. The availability of names, addresses, telephone numbers, and plat map locations for most of the prospective respondents resulted in a considerable reduction in interviewing expenses.

#### Summary

A brief description of the survey procedure was given in this chapter. Some of the advantages and disadvantages of the sampling procedure, the questionnaire design and the interviewing procedure were pointed out. These aspects of the survey will be elaborated on in the presentation of the results which follows.

## CHAPTER IV

### DESCRIPTIVE ANALYSIS OF THE DISINVESTMENT PROBLEM

The data which were collected in the survey of farmers and retired farmers from across Michigan are presented in this chapter. The survey was designed to obtain information on four major areas: (1) backgrounds, (2) retirement goals, (3) financial situations, and (4) attitudes toward investment alternatives. These kinds of information were collected to determine the personal and financial constraints which would influence retirement programs for farmers.

#### Biographic Information

##### Personal and family backgrounds

The frequency distributions for age and family size are given in Tables IV-1 and IV-2. Forty-two of the respondents were married, five were predeceased by their wives and three had never married. Only two of the respondents still had children living at home who were dependent upon them for financial support. Ten of the respondents had a son or son-in-law who was engaged in full- or part-time farming.

##### Education and employment history

Table IV-3 shows the frequency distributions of the number of years of formal education attained by the survey

Table IV-1.--Frequency Distributions of Ages

Age	Respondents		Wives	
	Number	Percentage	Number	Percentage
Under 64	0	0	12	28.5
64 to 69	20	40.0	7	16.7
70 to 74	11	22.0	10	23.8
75 to 79	13	26.0	9	21.4
80 and over	6	12.0	2	4.8
No response	0	0.0	2	4.8
	<u>50</u>	<u>100.0</u>	<u>42</u>	<u>100.0</u>
Median	71		70	
Mean	72.1		67.1	
Range	64-85		57-80	

Table IV-2.--Frequency Distribution of Number of Children

Number of Children	Number	Percentage
0	9	19.2
1	9	19.2
2	11	23.2
3	8	17.1
4	3	6.4
5 or more	7	14.9
Total	<u>47</u>	<u>100.0</u>
Median	2.0	
Mean	2.4	
Range	0-8	

respondents. The average respondent had received over nine years of formal education. Nearly one-quarter had received some additional training, such as agricultural extension courses, business school, welding, mechanics, etc.

Table IV-3.--Frequency Distribution of Years of Formal Education

Years of Education	Number	Percentage
Less than 8	6	12.0
8	20	40.0
9 to 12	18	36.0
13 or more	6	12.0
Total	50	100.0
Median	8 Years	
Mean	9.3 Years	
Range	3-16 Years	

Nearly all of the respondents were born and raised on farms. Table IV-4 contains the frequency distribution of the years in which they started farming on their own. In addition to their lifetime experience in farming, nearly 60 percent of the respondents had worked at a nonfarm job at some time during their careers. Table IV-5 shows the number of years of nonfarm employment. Those who had worked in a nonfarm occupation were employed at a regular, though not necessarily full time job for an average of 13 years.

On the date of the interview 21 of the 50 respondents were completely retired from farming, 16 were partly retired,



Table IV-4.--Frequency Distribution of Year Respondents  
Started Farming

Year	Number	Percentage
Before 1920	14	28.0
1920 to 1929	21	42.0
After 1929	14	28.0
No Response	<u>1</u>	<u>2.0</u>
Total	50	100.0
Median	1926	
Mean	1924	
Range	1907 to 1945	

Table IV-5.--Frequency Distribution of Years of Nonfarm  
Work

Number of Years	Number	Percentage
0	21	42.0
1 to 4	5	10.0
5 to 9	6	12.0
10 to 14	6	12.0
15 to 19	4	8.0
20 or more	<u>8</u>	<u>16.0</u>
Total	50	100.0
Median	2.5	
Mean	7.7	
Range	0-43	





and 13 considered themselves to be full-time farmers. About half of the retired respondents had left farming within the preceding five years.

All respondents were asked about the type and size of farm which they were operating or had operated prior to retirement. The data in Table IV-6 suggest that the farms being operated by the respondents who were still engaged in farming were smaller, in terms of both tillable and total acreage, than were the farms formerly operated by the retired respondents. However, the gross farm income data in Table IV-7 suggest that the respondents who were still farming received a higher average gross income over the three years immediately preceding the survey than did the retired respondents during their last three years in farming. The differences in farm sizes and gross income can be partially attributed to the different time periods over which these variables were measured. Price level changes and the fact that the retired respondents often could not accurately recall the income data would account for some of the differences. Another factor may be that farm income typically decreases as the farmer gets older and probably reaches its lowest level in the years immediately preceding the complete withdrawal from active farming.

The principal enterprise data in Table IV-8 suggest that many older farmers withdraw from labor-intensive enterprises such as dairying. Dairying had once been the principal enterprise of one-third of the 21 retired respondents;

Table IV-6.---Frequency Distribution of Size of Farm Last Operated

Number of Acres	Retired Respondents			Respondents Still Farming			
	Total No.	Acreage Percent.	Tillable No.	Total No.	Acreage Percent.	Tillable No.	
Less than 50	2	9.5	3	3	10.3	4	13.8
50 to 99	4	19.1	6	11	38.1	13	44.8
100 to 124	2	9.5	2	3	10.3	6	20.7
125 to 149	3	14.3	3	4	13.8	3	10.3
150 to 199	4	19.1	2	5	17.2	2	6.9
200 to 299	2	9.5	1	3	10.3	1	3.5
300 or more	2	9.5	2	0	0	0	0
No Response	2	9.5	2	0	0	0	0
Total	21	100.0	21	29	100.0	29	100.0
Median	137		110.0	119.0		80.0	
Mean	143.6		129.6	117.8		96.9	
Range	39-317		35-317	40-229		28-210	

Table IV-7.--Frequency Distributions of Gross Farm Income

Gross Income	Retired Respondents- Average Over Last 3 Years of Active Farming		Respondents Still Farming - Average Over Last 3 Years	
	Number	Percentage	Number	Percentage
Less than \$1,000	0	0.0	1	3.5
\$1,000 - 1,999	2	9.5	2	7.0
2,000 - 2,999	2	9.5	6	20.6
3,000 - 3,999	0	0.0	2	7.0
4,000 - 4,999	1	4.8	0	0.0
5,000 - 7,499	3	14.3	5	17.2
7,500 - 9,999	3	14.3	4	13.8
\$10,000 or more	1	4.8	6	20.6
No Response	<u>9</u>	<u>42.8</u>	<u>3</u>	<u>10.3</u>
Total	21	100.0	29	100.0
Median	\$5,000		\$5,000	
Mean	\$5,058		\$6,086	
Range	\$1,000-\$10,000		\$600-\$18,000	

Table IV-8.--Frequency Distribution of Type of Farming

Enterprise	Principal Enterprise of Retired Respon- dents Before Retirement		Principal Enter- prises of Respon- dents Still Farming	
	Number	Percentage	Number	Percentage
Dairy	7	33.3	4	13.8
Beef and/or Hogs	0	0.0	6	20.6
Poultry	0	0.0	0	0.0
Cash Crop	10	47.6	10	34.5
Fruit	2	9.5	5	17.3
Other	1	4.8	2	6.9
Not Reported	<u>1</u>	<u>4.8</u>	<u>2</u>	<u>6.9</u>
Total	21	100.0	29	100.0

however, only about 14 percent of the respondents still in farming had dairying as their principal enterprise. Conversations with the respondents confirmed that many had discontinued livestock enterprises and had gone to cash crop programs which could be operated by hired labor and custom hiring of machinery services.

#### Retirement Goals

The first four questions in the questionnaire were designed to find out what older farm people consider to be a satisfactory retirement situation in the absence of any specific financial or other restrictions which would prevent them from actually achieving this situation. This attempt to define retirement goals was only partially successful because many of the respondents did not seem to detach themselves sufficiently from the reality of their own situations to consider alternatives. An attempt was made to force them to consider other alternatives by asking them to give their first, second, and third choices; however, very few actually gave more than one or two choices.

#### Living accommodation and location

The summary of the responses to the question on locational preferences during retirement shown in Table IV-9 indicates that a majority of the older farmers apparently prefer to remain on their farms during their retirement years. All 50 respondents provided a first choice of retirement locations and 76 percent said they preferred to live on



a farm. About half of the respondents who gave a second choice indicated that living in the country but not on a farm would be fairly consistent with a satisfactory retirement situation. Living in an urban location such as a city or even a village or small town is apparently inconsistent with the retirement goals of most older farmers.

Table IV-9.--Frequency Distribution of Locational Preferences (Percentages)

	On Farm	Rural Nonfarm	Village or Small Town	City	Other	No Answer
First Choice	76.0	12.0	6.0	2.0	4.0	0.0
Second Choice	4.0	30.0	22.0	2.0	4.0	38.0
Third Choice	0.0	6.0	10.0	2.0	0.0	82.0

The data in Tables IV-10 and IV-11 reveal two other strong environmental preferences among older farmers. Eighty-eight percent of the respondents wished to remain within 25 miles of their present location during retirement. This preference suggests that factors such as community ties, and perhaps living near friends and relatives are important to most older farm people. The few who preferred some other location outside of Michigan usually mentioned that they hoped to retire in a warmer climate. The fact that virtually all of the respondents wanted to live in their own houses during retirement suggests that a feeling of independence is



important. However, half of the 22 respondents who gave a second choice indicated that a mobile home, a comparatively low-cost housing alternative, would also be satisfactory.

Table IV-10.--Frequency Distribution of Geographical Preferences During Retirement (Percentages)

Within 25 Miles of Present Location	Another Location in Michigan	Other
88.0	6.0	6.0

Table IV-11.--Frequency Distribution of Housing Preferences During Retirement (Percentages)

	Own House	Rented House	Apart- ment	Mobile Home	Nursing Home	No Answer
First Choice	96.0	0.0	0.0	4.0	0.0	0.0
Second Choice	0.0	6.0	10.0	22.0	6.0	56.0
Third Choice	0.0	4.0	2.0	2.0	2.0	90.0

### Work and leisure activities

All respondents were asked how they would occupy their time if they were to have a satisfactory retirement situation. A strong desire on the part of older farmers to keep active is borne out by the data in Table IV-12. Seventy-eight percent of the respondents expressed a desire to continue doing some full- or part-time work during their retirement years. Table IV-13 shows the relative popularity of the ways of occupying leisure time among the survey respondents.



Table IV-12.--Frequency Distribution of Preferences for Working During Retirement (Percentages)

No Work	Full Time for Income	Part Time for Income	Part Time to Occupy Time	No Answer
18.0	12.0	36.0	30.0	4.0

Table IV-13.--Preferences for Leisure Activities During Retirement

Leisure Activity	Number of Times Mentioned	Percentage of Sample
Radio and Television	28	56.0
Gardening	24	48.0
Hunting and Fishing	23	46.0
Reading	21	42.0
Club, Church Organizations	20	40.0
Traveling	19	38.0
Visiting Friends	13	26.0
Sports (Golfing, Bowling, etc.)	8	16.0
Other	3	10.0

Retirement income goals

The final question on retirement goals asked for the amount of income needed to provide a satisfactory retirement situation at today's conditions. The responses to this question are tabulated in Table IV-14. These responses must be interpreted within the context of their other retirement goals. As a group, the respondents preferred to stay on their farms or in some other rural location where housing costs would be low. Also, they did not intend to pursue any particularly expensive leisure activities during retirement.

Table IV-14.--Frequency Distribution of Satisfactory Retirement Income Goals

Annual Income	Number	Percentage
Less than \$2,500	5	10.0
\$2,500 to 3,999	10	20.0
4,000 to 4,999	6	12.0
5,000 to 5,999	9	18.0
\$6,000 or more	6	12.0
No Response	<u>14</u>	<u>28.0</u>
Total	50	100.0
Median	\$4,400	
Mean	\$4,404	
Range	\$1,200-\$9,600	

In estimating their minimum retirement income needs, which are shown in Table IV-15, many respondents based their estimate on the costs of housing on a farm or in some other rural location. Many also qualified their answer with the condition that there be no major medical expenses.

Table IV-15.--Frequency Distribution of Minimum Retirement Income Requirements

Annual Income	Number	Percentage
Less than \$2,000	10	20.0
\$2,000 to 2,999	8	16.0
\$3,000 to 3,999	11	22.0
More than \$4,000	5	10.0
No Response	<u>16</u>	<u>32.0</u>
Total	50	100.0
Median	\$2,750	
Mean	\$2,829	
Range	\$1,000-\$5,000	

Family goals

For the majority of the survey respondents, the goal of keeping the farm business in the family did not seem to be important. Thirty-nine of the 50 respondents said they had not assisted a close family member; that is, a son or son-in-law, to become established in farming, and they did not expect to do so in the future. Nine respondents had provided assistance in the form of real estate or nonreal estate loans, free labor, gifts, use of machinery, or other kinds of assistance. Two respondents were uncertain as to whether they would be providing assistance in the future. Only 3 of the 21 retired respondents had transferred real estate to a close relative and only 4 of the 29 respondents still engaged in farming planned to transfer their farms to a relative upon retiring. Another four were uncertain regarding the transfer of their farms to a relative.

Although the goal of transferring the farm to a relative during their lifetimes was not important to most respondents, their desire to keep their farms as long as possible may indicate that they want to have the farm transferred to their heirs at the time of death. Presumably, this goal was not usually related to helping their heirs become established in a farm business since only one-fifth of the respondents had close family members who were farming or who definitely intended to farm.

### Summary of retirement goals

This section has dealt with the retirement goals of all 50 survey respondents. Generally, older farm people would like to live on their farms and continue working there as long as possible. Seventeen of the 29 respondents who were still farming said that they did not plan to retire from farming, 7 planned to retire, and 5 were uncertain. Their health status appears to be the most important determinant of their retirement plans. Most elderly farm people want to live in their own houses, although mobile homes were a strong second choice. They also prefer to remain in the communities where they had spent most of their lives and they would rather occupy their time by working than by pursuing leisure activities. Finally, for most people, the transfer of the farm business to a family member or helping a family member become established in farming is not a particularly important goal.

### Financial Situations

With advancing age, most elderly people reduce their labor and management participation in both their farm and nonfarm occupations, and they become almost completely dependent upon social security benefits, pensions, and investment income in the form of rent, interest, and dividends from their accumulated assets. This section examines the financial situations of the survey respondents in terms

of their assets and liabilities, current amounts and sources of income, living costs, life insurance coverage, and estate transfer programs.

### Limitations of the financial data

There were several difficulties associated with obtaining financial information such as net worth, income, and living expenditures. As was pointed out previously, the wealthier respondents were more likely to refuse to take part in the survey, and those who did participate seemed to be more reluctant to divulge financial information.

Estimates of the market values of some assets were difficult to obtain. Many people seemed to be unable to accurately estimate the market value of their farm real estate. In three cases, the mean value per acre provided by other respondents in the same township was used. Many respondents based their estimates on recent sales which had come to their attention or on prices being asked by acquaintances living in the area. Thus, there probably was a tendency to overestimate the real estate values.

Most respondents were able to give what was thought to be a realistic estimate of the values of farm machinery, livestock, and farm inventories; however, in general they were reluctant to give a detailed breakdown of liquid asset holdings. Generally, bank savings accounts, cash and checking accounts were recorded simply as "bank accounts". Those who held common stocks, bonds and mutual funds would frequently



provide a lump sum estimate for these kinds of assets but they were reluctant to give a breakdown. These lump sum estimates were recorded as "unclassified liquid assets".

It was also virtually impossible to obtain estimates of the cash surrender value of life insurance policies held by the 22 respondents who carried life insurance. The mean face value of the coverage of those who carried insurance was \$1,714 and the median coverage was \$1,500. Most of the policies were either ordinary life or limited pay life and most had been taken out during the 1930's or 1940's. A more complete discussion of their life insurance coverage is given later in this chapter.

Most respondents understandably had some difficulty in estimating the market value of their personal possessions. Usually, they tended to place a realistic market value on automobiles, trucks, mobile homes, etc., but items of household furniture were valued at replacement cost based on the amount of insurance coverage on household contents.

The lower response rate among wealthier persons and difficulties in categorizing and estimating the value of certain kinds of assets probably resulted in a slight underestimate of the population means of the financial variables. The market value of farm real estate and personal possessions may have been overestimated, and generally, debts were probably understated; however, these latter factors would only partially offset the general tendency to underestimate average net worths. No attempt was made to adjust the estimates for the suspected downward bias.

Net worth

Table IV-16 shows the frequency distribution of the total net worths of the survey respondents. These total net worth figures are the sum of the estimated values of both productive assets such as farm real estate, and nonproductive assets such as household furnishings minus the estimated amounts of all debts.

Table IV-16.--Frequency Distribution of Total Net Worth

Net Worth	Number	Frequency
		Percentage
Less than \$20,000	3	6.0
\$20,000 to 29,999	3	6.0
30,000 to 39,999	7	14.0
40,000 to 49,999	6	12.0
50,000 to 59,999	9	18.0
60,000 to 74,999	7	14.0
75,000 to 99,999	4	8.0
\$100,000 and over	3	6.0
No Response	8	16.0
Total	50	100.0
Median		\$52,150
Mean		\$57,220
Range		\$10,500 - \$166,850

Table IV-17 shows the average or composite balance sheet of the survey respondents and it indicates the relative frequency with which the balance sheet items appeared in the net worth statements of the individual respondents. Some incomplete net worth statements were used to calculate the average amounts of the individual items in the composite



Table IV-17.--Average Composite Balance Sheet of the Survey Respondents<sup>a</sup>

	Average Amount	Percentage Reporting Item
<b>Assets</b>		
Cash	\$ 130	12.0
Unclassified		
Liquid Assets <sup>b</sup>	2,820	20.0
Bank Accounts	4,850	50.0
Bonds	120	2.0
Common Stocks, Mutual		
Fund Shares	1,390	14.0
Livestock	950	30.0
Farm Machinery	3,500	70.0
Feed, Crops, Supplies		
on Hand	170	20.0
Land Contracts	2,880	18.0
Personal Possessions	3,360	100.0
Nonfarm Dwelling	2,290	10.0
Other Nonfarm		
Real Estate	610	10.0
Farm Real Estate	<u>36,700</u>	84.0
Total Assets	\$59,770	100.0
<b>Liabilities</b>		
Accounts Payable	50	6.0
Installment Debt	60	4.0
Short-term Notes	350	8.0
Real Estate Debt	<u>850</u>	14.0
Total Debt	\$ 1,310	20.0
Owner Equity	<u>58,460</u>	100.0
Total Liabilities	\$59,770	100.0

<sup>a</sup>Calculated from the mean values of the individual balance sheet items on all survey respondents who provided complete or partial net worth statements.

<sup>b</sup>Several respondents were unwilling or unable to report their liquid asset holdings by separate categories, but did provide an estimate of total liquid assets. Unclassified liquid assets include cash, bank accounts, bonds, common stock, mutual fund shares, and personal loans.

balance sheet; thus, the net worth estimates in Tables IV-16 and IV-17 do not agree exactly because of the differences in sample sizes.

The average survey respondent has reached retirement age with a net worth of slightly less than \$60,000. The composite balance sheet and the frequency with which the individual asset and debt items were reported reflect some of the more important personal and financial goals of the older farmers. Most respondents still owned their farm real estate and they did not intend to liquidate it unless absolutely necessary. Eighty-four percent of the respondents still owned farm real estate and it represented over 60 percent of their total assets. Other farm assets made up only about 8 percent of their total assets. Bank savings accounts were also a fairly common balance sheet item among the survey respondents. Fifty percent reported having bank accounts whereas only 16 percent held common stocks, mutual funds and/or bonds. The relative frequency of holdings of bank accounts, common stocks, mutual funds and bonds would actually be somewhat higher than indicated if the exact composition of the "unclassified liquid assets" category was known. Only 10 percent owned a nonfarm dwelling, and this finding is also consistent with their desire to remain on the farm.

A debt free financial status was a source of pride for most of the survey respondents. The mean debt load for



all respondents was only about \$1,300, but among those individuals who did have debts, the average amount was approximately \$6,100.

#### Sources and amounts of income

The average net income in 1968 for the 40 respondents who answered the income section of the questionnaire was \$4,300. The frequency distribution of the amounts of income for 1968 is shown in Table IV-18. A composite mean net income statement is shown in Table IV-19. Social security benefits were the most important source of income in terms of both the average amount received and the frequency with which they were reported. Farm business income and/or farm rental income were also important sources of income for many respondents. Over half of the respondents received some nonfarm investment income in the form of interest and dividends, but this source accounted for only 13 percent of the total income of the average survey respondent.

The median net cash income for the sample members last year was only \$3,584. This median is probably a better overall reflection of the income status of the survey respondents than the mean because 40 percent of those responding received an income of less than \$3,000 in 1968.

The composite income statement in Table IV-19 and the composite balance sheet in Table IV-17 together provide an approximate estimate of the rate of return on the different kinds of assets held by the survey respondents. Net farm

Table IV-18.--Frequency Distribution of Net Cash Income,  
1968

Net Income	Number	Percentage
Less than \$2,000	7	14.0
\$2,000 to 2,999	10	20.0
3,000 to 3,999	5	10.0
4,000 to 4,999	5	10.0
5,000 to 5,999	5	10.0
6,000 to 8,999	6	12.0
\$9,000 or more	2	4.0
No Response	10	20.0
Total	50	100.0
Median	\$3,584	
Mean	\$4,300	
Range	\$840-\$14,280	

Table IV-19.--Average Composite Net Cash Income Statement,  
1968

Source	Mean Amount (Dollars per Year, Including Income to Spouse)	Percentage Reporting Item
Farm Rental Income	\$ 540	20.0
Farm Business Income	829	34.0
Salary and Wages	775	16.0
Interest and Dividends	561	52.0
Social Security Benefits	1,423	76.0
Pensions	144	8.0
Welfare	28	2.0
Total Income	\$4,300	

income and net rental income from farm real estate amounted to \$1,369 for the average sample member. From Table IV-17, the average sample member had \$36,700 invested in farm real estate, \$3,500 in farm machinery, \$950 in livestock and \$170 in farm inventories, for a total investment of \$41,320 in farm assets. Even if no charge is deducted for labor and management, the average rate of return on farm assets was only 3.3 percent in 1968. The average sample member received \$561 in nonfarm investment income and his investments were: bank accounts, \$4,850; bonds, \$120; common stocks and mutual funds, \$1,390; land contracts, \$2,880; other nonfarm real estate, \$610; and unclassified liquid assets, \$2,820. The total average investment in nonfarm securities and real property was \$12,670 and the \$561 in nonfarm investment income represents an income rate of return of only 4.4 percent. The overall mean rate of return on productive assets was 3.6 percent before income taxes.

A yield of only 3.6 percent on productive assets suggests that if retirement age farm people were to liquidate all of their assets except their personal possessions and nonfarm dwellings and invest the proceeds in even the more conservative alternatives such as insured savings and loan associations or bank savings accounts, they could improve their incomes substantially. However, there are several factors which suggest that the true rate of return was higher than 3.6 percent. First, if they were to liquidate their assets, the people now living in their farm homes

would have to obtain alternative housing. The purchase or rental of alternative housing would reduce the amount of funds which could be invested. Another factor which would reduce the amount which could be invested is the capital gains tax. The difference between the purchase price and the selling price of the real estate would be taxed at half the rate at which regular income is taxed during the year of sale. The only exception is where the farm is sold on a land contract with a down payment of 30 percent or less. Most of the survey respondents started farming before 1930; thus, the capital gains tax might be substantial for some of these people. A third factor which suggests that the current rate of return on assets is more than 3.6 percent was an apparent tendency for the survey respondents to overestimate the market value of their real estate. Finally, the 3.6 percent rate of return does not include the annual appreciation on real estate and equity securities such as common stocks and mutual funds. A more detailed analysis of whether the retiring farmer should retain his farm assets or liquidate them is deferred to the later chapters.

### Living costs

All survey respondents were asked to provide a detailed statement of their family living expenditures for 1968. Only 36 of the 50 respondents were able to provide a complete estimate of total living expenses while others completed sections of the living cost part of the questionnaire. Most of the incomplete statements were caused by the

inability of the respondents to estimate their weekly, monthly, or yearly expenditures for food, beverages, and other grocery items. These partial statements were included for the purpose of computing a composite statement of household expenditures.

The mean total amount of family living expenditures for the survey members in 1968 was \$3,364 and the median amount was \$3,276 as shown in Table IV-20. About 45 percent of the respondents who reported their living costs had spent between \$3,000 and \$3,999 in 1968.

Table IV-20.--Frequency Distribution of Total Living Costs, 1968

Living Costs	Number	Percentage
Less than \$2,000	4	8.0
\$2,000 to 2,999	7	14.0
3,000 to 3,499	9	18.0
3,500 to 3,999	7	14.0
4,000 to 4,999	6	12.0
\$5,000 or more	3	6.0
No Response	<u>14</u>	<u>28.0</u>
Total	50	100.0
Median	\$3,276	
Mean	\$3,364	
Range	\$1,205-\$6,580	

The breakdown of their living expenses by major category is shown in the composite statement of living costs in Table IV-21. The total expenditures data in Table IV-20 and the items in the composite statement in Table IV-21 are based on different sample sizes; hence, there is a discrepancy in the estimates.





Table IV-21.--Average Composite Living Costs Statement, 1968

	Mean
Food	\$1,040
Housing (Rent Payments, Mortgage Payments, Property Taxes on Nonfarm Residence Only, <sup>a</sup> Utilities, Maintenance and Fire Insurance)	691
Medical Care (Medical Insurance Premiums, Doctor and Hospital Care, Dental, Drugs, Eyeglasses)	380
Transportation (Estimated Auto Expenses <sup>b</sup> and Fares for Bus, Train, Plane, Taxi, etc.)	728
Miscellaneous (Clothing, Recreation, Gifts and Charity, Reading Material, and Income Taxes)	638
Other Living Expenses	<u>36</u>
Total	<u>\$3,513</u>

<sup>a</sup>The amount of property taxes paid in 1968 was obtained from each respondent but if he still owned farmland and was either renting it out or farming it, property taxes were regarded as a business expense instead of a living cost.

<sup>b</sup>In view of the obvious difficulties in obtaining estimates of the actual costs of automobile ownership, the questionnaire requested information which could be used to estimate these costs. All respondents were asked to give the annual mileage driven and the make, model, and age of their automobile(s). The fixed and variable costs of owning and operating an automobile were obtained from Cope, E.M. and Liston, L.L., Cost of Operating an Automobile (Washington, D.C.: U.S. Department of Transportation, Federal Highway Administration, November 1968), p. 9. Adjustments were made in garaging, parking, tolls and insurance premiums to reflect ownership costs in rural Michigan instead of the urban area on which this study was based. A variable cost of 4 3/4 cents per mile plus an annual fixed cost of \$350 for pre-1965 models and \$375 for 1965 and newer models was used. The two different fixed cost estimates reflect the assumption that people do not normally carry collision insurance on cars which are more than 4 years old.

The major items in the respondents' budgets were food, housing, and transportation costs. The rural location of most respondents probably results in their having lower housing costs and higher transportation costs compared to their urban counterparts. Expenditures for medical care were a source of great concern for all respondents. Most of the respondents and their wives were covered by medicare which is paid for through a \$4 monthly deduction from their social security income. Forty-six of the 50 respondents were covered by medicare and/or some other type of medical insurance. Nevertheless, about one-third of the respondents incurred medical expenses in 1968 which were not covered by insurance. The amounts involved ranged from \$21 to \$1,800.

The cash flow data indicate that average total income exceeded average total living costs by approximately \$940; however, as the data in Table IV-22 indicate, only about half of the respondents who completed both the income and living costs questions received enough income to cover their living expenditures in 1968. Those who did not have enough income would have needed an average of \$945 additional income to cover their living costs. For those whose income was more than enough to cover living costs, incomes exceeded living costs by an average of \$2,510.

To supplement the income and expenditure data, the interviewer was asked to comment on each respondent's observed level of living, quality of housing and furnishings, and other aspects of his situation. They were then rated as

"very good", "good", "fair", or "poor" depending upon the interviewer's remarks. These ratings are tabulated in Table IV-23. The majority of the respondents were rated as "very good", or "good", but "fair" or "poor" ratings were given to about one-quarter of the total. Most people appeared to have adequate food, shelter, clothing, and medical care, but expenditures for luxury items were kept to a minimum. Also, many people were not keeping their farm dwellings and service buildings in good repair presumably due to a lack of funds.

Table IV-22.--Frequency Distribution of Income Minus Living Costs, 1968

(Income) - (Living Costs)	Number	Percentage
-\$2,000 or more <sup>a</sup>	1	3.7
-1,000 to -1,999 <sup>a</sup>	5	18.6
-500 to -999 <sup>a</sup>	3	11.1
0 to -499 <sup>a</sup>	4	14.8
0 to 499 <sup>b</sup>	1	3.7
500 to 999 <sup>b</sup>	3	11.1
1,000 to 2,000 <sup>b</sup>	4	14.8
\$2,000 or more	6	22.2
Total	27	100.0
Median	\$318	
Mean	\$846	
Range	-\$2,030 to \$6,861	

<sup>a</sup>Living costs exceeded living expenditures for 13 of the 27 respondents who provided complete statements of both. The mean deficiency was \$945, the median was \$729 and the range was from -\$2,030 to -\$249.

<sup>b</sup>Fourteen respondents had incomes which exceeded living expenditures. The mean amount of excess income was \$2,510, the median was \$1,677 and the range was from \$318 to \$6,861.

Table IV-23.--Frequency Distribution of Respondents'  
General Situation

Situation	Number	Percentage
Very Good	10	20
Good	26	52
Fair	8	16
Poor	4	8
No Comments	2	4

All respondents were asked to give their own evaluation of their retirement income position. In answer to the question, "Do you feel that you will have enough income throughout your retirement years, or do you expect to have financial problems?", 2 said they would definitely not have enough retirement income, 11 expressed serious doubts about having enough, 17 thought they would probably get by, 8 were confident that they would have enough income, and 12 were uncertain. These responses were open-ended and the coding of the answers was somewhat subjective, but they do suggest that less than 20 percent of the respondents were completely satisfied with their retirement income prospects. Inflation, rising property taxes, and unexpected medical expenditures were the most frequently cited reasons for their concern about retirement income.

#### Life insurance and estate management programs

A comprehensive treatment of life insurance and estate planning was beyond the scope of this study. However, since

retirement planning and estate management are closely inter-related a question was included in the questionnaire to examine the respondents' estate transfer and life insurance programs.

An estate transfer plan serves two basic functions. First, it insures that assets are distributed among heirs in the desired manner. Secondly, it may reduce needless capital loss due to capital gains taxes, legal costs, inheritance taxes, mismanagement of assets, etc. The basis of any estate plan is a will. A will insures that the deceased person's property will be distributed according to his personal wishes instead of according to state laws of descent and distribution. A will is particularly important to protect the financial security of a surviving widow. Thus, all farmers should probably have a will and, depending upon an individual's circumstances, other estate transfer devices such as life insurance, trusts, co-ownership, etc., may be useful.

All 50 respondents answered the section on estate transfer plans and their responses are shown in Table IV-24. Only 32 percent indicated that they had already made a will. Thirty-four percent said they definitely planned to make a will and the remaining 34 percent had no intention of ever making a will. Fourteen percent held real property as joint tenants with heirs, and 14 percent said they had made gifts or sold property to heirs for the purpose of reducing estate

taxes. One respondent had established a trust fund, and two others were seriously contemplating the use of a trust arrangement of some kind.

Table IV-24.--Estate Management Programs of Survey Respondents

	Frequency of Response (Percentage)		
	Used Now	Not Used Now But Will Be Used	Not Used Now and Will Not Be Used
Wills	32	34	34
Co-ownership--			
joint tenants	14	2	84
partnership	2	0	98
corporation	0	0	100
other	2	0	98
Gifts	8	2	90
Sale	6	0	94
Trust	2	4	94

As shown in Table IV-25, only about half of the respondents carried life insurance. The mean face value for those who had coverage was about \$1,700 and the most frequent types were limited pay life and ordinary life. The average policy was taken out about 19 years ago.

Since most respondents were married, it is somewhat surprising that only one-third of them had made wills. The infrequent use of other estate plans is not as serious a shortcoming since relatively few of them will have large enough estates to justify the use of the more sophisticated

legal and financial estate transfer arrangements. Hill suggests that:

in situations where the estate is less than \$70,000, farmers and others would be well advised to disregard the impacts of legal costs, federal and state income taxes on capital gains, federal estate and gift taxes, and the Michigan inheritance tax in working out their estate management plan.<sup>1</sup>

Table IV-25.--Life Insurance Coverage of Survey Respondents

Face Value of Coverage <sup>a</sup>	Number	Percentage
\$0	24	48.0
1 to 999	0	0.0
1,000 to 1,499	10	20.0
1,500 to 1,999	4	8.0
2,000 to 2,499	5	10.0
\$2,500 or more	3	6.0
No Response	4	8.0
Total	50	100.0
Median	0	
Mean	\$820	
Range	\$0 to \$5,000	

Type of Policy	Number	Percentage
Term	1	4.6
Ordinary Life	6	27.2
Limited Pay Life	11	50.0
Endowment	2	9.1
Type Unknown	2	9.1
Total	22	100.0

<sup>a</sup>The total amount payable to the beneficiaries would exceed the face value by the amount of paid up additions. Most policies were of the "permanent" type and the mean and median years in which they were taken out were 1941 and 1940 respectively.

<sup>1</sup>E.B. Hill, Farm Transfers and Estate Settlements--Taxes, and Legal Costs, Extension Bulletin 628 (East Lansing: Michigan State University, Cooperative Extension Service, 1968), p. 10.





Summary of financial situations

Farm real estate and chattels constitute about two-thirds of the nearly \$60,000 asset portfolio held by the average survey respondent. There are definite indications that older farmers are receiving very low measurable rates of return on their productive assets.

The average respondent was in a reasonably good overall financial position based on his net worth and the fact that his income exceeded his living costs in 1968; however, 31 percent of the respondents who provided complete net worth statements had net worths of less than \$40,000. More than 40 percent of the respondents who provided estimates of their 1968 income received less than \$3,000 in total net income. There are also indications that in about 50 percent of the cases, living expenditures exceeded incomes in 1968. There are definite limits on the rate at which capital can be used to cover living expenditures and this subject will be dealt with in the chapters which follow.

The survey results also indicate that most older farmers have not made adequate arrangements for transferring their assets to their heirs. If these arrangements were left unchanged, about two-thirds of the respondents would die intestate and the surviving widow would be left with a comparatively small share of an estate consisting largely of real property and other fixed assets.

### Attitudes Toward Investment Alternatives

Many of the factors which would restrict the kinds of retirement programs have already been mentioned. For most, the strong personal preference for remaining on the farm precludes any alternative which involves liquidating the total investment in farm real estate. The level of net worth is also a predetermined variable because with their low incomes, older people are generally not in a position to augment their assets through additional saving. Generally, the amount of income which they will receive from social security benefits and pensions has also been determined by the amount of the contributions made prior to age 65.

One possible way to increase and/or stabilize the income stream is to revise the asset structure. All respondents were asked to indicate their opinions on different ways of investing money. They were asked to select at least three acceptable alternatives from mutual funds, land, bonds, mortgages, land contracts, common stocks and savings accounts. They were then asked to indicate which single alternatives they considered to be the "poorest" and "best" ways of investing money. The purpose of this question was to determine what kinds of investment alternatives would be acceptable to retirement age farm people as a group. As was the case with other multiple response questions, the number of observations in the second and third choices was disappointingly low. Eighty-six percent of the respondents indicated a first choice and 76 percent gave their last



choice but second and third choices were given by only 58 and 28 percent respectively. Thus, only an approximate indication of their relative preferences for the individual investment alternatives was shown by their answers. A summary of their answers is shown in Table IV-26.

Table IV-26.--Investment Preferences of the Survey Respondents

	Percentage Frequency			
	First Choice	Second Choice	Third Choice	Last Choice
Mutual Funds	8	2	2	6
Land	10	8	10	10
Bonds	2	16	0	6
Mortgages	0	2	6	8
Land Contracts	4	8	2	8
Common Stock	10	10	2	30
Savings Accounts	52	12	6	8
No Answer	14	42	72	24
Total	100	100	100	100

Savings accounts were rated as the first choice by 52 percent of the respondents and this alternative was included among the top three choices by 70 percent. Only 8 percent ranked bank savings accounts as the poorest way of investing money. Land was rated among the first three choices by 28 percent of the respondents, and it was rated as "poorest" by only 10 percent. Thirty percent rated common stocks as the poorest investment alternative. Bonds were included in the top three choices by 18 percent of the respondents, land contracts by 14 percent, mutual funds by 12 percent and mortgages by only 8 percent.

After ranking the investment alternatives, the respondents were asked to express their reasons underlying their choices of the "best" and "poorest" alternatives. The purpose of this question was to determine what older farmers regarded as the desirable and undesirable characteristics of the seven investment alternatives. Their open-ended responses were coded and summarized as shown in Table IV-27.

Table IV-27.--Reasons for Ratings of Investment Alternatives

	First Choice		Last Choice	
	Number	Percentage	Number	Percentage
Returns	14	27.0	9	23.2
Liquidity	17	32.6	3	7.7
Risk	16	30.8	21	53.8
Familiarity	2	3.8	2	5.1
Other	3	5.8	4	10.2
Total Number of Reasons Given	52	100.0	39	100.0

There were not enough observations to permit a separate analysis of the reasons for the first and last choices for each alternative; however, the reasons given provide some indication as to what retirement age farm people are looking for in an investment. Liquidity, freedom from risk, and high returns were the more common reasons for rating an alternative as "best" and these attributes were mentioned with about equal frequencies. The most common reason for rating an alternative as the "poorest" way to

invest money was risk. Low returns were also a frequently mentioned reason for rating an investment last.

Savings accounts and common stocks were the only two individual investment alternatives about which the survey respondents, as a group, expressed conclusive opinions. Savings accounts are strongly favored for their liquidity and also for their safety and returns. Common stocks are unpopular mainly because they are regarded as being too "risky". These attitudes regarding the major investment alternatives are an important factor in determining the kinds of retirement income programs which can be recommended.

The responses to the question on investment preferences suggest that many older farm people are unfamiliar with nonfarm equity securities such as common stocks. Only about 10 percent of the sample members actually held common stocks. Yet, 30 percent rated stocks as the "poorest" kind of investment because of risk. Very few respondents apparently recognized the extent to which fixed income securities such as bank accounts and bonds are exposed to the risk of capital loss through inflation and changes in interest rates. It is possible that many more people would invest in nonfarm equity securities if competent investment counseling was available.

#### A Comparison of Retired Respondent with Those Still Farming

For the most part, this description of retirement age farm people has considered all survey respondents as

a group. The small sample size precludes an extensive cross-classification analysis of the data. One question which can be examined is whether the people who actually left active farming are in a better financial position than those who have continued to farm full or part-time.

The distinction between retired respondents and respondents who were still farming was based entirely on their response to question nine. This distinction was not always clearly defined because one or two of the retired respondents have continued to do some farming and a few of the people who said they were still farming were, for all intents and purposes, actually retired.

#### Reasons for leaving active farming

Only 12 of the 29 respondents who were still farming said they definitely planned to retire from active farming. The retired respondents were asked to indicate their reasons for leaving farming and their answers are shown in Table IV-28. Ill health was the most frequently mentioned reason for retiring. Interestingly, none of the retired respondents had left farming to enable a family member to take over the farm business. Three of the retired respondents had transferred farm real estate and/or chattels to their sons but in two of these cases, the sons had subsequently left farming.

The retired respondents had been out of active farming for an average of six years. The frequency distribution of the number of years since leaving active farming is shown in Table IV-29.



Table IV-28.--Reasons Mentioned by Retired Respondents  
for Leaving Farming

Reasons for Leaving Farming	Number of Times Mentioned <sup>a</sup>
Health	10
Family Considerations	0
Farm Income Too Low	4
Too Much Work in Farming	4
Became Eligible for Social Security	4
Other Reasons	4

<sup>a</sup>There were only 21 retired respondents, but some gave more than one reason for leaving farming.

Table IV-29.--Frequency Distribution of the Number of Years  
of Retirement (Retired Respondents Only)

	Number	Percentage
Less than 4	11	52.5
5 to 9	4	19.0
10 or more	6	28.5
Total	21	100.0
Median	4.0	
Mean	6.0	
Range	1-19	

Seventeen of the retired respondents had remained on their farms, two had relocated in a nonfarm rural place of residence, and two had moved to a town or city. Only one of the respondents who was residing on his farm definitely planned to move to town.

The retired respondents were asked if they were generally satisfied with their retirement programs, and they

were asked to indicate if retirement differed from what they had anticipated. Eleven of the retired respondents said that their retirement programs were about the same as they had expected, and three said that their incomes were lower and/or living costs were much higher than they had anticipated. Two respondents said that they had intended to remain in farming. There were 15 of the 21 retired respondents who said they were satisfied with their retirement programs but 3 were only partially satisfied, 2 were definitely unsatisfied, and 1 did not respond. The responses to this question suggested that most people said they were satisfied because there was little they could do to change their situations.

#### Methods of leaving farming

Separate series of questions for the two groups of respondents were designed to find out how they left or preferred to leave active farming. Their answers are summarized in Table IV-30. As expected, 17 of the 29 respondents still farming preferred to keep their farmland for their own use. A cash sale, renting or a contract sale were the first choices of methods of real estate disposal for the remaining respondents. Over half of those who gave a second choice said they would prefer retaining the farm and renting it out instead of selling it. Keeping the farm and renting all or part of it out was the method used by 11 of the 21 respondents who had actually left farming. Six had sold their farms on a land contract, two had sold for cash, and two had kept their land for their own use.

Table IV-30.--Methods of Farm Asset Disposal (Figures in Percentages)

	Preferences of 29 Respondents Still in Farming			Methods Used by 21 Retired Respondents
	First Choice	Second Choice	Third Choice	
<hr/>				
Farm Real Estate				
Cash Sale	13.8	6.9	0.0	9.5
Mortgage Sale	0.0	10.3	3.4	0.0
Land Contract Sale	10.3	6.9	10.4	28.6
Rent Out	10.3	31.1	3.4	52.4
Retain for Own Use	58.7	3.4	3.4	9.5
Other	6.9	6.9	0.0	0.0
No Answer	0.0	34.5	79.4	0.0
Total	100.0	100.0	100.0	100.0
Farm Chattels				
Farm Auction Sale	27.6	6.9	. .	38.1
Private Sale <sup>a</sup>	27.6	20.7	. .	38.1
Rent Out	0.0	3.4	. .	0.0
Retain for Own Use	41.4	6.9	. .	23.8
Other	0.0	0.0	. .	0.0
No Answer	3.4	62.1	100.0	0.0
Total	100.0	100.0	100.0	100.0

<sup>a</sup>Includes public livestock auctions.

Most of the respondents were not concerned with methods of liquidating their livestock and machinery because their chattels were worth very little in terms of market value. Eight of the retired respondents had held auction sales and five had kept their chattels for their own use. The others indicated that their chattels had been gradually liquidated over a period of several years. Twelve of the

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24
25	26	27	28
29	30	31	32
33	34	35	36
37	38	39	40
41	42	43	44
45	46	47	48
49	50	51	52
53	54	55	56
57	58	59	60
61	62	63	64
65	66	67	68
69	70	71	72
73	74	75	76
77	78	79	80
81	82	83	84
85	86	87	88
89	90	91	92
93	94	95	96
97	98	99	100

respondents still in farming were going to keep their livestock and equipment, and the first choices of the others were evenly divided between selling it at a farm auction or privately.

### Financial comparisons

A comparison of the more important financial variables, i.e., net worths, incomes and living costs for the two groups is given in Table IV-31.

Table IV-31.--Financial Comparisons of Retired Respondents and Those Still in Farming

	Retired (Mean Values) <sup>a</sup>	Still Farming
Age	73.8	70.8
Net Worth	\$48,582	\$62,871
Income in 1968	\$ 4,061	\$ 4,524
Living Costs in 1968	\$ 3,316	\$ 3,398

<sup>a</sup>The t-test indicates that there were no significant differences between the mean values for the two groups at the 25 percent level.

### Retirement Age Farm People in Perspective

Although the survey had several shortcomings, it served the purpose of identifying some of the more important personal and financial characteristics of retirement age farm people.

Most older farmers apparently prefer not to retire at all in the usual sense of the word. Instead of liquidating the farm assets and leaving active farming completely

they would rather live in their farm homes and continue working as long as possible. Many of those who left farming did so because of ill health or other extenuating circumstances. If it becomes necessary to discontinue active farming, most would prefer to rent their land rather than sell it and reinvest the proceeds derived from the sale. Generally, nonreal estate farm assets are gradually liquidated or allowed to depreciate out over a period of several years.

Their desire to remain in their farm homes is understandable. The majority of the people interviewed had lived there for their entire lifetimes and the average respondent had started farming on his own over 40 years ago. Thus, they were most unwilling to sell their farms, relocate in another residence and take up an entirely new way of life. The survey data indicate, however, that many respondents were making a large financial sacrifice in order to remain in farming. The average respondent had more than enough income last year to give him a modest level of living, but an examination of the individual questionnaires shows that only about half of them had enough income to meet their living costs. It appears that, while some important personal goals are being fulfilled, many retirement age farm people have failed to realize their retirement income goals.

The general conclusion from the survey is that most farmers neither establish nor follow a definite retirement program. Instead, they continue the status quo until circumstances force them to take positive action to leave farming.

The fact that most do not have wills or adequate life insurance coverage is a further indication of their failure to face up to the problems of old age. Their opinions on the various investment alternatives suggest that they are not fully aware of the alternatives open to them, yet the low rate of return from their productive assets indicates that different investment strategies would improve their incomes. The remainder of this thesis examines the possibility of increasing retirement income using investment strategies which are consistent with nonfinancial retirement goals, attitudes and abilities.

## CHAPTER V

### ANALYZING RETIREMENT DECISIONS

The basic financial problem confronting older farmers is deriving retirement income from the assets which they have accumulated during their farming careers. The objectives of retirement and estate planning are first, to minimize the capital losses which occur when farm assets are liquidated and second, to select a portfolio of investment alternatives to provide an income stream which fulfills personal preferences for returns and risk. This chapter contains recommended procedures for estimating capital losses and selecting investment portfolios. These procedures are used in the following chapter to budget retirement portfolios for three representative cases from the survey.

#### Estimating Capital Losses

Retiring farmers can incur capital losses through several sources. Fixed income assets, such as the strongly preferred bank savings accounts, are subject to capital loss due to inflation. Farmers who sell their farms upon retirement must pay capital gains taxes and, ultimately, Federal and State inheritance taxes if their estates are large. The sale of the farm real estate may require the retiring



farmer to purchase or rent a nonfarm dwelling.<sup>1</sup> Sales commissions must be paid if professional services are used in selling the farm real estate and chattels. Brokerage commissions must be paid when nonfarm securities such as bonds, stocks and mutual funds are purchased. Finally, the survey observations indicated that many of those who had retained their farms were incurring losses due to their inability to maintain the farm real estate, livestock and equipment in good condition because of ill health and/or a lack of funds.

It is not possible to accurately estimate some of these capital losses, but some general guidelines can be drawn. Usually capital losses will vary among individuals depending upon the size and structure of their asset holdings.

### Inflation

Rising prices reduce the real value of cash and fixed income assets, and since 1935, the consumer price index of all goods and services, the most widely quoted price index, has increased in almost every year. On a 1957-1959 base of 100, the consumer price index increased from 47.8 in 1935 to 120.9 in 1968, i.e. the real value of the dollar declined to about 40 percent of its initial value during

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<sup>1</sup>Capital used for the purchase of a nonfarm dwelling is not actually lost but the value of productive assets available for reinvestment is reduced.



this 33 year period. During the 1955 to 1968 period over which the investment alternatives were analyzed in Chapter II, the average annual rate of inflation was 2 percent and in recent years, it has ranged from 3 to 6 percent.

Since a retiring farmer and his spouse have a reasonably high probability of living for an additional 20 to 25 years beyond the age of 65, it is most important that inflationary losses be estimated and minimized where possible. Since the prices of real assets generally increase with inflation, an investment portfolio can be protected against inflationary losses by holding equity assets such as farm real estate and chattels, common stocks and mutual funds.

Given the economic conditions of early 1970, a rate of inflation of about 4 to 5 percent can be expected over the next three to five years; however, based on historical data, a 3 percent annual rate of inflation can be used for long term planning purposes. A 3 percent rate of inflation seems low, but over a period of 23 years, the real value of assets and income not protected against inflationary losses would decline to half of their current value.

### Capital gains taxes<sup>2</sup>

Federal and State capital gains taxes apply to the sale of all real estate, machinery and equipment if held for

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<sup>2</sup>See E.B. Hill, Farm Transfers and Estate Settlements.

more than 6 months and to livestock kept for breeding purposes if held for more than 12 months. Only half of the long term capital gain is considered as taxable income and the maximum tax rate on capital gains is 25 percent using the alternate method of computation.

The financial statements of the survey respondents reveal that for most, capital gains taxes on farm machinery and livestock would be negligible but since most of them started farming on their own before 1930, the sale of their farm real estate holdings would be subject to capital gains taxes. The following example, using the farm real estate value for the average survey respondent illustrates the basic procedure for estimating capital gains.

Gross Sale Price		\$36,700
Depreciation Allowed or Allowable During Ownership		<u>1,800</u> \$38,500
Cost:		
Original Purchase Price	\$9,200	
Cost of Improvements Capitalized During Ownership	1,500	
Selling Expenses	<u>3,670</u> \$14,370	
Capital Gain (\$38,500 - \$14,370)		\$24,130

In this example, it was assumed that the farm was purchased for approximately 25 percent of its present market value in the mid-1920's when the average survey respondent started farming on his own. The indexes of farm real estate prices

for individual states go back only as far as 1940; however, for the whole United States, the 1926 and 1945 price levels were about the same. In Michigan, the average values per acre of farmland and buildings in 1945 and 1968 were \$74 and \$294 respectively, indicating a purchase price of about one-quarter of present market value.<sup>3</sup>

The depreciation on buildings during the period of ownership must be added to the gross sale price. Since the average survey respondent had owned his farm for over 40 years, the entire original book value of the buildings would have been written off. This original book value was estimated to be 20 percent of the original cost of the farm. It was assumed that improvements valued at \$1,500 were capitalized during the period of ownership.

From the composite income statement in Chapter IV, the average respondent received approximately \$2,700 gross taxable income in 1968. Deducting the double personal exemptions of \$1,200 each for man and wife and the standard exemption of \$200 plus \$100 per dependent would mean that the average respondent paid no income taxes in 1968. The survey data support this conclusion. Only 19 of the 47 respondents who provided income tax information had paid taxes on their 1968 income. The mean and median amounts of income taxes paid by these 19 respondents were \$578 and \$400 respectively.

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<sup>3</sup>U.S. Department of Agriculture, Economic Research Service, Farm Production Economics Division, Agricultural Finance Review, Vol. 30, Supplement (January, 1970).

For the year in which the farm is sold, the average survey respondent would be taxed on \$2,700 in regular income plus half of the \$24,130 in capital gains. The gross taxable income would be \$14,765. The adjusted gross, after deducting personal exemptions of \$2,400 and the standard 10 percent (or \$1,000) exemption would be \$11,365. From the 1969 Internal Revenue Service Tax Tables, the income taxes on that amount of adjusted gross income would be \$2,225.

This example provides only an approximate estimate of the capital gains tax since it did not include chattels and the deductions were not itemized. Also, State income taxes were not included. In actual practice, a retiring farmer who sells his farm should use a competent, professional tax adviser for the year in which the farm is sold.

#### Nonfarm housing costs

If the retiring farmer liquidates his entire farm business, including the farm dwelling, he must purchase or rent another dwelling. Many of the survey respondents pointed out that if they sold their farm, they would have to use most of the money to buy or build a house in town.

The cost of alternative housing depends largely on the type and quality of the dwelling and on whether it is acquired by outright purchase, mortgage financing or renting. Table V-1 shows estimates of the average cash outlays and monthly costs of three types of dwellings. The data in Table V-1 do not take into account the reduction in income taxes from interest payments on mortgage financing.

Table V-1.--Estimated Housing Costs for Three Types of Dwelling

	Initial Cash Outlay	Monthly Cash Costs
House--Outright Purchase	\$16,000	\$ 60 <sup>a</sup>
--Mortgage Financing	4,160	154 <sup>b</sup>
Apartment	. . .	150
Mobile Home--Outright Purchase	6,000	45 <sup>c</sup>
--Contract Financing	\$ 1,500	\$100 <sup>d</sup>

<sup>a</sup>Includes \$30 per month taxes and \$30 per month for utilities, insurance and maintenance.

<sup>b</sup>Includes payments of approximately \$94 per month on 8 percent--25 year--\$12,000 mortgage plus \$60 per month for taxes, utilities, insurance and maintenance.

<sup>c</sup>Includes \$30 per month for park rental plus \$15 per month for insurance and utilities.

<sup>d</sup>Includes payments of approximately \$55 per month on 8 percent--10 year--\$4,500 financing plus \$45 for insurance and utilities.

Source: Estimates were based on C.M. Edwards, Cost of Housing in Three Types of Dwellings: House, Apartment and Mobile Home, Information Series No. 237 (East Lansing: Co-operative Extension Service, Michigan State University, Agricultural Engineering Department, July, 1968). Adjustments were made for higher interest rates in 1970 and lower tax rates in rural Michigan.

The mobile home offers the lowest cost form of nonfarm housing and the survey respondents as a group indicated that this type of housing would be reasonably acceptable. Another way of obtaining low cost housing would be to sell the farm real estate and retain title to or a life interest in the farm dwelling. This alternative would likely be available to many





retiring farmers because their farms are comparatively small and are, therefore often purchased as add-on units by neighboring farmers who do not require the dwelling. The cash outlay for this type of retirement housing would be the difference between the market values of the farm with and without the house. In general, the cash outlay would probably be about the same as the mobile home alternative but operating costs would be slightly lower for a mobile home.

The strong preference of the survey respondents for remaining in their farm homes is understandable; however, a rural farm or nonfarm location has some disadvantages. Generally, relocation in another house would provide higher quality housing which would require less maintenance. Transportation costs, one of the larger items of living expenditures for the survey respondents, would be reduced considerably if a small town or other urban location was selected. Ill health may eventually make automobile ownership impractical for the elderly retiree and the close proximity of stores and medical services would then be very advantageous. A nonfarm location would be especially desirable for a surviving widow.

Although the difficulties of moving and the cash outlay of from \$6,000 to \$16,000 or more which are associated with nonfarm housing favor remaining on the farm, the benefits of a nonfarm location such as lower operating costs, better quality housing and access to needed services must also be considered.

Sale and brokerage commissions

Many retiring farmers are able to sell their real estate and chattels without the help of a realtor or auctioneer. There is a tendency for them to gradually liquidate their livestock and machinery investments over a period of several years, so an auctioneer is usually not required. Also, the sale of a farm can often be arranged privately with a neighbor or other acquaintance.

In cases where the investments in farm real estate and chattels are large, older farmers would be well advised to seek professional help when selling these assets. Realtors can usually contact a larger number of prospective purchasers and obtain a better price than could be obtained in a private sale. They also screen prospective purchasers to insure that they can obtain the required financing. Auctioneers provide services such as advertising, accounting, collecting and financing which are useful when there are sizeable livestock and machinery inventories to be liquidated.

Currently, both real estate brokers and auctioneers in Michigan charge the seller 10 percent of the gross proceeds of the sale. To the extent that their professional services result in higher sale prices, the entire 10 percent selling expense need not be regarded as a capital loss. For example, if a realtor were able to sell a farm for \$40,000 compared to a private sale price of \$38,000, only half of the 10 percent realtor's commission should be regarded as a

capital loss. A net capital loss of 5 percent for the realtor's and auctioneer's commissions is probably realistic.

If the farm is liquidated, further capital losses are incurred when the proceeds are reinvested in nonfarm securities such as stocks, bonds, mutual funds, etc. In addition, the investor who manages his own portfolio of stocks and bonds incurs commissions when buying and selling securities in the normal adjustment of his portfolio.

Brokerage commissions typically vary with the amount purchased. Table V-2 shows the rates currently in effect.<sup>4</sup> In the case of common stocks, the percentage commission rate is lower for large purchases and for round lot transactions. When the portfolio is initially established, the investor would probably be able to take advantage of these lower rates. For example, commissions on purchases of \$5,000 or more in round lots would always be less than 1 percent. Commissions on transactions resulting from the normal turnover of the portfolio would usually be in odd lots in amounts ranging from \$400 to \$5,000 and the commission rates on these sales and purchases would range from about 1 percent on a \$5,000 transaction to 2 1/2 percent on a \$400 transaction. On a \$1,000 transaction involving 20 shares at \$50 each, the commission rate would be 1 3/4 percent.

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<sup>4</sup>There are indications that brokerage commissions on small purchases will be revised upwards in the near future.

Table V-2.--Commission Charges per Transaction on Nonfarm Securities<sup>a</sup>

Type of Security	Commission
Common Stocks	<p><u>Round Lots (100 Shares):</u>  \$100 to \$399.99: minimum of \$5 or 2% plus \$3  \$400 to \$2,399.99: 1% plus \$7  \$2,400 to \$4,999.99: 1/2 of 1% plus \$19  \$5,000 or more: smaller of 1/10 of 1% plus \$39 or \$75 per 100 share transaction</p> <p><u>Odd Lots:</u> Same as above, but \$2 less per transaction plus the odd-lot differential of 12.5¢ per share for stocks selling below \$55 and 25¢ per share for stocks selling at and above \$55.</p>
Investment Companies	<p><u>Closed-end:</u> Same as common stocks.</p> <p><u>Load Mutual Funds:</u> 7% to 9%.</p> <p><u>No-load Mutual Funds:</u> No commission for purchase but usually a redemption charge of 1% to 2%.</p> <p><u>Note:</u> Both load and no-load mutual funds charge an annual management fee which averages 3/4 of 1% of net asset value.</p>
Corporate Bonds	\$5 per \$1,000 of amount of transaction.
Government Bonds	Traded on "net" basis, i.e. no explicit commission.

<sup>a</sup>Jerome B. Cohen and Edward D. Zinbarg, Investment Analysis, Principles and Techniques, McGraw-Hill, Inc., New York, 1962.

As a general rule, the rate of capital loss when establishing a portfolio would be about  $1/2$  of 1 percent for the fixed income portion and 1 percent on the equity portion. If load mutual funds are used in place of common stocks, the capital loss would be about 8 percent. In the normal management of the portfolio, it can be assumed that the investor has a turnover rate of 25 percent on the stock portion of the portfolio and that the commission charges would be 3 percent for the "in and out" transactions. For example, if the portfolio consists of 50 percent common stocks, 12.5 percent of the portfolio would be sold and replaced each year and the reduction in income from the total rate of return on the whole portfolio would be nearly  $1/2$  of 1 percent. To this must be added a small amount for transactions in the fixed income portion of the portfolio and for the costs of financial publications, etc. Thus, an annual charge of about  $3/4$  of 1 percent to 1 percent should be made against the total rate of return on a portfolio of nonfarm securities for management expenses.

#### Depreciation of farm assets

No accurate estimate can be made of the capital losses which are incurred when investments in farm real estate and chattels deteriorate under the management of an elderly farmer who, because of ill health or a lack of funds becomes incapable of continuing to farm. The failure to continue normal tillage practices or to make needed repairs to

buildings and machinery obviously makes these assets less attractive to potential purchasers and tenants.

In some cases, capital losses due to the deterioration of farm assets may be substantial. For this reason, farmers should make adequate arrangements for the liquidation of the farm business while they are still in good health.

#### Typical capital loss rates

From the preceding, it is apparent that the total liquidation of the farm business upon retirement may result in substantial capital losses. Table V-3 shows the sources and ranges in the amounts of these losses for the average survey respondent whose balance sheet was given in Table IV-17. The average survey respondent owned productive farm and nonfarm assets valued at \$53,990. In addition, he owned \$3,360 in personal possessions, \$2,290 in nonfarm dwellings and \$130 in cash, giving total assets of \$59,770. The data in Table V-3 indicate that, depending largely on the cost of nonfarm housing and on whether a realtor and auctioneer are used in selling the farm assets, the rate of loss expressed as a percentage of the productive assets would range from about 11 percent to nearly 40 percent. Using the midpoints of the ranges, i.e., a selling commission rate of 5 percent (assumes higher sale price through realtor), a \$10,000 nonfarm dwelling and brokerage fees on a \$35,000 portfolio consisting of 50 percent bonds and 50 percent stocks gives a capital loss rate of about 25 percent.

Table V-3.--Sources and Amounts of Potential Capital Losses  
for the Average Survey Respondent

Source	Range of Dollar Amounts
Selling Expenses for Farm Real Estate and Chattels	0 - 4,150
Capital Gains Taxes	2,225
Nonfarm Housing (Adjusted for the \$2,290 Already Invested in Nonfarm Housing)	3,710 - 13,710
Commissions for Purchase of Nonfarm Securities (Based on the Purchase of an Additional \$35,000 of Stocks and/or Bonds)	<u>175 - 350</u>
Total Capital Loss:	6,110 - 20,435
Capital Loss as a Percent of Productive Assets Before Liquidation	11.3 - 37.8

Break even analysis of  
capital losses

The survey data indicated that the average survey respondent was earning an income rate of return of 3.6 percent on productive assets worth \$53,990. If capital gains of 3 percent per year on the equity securities and real estate are included, the total rate of return presently being earned would be about 5.7 percent.

The question arises as to what total rate of return is needed following liquidation to compensate for the capital losses. In this example, the total dollar rate of return before liquidation would be about \$3,075. If capital losses reduced the value of the productive assets to \$40,000,

he would have to earn a total rate of return of 7.69 percent following liquidation to earn \$3,075 annually. Thus, the break even rate of return corresponding to the 25.9 percent capital loss in this example is about 7.7 percent.

In general, this break even rate of return can be calculated from the formula:

$$R_A = \frac{R_B}{1-L}$$

where  $R_A$  is the break even rate of return following capital loss,  $R_B$  is the rate of return being earned before capital loss and  $L$  is the capital loss rate. The break even total rates of return needed to provide equivalent amounts of annual income for the typical range of capital loss rates are shown in Table V-4.

Table V-4.--Relationship Between Break Even Rates of Return and Typical Capital Loss Rates (Percentages)

Rate of Return Without Liquidation	Capital Loss Rate (Percentage of Value of Productive Assets Before Liquidation)					
	15	20	25	30	35	40
2	2.4	2.5	2.7	2.9	3.1	3.3
3	3.5	3.8	4.0	4.3	4.6	5.0
4	4.7	5.0	5.3	5.7	6.2	6.7
5	5.9	6.3	6.7	7.1	7.7	8.3
6	7.1	7.5	8.0	8.6	9.2	10.0
7	8.2	8.8	9.3	10.0	10.8	11.7
8	9.4	10.0	10.7	11.4	12.3	13.3
9	10.6	11.3	12.0	12.9	13.8	15.0
10	11.8	12.5	13.3	14.3	15.4	16.7



The rate of return needed following liquidation to recover the capital losses in addition to providing an equivalent amount of income can be found by solving the relationship  $(1 + R_C)^n = \frac{1}{L}$  where  $R_C$  is the rate which recovers the capital losses over a period of  $n$  years. The additional rates of return needed to recover the capital losses for different time periods are shown in Table V-5.

Table V-5.--Rates of Return Needed for Capital Loss Recovery (Percentages)

No. of Years for Recovery	Capital Loss Rate					
	15	20	25	30	35	40
5	3.5	3.8	4.5	7.5	9.0	10.3
10	1.8	2.3	3.0	3.5	4.5	5.7
15	1.1	1.5	1.9	2.4	2.9	3.4
20	0.8	1.1	1.5	1.8	2.1	2.6
25	0.6	0.9	1.2	1.5	1.7	2.1
30	0.5	0.8	1.0	1.2	1.3	1.7

For example, a farmer who could earn 5 percent on assets valued at \$50,000 without liquidating them would have to earn 6.25 percent following liquidation if the capital loss rate was 20 percent. A 7.75 percent rate of return following liquidation would enable him to recover the \$10,000 capital loss over a period of 15 years in addition to receiving an annual income of \$2,500.

#### Estimating Rates of Return on Investment Alternatives

The analyses of the eight investment alternatives under actual 1955 to 1968 conditions and during a hypothetical

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depression are a useful starting point for indicating the range of expected rates of return. The ranges in the total returns for each \$1,000 initially invested are shown in Table V-6 for farm real estate, nonfarm equity securities and bonds. The growth mutual funds were not included in the average performance of the nonfarm equity securities because their low income returns and high price variability make them generally unsuitable for a retirement income portfolio.

Table V-6.--Ranges of Expected Total Returns from Investment Alternatives

Investment Alternative	Depression		Prosperity	
	Mean Annual Dollar Return <sup>a</sup>	Mean Annual Percentage Return	Mean Annual Dollar Return <sup>a</sup>	Mean Annual Percentage Return
<b>Equities</b>				
Farm Real Estate	-10	-1.4	120	8.8
Nonfarm Equity Securities	-14	-2.0	151	10.2
<b>Fixed Income</b>				
Corporate Bonds	76	6.7	17	2.0
L.T. Government Bonds	57	5.3	24	2.6
S.T. Government Bonds	44	4.4	34	3.4

<sup>a</sup>Based on an initial investment of \$1,000.

If the probability of economic prosperity is 1.0, the investor should invest heavily in nonfarm equity

securities or farmland and the relatively small fixed income proportion of the portfolio should consist of short term government bonds. A probability of 1.0 for an economic depression would suggest that corporate or long term government bonds should make up a large proportion of the portfolio.

The estimated rates of return under varying probabilities of prosperity and depression can be estimated by interpolating between the ranges given in Table V-6. For example, if the probability of economic prosperity is only 0.8, then the expected total rates of return would be as follows: farm real estate--6.76 percent, nonfarm equities--7.76 percent, corporate bonds--2.94 percent, long term government bonds--3.34 percent, short term government bonds--3.60 percent.

#### Social security benefits

Nearly all of the survey respondents were receiving social security benefits. The average respondent and his wife received \$1,423 in social security benefits in 1968 and the amounts ranged from \$720 to \$2,450. In December 1969, the social security law was revised, giving all recipients an increase of 15 percent. The minimum income was also increased from \$55 to \$65 per month.

For the purposes of retirement planning, the individual is in the best position to determine his expected social security income. The minimum amount under the revised social security law would be \$780 annually and the amount

actually received will vary with the amount of the contributions made prior to retirement, the age at which benefits commence and the sources and amounts of other income. An accurate estimate can be obtained from any local office of the Social Security Administration.

It was assumed that social security benefits will increase over time at about the same rate as the price level. For the purposes of the case study analysis, a long run increase of 3 percent per year was assumed. In recent years, increases in social security benefits have actually exceeded the rate of inflation.

#### Determining the Rate at Which Capital Stocks Can Be Liquidated

Many retired persons may wish to gradually use their capital to meet their retirement income goals or needs. The gradual liquidation of the portfolio poses a dilemma because as the size of the portfolio decreases, the amount of investment income from the portfolio decreases and the investor must withdraw a larger amount each year to maintain a prescribed amount of income. If the total income goal, that is, the sum of the returns from the portfolio plus the amount withdrawn is too high, the portfolio may be totally depleted before the retiree dies. The rate at which the portfolio can be safely liquidated can be determined from the annuity formula:

$$A = \frac{(P) i (1+i)^n}{(1+i)^n - 1} \quad \text{where } A \text{ is the annual amount of}$$

income,  $P$  is the beginning portfolio amount,  $i$  is the rate of return and  $n$  is the number of years of life expectancy.

For example, suppose an investor has a \$10,000 portfolio of liquid assets which yields a net real rate of return of 5 percent. He plans to completely use up the \$10,000 portfolio over a period of 20 years. From the annuity formula, this investor could have a real annual income of \$802.40.

#### Relationship between portfolio size and income

The foregoing discussion of capital losses and rates of return indicates that, for a given asset level, the amount of income will vary depending upon economic conditions and the individual's situation.

Table V-7 shows the amounts of annual income which could be expected from a \$10,000 portfolio unit at various net rates of return. The net real rate of return in Table V-7 is the gross rate of return adjusted for inflation and other factors such as brokerage commissions. For example, the 5 percent rate of return in the table corresponds to a 9 percent gross rate of return if inflation and management expenses together are 4 percent.

Table V-7 is useful for estimating retirement income both before and after liquidation of the farm assets. A farmer who owns \$50,000 worth of farm assets in addition to his personal possessions and a cash reserve could expect to receive an investment income of \$2,000 annually at a net



Table V-7.--Relationship Between Rate of Return and Annual Dollar Income for  
a \$10,000 Portfolio Unit

		Net Real Rate of Return									
		0	1	2	3	4	5	6	7	8	10
Without Liquidation		0	100	200	300	400	500	600	700	800	1,000
With Total Liquidation in											
10 Years	1,000	1,056	1,113	1,172	1,233	1,295	1,359	1,424	1,490	1,558	1,628
15 Years	667	721	778	838	899	963	1,030	1,098	1,168	1,238	1,315
20 Years	500	554	612	672	736	802	872	944	1,018	1,094	1,175
25 Years	400	454	512	574	640	710	782	858	937	1,018	1,102
30 Years	333	388	447	510	578	650	726	806	888	974	1,061



real rate of return of 4 percent. If capital losses upon liquidation reduced the value of his productive assets to \$40,000 he would need a net real rate of return of 5 percent in order to have a yearly income of \$2,000; however, by gradually liquidating his \$40,000 portfolio over a 25 year period, he could spend \$2,840 annually in addition to his social security benefits and other pension income.

### Summary

Capital losses in the form of taxes, nonfarm housing costs and commissions for professional services favor retaining the farm assets following retirement. The higher rates of return and liquidity of nonfarm securities indicate that liquidation of the farm business would be the better alternative for many retiring farmers.

This chapter has outlined general procedures for analyzing the basic retirement decision of retaining versus liquidating the farm business. The use of these procedures for retirement planning is illustrated for three cases from the survey in the next chapter.



## CHAPTER VI

### CASE STUDY ANALYSIS

In this chapter the basic survey data from Chapter IV and the procedures for analyzing retirement decisions from Chapter V are combined to budget retirement income portfolios. These recommended portfolios were constructed on the basis of varying assumptions about financial positions, financial and nonfinancial retirement goals, attitudes and abilities. To make the portfolios as realistic and meaningful as possible, actual cases from the survey were used.

The basic retirement decision is whether or not to liquidate the farm real estate investment. Most of the survey respondents wanted to keep their farms and either continue farming themselves or rent the land to a tenant. Some had sold their farms, either because they were forced to do so due to ill health or because they preferred to sell out and retire in a small town or city. Apparently the most important considerations are the low costs and nonfinancial benefits associated with continuing to live in the farm dwelling.

Investment portfolios were designed for low, medium and high net worth situations under the following two alternatives:

(1) Liquidate the entire farm business and either relocate in another residence or retain the farm dwelling.

(2) Liquidate only the farm chattels and rent the land out to a tenant.

The alternative of continuing to farm after reaching retirement age was not included. If a family member or other suitable partner is available, staying in farming is obviously a very desirable alternative; however, an analysis of the wide variety of possible family farm partnership arrangements was considered to be outside the scope of this study. Continuing to farm without the assistance of a younger partner is ruled out. The survey respondents who had selected this alternative were receiving very low financial returns. Also, at some point, ill health or the death of the operator will force the retirement age farm couple to select one of the two alternatives listed above, or some combination of the two. Unless there are strong personal motives for continuing to farm, one of the two major alternatives listed above should be selected extenuating circumstances such as ill health occur.

#### Selection of Cases for Portfolio Analysis

The forty-three questionnaires which contained complete net worth statements were divided into three approximately



equal groups on the basis of net worth. The mean dollar amounts of the more important financial variables for each group are shown in Table VI-1.

Table VI-1.--Average Financial Situations of Low, Medium, and High Net Worth Groups of Respondents (Dollars)

	Low Net Worth (\$0-\$39,999)	Medium Net Worth (\$40-59,999)	High Net Worth (\$60,000 and Over)
Net Worth	\$29,500	\$51,300	\$89,700
1968 Income	3,140	3,880	5,590
Annual Living Costs	2,800	3,800	3,580
Satisfactory Income Goal	3,820	4,440	5,170
Minimum Income Goal	2,500	2,730	3,060
Expected Social Security Income	\$ 1,750 <sup>a</sup>	\$ 1,530 <sup>a</sup>	\$ 1,790 <sup>a</sup>

<sup>a</sup>In December 1969, social security benefits were increased by 15 percent over the amounts shown.

One questionnaire was selected from each group. These three cases are reasonably typical of their respective groups and their questionnaires were reasonably complete. The low net worth, medium net worth and high net worth cases were identified as LNW, MNW and HNW, respectively.

### Assumed Rates of Return for Early 1970

The expected rates of return used in the case study analysis are based on the economic conditions prevailing in early 1970.

Historically high interest rates, depressed prices of nonfarm equities, and indications of a slower rate of growth in farm real estate prices all justify some deviation from the 1955 to 1968 results.

In early 1970 new issues of corporate bonds currently were yielding between 8 and 9 percent. Yields on government bonds were generally 1 to 1 1/2 percent lower, depending upon the maturity dates. An expected net yield of 8 percent after paying brokerage commissions was assumed for the fixed-income assets in the budgeted portfolios. Farmers selling their farms on land contracts or mortgages should receive a higher rate of return to offset the obvious disadvantages of these securities compared to bonds. It was assumed that there would be no appreciable price returns from bonds.

A total rate of return of 10 percent was assumed for nonfarm equity securities and this consists of 4 percent income returns and 6 percent price returns. The total rate of return on nonfarm equities must be adjusted for brokerage commissions and other management expenses. A charge of 1 percent was assumed, giving net total returns of 9 percent for nonfarm equities. Over the 1953 to 1968 period, both the utility and industrial stocks would have provided total returns of more than 10 percent. Even the relatively

conservative income funds provided average total returns of nearly 10 percent. Since nonfarm equities can be easily liquidated, the exact break down between price returns and income returns is not of major importance.

The outlook for the price and income returns from farmland as of early 1970 was somewhat uncertain and these returns vary widely depending upon the individual's situation. Prices of farms located near urban areas usually increase at an above average rate; however, during 1969 the average price of farmland in Michigan remained virtually unchanged.<sup>1</sup> There were indications that the rate of increase in farmland prices would be less than it was over the period 1955 to 1968. Income returns depend largely on the type of lease used and on the terms and conditions of the lease. Based on the survey results and the historical performance, it was assumed that an equitable lease arrangement would provide an annual income return of 3.5 percent. Price returns were assumed to be 3 percent per annum.<sup>2</sup> The difficulty in converting price returns to conventional income returns is an important consideration in the case of farm real estate.

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<sup>1</sup>Richard Benson, "Money Likely to Remain Tight," Michigan Farm Economics, No. 323, Department of Agricultural Economics, Michigan State University, Co-operative Extension Service (December 1969), 2.

<sup>2</sup>See J.R. Brake, "Impact of Capital Structure on Capital and Credit Needs," Journal of Farm Economics, Vol. 48, No. 5 (December, 1966), 1540.



The price returns, income returns, and total returns used to budget the retirement portfolios are shown in Table VI-2.

Table VI-2.--Assumed Rates of Return for Investment Alternatives--Early 1970 (Percentages)

	Price Returns	Income Returns	Total Returns
Fixed-Income Securities	0.0	8.0	8.0
Nonfarm Equity Securities	5.0	4.0	9.0
Farm Real Estate	3.0	3.5	6.5

#### Low Net Worth Case

##### Background information

LNW is 67 years old and his wife is 63. They have one son who is a part-time farmer. LNW started farming on his own in the mid 1920's. He has held a regular part-time job throughout his farming career.

LNW is now partly retired from farming as a result of a serious illness in 1968. Prior to this time he raised beef feeder cattle. He owns 80 acres, 50 of which are tillable and up until 1969, he rented an additional 60 acres of cropland.

Both LNW and his wife want to remain on their farm, but they said that some other alternative may be necessary, depending on LNW's health. They said that \$5,000 per year

would be a satisfactory retirement income and that they would require a minimum of \$3,500.

### Financial position

LNW has an estimated net worth of \$32,350 which is slightly above the average for his group. His balance sheet is shown in Table VI-3.

Table VI-3.--Low Net Worth Case Balance Sheet

<u>Assets</u>	
Cash and Savings Accounts	\$ 4,000
Farm Inventories	350
Farm Machinery	1,000
Personal Possessions	3,000
Farm Real Estate	<u>25,000</u>
Total Assets	\$33,350
<u>Liabilities</u>	
Accounts Payable	\$ 500
Installment Debt	500
Owner Equity	<u>32,350</u>
Total Liabilities	\$33,350

An accurate estimate of LNW's 1968 income could not be obtained because all livestock inventories were liquidated, due to his illness and he also had to give up his part-time employment. He did estimate that under their plan to get back into farming, he would be receiving a net farm income of \$3,000 per year and social security benefits and pension income of \$2,400 per year. LNW's social security benefits with the recent 15 percent increase would be \$2,760 per year.

LNW's annual living costs are shown in Table VI-4. According to the interviewer's observations, LNW and his wife were enjoying a modest but adequate level of living.

Table VI-4.--Annual Living Costs for the Low Net Worth Case

Food	\$ 624
Housing	750
Medical Expenses	411
Transportation	830
Miscellaneous	<u>410</u>
Total Annual Living Costs	\$3,025

Budgeted alternatives

Liquidate the entire  
farm business

It is obvious that LNW and others in his net worth group should select the least expensive retirement housing alternative. This would be the mobile home or retaining the farm dwelling when the farm is sold, either of which, by assumption would reduce the value of earning assets by \$6,000. Table VI-5 summarizes the capital losses for the low net worth case.

LNW would incur capital losses of \$9,167 if he were to liquidate his farm business. This represents a capital loss rate of 31 percent of the net value of his productive assets prior to liquidation.



Table VI-5.--Estimated Capital Losses for the Low Net Worth Case

Total Value of Assets Before Liquidation		\$33,350
Less: Personal Possessions	\$3,000	
Debt Repayment	1,000	<u>-4,000</u>
Value of Productive Assets Before Liquidation		\$29,350
Capital Losses		
Commissions for Realtor and Auctioneer (5% of \$26,350 in Farm Assets)	1,318	
Estimated Capital Gains Tax	1,645	
Low Cost Retirement Housing	6,000	<u>-8,963</u>
Value of Productive Assets Following Liquidation		\$20,387
Commissions for Purchase of Nonfarm Securities (1% of the Value of Productive Assets)	\$ 204	<u>- 204</u>
Value of Investment Portfolio		\$20,183

Liquidation of the farm business and the purchase of a low cost form of retirement housing would leave LNW with about \$20,000 for an investment portfolio. Assuming that they require a minimum annual retirement income of \$3,500, this investment portfolio must provide net returns after inflation of at least \$740. This amount represents a net rate of return of 3.7 percent; thus, at the assumed rate of inflation of 3 percent, the portfolio must provide total returns of at least 6.7 percent.

The choice between equities and fixed-income securities depends largely on LNW's preferences for returns and risk. Since both he and his wife are comparatively young, the portfolio should contain a reasonably high proportion of equities to protect their assets and income from purchasing power losses.



A \$20,000 portfolio consisting of \$12,000 in nonfarm equities, \$6,000 in bonds and a \$2,000 cash reserve would exceed their minimum income requirements. This distribution among the investment alternatives is recommended because the expected price returns of 5 percent on the equities would be sufficient to protect the whole portfolio against inflationary losses of 3 percent per annum. The price, income and total returns for this portfolio are shown in Table VI-6.

Table VI-6.--Estimated Annual Returns from the Recommended \$20,000 Investment Portfolio (Dollars)

Type of Asset	Amount Invested	Price Returns	Income Returns	Total Returns
Nonfarm Equities	12,000	600	480	1,080
Bonds	6,000	0	480	480
Cash Reserve	<u>2,000</u>	<u>0</u>	<u>80</u>	<u>80</u>
Totals	20,000	600	1,040	1,640

This portfolio yields a total rate of return of 8.2 percent before inflation or 5.2 percent after inflation. LNW could spend all of the income returns and be assured of a constant real income of \$1,040 in addition to his social security benefits throughout his retirement years. Furthermore, the real value of his \$20,000 worth of assets would remain constant.

The social security income of \$2,760 plus the \$1,040 in investment income falls far short of LNW's goal of





\$5,000 which he says they would need for a satisfactory retirement situation. Since all of the assets in the portfolio are highly liquid, LNW could supplement his social security and investment income by gradually liquidating his assets. Based on the net rate of return of 5.2 percent and the relationships between income and rate of return in Table V-7, LNW could spend about \$1,425 annually by liquidating his portfolio over a period of 25 years. Under this alternative, his annual retirement income would be \$4,185 annually. Given their life expectancy and the assumed rates of return, a \$5,000 per year retirement income is simply not possible.

Liquidate only the farm  
chattels and rent the land out

LNW and his wife said they would prefer to keep their farm and rent it out if they were forced to discontinue farming themselves, so the rental alternative is consistent with their personal goals.

Under this alternative, they would have \$25,000 invested in farm real estate. The sale of their chattels would give them about \$1,300, which, together with their \$4,000 in savings would be available for debt repayment and a cash reserve. Their estimated retirement income with the rental alternative is shown in Table VI-7.

The rental alternative provides a total rate of return of about 6.4 percent or 3.4 percent after inflation based on the \$29,300 in productive assets. The 6.4 percent

annual rate of return under the rental alternative provides a slightly higher expected income than does the 8.2 percent return after liquidation because of the 32 percent capital loss rate. Actually the break even rate of return needed to completely compensate for capital losses in 25 years would be nearly 11.0 percent and none of the investment alternatives provides break even returns giving the assumed rates of return in Table VI-2.

Table VI-7.--Estimated Annual Returns with the Rental Alternative for the Low Net Worth Case (Dollars)

Type of Asset	Amount Invested	Price Returns	Income Returns	Total Returns
Farm Real Estate	25,000	750	875	1,625
Bonds	2,000	0	160	160
Cash Reserve	<u>2,300</u>	<u>0</u>	<u>92</u>	<u>92</u>
Totals	29,300	750	1,127	1,877

Since farm real estate cannot easily be liquidated in small units, the maximum amount of spendable income under the rental alternative is \$1,127, which together with the social security benefits would provide an estimated maximum annual retirement income of \$3,887. Assuming that the farm is rented out on a share lease, the income return under this would be highly variable from year to year, as indicated by the historical pattern of income returns to farm real



estate. Also, the real value of these income returns would decline over time because of inflation.

Summary of the low  
net worth case

LNW could liquidate his farm business and either purchase a mobile home or keep the farm dwelling. Capital losses would reduce the net value of his productive assets to about \$20,000 which could be invested in nonfarm securities. Given the expected rates of return assumed for early 1970 his annual retirement income under this alternative would be about \$3,800 and this could be increased to a maximum of nearly \$4,200 by gradually liquidating the assets over a period of 25 years.

The second alternative would be to retain the farm and rent it out. This alternative would provide a maximum annual retirement income of nearly \$3,900. The main disadvantages of this alternative are the illiquidity of the farm real estate investment and the high variability of the income returns.

Both alternatives fulfill LNW's minimum retirement income requirements but neither enables him to achieve his satisfactory income goal of \$5,000. The farm business liquidation alternative was budgeted using 8 percent returns for bonds and 9 percent returns for equities. By historical standards, the assumed bond yields are high. From the standpoint of expected retirement income, the rental alternative would be superior if bond yields were only 5 or 6 percent per annum, as was the case until very recently.

## Medium Net Worth Case

Background information

MNW is 79 years old and his wife is 75. Both MNW and his wife are in good health and they carry on a cash crop operation on their 80 acre farm. There apparently are no family members who wish to take over the farm business.

MNW plans to continue farming indefinitely with the help of custom hiring and part-time hired labor. He stated that his net income from farming in 1968 was \$4,000 but that this was unusually high. He estimated that an annual income of \$5,000 would provide a satisfactory retirement situation and that a minimum of \$3,000 would be needed at today's conditions.

Financial position

MNW has total assets of \$48,500, consisting of \$30,000 farm real estate, \$5,000 in farm machinery, \$11,000 in bank savings accounts and bonds and \$2,500 in personal possessions. MNW is typical of the survey respondents in that he has no debt.

In addition to an estimated \$4,000 in net farm income last year, MNW received \$2,450 in social security benefits and \$450 in investment income, for a total net income of \$6,900. Their total living costs for a typical year are only \$3,125, which is below the average for the medium net worth group.

Budgeted alternatives

MNW is generally more fortunate than the Low Net Worth case because he has sufficient assets to provide an adequate level of retirement income. He also has an above average amount of social security income. Since he and his wife are older than the average survey respondent, they could also supplement their income by liquidating their assets at a much faster rate.

Liquidate the entire  
farm business

Table VI-8 shows the estimated capital losses that MNW would incur if he liquidated his farm business.

Table VI-8.--Estimated Capital Losses for the Medium  
Net Worth Case

Total Value of Assets Before Liquidation		\$48,500
Less Personal Possessions	\$2,500	<u>-2,500</u>
Value of Productive Assets Before Liquidation		\$46,000
Capital Losses		
Commissions for Realtor and Auctioneer (5% of \$35,000 in Farm Assets)	1,750	
Estimated Capital Gains Tax	2,000	
Low Cost Retirement Housing	6,000	<u>-9,750</u>
Value of Productive Assets Following Liquidation		\$36,250
Commissions on Purchase of Nonfarm Securities (1% of Value of Productive Assets)	\$ 363	<u>- 363</u>
Value of Investment Portfolio		\$35,887

The low cost retirement housing alternative, i.e. either a mobile home or retaining the farm dwelling, was assumed. The data in Table VI-8 indicate that MNW would incur capital

losses of over \$10,100 and this represents a capital loss rate of 22 percent of the value of the productive assets prior to liquidation.

With the 15 percent increase in social security benefits, MNW and his wife can expect to receive about \$2,820 in annual benefits. His minimum retirement income of \$3,000 is clearly attainable given this social security base, but his investment portfolio must provide a net income, after inflation, of \$2,180 if he is to achieve the \$5,000 income goal which he associates with a satisfactory retirement situation. This represents a net rate of return of 6.1 percent or a total return of 9.1 percent before inflation; thus, even with the low cost retirement housing alternative, MNW would have to liquidate some of his assets to achieve his \$5,000 income goal, given the rates of return assumed for early 1970.

A portfolio consisting of 60 percent equities, 30 percent fixed income securities and a 10 percent cash reserve is also recommended for MNW. The dollar returns from this portfolio are shown in Table VI-9. MNW could spend all of the income returns and still maintain the real value of the \$36,000 portfolio. Their total annual retirement income would be nearly \$4,700, which is very close to the \$5,000 goal. By gradually liquidating his assets over a 15 year period, MNW could have a total real annual retirement income of about \$6,330. The life expectancy data

indicate that they would be assuming only a 10 percent chance of totally depleting their assets during their lifetimes.

Table VI-9.--Estimated Annual Returns from the Recommended \$36,000 Investment Portfolio (Dollars)

Type of Asset	Amount Invested	Price Returns	Income Returns	Total Returns
Nonfarm Equities	21,600	1,080	864	1,944
Fixed-Income Assets	10,800	0	864	864
Cash Reserve	<u>3,600</u>	<u>0</u>	<u>144</u>	<u>144</u>
Totals	36,000	1,080	1,872	2,952

With their higher net worth and shorter life expectancy, MNW and his wife have much more flexibility in planning their retirement program than do LNW and his wife. MNW could spend more than \$6,000 for his retirement housing and still come reasonably close to achieving his satisfactory income goal of \$5,000. If he wished, he could also include a relatively larger amount of fixed-income securities in his portfolio to achieve a more stable retirement income.

Liquidate only the farm  
chattels and rent the land out

MNW's estimated retirement income under the rental alternative is shown in Table VI-10. With the 22 percent estimated capital loss rate, the total income from the rental alternative is nearly the same as the total income





from the \$36,000 investment portfolio. The overall rate of return with the rental alternative is 6.6 percent and the break even rate corresponding to the 22 percent capital loss would be approximately 10.1 percent, assuming a 15 year period for recovery of the capital losses.

Table VI-10.--Estimated Annual Returns with the Rental Alternative for the Medium Net Worth Case (Dollars)

Type of Asset	Amount Invested	Price Returns	Income Returns	Total Returns
Farm Real Estate	30,000	900	1,050	1,950
Fixed-Income Assets	11,400	0	912	912
Cash Reserve	<u>4,600</u>	<u>0</u>	<u>184</u>	<u>184</u>
Totals	46,000	900	2,146	3,046

The income returns from the rental alternative are \$2,146, which, together with social security benefits, provide a maximum annual retirement income of \$4,966. This level of retirement spending implicitly liquidates part of the portfolio because the price returns from the real estate are not sufficient to maintain the real value of the portfolio with a 3 percent rate of inflation. To maintain the real value of the \$46,000 portfolio, MNW would have to restrict his annual spending to 3.6 percent of the value of the portfolio, or \$1,665, plus social security benefits of \$2,820 for a total real, annual retirement income of \$4,485.

Although the farm real estate investment cannot easily be liquidated, MNW could gradually liquidate his \$16,000 worth of liquid assets to supplement his retirement income. The average rate of return assumed for the bonds and savings accounts is 6.85 percent. The gradual liquidation of these assets over 15 years would provide a real income equivalent to nearly \$1,425 annually. This together with the \$1,050 rental income and \$2,820 social security benefits would provide a total annual retirement income of nearly \$5,300.

#### Summary of the medium net worth case

The rental alternative is recommended for the medium net worth case. This alternative provides a slightly higher expected income than does the liquidation alternative and it is consistent with the nonfinancial goals. The fact that the farm real estate investment cannot easily be liquidated is not a serious problem because he would have approximately \$16,000 in liquid assets which could be liquidated should the need arise. Most of the other medium net worth cases were not as fortunate in this respect and for them, the liquidation alternative would be better.

#### High Net Worth Case

##### Background information

HNW is 67 years of age and his wife is 60. He operates a 160 acre cash crop farm, 140 of which are tillable. In 1968 part of the farm was rented out because of HNW's

poor health. Unlike most respondents, HNW definitely plans to retire completely from active farming within the next 2-3 years. He would prefer to rent his farm out, although the sale of the farm on a mortgage was his second choice of alternatives for handling his real estate investment.

HNW intends to reside in his mobile home in Florida during retirement. He estimated that an annual retirement income of \$6,000 would be satisfactory and that they would need a minimum income of \$3,600 per year.

HNW now owns common stocks and he rated them as the best investment alternative. He rated savings accounts as the second best alternative, although his comments indicated that he is aware of their shortcomings. He considered mortgages to be the third best alternative. Ownership of common stocks, bonds and mutual funds was fairly common among the high net worth respondents.

#### Financial position

HNW's net worth statement is shown in Table VI-11.

Table VI-11.--High Net Worth Case Balance Sheet

<u>Assets</u>	
Cash and Checking Accounts	\$ 1,200
Savings Accounts	10,000
Common Stocks	4,500
Farm Machinery	12,500
Personal Possessions (Including Mobile Home)	7,700
Farm Real Estate	<u>48,000</u>
Total Assets	\$83,900
<u>Liabilities</u>	
Owner Equity	<u>\$83,900</u>
Total Liabilities	\$83,900

In 1968, HNW received \$3,800 in net rental and farm income, \$1,000 in investment income and \$854 from social security benefits, for a total income of \$5,654. He currently receives only \$122 per month in social security benefits but he expects to receive \$2,400 per year after retirement.

Living expenditures for HNW and his wife were nearly \$5,400 in 1968 but this figure includes over \$2,000 in medical expenditures. Their living expenditures by category were food--\$780, housing--\$990, medical care--\$2,062, transportation--\$500 and miscellaneous expenses--\$1,040.

#### Budgeted alternatives

HNW is probably the only one of the three cases who could possibly purchase a high cost form of retirement housing and still reach his retirement income goal. HNW and his wife are younger than the average survey respondent and they apparently enjoy an above average level of living so their retirement income portfolio must be carefully budgeted.

#### Liquidate the entire farm business

Table VI-12 shows the estimated capital losses for the high net worth case, assuming that a \$16,000 house is purchased. Capital losses and incidental expenses would reduce the value of HNW's productive assets to around \$52,000 from \$76,200. The capital loss rate is around 32 percent but it would be reduced to only 19 percent if a low cost form of retirement housing was selected.

Table VI-12.--Estimated Capital Losses for the High Net Worth Case

Total Value of Assets Before Liquidation		\$83,900
Less Personal Possessions	\$ 7,700	<u>- 7,700</u>
Value of Productive Assets Before Liquidation		\$76,200
Capital Losses		
Commissions for Realtor and Auctioneer (5% of \$60,500 in Farm Assets)	3,025	
Estimated Capital Gains Tax	4,000	
High Cost Retirement Housing	16,000	<u>- 23,025</u>
Value of Productive Assets Following Liquidation		\$53,175
Commissions on Purchase of <u>Additional</u> Nonfarm Securities (1% of \$48,675)	\$ 487	<u>- 487</u>
Value of Investment Portfolio		\$52,688

A \$52,000 portfolio consisting of 60 percent equities, 30 percent fixed income securities and a 10 percent cash reserve would provide a total rate of return of 8.2 percent. He could spend the equivalent of 5.2 percent or \$2,704 and maintain the real value of the portfolio at \$52,000. His social security benefits, with the 15 percent increase, will be \$2,760, so the estimated total annual retirement income would be \$5,464. By gradually liquidating his assets over a period of 15 years, HNW could have a total annual retirement income of about \$6,450 which is in excess of his satisfactory retirement income goal.

HNW has even more flexibility than the medium net worth case because of his strong financial position. For example, he is the only one of the three cases who should even consider selling his farm on a land contract. By selling his farm on an 8 percent land contract with 30 percent or

less down, he could reduce his capital losses by \$4,000.

Under this alternative, his estimated annual income before taxes would be as shown in Table VI-13.

Table VI-13.--Estimated Annual Returns with a Land Contract Sale for the High Net Worth Case (Dollars)

Type of Asset	Amount Invested	Price Returns	Income Returns	Total Returns
Nonfarm Equities	16,800	840	672	1,512
Land Contract (30% Down)	33,600	0	2,688	2,688
Cash Reserve (10%)	<u>5,600</u>	<u>0</u>	<u>224</u>	<u>224</u>
Totals	56,000	840	3,584	4,424

Under this alternative, the total rate on the \$56,000 portfolio would be 7.9 percent. This would be equivalent to a total rate of return of 8.5 percent on the \$52,000 portfolio which he would have if the farm were not sold on a contract. The equivalent net rate of return after inflation would be 5.5 percent compared with the 5.2 percent return from the portfolio recommended above. The net difference in annual income is only \$160, which is probably negligible when the disadvantages of land contracts are considered. However, if the land contract sale reduced capital gains even further by increasing the selling price of the farm, it might be advantageous. The land contract is a possibly useful alternative only for those high net





worth cases who would have sufficient holdings of liquid assets to permit them to tolerate the lack of liquidity of a contract. Even then, a large land contract might be a serious problem in an estate settlement.

Liquidate only the farm  
chattels and rent the land out

HNW's investment portfolio and the income from it under the rental alternative are shown in Table VI-14.

Table VI-14.--Estimated Annual Returns with the Rental Alternative for the High Net Worth Case (Dollars)

Type of Asset	Amount Invested	Price Returns	Income Returns	Total Returns
Farm Real Estate	48,000	1,440	1,680	3,120
Fixed-Income Assets	21,000	0	1,680	1,680
Cash Reserve	<u>6,000</u>	<u>0</u>	<u>240</u>	<u>240</u>
Totals	75,000	1,440	3,600	5,040

This alternative provides an overall rate of return of 6.7 percent on the \$75,000 portfolio. HNW could spend the equivalent of \$2,775 of the income returns and maintain the real value of his assets at \$75,000.

On the basis of estimated annual returns, the rental alternative is clearly the better alternative for the high net worth case. The \$5,040 total return for the rental alternative is equivalent to a 9.7 percent total rate of return

on the \$52,000 portfolio which he would have by liquidating the farm business. An 11.2 percent rate of return would be needed to recover the capital losses in a period of 25 years. Given the assumed rates of return, there is no single nonfarm investment alternative which would provide this break even rate of return. If HNW were to select the low cost housing alternative, the break even total rate of return would be only 8.1 percent, and the expected incomes from the liquidation alternative and the rental alternative would be about equal.

Summary of the high  
net worth case

The farm business liquidation alternative with the low cost housing alternative or the rental alternative both enable HNW to reach his satisfactory retirement income goal. HNW might be able to reduce capital losses significantly by selling his farm on a land contract with a down payment of 30 percent or less but this alternative is not recommended.

Given their personal goals, retaining the farm and renting it out is probably the best alternative for the majority of the high net worth cases. The respondents in this group generally had large amounts of liquid assets so the lack of liquidity and income variability associated with farm real estate would not be a problem.

The particular individual selected for this high net worth case analysis has already decided to liquidate his farm business and he has selected the low cost form of



retirement housing. He has had some experience in managing a portfolio of nonfarm equity and fixed income securities.

### Summary

In this chapter, several retirement investment programs were budgeted under three net worth levels. In each case, the objective was to plan an investment portfolio which would come as close as possible to achieving a specified retirement income goal and which would insure that this amount of real income could be maintained during most of the remaining expected lifetimes of the retiring farmer and his wife. It must be emphasized that the recommended portfolios were based on the expected rates of return for early 1970 and that a relative change in the rates of return among the investment alternatives would change the recommendations.

The case study analysis indicates the importance of personal situations and retirement goals. The low net worth case has been prematurely forced into a partly retired situation because of ill health, while the medium net worth case has been able to continue active farming well beyond the typical retirement age of 65. The high net worth case illustrates the fact that leaving active farming may sometimes be consistent with farmers' retirement goals.

A summary of the total expected amounts of annual retirement income from the recommended alternatives is shown in Table VI-15. The estimated amounts of social security benefits are included in each case. Given the assumed rates

of return in Table VI-2, a 3 percent rate of inflation and average capital loss rates, the expected amounts of retirement income under the two major alternatives would be approximately the same. The only financial advantage of retaining the farm real estate is the possibility of postponing the capital losses until illness or death force the retired couple to liquidate their farm assets. As was suggested earlier, delaying the decision to liquidate the farm assets may result in greater capital losses due to depreciation.

Table VI-15.--Estimated Maximum Annual Retirement Income<sup>a</sup>  
(Constant 1970 Dollars)

Net Worth Level	Liquidation of Farm Business	Farm Rental
Low--\$32,350	3,800 (4,185)	3,760 (3,880)
Medium--\$48,500	4,700 (6,330)*	4,485 (5,300)*
High--\$83,900	5,465 (6,450)*	5,535 (6,990)*

<sup>a</sup>Amounts in parentheses show amounts available by totally depleting all liquid assets.

\*Indicates that the satisfactory retirement income goal is reached.

Given approximately equal amounts of expected income from the two alternatives, the decision must be made on the basis of other factors. The year-to-year variability of the retirement income, risk, personal goals, and liquidity are probably the most important other considerations.

The liquidation alternative is clearly superior from the standpoint of the year-to-year variability of the income stream, and this factor is more important in the low net worth situation. Although the total returns to farm real estate have historically been more stable than the total returns to the nonfarm equities, the analysis in Chapter II indicated that common stocks and income mutual funds provided much more stable income returns. A cash lease on the farm real estate would provide stable income returns but at a considerable sacrifice in the amount of the expected returns. Given a high level of interest rates, a retiring farmer could liquidate his farm assets, put nearly all of his money into high grade corporate bonds and achieve an almost perfectly stable annual retirement income with little sacrifice in returns. The low net worth case analyzed in this chapter could, for example, have a portfolio consisting of \$18,000 in corporate bonds and \$2,000 in a savings account. His annual real income, with social security benefits would be \$3,680 compared with the \$3,800 income from the portfolio consisting of 60 percent equities. The dollar income from this portfolio would be perfectly stable but the amount of real income would vary slightly with changes in the rate of inflation and the general level of interest rates.

The hypothetical depression analysis in Chapter II indicated that the returns to nonfarm equities would decline more during an economic depression than would the total returns to farm real estate. However, the retired farmer who

has already liquidated his farm assets could easily increase the proportion of fixed income securities in his portfolio if the probability of a depression increases. In doing so, he could avoid serious capital losses. Thus, from the standpoint of risk, the liquidation alternative is preferable.

The survey results clearly indicated that the rental alternative is more consistent with farmers' nonfinancial retirement goals. Their desire to continue to live in the farm home and to exercise some degree of managerial control over the farm business must be recognized as important retirement goals. Their generally negative attitude toward nonfarm securities rules out the liquidation alternative for many retiring farmers.

Retaining the farm and renting it out is probably the better alternative for most medium and high net worth situations. Their liquid financial position would enable them to tolerate the illiquidity, income variability and risk associated with an investment in farm real estate.

The rental alternative would not be suitable for most low net worth retirees because they generally do not have enough liquid assets to provide a supplementary investment portfolio. The rental alternative would provide a low and possibly a highly variable income and it would be impossible to gradually liquidate assets to meet retirement income needs. Ironically, very few of the low net worth respondents owned nonfarm securities and they showed a greater tendency to rate them as the poorest investment alternatives.

## CHAPTER VII

### SUMMARY AND CONCLUSIONS

The single proprietorship continues to be the predominant form of business organization for agricultural production in the United States. Under this form of business organization, the firm growth cycle is closely related to the life cycle of the proprietor, and generally, the business terminates with the disinvestment stage when he voluntarily or involuntarily withdraws his labor, management and capital from the business.

The objectives of this study were first, to describe the important financial and personal characteristics of retirement age farmers and second, to recommend disinvestment strategies which would fulfill the financial and personal goals of retirement age farmers.

#### The Problem Area

According to the 1964 Census of Agriculture data, two-fifths of the census farms in the United States were operated by persons 55 years of age or over. Old age and the accompanying decline in physical health eventually make it impractical for elderly people to continue active farming.





The assets which they control must be converted to sources of retirement income and ultimately transferred to a younger generation of farm operators.

The disinvestment stage is one which may be easily mismanaged. The asset value of the farm firm is relatively high at the beginning of this stage and farmers are not generally familiar with the kinds of financial and personal problems which they encounter as they grow older. Most elderly farm people apparently receive lower incomes than either younger farmers or other elderly and retired persons in the population. Despite the importance of disinvestment, comparatively little previous research has been done on the personal and financial problems of retiring from active farming. Some of the related research has dealt with certain aspects of disinvestment such as estate planning and the inter-generation transfer of resources. For the most part, the problems of converting farm assets to sources of retirement income have been overlooked.

#### Summary of the Survey Results

A random sample of fifty farmers and retired farmers from Southern Lower Michigan was interviewed during July and August of 1969 to obtain some basic descriptive information on their financial positions and retirement goals and to determine the constraints which would affect their retirement programs.

Some of the principal findings of the survey are summarized in Table VII-1. Twenty-one of the respondents were completely retired from farming and 29 were either partly retired or still farming.

Table VII-1.--Summary of Principal Findings of Survey

	Mean	Median
<b>Background</b>		
Respondent's Age	72.1	71
Age of Spouse	71.0	70
Education (Years)	9.3	8
Year Started Farming	1924	1926
<b>Financial Position</b>		
Income During 1968	\$ 4,304	\$ 3,584
Living Costs During 1968	3,364	3,276
Net Worth	57,220	52,150
Retirement Income Goals		
--Satisfactory Income	4,404	4,400
--Minimum Income	2,829	2,750
Social Security Expectations	\$ 1,423 <sup>a</sup>	\$ 1,500 <sup>a</sup>

<sup>a</sup>Based on survey data. Social security benefits were increased by 15 percent over the amounts shown in December 1969.

Several important conclusions can be drawn from the survey results. First, very few farmers apparently make definite plans to leave active farming or to transfer their estates to their heirs. Half of the survey respondents who had completely retired had done so reluctantly because of ill health and nearly three-fifths of those who were still farming said they had not yet made plans to retire from

farming. Only half of the respondents carried life insurance and the average face value of their coverage was only \$1,700. Only one-third of the respondents had made a will despite the fact that their average age was over 72 years. Most respondents expressed a preference for staying in the farm home and continuing to work actively in farming as long as possible. These findings suggest that "retirement age" to many farmers is not a prespecified point in time as is the case in most nonfarm occupations. Instead, it is the age at which ill health or other adverse circumstances force them to withdraw from active farming. Usually, retirement is a gradual process which takes place over a period of several years. Many farmers simply allow their nonreal estate assets to depreciate out instead of liquidating them. In some cases, the depreciable portion of the real estate investment also deteriorates during this gradual disinvestment process.

A second conclusion is that most elderly farmers are receiving very low income returns from their productive assets. In 1968, the average income rate of return on farm assets owned by the survey respondents was only 3.3 percent and the overall average income rate of return on all productive assets was only 3.6 percent. Social security benefits were their most important single source of income, and this source accounted for about one-third of the average survey respondent's income in 1968.

Although the average respondent had a net worth of nearly \$60,000, 44 percent had net worths of less than

\$40,000. The average respondent had more than enough income to cover his living costs in 1968, but an examination of the individual questionnaires showed that in about half of the cases, living expenditures exceeded incomes.

The combination of comparatively low net worths, low rates of return on productive assets and low incomes suggests that one important problem of the disinvestment stage is generating enough retirement income from accumulated assets.

### Recommendations

The survey results suggested a need for information and procedures which would be helpful in analyzing retirement decisions. The basic financial problem confronting the retiring farmer is to select a portfolio of assets which will produce an income stream which has characteristics consistent with personal preferences for expected returns, income variability and risk. The closely related personal problem of disinvestment is to achieve a retirement situation which is consistent with personal preferences for living accommodations and location, work and leisure activities, and family goals.

### Analyzing investment alternatives

The selection of assets for an investment portfolio is a highly personal matter. Individual preferences determine the types of assets which will be included in the portfolio and the manner in which available funds will be allocated between cash and risky assets.

Risk was defined as the probability of losing all or part of the initial capital invested in an asset. Assets are subject to four types of investment risk: business risk, market risk, interest rate risk, and purchasing power risk. The degree of investment risk depends partially on the probability that assets will have to be liquidated when their market prices are depressed. Elderly people are more likely to incur unexpected medical expenses, so they must be in a position to liquidate asset holdings on relatively short notice. Death usually results in the liquidation of all or part of the asset holdings for estate settlement purposes; thus, life expectancy information is useful for evaluating investment risk as well as for determining the appropriate time horizon for retirement planning.

The total returns from an asset consist of price returns which result from changes in market prices and income returns in the form of profits, dividends, interest, and rent. Investors must consider both types of investment returns when evaluating their alternatives but the relative desirability of price returns versus income returns will vary among individuals.

Eight representative investment alternatives were analyzed for their historical performance. The period 1955 to 1968 was chosen to represent an actual period of general economic prosperity. These data were also analyzed in reverse order to simulate investment performance during a period of

economic depression. The analysis of the historical performance of the investment alternatives illustrated the fact that high returns can normally be achieved only by accepting a higher amount of income variability. This analysis also indicated the importance of forecasting economic conditions and adjusting the relative proportions of equity and fixed income securities in the portfolio accordingly. If a period of economic depression seems imminent, the investor should reduce his holdings of equities and invest heavily in long term fixed income assets. If economic prosperity is forecast, equities will provide the best results and the fixed income portion of the portfolio should be in short term securities.

In addition to the empirical analysis, the investment alternatives available to retiring farmers were examined in terms of how well they fulfill the other characteristics of a desirable investment -- liquidity and ease of management.

Liquidity is particularly important for the elderly investor. Assets which can be liquidated quickly and in small units permit the investor to convert price returns to income returns and to adjust his portfolio for changing economic conditions. Although farm real estate has historically provided only slightly lower total returns than nonfarm equities, the illiquidity of farm real estate makes it virtually impossible to liquidate capital to meet income needs or to switch to fixed income securities when the economic

outlook becomes unfavorable. Liquidity is also important from the standpoint of estate settlement. Estates which consist largely of liquid assets can generally be settled more quickly and with less expense than estates which consist largely of real property. Thus, on the basis of liquidity, nonfarm equity and fixed income securities are superior to farm real estate, land contracts or farm mortgages. In certain cases a retiring farmer might wish to sell his farm on a land contract or mortgage. For example, there may be a personal desire to provide financing for a relative or the availability of financing may increase the sale price of the farm. In general, however, land contracts or mortgages should be avoided because of their lack of liquidity.

For most retiring farmers, farm real estate is superior to nonfarm equities in terms of ease of management. There are situations in which finding and retaining a capable tenant might be difficult for an elderly retired farmer or a surviving spouse; however, because of their lack of previous contact with common stocks, bonds and mutual funds, the management of a portfolio of nonfarm securities poses serious difficulties for retiring farm people. Professional investment advice and portfolio management are available on a fee basis to persons who have portfolios of \$100,000 or more. Given the range of net worths of the survey respondents, this alternative is apparently not available to most retiring farmers.



The novice common stock investor must rely primarily on the advice of a broker. A competent broker can usually provide reliable advice on establishing and managing a common stock portfolio. Investment counselling may also be obtained on a formal or informal basis from most commercial banks.

Mutual funds are a possible solution to the problem of managing nonfarm equities. Retiring farmers should study the historical performance of several funds before making a selection. Studies of the mutual funds have shown that some individual funds have achieved consistently poor results. Thus, the retiring farmer should diversify among two or three mutual funds which have investment objectives similar to his own.

Nonfarm fixed income securities are comparatively easy to select and manage. Corporate and government bonds can be obtained through brokerage firms and banks at a reasonable cost. Government bonds can be safely purchased with no financial analysis and the default rate on high grade corporate bonds has been very low. Annuities offer safety of principal and income stability but, because of their comparatively low rates of return and their lack of liquidity, they are generally unsuitable for retirement income purposes.

#### Procedures for analyzing retirement decisions

The basic decision to be made by the retiring farmer is whether to liquidate the entire farm business or retain

the farm real estate and rent it out to a tenant. Although many of the survey respondents had continued to farm well beyond the typical nonfarm retirement age of 65, most elderly farmers or their surviving spouses must eventually select one of these alternatives or some combination of the two. Personal considerations are of major importance in the analysis of this decision but an adequate analysis cannot be made without a thorough consideration of the financial aspects.

The financial analysis of the liquidation and rental alternatives in this study consisted of estimating the total amounts of real annual income under each alternative. Historically, nonfarm securities have provided higher returns but capital losses incurred in the conversion process must be taken into account. The individual farmer should determine whether he can earn a breakeven real rate of return on his assets following liquidation and this break even analysis should be related to some time horizon based on his life expectancy.

#### Estimating capital losses

The retiring farmer who liquidates his entire farm business incurs expenses such as capital gains taxes, commissions and retirement housing costs which reduce the amount of his earning assets. These reductions in the value of productive assets were referred to as capital losses, although some expenditures, such as the purchase of a retirement dwelling, are not actually capital losses.

If the average survey respondent were to liquidate his farm business, capital losses would range from about 11 percent to nearly 40 percent of the value of the productive assets which he owned prior to liquidation. The lower capital loss rate could be achieved by selling the real estate and chattels without the services of a realtor or auctioneer and purchasing a \$6,000 dwelling for retirement. It was assumed that the low cost dwelling could be obtained by purchasing a mobile home or retaining the farm dwelling when the farm is sold. The high capital loss rate was based on realtor's and auctioneer's commissions of 10 percent of the estimated market value of farm assets and a \$16,000 retirement dwelling.

The case study analysis indicated capital loss rates of 31 percent for the low net worth situation and 22 percent for the medium net worth situation, where both estimates were based on the low cost form of retirement housing. Capital losses for the high net worth case ranged from 19 percent to 31 percent depending upon the cost of retirement housing. Commissions for the sale of the farm assets were assumed to be 5 percent of the estimated market value of these assets in all three cases. It was assumed that the entire amount of the 10 percent commissions should not be regarded as capital losses because the services performed by realtors and auctioneers usually result in higher gross selling prices.

A break even analysis was used to estimate the effect of capital losses on retirement income. The rates of return needed to provide equal amounts of retirement income following liquidation were computed for the typical range of capital loss rates.

Using the average situation of the survey respondents as an example, suppose a retiring farmer has \$50,000 worth of productive assets prior to liquidation and that he can earn a total rate of return on these assets of 5 percent. The break even return needed to provide an equivalent amount of annual income following liquidation with a 25 percent capital loss rate would be about 6.7 percent. He would have to earn an additional 1.5 percent if he wished to recover the \$12,500 capital losses in a 20 year period. Thus, a 5 percent rate of return prior to liquidation would be equivalent to an 8.2 percent rate of return following liquidation.

#### Selecting investment alternatives

The investment portfolios in the case studies were based on assumed rates of return for early 1970, i.e., farm real estate, 6.5 percent; nonfarm equity securities, 9.0 percent and fixed income securities, 8.0 percent. The overall rate of return for each of the recommended alternatives was adjusted for inflation by deducting an assumed 3 percent rate of increase in the price level.

The underlying assumptions for these rates of return are important. Farm real estate prices were expected to increase at the rate of 3 percent per year. The 3.5 percent income rate of return from farm real estate was based on the survey results which indicated a 3.3 percent income return and on the 1955-1968 national average yield of 3.8 percent. The 9.0 percent rate of return on nonfarm equities may seem high given the limited capabilities of a novice investor. However, in early 1970, the general price level of common stocks was very low by recent historical standards. The widely quoted Dow Jones Industrials Averages, which approached 1,000 on two occasions during the 1960's were below 750 during January 1970. Common stocks which are purchased when prices are generally depressed will yield above average price returns. The net asset values of most mutual funds also decline when stock prices are depressed so they too would provide high price returns based on early 1970 equity prices.

The case study analysis showed that, given the assumed rates of return, the liquidation alternative would result in a slightly higher annual retirement income than would the rental alternative for the low and medium net worth situations. For the high net worth situation the rental alternative was slightly better, assuming that the high cost retirement dwelling was purchased. A low cost retirement dwelling would leave the high net worth case with enough productive assets to earn a break even annual income under the liquidation alternative.

On the basis of real annual retirement income, the rental alternative would be better for all three net worth levels if the general level of stock prices was high or the general level of interest rates was low by recent historical standards. The combination of depressed nonfarm equity prices and historically high bond yields suggests that early 1970 would have been a relatively good time to liquidate farm assets and invest in a portfolio of nonfarm securities. A general implication of this study is that retiring farmers should make definite plans regarding the liquidation of their farm assets before reaching retirement age but, if possible, they should implement this plan when the general outlook for nonfarm securities is favorable. If this timing strategy is followed, the real rate of return on a portfolio of nonfarm securities will generally be high enough to compensate for normal amounts of capital losses.

#### Implications of the Study

A general conclusion of this study is that farmers and their families should make definite plans regarding retirement and the transfer of their estates before serious illness or death forces them to do so.

A minimum estate transfer program should probably include a will and enough permanent life insurance coverage to meet the financial needs of dependent heirs while the estate is being probated. Depending upon the circumstances, other estate transfer devices such as a trust, incorporation,

or co-ownership of assets may be useful to insure that needless capital losses are avoided and that assets are distributed among heirs in the desired manner.

Unless there are strong personal motives for retaining the farm real estate, liquidating the farm business and either retaining the farm dwelling through ownership or a life estate or purchasing a low cost retirement dwelling is probably the better retirement alternative for most farmers. The higher returns from nonfarm assets will usually compensate for the capital losses incurred in the liquidation process. Also, the income returns from a portfolio of nonfarm securities would be more stable than the income from a farm business or the rental income under a share lease arrangement. The flexibility and liquidity of a portfolio of nonfarm securities permit the retiree to use his capital for retirement income needs and to adjust the equity and fixed income components of the portfolio according to changing economic conditions.

Personal goals associated with living on the farm, retaining managerial control of the farm real estate during retirement and the obvious difficulties of managing the equity portion of a portfolio of nonfarm securities are the more compelling reasons for not liquidating the farm assets. Retaining the farm real estate probably fulfills the personal retirement goals only as long as both the retired farmer and his wife are in good health. A rural location becomes a disadvantage when ill health makes automobile transportation





impractical or when regular medical care is required.

Furthermore, the life expectancy data indicate a high probability that the farmer will predecease his wife. The difficulties of managing the farm business or liquidating the farm assets would be especially serious for a surviving spouse.

If continuing to live in the farm home is an important retirement goal, as it appears to be for many people, a reasonable compromise between the liquidation and rental alternatives can be achieved by retaining the farm dwelling when the farm is sold. This alternative probably minimizes capital losses in addition to fulfilling most of the more important personal retirement goals.

Unfortunately, the liquidation alternative requires that funds derived from the sale of farm assets be invested in common stocks, mutual funds, bonds and other nonfarm securities. Most farmers understandably regard these types of assets as being too risky for a retirement income portfolio. The selection of nonfarm fixed income securities such as corporate or government bonds and savings accounts does not appear to pose a serious problem. However, some nonfarm equity securities are an almost essential part of the portfolio, particularly during a period of economic prosperity.

Common stocks are suitable only for people who have some familiarity with the analysis and selection of nonfarm securities or who have access to competent investment counselling. Historically, common stocks have provided highly variable price returns and fairly stable income

returns. Therefore, the common stock investor should have enough liquid reserves to minimize the probability that he will have to sell stocks when their prices are low. Also, his temperament should be such that he will not be psychologically disturbed when the prices of his stocks are temporarily depressed.

Retiring farmers who lack the ability or the willingness to tolerate the price fluctuation of common stocks should consider the merits of mutual funds. Mutual funds must be carefully selected but once the selection has been made, they require much less supervision than common stocks. The net asset values of mutual funds are generally more stable than the prices of common stocks. These characteristics of mutual funds make them more suitable for low net worth situations in which the lack of liquidity is usually a problem.

Retiring farmers who have medium or high net worth levels will generally be able to achieve their financial retirement goals with either the liquidation or rental alternative. Many people with low net worths will have to liquidate some of their capital to achieve their retirement income goals. This need for liquidity implies that if possible, assets such as farm real estate and land contracts should not constitute a large proportion of their assets.

### Suggestions for Further Research

Additional research is needed to provide information and techniques which would be useful to the retiring farmer in evaluating his retirement alternatives.

There is a need for more accurate estimates of the capital losses which occur when farm assets are converted to sources of retirement income. Research is needed to determine to what extent the market values of farm assets are affected by the neglect which occurs after an elderly farmer becomes incapable of continuing to farm. The effects on the market values of farms of retaining the dwelling by excluding it from the sale or by means of a life interest should be studied further. The results of this type of arrangement in terms of the retiring farmer's personal and financial goals should also be evaluated.

Many people remain on the farm during retirement because of the relatively higher living costs associated with a nonfarm location. Additional research is needed to obtain comparative data on farm and nonfarm living costs for elderly people. Information on the personal experiences of farmers who have retired in a nonfarm environment would also be useful.

Finally, this study did not deal adequately with the problems confronting the novice investor. Research is needed to determine how financial and educational institutions could better assist retiring farmers in selecting

and managing a portfolio of nonfarm securities. Potential sources of investment advice and counselling for the low net worth investor should be identified and evaluated in terms of their cost and their performance.

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## APPENDIX



## APPENDIX

### Letter to Prospective Survey Respondents

Dear Mr. (            ):

The Department of Agricultural Economics at Michigan State University is doing research on the subject of retiring from farming. The purpose of this research is to study farmers' plans for retiring and to find out how retired farmers have made the change from active farming to retirement.

In order to obtain some first hand information for this study, farmers and retired farmers from selected townships across Michigan are being interviewed. (            ) township is one of our sampling areas, and we would like you to participate in our study.

Within the next week or two our interviewer, Mr. (            ), will be contacting you to arrange for an interview.

We sincerely hope that you will be able to cooperate in this project. The information obtained from the many persons being interviewed will be extremely valuable in helping us to gain a better understanding of the problems of planning for retirement.

We assure you that the information which you provide will be kept strictly confidential.

Sincerely,

John R. Brake  
Professor

Survey Questionnaire

CONFIDENTIAL

DEPARTMENT OF AGRICULTURAL ECONOMICS

MICHIGAN STATE UNIVERSITY

RETIREMENT STUDY

Farm Location

County \_\_\_\_\_

Township \_\_\_\_\_

Respondent

Name \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Date of Interview \_\_\_\_\_

Interviewer \_\_\_\_\_



(Questions 1 to 9 for all respondents)

First, we would like you to think for a moment about what might be a satisfactory retirement situation for you, forgetting any specific financial or other limitations which might prevent you from achieving this situation.

1. (a) Here is a list of places that a retired farmer might live (Card 1). Which one would you prefer?

☐ on a farm,  
☐ in the country, but not on a farm,  
☐ in a village or small town (under 5,000 pop.)  
☐ in a large town or city, or  
☐ in some other location (specify) \_\_\_\_\_

(Mark response as (1) then proceed)

Now, could you also give your second and third choices?

- (b) In what part of the country would you live?...  
(Read list)

☐ within 25 miles of here,  
☐ another location in Michigan, or  
☐ another part of the country (specify state)

- (c) What kind of housing would you prefer? Please give us your first, second, and third choices from this list. (Card 2)

☐ your own house,  
☐ a rented house,  
☐ an apartment,  
☐ a mobile home,  
☐ a nursing home,  
☐ a boarding house,  
☐ another kind of residence (describe) \_\_\_\_\_?

2. (a) Now, what about working during retirement. Would you want to work during retirement?

☐ No  
☐ Uncertain  
☐ Yes--What kind of work would you do? \_\_\_\_\_  
 \_\_\_\_\_





3. (a) We want to know how you would occupy your leisure time? Are there any of these activities which you would like to follow during retirement? (Card 3)  
(Check the activities mentioned and briefly record any comments.)

reading  
hunting and fishing  
visiting friends  
radio and television  
clubs, church, organizations  
sports (golfing, bowling, etc.)  
traveling  
gardening  
other hobbies or activites (describe)

4. (a) Approximately how much income do you think you would need in order to achieve a satisfactory or comfortable retirement situation at today's conditions?

\$\_\_\_\_\_ per month or \$\_\_\_\_\_ per year

- (b) What is the minimum income you feel you would need?

\$\_\_\_\_\_ per month or \$\_\_\_\_\_ per year.

Next, we would like to obtain some information about your background and your family.

5. (a) Please tell us your approximate age. \_\_\_\_\_

- (b) Are your married?

[illegible]

Could you please tell us your wife's approximate age? \_\_\_\_\_

- (c) Did you grow up on a farm?

           No  
Yes

- (d) When did you start farming on your own?

Year. 19\_\_

6. Have you ever worked off the farm for income?

☐ No  
☐ Yes    How many years did you work at an off-farm job?  
                                 \_\_\_\_\_ years

What kinds of work have you done? \_\_\_\_\_

7. (a) What was the last grade of school you completed?  
                                 \_\_\_\_\_th grade

(b) Did you receive any additional training such as short course or vocational training?

☐ No  
☐ Yes    How long was this training? \_\_\_\_\_ months

What kind of training was this? \_\_\_\_\_

8. (a) (If respondent is or was married) Do you have any children?

☐ No  
☐ Yes    We would like to know

(i) the size of your family \_\_\_\_\_girls  
   \_\_\_\_\_boys.

(ii) the number of children who are still dependent on you for financial support \_\_\_\_\_.

(iii) the number of family members, that is, sons or sons-in-law, who are farming \_\_\_\_\_.

(iv) the number of family members who are not farming now but who intend to farm in the future

(b) How many other persons (besides your wife) (and children mentioned) are dependent upon you for financial support? \_\_\_\_\_.

(c) Have you provided or do you intend to provide financial or other assistance to help a family member or someone else become established in farming?

☐ No                    -- Proceed to question 9  
☐ Uncertain  
☐ Will provide    -- Proceed to part (d)  
☐ Have provided

(d) (i) Who have you helped (or will you be helping)?

\_\_\_\_\_ son or son-in-law  
 \_\_\_\_\_ other relatives  
 \_\_\_\_\_ other

(ii) What kind of assistance have you given (or will you be giving)? \_\_\_\_\_

9. Which of the following would best describe your present employment situation as far as farming is concerned...

\_\_\_\_\_ completely retired (Questions 10 to 13 Yellow)  
 \_\_\_\_\_ partly retired, or --(Questions 14 to 17 Green)  
 \_\_\_\_\_ still farming

(Questions 10 to 13 for retired respondents only)

10. (a) How long have you been retired from active farming? \_\_\_\_\_ years.

(b) Please tell us why you retired from farming when you did. (Obtain rank if more than one reason given. Read list only if necessary to explain question.)

\_\_\_\_\_ health problems  
 \_\_\_\_\_ family members wanted to take over  
 \_\_\_\_\_ not enough money from farming  
 \_\_\_\_\_ too much work in farming  
 \_\_\_\_\_ became eligible for social security  
 \_\_\_\_\_ other reasons (describe) \_\_\_\_\_

11. (a) We want to know what type of farming you carried on the last three years before you retired. What enterprises did you have, how large were these enterprises and approximately what percentage of the total or gross farm income came from each?

	<u>Number of:</u>	<u>Percentage of</u> <u>Total Sales</u>
Dairy cows milked	_____	_____ D
Beef cows fed	_____	_____ B
Fed cattle sold	_____	
Sows farrowed	_____	_____ S
Market hogs sold	_____	
Broilers sold	_____	_____ P
Laying hens	_____	
Turkeys	_____	

## 11. (a) cont.

<u>Number of:</u>		<u>Percentage of</u> <u>Total Sales</u>
Cash Crops Acreage		
Corn	_____	_____ CC
Wheat	_____	
Navy Beans	_____	
Soybeans	_____	
Other	_____	

## Fruit or Market Gardening

Crops	Acreage	
_____	_____	_____
_____	_____	

## Other Enterprises

Type	Size	
_____	_____	_____
_____	_____	_____

(b) i. How large was your farm? \_\_\_\_\_ acres. How many acres were tillable? \_\_\_\_\_

ii. How many acres of this did you: own \_\_\_\_\_  
rent \_\_\_\_\_

(c) Please tell us the approximate annual total or gross income from your farming operations during the last three years that you were farming.  
\$ \_\_\_\_\_

## 12. Now, we would like to know what you did with your farm assets when you retired from farming.

(a) First, did a family member or other relative take over the farm?

_____ No	
_____ Yes	Who was this? _____ son or son-in-law
	_____ other relative
	_____ other



(b) What did you do with your farmland?

☐ sold for cash  
☐ sold on mortgage  
☐ sold on land contract  
☐ kept and rented out  
☐ kept for own use in farming  
☐ other or combination of above (describe)  
 \_\_\_\_\_

(c) What did you do with the livestock, equipment and so on?

☐ sold by auction sale  
☐ private sale  
☐ kept and rented out  
☐ kept for own use in farming  
☐ other (describe) \_\_\_\_\_

(d) Could you tell us why you chose to handle your farm assets the way you did? (Refer to answers to parts (b) and (c))

\_\_\_\_\_

13. (a) Please indicate from the following list the sources and amounts of your family income for the past year. (Please include any income received by your wife.)

	<u>Annual Amount</u>
Net rental income from farm property	_____
Net rental income from nonfarm property	_____
Net farm income (including government payments)	_____
Salary or wages	_____
Interest and dividends from investments	_____
Social security	_____
Pension or retirement plan	_____
Life insurance or annuities	_____
Welfare benefits	_____
Financial support from relatives or friends	_____
Other sources of income (describe)	_____
_____	_____
Total Income	=====

- (b) Was your total income for last year higher, lower, or about the same as usual?

\_\_\_\_\_ about the same  
 \_\_\_\_\_ higher -- Please explain why your income was  
 \_\_\_\_\_ lower -- (higher, lower) than usual \_\_\_\_\_

- (c) (i) Where have you lived since you retired?  
 (Record location and kind of dwelling)

- (ii) Do you expect to stay here throughout your retirement years?

\_\_\_\_\_ No Where do you plan to live? \_\_\_\_\_  
 \_\_\_\_\_ Yes  
 \_\_\_\_\_ Uncertain

- (d) Many people make plans for their retirement before reaching retirement age but sometimes plans must be changed. In what ways do you feel your actual retirement situation differs from what you expected it to be? \_\_\_\_\_

- (e) Have you been generally satisfied with your retirement program?

\_\_\_\_\_ Yes  
 \_\_\_\_\_ No Why? \_\_\_\_\_

(Questions 14 to 17 for respondents who are not retired.)

14. Do you think that you will eventually leave farming entirely?

\_\_\_\_\_ No  
 \_\_\_\_\_ Uncertain  
 \_\_\_\_\_ Yes At what age do you plan to retire \_\_\_\_\_.

15. (a) We want to know what type of farming you carry on now. What enterprises do you have, how large are these enterprises, and approximately what percentage of your total or gross farm income comes from each?

<u>Number of</u>	<u>Percentage of</u>
	<u>Total Sales</u>
Dairy cows milked _____	_____ D
Beef cows fed _____	_____ B
Fed cattle sold _____	_____ S
Sows farrowed _____	_____ S
Market hogs sold _____	_____ S

15. (a) cont.

<u>Number of</u>	<u>Percentage of</u> <u>Total Sales</u>
Broilers sold _____	_____ P
Laying hens _____	_____
Turkeys _____	_____
Cash Crops Acreage	
Corn _____	_____ CC
Wheat _____	
Navy Beans _____	
Soybeans _____	
Other _____	
_____	

## Fruit or Market Gardening

Crops	Acreage
_____	_____
_____	_____
_____	_____
_____	_____

## Other Enterprises

Type	Size
_____	_____
_____	_____

- (b) (i) How large is your farm? \_\_\_\_\_ acres  
How many acres are tillable? \_\_\_\_\_
- (ii) How many acres of this do you...Own? \_\_\_\_\_  
Rent? \_\_\_\_\_
- (c) (i) Please tell us what has been the average annual total or gross income from your farming operations during the last three years? \$ \_\_\_\_\_
- (d) Please indicate from the following list the sources and amounts of your family income for the past year.

	<u>Annual</u> <u>Amount</u>
Net rental income from farm property	_____
Net rental income from nonfarm property	_____
Net farm income (including government payments)	_____
Salary or wages	_____
Interest and dividends from investments	_____



Social security	_____
Pension or retirement plan	_____
Life insurance or annuities	_____
Welfare benefits	_____
Financial support from relatives or friends	_____
Other sources of income (describe)	_____
_____	
Total Income	_____

(a) First, will a family member or other relative be taking over the farm?

No \_\_\_\_\_  
Uncertain \_\_\_\_\_  
Yes Who will this be? \_\_\_\_\_ son or son-in-law  
\_\_\_\_\_ other relative  
\_\_\_\_\_ other

(b) What do you plan to do with your farmland?  
Please indicate your first, second, and third  
choices from this list. (Card 4)

\_\_\_\_\_ sell for cash  
\_\_\_\_\_ sell on a mortgage  
\_\_\_\_\_ sell on a land contract  
\_\_\_\_\_ keep and rent out  
\_\_\_\_\_ keep for own use in farming, or  
\_\_\_\_\_ other or combination of above (describe)

(c) What do you plan to do with your livestock, equipment, and so on? Please give your first, second, and third choices from the following list.  
(Card 5)

\_\_\_\_\_ sell by auction sale  
 \_\_\_\_\_ private sale  
 \_\_\_\_\_ keep and rent out  
 \_\_\_\_\_ keep for own use in farming  
 \_\_\_\_\_ other (describe) \_\_\_\_\_

- (d) Please give your reasons for your preferences.  
(Ask about No. 1 choices)
- 

- (e) How will you spend or invest any money received from the sale of your farm assets? 

---
- 

17. (a) Now, we would like to establish an estimate of the probable sources and amounts of your family income when you retire. First, how about social security? Can you tell me how much income you (and your wife) will receive from social security?

---

 Yes      \$ 

---

---

 Uncertain -- Okay, maybe you can tell us the

---

 No-- approximate yearly average net income  
for social security purposes over the  
last five years. \$ 

---

- (b) Now, what other sources of family retirement income will you (and your wife) have? If possible, we would like an estimate of the amounts. (Read list, check sources, and record amounts.)

<u>Source</u>	<u>Annual Amount</u>
Net rental income from farm property	<hr/>
Net rental income from nonfarm property	<hr/>
Net farm income (including government payments)	<hr/>
Salary or wages	<hr/>
Interest and dividends from mortgages, contracts and investments	<hr/>
Pension or retirement plan (other than social security)	<hr/>
Life insurance or annuities	<hr/>
Welfare benefits	<hr/>
Financial support from relatives or friends	<hr/>
Other sources of income (describe)	<hr/>
<hr/>	<hr/>
Total	<hr/> <hr/>

(Ask remaining questions of all respondents.)

18. Do you feel that you will have enough income throughout your retirement years or do you expect to have financial problems? 

---

19. Now, we would like to get an idea as to what your family living expenses have been during the past year.

(a) How much do you normally spend on food, beverages, and other grocery items in say a week or month?

\$\_\_\_\_\_ per (week, month)  
Annual Amt. \$\_\_\_\_\_

(b) Now, what about your housing costs? What would be the approximate amounts of:

Rent payments	\$_____
Mortgage payments	_____
Property taxes	_____
Utilities (fuel, electricity, telephone)	_____
Maintenance and repairs on house (average)	_____
Insurance on house and contents	_____
Other expenses (list)	_____
_____	_____
Subtotal	\$_____

(c) How much do you usually spend on health care?

Medical insurance premiums	\$_____
Doctor and hospital care	_____
Dental care	_____
Drugs and medicines	_____
Eyeglasses	_____
Other _____	_____
Subtotal	\$_____

(d) Do you own a car? \$\_\_\_\_\_

\_\_\_\_\_ No  
\_\_\_\_\_ Yes

What is the make and year? \_\_\_\_\_  
Approximately how many miles do you drive in a year? \_\_\_\_\_  
Do you have any other transportation expenses, such as bus, train, plane, and taxi? \$\_\_\_\_\_ \$\_\_\_\_\_

(e) Now for some family miscellaneous expenses such as:

Clothing, shoes, toiletry items	\$_____
Recreation and hobbies	_____
Gifts and charity (Christmas, church, United Appeal, etc.)	_____



19. (e) cont.

Books, magazines, etc. \_\_\_\_\_  
 Income taxes \_\_\_\_\_

Subtotal \$ \_\_\_\_\_

(f) Other family living expenses not already covered: \_\_\_\_\_

Total Annual Living Costs \$ \_\_\_\_\_

20. (a) There are several ways that a person can use to insure the orderly transfer of his possessions to his heirs. We would like to know what estate transfer methods you are using.

Check for  
are using

Check for will  
be using

\_\_\_\_\_ Do you have a will? \_\_\_\_\_

Are any of your assets held on a co-ownership basis with heirs (other than your wife)

_____	joint tenants	_____
_____	partnership	_____
_____	corporation	_____
_____	other _____	_____

\_\_\_\_\_ Have you made any gifts to heirs for the purpose of reducing estate taxes? \_\_\_\_\_

\_\_\_\_\_ Have you sold any property to heirs for the purpose of reducing estate taxes? \_\_\_\_\_

\_\_\_\_\_ Do you have any kind of trust arrangement? \_\_\_\_\_

(b) Are there any of these estate transfer methods not being used now which will definitely be used in the future? ( Check on right above)

\_\_\_\_\_

(c) Do you carry life insurance now?

\_\_\_\_\_ No  
 \_\_\_\_\_ Yes What is the face value of your life insurance coverage? \$ \_\_\_\_\_

20. (c) cont.

What type of policy do you have?

☐ Term  
☐ Ordinary life  
☐ Limited pay life  
☐ Endowment

When did you take this policy out?  
 Year 19\_\_\_\_.

21. (a) There are several things that a person can do with money that he doesn't need for his day-to-day expenses. Please consider this list of ways of investing money and tell us which ones you would prefer. (Card 6) (Probe to get three or more acceptable alternatives.)

☐ Mutual funds  
☐ Land  
☐ Bonds  
☐ Mortgages  
☐ Land Contracts  
☐ Common stocks  
☐ Savings account

(b) Which do you consider to be the poorest way of investing your money? \_\_\_\_\_.  
 Why? \_\_\_\_\_.

(c) Which do you feel is the best way to invest money?  
 Why? \_\_\_\_\_

22. (a) We would like to establish a fairly detailed estimate of your net worth. As I read the following list of assets, please provide your best estimate of the market values of those which you have. In cases where ownership is shared with someone (other than your wife), we would like the value of your share.

	<u>Value</u>
Farmland and buildings	\$ _____
Livestock	_____
Farm machinery and equipment	_____
Feed, crops, and supplies on hand	_____
Securities--common stocks	_____
mutual fund shares	_____
bonds and debentures	_____
annuities	_____
Bank savings accounts, saving certificates, etc.	_____
--savings and loan associations	_____

## 22. (a) cont.

Money owed to you:	farm mortgages	\$ _____
	farm land contracts	_____
	other mortgages and contracts	_____
	notes	_____
	other money owed to you	_____
Cash on hand and in checking accounts		_____
Nonfarm real estate--dwelling		_____
	--other	_____
Personal possessions (household, auto, etc.)		_____
Other assets (describe) _____		_____
Total Assets		\$ _____

(b) Now, we would like to know the approximate amount of your financial obligations. Do you have any...

Real estate debt	\$ _____
Short-term notes	_____
Accounts Payable	_____
Household or auto installment debts	_____
Other debts _____	_____
Total Obligations	\$ _____

NET WORTH \$ \_\_\_\_\_

Interviewer's Remarks: (Observed level of living, condition of home and furnishings, and any other relevant comments about respondent's situation.)

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