AN EVALUATION OF THEORIES RELEVANT TO INSURANCE PURCHASES THROUGH AN ANALYSIS OF THE INSURANCE PROGRAMS OF VERMONT FARMERS

By

Robert Orville Sinclair

A THESIS

Submitted to the College of Advanced Graduate Studies of Michigan State University of Agriculture and Applied Science in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

Department of Agricultural Economics

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AN ABSTRACT

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All economic activity in a dynamic economy takes place in an atmosphere of uncertainty. Uncertainty of the future has a vitally important affect upon the production plans of formers; because of uncertainty these plans must be altered and the use of resources is likely to be different, perhaps less efficient, than would be the case in a static economic system. Uncertainty imposes costs, either as losses in assets or in forgone income resulting from modifying production plans to decrease uncertainty. One type of uncertainty, known as risk, is insurple. This study is concerned with the area of insurable risks and the use of insurance to protect equinst uncertainty.

This study has two brond objectives. The insurance consumption patterns of a sample of 220 Vermont farmers are analyzed to gain an understanding of the ownership of insurance and thitudes toward and knowledge of insurance orinciples; and the esociation between insurance ownership and certain economic and sociological variables are investigated.

Secondly, current economic theories pertaining to insurance consumption are reviewed and critically evaluated in light of the empirical relationships. Insurance is not a productive input in the sense that fertilizer, labor, and feed are productive. The product of insurance is non-physical--a sense of security. Because of this, insurance is analyzed within the constructs of consumption theory.

In order to satisfactorily explain the insurance purchases of the farmers surveyed, it is necessary to modify substantially the received consumption theory. Even the basic (asumptions of consumption theory--perfect knowledge, retionality, and individual atility morimization---preserve open to question. The interrelationship between firm and household, and the intertemporal conflict raised by insurance purchases require a re-evaluation of current ottempts to apply the received theory to insurance concership. In order to fully applies the complex decision making process as it applies to the purchase of some kinds of insurance, it is necessary to hypothesize a simultaneous resolution of the many areas of conflict before utility maximization is achieved.

Most discussions of the application of utility theory to insurance consumption make no distinction among the different kinds of insurance. Institutional requirements, sociological factors, custom, and agent activity play a very important part in the decision to purchase certain kinds of insurance. In fact, the decision making process as it is usually defined may be entirely absent. These exogenous factors may completely overrule economic considerations in explaining purchases of some kinds of insurance.

There is good evidence that insurance consumption may be more closely related to increases in income than to absolute level of income---an application of marginality principles. Although sufficient data to determine demand elasticities for different kinds of insurance are not available, there is an indication that demand elasticities do vary. The level of knowledge on insurance principles of the farmers surveyed leaves much to be desired. Given the v-lues of these formers, more perfect knowledge of insurance principles would recult in a more efficient coverage t lower cost. Few farmers have given any but cursory attention to retirement plans or needs.

This study, then, is a combination of a quantitative statistical analysis of the insurance programs of Vermont farmers, and a qualitative analysis of motivations affecting these programs. It is an attempt to provide a benchmark for the use of those people counseling with farmers on their insurance programs, and raises some questions concerning currently accepted theories pertaining to insurance purchases.

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CHAPTER I

INTRODUCTION

CHAPTER I

INTRODUCTION

To live and labor in uncertainty is the common lot of all men. Life, health, wealth, and income are all exposed to innumerable, unpredictable dangers. This is particularly true of the farmer, faced as he is with the vagaries of weather, the fluctuations of the price system, and the constant danger of accidents to himself, his family, or his employees; to say nothing of the ever-present threat of an untimely demise.

These uncertainties have costs, both economic and social. There is no way of measuring the mental anguish suffered during long and serious illnesses of a family member; nor is it much simpler to determine the amount of forgone income resulting from management decisions modified in the light of production uncertainty.

As a means of partially protecting himself and his family against risk or uncertainty, the farmer utilizes formal or informal insurance. For those risks where the probabilities of occurrence and loss are known, he may use formal insurance. For those uncertainties for which it is impossible to determine empirically or by <u>a priori</u> deduction the probabilities of loss, he may use one of the informal insurance strategies: diversification, discounting, increased flexibility, or liquidity. It has been said that pure risk--that which is insurable--need have no impact on decision making and resource allocation.¹ This would seem to be a misleading statement, since if risk-preference and knowledge of probabilities of loss are less than perfect and vary among individuals, then there is always the decision of whether or not to insure and for how much. These are important decisions for the farm manager, and in some cases the success of his farming operation or his family's welfare may depend upon them. It is in the area of insurable losses that this study will be concerned.

<u>Reasons for making the study</u>. This project was initiated in part at the request of the Ohio Farm Bureau Insurance Companies---now Nationwide Mutual Insurance Companies. This organization, which has been insuring Vermont farm families for many years, asked the Vermont Agricultural Experiment Station to survey a group of farmers to obtain data on insurance attitudes and coverage. In return for the survey data the company agreed to underwrite a part of the cost.

Although formal insurance is, or should be, an important part of most farm programs, little is known of the insurance programs of farmers. Even less is known of attitudes toward insurance or of the factors motivating insurance purchases. Little is known of the riskpreference of farmers and its effect on consumption. And while information on present consumption patterns is important in studying

¹Earl Heady, <u>Economics of Agricultural Production and Resource</u> <u>Use</u> (New York: Prentice-Hall, Inc., 1952), p. 442.

expenditures of the insurance dollar, far more important is a knowledge of the motivating forces in insurance consumption. This is particularly needed in view of the present emphasis on farm and home counseling. This study then, is an attempt to investigate some of these areas of imperfect knowledge.

Objectives. There are three broad objectives or areas of inquiry. Because little was known regarding the insurance ownership of Vermont farmers, the first need was to collect as complete data as possible on insurance ownership of a representative sample of farmers.

The second phase is an attempt to consolidate and review the various areas of economic theory relevant to insurance consumption. These theories will be critically appraised and any inadequacies of the theory will be explored. If it is found that economic theory does not by itself satisfactorily explain insurance consumption, answers will be sought in other areas.

The third phase of the study is concerned with farmers' retirement plans and the effects of social security on these plans. With all farmers now included in the social security program, it is desirable to know the likely effects of this program on insurance purchases, land ownership, and related problems.

<u>Methodology</u>. Science is a continuing search for truth; the scientific method the vehicle for making the search. Science cannot be static, however, and the truths of today, as represented by the systematized knowledge, the laws, principles, and theories, are but stepping stones to further truths, further theories. Science progresses through observation and experimentation; these are the bases of all definitions of the scientific method.

The ultimate objective of science is prediction--inferences which can be made on future activities based on observations of present or past relationships. In scientific experimentation the investigator formulates his ideas into an hypothesis; he follows a logical pattern of thought and deduces that "If this act is performed, then this will be the result." He then attempts to confirm or deny his hypothesis through experimentation in the physical sciences and through observation in the social sciences. Because society will not usually permit experiments on man, the social scientist must observe the results of such variations as occur without his intervention and learn what he can from them, disentangling as much as he can from the tangled skein of cause and effect. He must generalize on the behavior of many from the behavior of a few. By using the proper statistical techniques he can do this, and, within the limits of his data, expect similar results to be achieved by other social scientists.

When it comes to formulating theories in economics and the other social sciences there is a unique problem. Because of the "free-will" of human beings it becomes necessary to set up certain assumptions regarding human behavior; if these assumptions are sound, the theories upon which they are based can be used to predict economic actions. In those theories which may be applicable to insurance consumption, two common assumptions are rationality of action by the individual and perfect knowledge, or at least sufficient knowledge for the individual to be willing to act. In this study these assumptions will be critically examined in the light of the data obtained.

A large part of this study is empirical; the collection and classification of quantifiable data, guided by presently recognized economic theories. However, while a major share of the study is concerned with the statistical analysis of these empirical data, no small part is a subjective analysis of qualitative observations. The interpretation of attitudes and motivations, the determination of social status and risk-preference, are areas where highly refined quantitative analysis does not seem practicable. As a result, the analysis includes a measure of the subjective interpretation of the interviews by the writer.

This study, then, is a combination of a quantitative statistical analysis of the insurance programs of Vermont farmers, and a qualitative analysis of motivations and other psychological factors affecting these programs. It is guided and directed by currently recognized insurance principles, but does not attempt a precise mathematical verification of these theoretical concepts. In fact, it is more an evaluation of those theories which apply to insurance purchases.

Value judgments are doubtlessly made in this study. The writer has attempted to identify any which are included; however, many have probably been included without being specified. A study of this type is particularly vulnerable to this difficulty. However, even the most objective statistical research may also include value judgments, many

of which are hidden in the theoretical constructs or in the mathematical analysis.

The sample. Because of the complex nature of the problem and the great amount of data needed, it was deemed desirable to make personal interviews to obtain the necessary information. The population from which the sample was drawn consisted of all rural households owning one or more units of livestock. All livestock other than dairy was converted to a cow-equivalent basis. Poultry raisers were considered to have one unit of livestock for every 100 hens or major share thereof.

In Vermont, local town listers (assessors) are required by law to submit annually to the State Commissioner of Agriculture a certified list of all owners of livestock and poultry in their respective towns. This list was used as the population from which the sample was drawn. Because Vermont's agricultural economy is geared so firmly to the dairy cow, farm size is most conveniently and meaningfully measured in cows per farm. A stratified sample with five different size groups was chosen: 1 to 11 cows; 12 to 19; 20 to 29; 30 to 39; and 40 cows or more per farm. Two hundred farms were chosen as the sample size. It was considered desirable to keep the number of farms per group approximately equal rather than to choose randomly from the entire population (Table 1, Appendix).

In an effort to get state-wide representation the farms were chosen so as to assure at least one farm in each size group in all 14 counties in the state. The original sample was drawn by random numbers

with the intention of having at least 40 farms in each strata, or a total of 200 farms. Actually, when the survey was completed, 220 usable records were taken, but the number of farms per group varied from 35 to 56. Records were taken by five specially-trained interviewers. (The questionnaire is included in the appendix as Exhibit A.)

All data were machine tabulated. Commonly accepted statistical tests of significance were run where applicable. Unless otherwise stated, all results were significant at the 95 percent confidence level.

Because of the method of stratification used in picking the sample, none of the results as listed for all farms in the sample should be inferred to be representative for all farms in the state. While it would be possible to weight the results, according to sample proportions, and thereby get representative figures for the whole population, this has not been done in the study. The data for each stratum are, however, inferentially representative of all farms within that stratum.

After preliminary analysis of the data for the 220 farms, it was decided to re-visit some of these farms to get further information. Consequently, 45 farms which exhibited certain desired characteristics were purposely chosen for this survey. A comparison of specified characteristics of these 45 farms with the original 220 farms is included in Table 3, Appendix. These farms were visited during the late fall of 1956, and the questions as shown in Exhibit B, Appendix, were asked of the farm operators. Specifically, this data pertained to knowledge of insurance and insurance principles, risk-preference of the operators, and retirement plans. Forty-one usable records were obtained.

The remaining chapters of this study present the results of the investigation. In Chapter 2, those theories having relevance to insurance consumption will be examined and an attempt made to develop a coherent theoretical framework within which insurance purchases may be examined. Chapter 3 is a discussion of the evolutionary development of Vermont's agricultural economy, and of certain sociological factors which may affect farmers' decisions. In Chapter 4, the life insurance programs of the farm families are discussed. Chapters 5 and 6 pertain to casualty and health insurance programs respectively, while Chapter 7 is a discussion of retirement plans and social security. In Chapter 8 the analysis is summarized and conclusions drawn as to the value of this research and the need for further investigation.

CHAPTER II

THEORETICAL CONCEPTS RELEVANT TO INSURANCE PURCHASES

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Economics as a discipline is concerned with problems of choice. Resources are scarce, man's wants almost insatiable, and the economic problem becomes one of deciding which wants are to be satisfied and how scarce resources are to be allocated so as to maximize satisfactions of the individual or the community. Selecting among scarce and competing means requires decision making. It is with a limited phase of decision making--namely, that of using insurance in solving problems of risk and uncertainty--that this thesis is concerned.

Since this is a study of insurance programs, one would normally start with a discussion of insurance theory. However, there is no complete body of principles or concepts known as a theory of insurance. In this study, when the term "insurance theory" is used, it will refer to those principles or concepts borrowed from economic theories of consumption or production which, when properly modified, have relevance to insurance consumption.

The received economic theory is normally divided into two general areas; production theory and consumption-theory. Unfortunately these are not distinct, clear-cut entities. Normally, production theory is concerned with the firm, with the combination and use of the numerous factors of production (inputs) to maximize profits resulting from the production and sale of goods and services. Consumption theory deals with the combinations of goods and services which, when utilized by the consumer (household), will maximize satisfaction. The output of the production process is a physical product or a service; the output of the consumption process is measured by a psychological concept known as utility. Despite the apparent distinction, it is often difficult to determine if certain economic decisions concern production or consumption and the firm-household conflict is a real and troublesome problem.

Static economic production theory provides a set of well-defined concepts and principles which determine what shall be produced, how much shall be produced, and how it shall be produced. By making certain assumptions, static theory describes a system which will determine production, allocate resources to their most efficient use, and return to all factors of production the value of their marginal productivity. The received theory, then, will solve all problems of choice, eliminating any need for management and decision making, provided the basic assumptions apply. Of the many assumptions necessary for static theory to be operational, at least three have special significance to this study. These are the assumptions of perfect knowledge of present and future events; that the goal of the farm firm is profit maximization, in the long run if not in the short run; and that the individual will act rationally.

If perfect knowledge of the present and future is no longer assumed, the future becomes uncertain and theories involving risk and uncertainty are necessary. Those decisions made to eliminate or alleviate the effects of risk and uncertainty involve formal and

informal insurance schemes. But insurance is not strictly a production input, and this introduces the problem of firm-household conflicts. If there are conflicts between the goals of the firm and those of the household, profit maximization may no longer be assumed the goal of the production unit. Finally, when there are conflicting goals, rational action becomes more difficult, or at least economically rational action may not always be the rule. The consequences of relaxing these assumptions are discussed below.

<u>Risk vs. uncertainty</u>. While the layman, and indeed many trained scientists, tend to use risk and uncertainty synonymously, there is a difference. To clarify what is to follow, an attempt will be made to define the terms as they will be used in this study.

In an insurance sense, risk is often considered a chance of loss. Farmers are prone to classify all outcomes which may lead to losses as risks. Technically, however, risk refers to outcomes which are predictable in an actuarial sense. The outcome of a single occurrence need not be predictable. It is only necessary that the probability of loss can be established for a large number of cases. These empirical probabilities can be established in two ways: <u>a priori</u> probability, where the chances are known beforehand, as the chance of drawing an ace from a deck of 52 cards; or statistical probability, based on observations from a very large number of cases. Most insurance schemes are based on statistical probability. In order to establish probabilities the sample must contain a large number of observations, the losses must be repeated in the population, and the losses must be independent and

randomly distributed.² The ability to establish parameters of the probability distribution for outcomes distinguishes risk elements from uncertainty elements. Thus, risks are insurable but uncertainty is not. Uncertainty is entirely of a subjective nature; it refers to anticipations of the future held by the individual. Since uncertainty is not insurable in an actuarial sense, the individual must use informal insurance schemes to protect himself.

Both risk and uncertainty have costs. The costs of insurable risks, such as protection of property from loss by fire, or net worth from liability lawsuits, are measured by insurance premiums; the costs of uncertainty are measured in terms of forgone income resulting from something other than the optimum allocation of resources which are necessitated by adapting the firm's operation to protect against uncertainty.

Because reaction by managers to risk and uncertainty involves decision making, and since uncertainty is a function of the state of knowledge concerning future events, a brief discussion of knowledge situations follows.

Knowledge situations and decision making. When Frank Knight³ started to modify classical static economic theory by introducing

2<u>Ibid</u>., p. 443.

³Frank E. Knight, <u>Risk</u>, <u>Uncertainty</u>, and <u>Profit</u> (London: School of Economics and Political Science, 1937), Reprint No. 16.

imperfect knowledge of the future, the door was opened to a study of the managerial function.

Managerial theory has advanced extensively since Knight classified the degrees of knowledge held by managers as perfect knowledge or certainty, risk, and uncertainty. Knight defined the perfect knowledge situation as that commonly assumed by static theorists in which managers have no risk-bearing to perform; in fact there is no need for management. According to Knight's risk situation, the probabilities of errors in perception and inference are known and the costs of bearing risks can be computed and incorporated into insurance schemes thereby eliminating this kind of risk-bearing as a task for management. This left only uncertainty as a place where management was needed.

Current thinking4 would indicate that Knight's theory was incomplete in several respects. <u>First</u>, he distinguished between risk and uncertainty on the unrealistic objective basis of whether or not it is possible to compute probability errors, rather than on the more realistic subjective basis of whether or not there is sufficient information at hand for action. Secondly, he failed to distinguish situations in which the manager tries to learn, does not try to learn, or is prevented from learning; and thirdly, his classification depends on inductive methods, although managers act deductively as well as inductively.

⁴Glenn L. Johnson, <u>Managerial Concepts for Agriculturists</u> (Kentucky Experiment Station Bulletin 619, 1954).

It is possible to distinguish several different knowledge situations in which managers find themselves.⁵ These are: (1) Subjective certainty; perfect knowledge or the conviction that knowledge is perfect enough to act as though it were perfect. (2) Subjective uncertainty or imperfect knowledge. Sub-divisions are: (a) riskaction, (b) learning, (c) inaction, and (d) forced action.

In the subjective certainty situation the manager feels that he has essentially perfect knowledge, or that the probabilities of error are definitely known. If the manager feels that his present knowledge is good enough for him to take either positive or negative action, and that the utility or value of further learning is worth less than its cost, he is in the risk-action situation. In the learning situation, a manager feels that the amount of knowledge at hand is not sufficient to act and that the value of acquiring more information is worth more than its cost, so that decision is postponed for further study. If the manager in the learning situation finds that exogenous circumstances force him to act before he has the desired amount of knowledge, this is a forced-action situation. An inaction situation is one in which what is known is insufficient for positive action, but the value of what would be learned would be worth less than its cost.

When a manager is in a learning situation with regard to a particular problem, flexibility or liquidity become important. If the maintenance of increased flexibility or liquidity results in something

⁵Ibid.

less than an optimum combination of resources, the cost to the farm firm is in the form of opportunity costs measured by this decreased income. The value of flexibility or liquidity must be weighed against its cost in determining the optimum organization of the business. Other types of informal insurance include discounting, diversification, and internal credit rationing.

The ideal solution to decision making in the light of undesirable chance phenomena is to reduce the probability of occurrence of the event to zero; for desirable chance phenomena, the ideal solution would be to attempt to increase the probability of occurrence to one. Farmers use technology, enterprise selection, and group action to reduce the probability of occurrence of undesirable chance phenomena. Reduction of this probability requires knowledge of the cause and methods of eliminating it. Often this knowledge too is imperfect, particularly as to the latter. Because individual action to control or reduce the probability of undesirable chance phenomena is often inadequate, group action, including commercial insurance, is resorted to.

Decision making applied to insurance purchases assumes that the individual is in a subjective certainty or risk-action learning situation and the purchase of the insurance is the result of the positive operation of the decision making process. It assumes that he has perfect knowledge of the parameters of the probability distribution, that he is familiar with all of the possible alternatives, or that he has sufficient knowledge that the cost of further knowledge is greater than its utility. Therefore, the purchase of the insurance is a

voluntary and reasoned action. The writer feels that many times the manager is in a learning or inaction situation and the purchase of insurance is a result of forced-action caused by institutional requirements beyond his control. The implications of this situation may be far different than for insurance purchased through the voluntary application of the decision making process.

Basic consumption theory. Insurance is not a productive input in the sense that fertilizer, labor, and feed are productive. The productivity of insurance is not measured in pounds of milk or bushels of grain as is the productivity of other factors of production. As will be discussed in greater detail below, the product of insurance is measured in non-physical terms, in a sense of security or satisfaction. In this respect, insurance might better be considered a consumer good, and analyzed in the light of received consumption theory.

The household may be likened to a firm in certain respects. It buys inputs and transforms them into a final product which in this case is psychological rather than physical. This product has been called utility or, by some, satisfaction.

A basic stumbling block to the development of an operational consumption theory has been the measurement of utility. Froduction theory measures the output in physical units or dollars. Consumption theory must measure psychological units known as utility. Goods are considered on the basis of their ability to satisfy human wants. Until recently, utility analysis has been only slightly modified from the philosophy of Bentham⁶ who held that certain actions produced pain, other actions pleasure. Pain yielded disutility, pleasure utility, and man will choose that line of action which will maximize utility. While Bentham considered utility in a moral sense as a guide to behavior, political economists soon siezed on the concept as a means of measuring consumer satisfaction in an economic sense.

Many attempts, for the most part unsatisfactory, have been made to measure utility. In the 1930's, the indifference technique was developed which did not imply measurable utility. However, whether or not it can be measured (and it is beyond the scope of this thesis to review all of the literature concerned with the measurement of utility) the only definite theory of consumer behavior which commands respect requires that some entity be maximized.

Fundamentally then, utility analysis assumes that each good consumed yields a certain amount of satisfaction to the individual consuming it. It further assumes that repeated consumption of the same good, holding the consumption of other goods constant, eventually yields diminishing total utility. The individual is assumed capable of allocating his income dollar among all consumer goods so that total utility will be maximized. And while the individual has not generally been assumed to know <u>how much</u> he prefers steak to liver, milk to beer, or an insured position to an uninsured one, he is assumed to be able to indicate a preference one for the other.

⁶Jeremy Bentham, <u>Introduction to the Principles of Morals and</u> <u>Legislation</u> (Oxford: Clarendon Press, 1789).

Utility theory then, provides a general description of consumer behavior. Using maximizing principles, it attempts to explain the processes involved in decision making as it applies to consumer goods. Like production theory, it has shortcomings; among them the assumption that the consumer will always attempt to maximize utility, its inadequacies in dealing with changing values, and its difficulty in dealing with problems involving collective action. Finally, unlike production theory, utility theory until the present has been nonoperational, in that measurement of utility has been impossible and interpersonal comparisons could not be made. Perhaps the work on the utility of money of Von Neumann and Morgenstern,⁷ Friedman and Savage,⁸ and others discussed later will provide a breakthrough of this important barrier. As yet however, this work appears to be highly inconclusive, and while it may be valuable in clarifying certain actions of individuals, its predictive value is questionable.

<u>A note on rationality and economic behavior</u>. Much of insurance theory, indeed, much economic theory is based on the assumption of rational behavior. Just what is this concept which has such a powerful hold on the theorists? Von Neumann and Morgenstern⁹ state that "there

9Von Neumann and Morgenstern, op. cit., p. 9.

⁷John Von Neumann and Os ar Morgenstern, <u>Theory of Games and</u> <u>Economic Behavior</u> (Princeton, New Jersey: Princeton University Press, 1944).

⁸Milton Friedman and L. J. Savage, <u>The Utility Analysis of</u> <u>Choices Involving Risk</u> (Journal of Political Economy, Volume 56), pp. 279-304.
exists, at present, no satisfactory treatment of the question of rational behavior." But in this sense, the two authors are probably discussing ends rather than means. Normally, to the theorist, rationality is measured in terms of means of achieving an end, rather than of the end itself. Given the goal, the rational individual is assumed to be the one who will choose that course of action which results in the most efficient use of all resources employed in achieving this goal. Thus, if \$1,000 worth of protection can be afforded by the expenditure of \$10, the rational individual will not spend \$20 for this protection. This assumes, of course, that the individual has complete knowledge of all alternatives.

It is when one tries to judge rationality by applying it to ends that the greatest difficulty arises. In this case, one assumes that in all actions involving making and spending money, people are driven toward a definite goal, the attainment of the greatest possible amount of satisfaction. It is assumed that, in hedonistic terms, certain actions of man result in pleasure. All possible actions can be scaled as to the intensity of pleasure. The rational, economic man is pictured as weighing possible alternatives in the light of their respective pleasure-giving powers, and selecting that alternative or course of action which maximizes pleasure. This is the foundation of utility analysis, and the rational individual is pictured as one who seeks to maximize utility; i.e., pleasure. Since all economic goods have utility and value, monetary measures are normally used to determine utilities. However, who is to say that the desired ends are rational or irrational?

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Rational behavior does not necessarily imply normality; irrationality abnormality. In fact, what may be perfectly normal behavior to one person may seem entirely irrational to others. As an example, surveys have shown that certain consumers will buy articles on credit, paying relatively high interest rates, while at the same time having sufficient savings invested at low interest to pay cash for the article. From an economic means standpoint, this would seem irrational. However, certain individuals may find it difficult to save and be willing to pay the interest premium from installment buying--a means of forced savings--in preference to withdrawing present savings which would be painful for them to replace voluntarily.

This would seem to imply that rational behavior, as applied to goals, is largely subjectively determined. To paraphrase on old saying, "rational is as rational does."

Just how realistic is this assumption of rational behavior, this concept of economic man as a human calculator, mechanically assigning utilities to all economic goods and services and allocating a given income unerringly among those goods and services which maximize some kind of psychic return or satisfaction? One eminent economist has stated, "Human behavior....is not under the constant and detailed guidance of careful and accurate hedonistic calculations, but is the product of an unstable and unrational complex of reflex actions, impulses, instincts, habits, customs, fashions, and mob hysteria."¹⁰

¹⁰ Jacob Viner, Journal of Political Sconomy, Volume 33 (1925), p. 373.

The question of rationality is important to decision making. If man is assumed to be rational, in a utility-maximizing sense, then decision making is merely the careful weighing of alternatives and the choice of the alternative which affords the gradest subjection. However, it is more likely that there are many motives other than the maximization of subjection involved in decision making. Some of these may be hidden and impossible to detect. Indeed, as Katona states, "Multiplicity of motives, some reinforcing one another and some conflicting with one another, is much more common."¹¹

The above discussion is black on a sampling of expressions by economists on the assumption of rational action. It is essential in assuming rationality to make the assumption of rational means rather than ends. The detormination of whether a given goal or value is rational, i.e., plausible and non-conflicting with other goals, is a subjective one, and probably cannot be tested in the cracible of sconade theory. However, given the goals or ends, it is desirable to assume that the methods of achieving these ends be rational. Thus, it is conson to assume rational behavior in this sense. And although in an <u>ex ante</u> sense all individuals are assumed to act rationally, a careful scrutiny of these actions, <u>ex post</u>, may also throw some doubt on this assumption. Despite these shortcomings, to allow a specific theory to have general application the assumption of rationality in this sense must be made.

¹¹ George Katone, <u>Psychological Analysis of Economic Behavior</u> (New York: McGraw-Hill, 1951), p. 71.

Insurance principles. Insurance is a device for risk-sharing. It is based on the willingness of individuals to accept a small certain loss each year rather than take a chance on incurring a very large loss at some unpredictable time in the future. Under insurance plans, each individual contributes enough money in the form of premiums to create a fund large enough to replace all losses of the group which are due to chance occurrence. In addition, the contributions must also be large enough to cover administrative costs of the insurance group, less any earnings from investments. In order for any insurance plan to be successful, there must be knowledge of the incidence of losses and the size of losses. The probability of occurrence of losses must also be known. Although no single individual can predict when he will encounter a loss due to chance events, it is possible to predict by probability theory the total losses for a given time period of a large group of individuals.

It is safe to assume that no one insures to make money, at least it would not be considered rational to do so. Since this is true, what is in the psychological make-up of an individual which causes him to insure? Basically, a very important motivation in insurence consumption is a desire for security; the security which comes from the certainty afforded by the insurance plan. This is a subjective factor and is difficult to measure quantitatively. On the other hand, chancetaking reflects a tendency to gamble, which is the antithesis of security-seeking. It is not necessary to use formal gambling to illustrate these contrasting ideas, even though it is customery to do so. Certainly farmers often engage in long-chance schemes which are analogous to formal gambling in many respects. How can a rational individual express or exhibit a strong desire for security on the one hand and at the same time be taking long chances for gain? For example, consider the farmer who gives up the relatively secure position of dairy farming on a completely owned, adequate farm to invest large sums of borrowed capital to purchase another farm, or engage in a different, more risky type of farming. It is evident that farmers do act in this way. The apparent inconsistency would seem to come from looking at security-socking and chance-taking as separate and unrelated values.

Feeple who have ussets and carning power are motivated to maintain them in the presence of risk and uncertainty. As a means of maintaining these assets, they use formal and informal insurance. In order to reach these decisions, an individual must attach utilities to the various income positions. For example, a person who insures attaches greater utility to the smaller certain income resulting from the insured position than he attaches to an uninsured position either before or after a loss. The ordinal placing or rating of utilities has been recognized as a legitimate technique in economic analysis for many years. In postulating a theory of insurance, Friedman and Savage¹² argue that this ability to choose between an insured an uninsured position implies also an ability to measure utility cardinally. The

¹²Friedman and Savage, <u>loc. cit</u>.

person must know <u>how much</u> he prefers the insured position over present income or present income less the loss. Unless the individual knows how much, he cannot weigh the two risk incomes together and compare the resultant average with the income assured by the insurance company.

To illustrate the Friedman-Savage hypothesis, consider the individual who takes out an accident insurance policy. Before insuring, this person runs some chance of having a disabling accident, and some chance of never having an accident. If he does not insure, he will either maintain his present income (I1); or, should be have an accident and become disabled, he will in all likelihood have some lower income (I_2) . If he insures, his income (I^*) will be reduced by the amount of the insurance premium, but it will be a certain income. In order for this individual to insure, according to the Friedman-Savage hypothesis, this income (I^*) must have a higher utility (be worth more) to him than (I), the average of his present income (I_1) and his future income (I_2) weighted according to their probabilities. In order for this to be so, losses must become increasingly important as they increase in size. This can be illustrated by Figure 1, where (I_1) is the uninsured income position with no loss, (I_2) the uninsured income position if loss occurs, (I^*) the insured income position, and (\overline{I}) the average of I_1 and I2 weighted according to their probabilities. The line (uu) indicates the utilities derived from the different income positions. The utility of each income except (\overline{I}) is measured from the axis to the (uu) curve. Since (\bar{I}) is the average of two income positions, it is measured along the straight line connecting (I_1) and (I_2) .

If the utility of (I^*) is greater than the utility of (\overline{I}) , a person insures. However, the utility of (I^*) cannot be greater than the utility of (\overline{I}) if utility fails to fall at an increasing rate to the left of (I_1) , or, what is the same thing, losses must increase in importance at an increasing rate as they increase in size. Thus, increasing marginal disutility of losses is a prerequisite to insuring.



HYPOTHETICAL UTILITY FUNCTION FOR INDIVIDUAL WITH A PREFERENCE FOR SECURITY

The theory would seem to agree with the commonly accepted insurance principle of insuring against the major losses. Apparently, people who are adjusted to a certain income-producing power fear the loss of that power. Small losses appear to be much less important proportionately than large losses. If, however, the possible loss is sufficient to bring about a change in social status, insurance becomes especially important. The same theory can be used to explain chance-trking at unformable odds. Two kinds of chance-taking exist, formal chance-taking or gambling, and informal strategies involved in the everyday operation of the farm. Both are similar, in that a person exchanges a certainty situation for an uncertain one involving the possibilities of gain or loss. In this case, as with insurance, the average income of the loss and gain situation is usually smaller than would be the income if no chance were taken. In Figure 2, (I_1) is the income if loss occurs, (I_2) the income if there is a gain from the chance-taking. (I^*) is the income before taking the chance, (\tilde{I}) again the average of (I_1) and (I_2) weighted according to their probabilities of gain or loss.



FIGURE 2

HYPOTHETICAL UTILITY FUNCTION FOR INDIVIDUAL WITH A PREFERENCE FOR RISK

In this case, before gambling the person has an income designated as (I^*) . By chance-taking he runs a chance of getting a smaller

income (I_1) (losing the gauble) and a chance of getting a larger income (I_2) . In this case if the utility of the average income $u(\overline{I})$ is greater than the utility of the certain income $u(I^*)$, the chance is taken. If the utility of the gain is sufficiently large $u(\overline{I})$ can be greater than $u(I^*)$. This implies that the utility or value of gains in income-producing ability or income must increase at an increasing rate; income producing ability has increasing marginal utility for people who take chances at unfavorable odds. If the utility gained from gambling is so great that the individual gambles to the extent of depriving his family of their basic needs or endangers his asset structure, it can be considered pathological.

This theory is in marked contrast to the views of Marshall¹³ and others that no rational individual would engage in even a fair gamble. To one who believed in the diminishing marginal utility of money, it was inconceivable that a rational individual would gamble one dollar for the even chance of winning a dollar, since the utility of a dollar lost was always greater than the utility of a dollar gained. Gamblers, even at fair odds, were considered to have a psychological quirk in their natures.

According to Friedman and Savage, in order for a person to both insure and take chances a unique shape must be assumed for the individual's utility function. This function, as illustrated in Figure 3, must have increasing marginal disutility for losses, and increasing

¹³Alfred Marshall, <u>Principles of Economics</u> (London: Macmillan and Co., 1920).

marginal utility for gains. Thus, assuming present income as illustrated, the individual would willingly insure against large losses and gamble to get large gains. This utility function, sloped as it is around present income will allow the individual to genble for small stakes at fair odds, but not at unfair odds. It allows him to take long chances for big gains and insure against major losses, but refuse to take small chances or enter into petty insurance schemes. It might also be used in a socio-economic sense. An individual may willingly take a large gamble at quite unfavorable odds, as indicated by the utility function, if by winning he were to move into a higher socioeconomic class. "Men will and do take great risks to distinguish themselves even then they know what the risks are."¹⁴





TYPICAL SHAPE OF INDIVIDUAL'S UTILITY FUNCTION

14 Friedman and Savage, loc. cit.

Are individuals actually cognizant of their hypothetical utility functions and with the odds concerned? The hypothesis does not assert that they are. What it does assert is that individuals act as if they calculated and composed expected utilities and as if they knew the odds. There may be reason to believe that by this hypothesis the actions of individuals can be predicted.

Of course not all individuals would be expected to have the characteristically kinked utility function. Some individuals are chronic gamblers, and their utility function would be as illustrated in Figure 2, page 26; while other people are exceptionally cautious and would be as in Figure 1, page 25. However, the Friedman-Savage hypothesis can rationally explain how farmers can pay unfair odds to an insurance company for protection while simultaneously purchase land at what would seem to be poor odds in order to change the scale of operations.

Therefore, it would appear that individuals are willing to insure if their income utility after paying the insurance premiums is greater than the average utility of the income they would receive if they faced the chance event according to its probability of occurrence. The individual will theoretically insure until the utility of his next dollar spent for insurance premiums is equal to the utility of that dollar spent for other uses.

The analysis described above would appear to make two contributions to this discussion. In the first place, it presents a methodological procedure for the mathematical cardinal measurement of utility

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which, if sound and usable, is a step forward in making utility analysis operational. Secondly, it presents a conceptually logical explanation of the makeup of that portion of the individual's utility function which pertains to risk and uncertainty. It offers a method of explanation of how an individual can rationally gamble and insure, and indicates that managers need have neither a preference for security in order to insure nor a preference for gambling in order to take long chances.

This framework has been taken by Johnson¹⁵ and adapted to many of the decisions confronting farm managers. It has served as a frame of reference for Johnson and colleagues in setting up a research project to measure the utility of wealth of farmers. This research is part of the Interstate Managerial Study of the North Control Region Farm Management Research Committee, and is reported by Halter.¹⁶ The technique employed was one of presenting a series of hypothetical insurance and gambling plans to the farmers involving different costs and different gains or losses. Odds were calculated as fair, more than fair, and unfair. Reactions of individuals to these hypothetical schemes were aggregated and relative utility indifference functions were developed. Reactions to the various losses and gains situations

¹⁵Glenn Johnson, <u>Proceedings of Research Conference on Risk and</u> <u>Uncertainty in Agriculture</u>, Great Plain Council Fublication No. 11 (Fargo, North Dakota: North Dakota Agricultural Experiment Station, Bulletin No. 400, 1955).

¹⁶Albert Halter, <u>Measuring Utility of Mealth Among Farm Managers</u>, unpublished Ph.D. thesis submitted to the College of Advanced Graduate Studies (East Lansing: Michigan State University, 1956).

were then associated with certain economic and sociological factors, as age, education, income, net worth, and type of farming. A critical analysis of this work would suggest that the technique is promising but inconclusive.

The above discussion summarizes some of the main points in commonly accepted theories pertaining to an individual's reactions to risk and uncertainty. They are based on certain definite assumptions which are important to this analysis. In the first place, these theories assume that the individual's actions in all matters pertaining to choice among alternatives will be directed toward maximizing utility. Secondly, they assume that utility is measurable, if not cardinally, at least in an ordinal sense. Finally, in line with the first assumption, rationality of action is assumed.

The firm-household conflict. There is one characteristic of the agricultural sector of the economy which makes it quite unique. This is the interdependence between the farm firm--the producing unit--and the household. On the family type owner-operated farms so common in the United States, the distinction between firm and household is usually difficult if not impossible to make. The farm is a complete economic unit in itself. Each member of the farm family may share in the labor required and in many cases in the management decisions. Each, in a sense, contributes capital to the enterprise. Firm and household occupy one location. Because of this interdependence, the normal assumption of short run profit maximization as the motivating force directing the activities of the firm must be relaxed. It no longer is possible to consider consumer decisions in the light of consumption theory alone, nor production decisions by production theory. Decisions reached are likely to be a compromise between firm values and household values. Under this system decision making can become a more difficult task.

<u>Temporal considerations</u>. Another area of conflict which is closely related to the problem of firm-household relationships is that having to do with the portions of the income flow to be allocated between current consumption and future consumption. The problem becomes one of allocating resources so as to maximize utility over time. This is particularly important in insurance theory. In some respects, insurance can be looked upon as a means of sacrificing present income in order to assure having a guaranteed future income.

This is true in the case of fire insurance or other types of casualty insurance and probably for life insurance as wall. Thus, in taking out life insurance on his own life, the form operator recognizes the interdependence of firm and household and the needs of the firm and household in the event of his death.

To illustrate the temporal problem, one might, therefore, present the utility maximization problem through use of a modified intertemporal indifference curve technique which resolves these conflicts between present and future use of income. This is illustrated schematically by Figure 4, in which the linear functions I_1I_1 , I_2I_2 , I_3I_3 , and I_4I_4 represent different income expenditure levels divided between present expenditure and future expenditure. Indifference

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curves T_1T_1 , T_2T_2 , and T_3T_3 represent three different preference levels between present and future consumption. Thus, at a very low income level, such as I_1I_1 , all income is needed to meet present consumption subsistence needs and the point of tangency between the indifference curve T_1T_1 and income possibilities curve I_1I_1 , is at the present consumption axis.



INTERTEMPORAL INDIFFERENCE CURVES AND INCOME-EXPENDITURE DIAGRAM

The T_1T_1 indifference curve is relatively flat to indicate that at low levels of income there is a decided preference for present consumption over future consumption. I_2I_2 and T_2T_2 represent a slightly higher level of income with the point of tangency between the two curves allowing for small amount of money to be inverted in life insurance for fature income. At a relatively high frame lavel, I_4I_4 , there is a much larger amount of money spent for life insurance to insure future income for the dependents of the insured.

The complexity of this type of inclusionary be partially de anstrated by an example of how (in the writer's wind) a farr for ily may look at these relationships.

It would spear logical that on a dairy farm of a given size a fairly bloble annual income can be expected. This is particularly true of the dairy farms of the northeast. This income flow is divided among several areas; wharge part goes for productive expenses, some is allocated for fixed expenses such as taxas, interest, and grancipal payments, and the remainder does for family living. Any residual is probably saved. A priori reasoning and observation of farming operations would indicate that once an income level has been established, expenditure patterns are relatively constant. This way be particularly true in regard to family living expenses, for once a family becomes accustomed to a given standard of living, it is very difficult to adjust downward to a lower standard. Keynes has said, "For a man's habitual standard of life usually has the first claim on his income, and he is apt to save the difference which discovers itself between his actual income and the expense of his habitual standard; or, if he does adjust his expenditures to changes in his income, he will over short

periods do so imperfectly."¹⁷ Should income fall, then within certain ranges family expenses will remain fairly constant and the difference in expenditure, barring any money available for savings, will occur in productive expenses. Therefore, if this analysis is valid, with no increase in income the family which takes but a new life inserance policy has the alternative of either decreasing the standard of living by the amount of the premium or decreasing expenditures for productive (income-producing) items. If the standard of living is fairly stable, the additional expense of the life insurance policy might be assumed to come from that allocated to productive expense. Since decreasing the expenditure for income-producing inputs is likely to adversely affect future production and future income, one might assume farmers would be reluctant to increase life insurance coverage, unless, of course, there was an earlier increase in farm income.

This theory would seem to be substantiated by data quoted later in this study which indicates that while 90 percent of those farmers surveyed planned no future changes in their life insurance programs, 60 percent would buy more life insurance if incomes were to increase by 25 percent, while 38 percent would decrease their present life insurance coverage were incomes to decrease by 25 percent. It should be recognized that there are no empirical data to show what farmers actually have done as incomes changed. The figures quoted indicate only how farmers state that they would act under these circumstances;

17John Maynard Keynes, The General Theory of Employment, Interest and Money (New York: Harcourt Brace and Company, 1935). however, in stulies of this type it is common to accept such statements as indications of actual behavior under the given conditions, recognizing the chance of error.

It would appear from this that there is a marginal relationship between income level and some types of insurance purchases. That is, consumption of insurance may be more closely related to changes in the level of income than it is to the actual level of income at any given time.

This reasoning does not explain why the farm family experiencing an increase in income decides to spend a portion of this increase for life insurance premiums rather than for other consumer goods. This is particularly true as it applies to insurance on the farm operator. Utility theory pictures the operator weighing the utility of one alternative--present income--against the second alternative--future assured income--and choosing to insure. However, in the case of life insurance, the owner does not expect to collect on the policy himself, except in the case of those types with high cash values. To purchase temporary life insurance under the utility maximization theory, one must assume that the operator gains satisfaction not from expecting to enjoy the benefits of the insurance himself, but from the realization that the needs of his family will be met and/or the firm may be better able to continue. His motivations are not ego-centered. On the other hand, the operator who purchases endowment or limited payment insurance might be assumed to include in his utility maximization calculations

the expected utility which he would receive were he to live long enough to collect on the policy.

While it would be nice to assume that the farm operator bases decisions to purchase insurance on a well-defined analytical process, the writer is more inclined to the view that actual purchase of additional life insurance is in part a function of the effectiveness of the salesman, the ignorance of the purchaser, or certain behavioral or habitual reactions.¹⁸ Imitation may also be an important factor in life insurance purchases.

If one applies this same type of reasoning to the purchase of fire insurance, he finds a somewhat different situation. In all probability, when the operator obtained possession of his farm, the physical property was protected by some fire insurance. If the operator purchased his farm on credit, the financing agency required that the buildings be insured, at least to cover the amount of the mortgage. Thus, the decision facing the operator at this juncture was in all likelihood how much insurance should be carried. However, nearly all operators maintained fire insurance even in the absence of institutional requirements.

In this case, a loss by fire would directly affect the earning power of the firm and perhaps wipe out a major portion of the firm's capital accumulation. The rational operator then, might be assumed to weigh the effects of this possible loss of future income against the

¹⁸George Katona, <u>op. cit.</u>, p. 142, 230.

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present income spent to insure against loss and to arrive at a utility maximizing decision. If this is true, variation in coverage among different farm operators can be assumed to be due to differences in the shape of their utility curve; i.e., their subjective risk-preference. It should be recognized again that any decision to increase fire insurance coverage must be made with the knowledge that either productive expenditures or the family standard of living must decrease by the amount of the increased premium. This may in part explain why changes in fire insurance coverage lag behind increases in value of the physical property.

Another factor which should be mentioned is that a decision, once made, to alter insurance consumption patterns will have a long run effect on other consumption and production expenditures, since the insurance contract is a continuing one. Since it is costly to take out insurance which is later dropped, one might assume that the operators who insure also hold favorable future income expectations.

<u>Statement of hypotheses</u>. The preceding discussion would seem to raise certain broad questions regarding the analysis of this area of management behavior. These questions in turn will lead to a statement of certain hypotheses which may be tested by an analysis of the data at hand.

In view of the interrelationship between firm and household in agriculture, and because of the peculiar nature of insurance, should insurance purchases be analyzed in a construct of production theory, consumption theory, some combination of both, or a modification of one or the other? There is justification for believing that a special interpretation of received theory is necessary if it is to apply to insurance consumption by the sampled group of farmers.

Secondly, if this type of analysis is to be of value in a policy sense, it is necessary to know if insurance consumption is a result of the normal operation of the decision making process. In other words, when a farm operator takes out a life insurance policy or increases his fire insurance coverage, are the normal processes of decision making carried out; is it a result of a logical weighing of alternatives and the choice of the alternative which will result in some end being maximized?

Finally is there a method of enalysis sufficiently advanced that insurance consumption and certain socio-economic variables can be correlated with predictive results of adequate accuracy?

Practically all literature on the subject speaks of insurance in a compound sense and makes no distinction between the various types of insurance as to methods of analysis. The writer believes that a clearer undertstanding of insurance consumption patterns and attitudes toward insurance can be gained only by considering the various types of insurances individually, or at least by making two broad classifications which, for want of better terminology, will be called personal insurance and casualty insurance.

There can be little argument but that individuals differ in their willingness to bear risk or their desire for security. Riskpreference is a subjective phenomena, related perhaps to age, income, education, net worth, and other economic factors, but for the most part being psychologically determined. There is also little doubt but that the same individual can rationally indicate both a preference for security by owning insurance, and a preference for risk by gambling, either formally or informally. The Friedman-Savage hypothesis convincingly describes the utility function which will allow the individual to take these contrasting actions. Neither the Friedman-Savage analysis, nor any later modifications of it present a method by which these actions may be accurately predicted. Methods of analysis utilizing the Friedman-Savage hypothesis require some definite assumptions as to the cardinal measurement of utility. Because of certain problems discussed below, there would seem to be some question as to this technique and the results obtained from its use. Perhaps a method exists whereby risk-preference of the manager and his reactions to risk or uncertainty situations may be determined without assuming the cardinal measurement of utility.

Insurance theory is based on the assumption of rationality of action and maximization of utility. It infers that the individual, when faced with a problem (a conflict between values of what is and what ought to be) goes through the decision making process of observation, formulating alternative courses of action, analyzing consequences of a given course of action, deciding on a course of action, and bearing responsibility for this decision. The theory infers that the individual maximizes his satisfactions (utility) as a result of the decision, and while it does not state, it also infers a self-centered type of maximization where the individual's satisfaction is the only relevant goal. Although the theorist would undoubtedly claim that the theory must be and is general enough to cover all cases, it is the writer's opinion that it does not adequately explain the realities of insurance consumption. The maximizing problem in insurance purchases is not solely one of self-satisfaction, but must consider an interrelated network of firm-household, must consider present income-future income, and self-family conflicting values. It would also seem reasonable that decision making in many insurance purchases is strongly modified by institutional requirements or desire for social acceptance. Certain insurance consumption may also be related to group behavior.

Based on the above discussion the following hypotheses are suggested for testing in the sections that follow:

- 1. To be meaningful in explaining consumer behavior, insurance theory must distinguish between at least two broad types of insurance coverage; personal insurance and casualty insurance.
- Apparent irrational actions of firm-household units in insurance consumption can be explained by recognizing the importance of non-economic social or institutional factors.
- 3. A large part of present insurance coverage or future insurance consumption is not a product of the decision making process as it is commonly defined.
- 4. A manager's attitudes toward insurance or his riskpreference can be satisfactorily predicted by some method

other than the cardinal measurement of utility. This method must recognize the complex firm-household interrelationships, along with the intertemporal considerations. It will be based on a concept of maximization of satisfactions, but will be more than the ego-centered type of maximization implied in normal utility analysis.

- 5. Insurance consumption may be a function of changes in income rather than present income or net worth levels.
- Ignorance of insurance principles is costly to farmers of Vermont, both in terms of money and unnecessary mental anguish.

CHAPTER III

THE FARMERS AND THEIR FARMS

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THE FARMERS AND THEIR FARMS

<u>Historical background</u>. The purchase of insurance, unlike many other farm expenditures is closely associated with the value system of the individual concerned. The willingness of the individual to assume risk, or conversely, his desire for the security afforded by the insurance scheme, is a very important factor in insurance consumption. The ethnological background, predilections, and psychological make-up of the person affect attitudes toward insurance programs and the resulting acceptance or rejection of the program. Because these subjective values are influenced by environment and tradition, it is desirable to discuss briefly the agricultural development of Vermont.

The people who first settled Vermont, in the mildle and latter part of the eighteenth century, were chiefly of English origin. They came mainly from Massachusetts, Connecticut, and New Hampshire, where their fumilies had already been established for two or three generations. By 1790, the population numbered 85,425 of which the English element constituted about 81,200 and the Scotch element about 2,600.¹⁹

The population of Vermont has been continuously augmented by immigration from other states. As already stated, in the early years, these people came from the other New England States, but after 1850, more and more have emigrated from New York and states farther west.

¹⁹Vermont Commission on Country Life, <u>Rural Vermont</u> (Burlington: Free Press Printing Company, 1931), p. 11.

As might be expected in an inland agricultural state, the proportion of foreign born residents in Vermont has always been relatively low. According to the 1950 Census, 8 percent of the population of the state were foreign born. On the farms, the greater share of the foreign born are French Canadian who have emigrated from Quebec.

Vermont can be properly classified as a rural state, and while the percentage of rural population is decreasing, it will probably remain rural for many years to come. Total population in the state has increased just over 6 percent in the last 25 years, while population in the United States has increased 13 percent. Rural population in Vermont as a share of total population is now 64 percent, a decrease of 4 percent in the last 25 years.²⁰

Like the trend throughout the country, the number of farms in the state is steadily decreasing. Since 1930, there has been a decline of 16 percent. According to the <u>1954 Census of Agriculture</u> there are 15,981 farms in the state, three-fourths of which can be classified as commercial. Of the remaining 25 percent, 16 percent are residential and 9 percent part-time. Many of the commercial farms are small, with nearly 50 percent having gross incomes less than \$5,000 in 1954.²¹

Although this was not always so, the agriculture of Vermont is now based primarily on the dairy cow. The history of its agriculture

²⁰R. H. Tremblay and V. R. Houghaboom, <u>Agricultural Trends in</u> <u>Vermont</u> (Department of Agricultural Economics, University of Vermont, Burlington, 1955).

²¹Ibid.

is a record of changing conditions, resulting in major shifts in enterprises and in the economic status of the people. Early agriculture was on a bare subsistence basis, and an early source of income was from the sale of potash and pearlash, by-products of the land-clearing operations. As land-clearing proceeded, grain production took over to a large extent, particularly in the Champlain Valley. However, this was primarily a transitory phase in the agricultural development of the state, as disease, unfavorable weather, and competition from western New York made grain production unprofitable.

The sheep industry experienced a brief period of glory from 1820 to 1840, due to high wool prices. In the Champlain Valley wool production became the most important agricultural enterprise, and it was claimed that in the late 1830's this was the foremost sheep and wool producing region in the United States. The development of the famed Vermont Merino added further recognition to the state. However, with low wool prices in the 1840's, came another shift in the state's agriculture, this time to dairying.

The opening of the railroads in the state and the invention of the cream separator were important developments which made Vermont one of the leading butter and cheese producing areas of the late 1800's. In the early 1900's, the fluid milk industry came into its own and more and more of the milk produced in the state went into fluid uses, until today practically all of the milk produced in the state is sold as fluid milk.

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Evidence of the importance of the dairy industry to the state is shown in Table I.

TABLE I

DISTRIBUTION OF CASH RECEIPTS ON VERMONT FARMS, 1956

	17 7	Percent of
Commoalty	Value	state total
	(\$1,000)	
Dairy		
Milk and milk products	76,063	69.2
Calves and cull cows	7.532	6.9
Total dairy	83,595	76.1
Poultry	11,710	10.6
Miscellaneous	3,251	3.0
Forest products	3,233	2.9
Maple products	3,039	2.8
Fruit	2,347	2.1
Potatoes	864	0.3
Truck crops	735	0.7
Other meat animals	652	0.6
Greenhouse and nursery	L _i L _i O	0.4
Total	109,866	100.0

Source: Agricultural Marketing Service.

About 63 percent of all land is in farms, the average farm size being 208 acres in 1954. Among commercial dairy farms, the average form has 24 cows; however, 60 percent of the farms with cows have less than 19.

Vermont farmers have most of the conveniences of their urban neighbors. Ninety-seven percent of the farms have electricity and

75 percent have telephones. Around 38 percent had television and nearly one-half had home freezers in 1954.²²

Effect on values. This brief description of the background of the formers and of agriculture in Vermont is designed to provide an insight into the foundations of the value systems of Vermont formers.²³ There are dangers for the untrained person in trying to enumerate or describe the values of an individual or group of individuals. One of these dangers is the possibility of attributing to the interviewee, values which the enumerator may feel he holds important, but which in fact are for more important to the enumerator himself than to the respondent. There appears to be a very definite correlation between the actual belief that a thing is true or untrue and the desire that it should be true or untrue.²⁴

It should be evident that values held by farmers will be conditioned to a significant degree by their environment. Rural living, for example, is different from urban living, and rural people hold

22 Ibid.

²⁴S. H. Britt, <u>Social Psychology of Modern Life</u> (New York: Rinchart and Co., 1941).

²³A "belief" is here defined as a conception of reality as it is based upon a person's experiences, his study and reasoning. This conception may be true or false, but it is ultimately possible to prove empirically that it is true or false. A "value" is an individual's bonception of how reality can be improved--of that ought to be. It is an opinion of an individual and may continue to be held by him even though in the opinion of every other person this opinion is wrong. Each person has a set of values, some of which may be conflicting or inconsistent. Values are generally "ends" as compared to "means to ends."

different values regarding the basic fundamentals of life. And within any rural society there can be diversified values; for example, those held by the older generation as contrasted to the changing values of the new generation. The older society held self-sufficiency to be a goal, and any remuneration was due primitally to hard work and shrewd farming practices; in the newer society men live by matching wits against men. The fact that the farmer is closely astociated with nature and is dependent on its forces, conditions his value system and makes him realize that his future security is dependent to a large extent on natural forces beyond his control.

There has been a decided emphasis on the practical and the necessary in rural areas. Cash expenditures have generally been for productive items; however, the trend boward consumer expenditures is growing in recent years.

With the increasing capitalization required to get into farming has come a change in values with regard to band ownership as an ultimate goal. Until recently the farmer had looked to lund ownership for security, rather than to endowments, annuities, or pensions. There is evidence that this value is changing.

One goal which most farm families apparently hold is the desire for security. Although one of the more important goals of rural people, it is generally one of the more difficult to obtain. There are several factors contributing to insecurity and/or physical uncertainty in agriculture. Among them are price variation, both for inputs and output,

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yield variation as affected primarily by weather, and loss from catastrophic disasters such as floods, drouth, hail, and wind.

The majority of Vermont farmers are well isolated from uncertainty problems of this type. Catastrophic disesters are uncommon to the state. With milk as the major source of income, they are much less dependent upon the weather than are crop formers. Their product is sold in regulated markets and is much less subject to price fluctuations than are most other commodities. Prices can be predicted quite accur: tely for six months to a year in advance. Their main expense items are hired labor and concentrates; items which to not fluctuate excessively in price. All this contributes to a more stable type of agriculture than is found in many sections of the country. There is reason to believe that because of the stability of agriculture in the state, the Vermont former may be more naturally cautious than is the farmer in the cash crop areas, for example. The stability of his farming enterprise makes him less willing to gamble or take undue risks.

<u>Characteristics of sample farms</u>. As has already been explained, the sample of 220 farmers was drawn from a population of 15,064 farms for the state as a whole. The farms were selected randomly, the only attempt at stratification being to maintain proportional distribution in each of the 14 counties in the state and to keep approximately the same number of farms in each size group.

Over three-fourths of those surveyed were full-time farmers, earning their entire income from the farm. Nine percent earned the major share of their income from the farm and 11 percent earned the 49

major share off the farm. Just under 2 percent were retired or disabled.

Tenancy is very low in Vermont. Over 97 percent of those surveyed owned their own farms, and of those renting, all hoped to own eventually. About 43 percent hoped to increase the size of their farm.

Only 20 percent of the formers were veterans, three-fourths of whom were veterans of World Var II.

The mean age of all farmers was 47.5 years. No farmer in the sample was under 20, 30 percent were between 20 and 40 years, 49 percent between 40 and 60 years, and 21 percent were over 60 years old.

Over half of the families were composed of man and wife and minor children. Just under 15 percent were man and wife with no children, and just over 3.6 percent were a single male or female. Some 13 percent of the farms were operated as a father-and-son combination.

Family size varied from 1 to 10. The mean size family was h_{\star} but the modal family size was three persons.

Any attempt to measure educational level has its shortcomings. In a study of this kind years of formal classroom education is usually used as a yardstick; however, this measure presupposes that the learning process coases when the individual leaves the classroom. Certainly this would not be the case in agriculture where experience itself is the greatest teacher. However, it is necessary to use some measure of educational training, and years of formal schooling is the best available. For the farmers surveyed, years of schooling ranged from none to 21. There was a very decided bi-modal frequency distribution, with peaks at eight years and 12 years.²⁵ A third of the farmers had eighth grade educations and 29 percent had high school educations. Thirtyeight percent had a high school education or better. Only 5 farmers had the equivalent of a four-year college degree. The mean educational level was 9.8 years.

The farmers were requested to give their income for the calendar year of 1953 (the full year previous to the date of the survey). The income requested was not farm income as reported for income tax purposes. Table II below summarizes income as determined by the survey.

TABLE II

		Net	farm income		
Size group	0-1, 500	\$1,501-3,000	\$3,001-5,000	\$5,001+	
Cows		Percent			
1-11	41.67	36.11	22.22		100.00
12-19	54.06	21.62	21.62	2.70	100.00
20-29	30.44	50.00	17.39	2.17	100.00
30-39	42.86	21.43	21.43	14.28	100.00
40+	14.59	29.16	29.16	45.83	100.00
Average	34.87	28.21	22.56	14.36	100.00

NET FARM INCOME BY SIZE GROUPS, 1953

²⁵With high schools located only in the larger towns and only eight years of schooling available in all other towns, it was a firly common practice to leave school at the completion of the eighth grade. This was particularly true of farmers' sons who were needed to help with chores and general farm work. Now, with better roads and transportation, a far greater percentage of farm youths are completing high school.

It is interesting to note that less than 8 percent of those surveyed felt that farmers were experiencing prosperous times, even though over 65 percent had net farm incomes of over 31,500. However, this can be explained in part by the fact that milk prices in 1953 averaged 60 cents lower than for the year 1952.²⁶ The index of Vermont farm products prices had fallen 43 points from the preceding year, while the index of costs of dairy farming had decreased only 13 points. Vermont farmers were also taking a dim view of the future in that only 7.5 percent felt that formers would have good aconomic conditions in the next year or two, while 40 percent predicted bad times and 43 percent saw no change. Six-tenths of the farmers claimed to be worse off in 1953 than they were in 1952, and 65 percent expected to be no better off in 1954.

Attitudes. In order to better understand the values held by the farmers surveyed and to cain greater insight into the dynamic factors motivating them in insurance consumption, certain questions were asked regarding their attitudes toward insurance and related factors. One such question concerned their feelings about price supports. It is interesting to note that 37 percent of all farmers surveyed opposed price supports of any kind. Of those favoring price supports, exactly one-half favored flexible supports, while 25 percent favored a 90 percent support level. Educational level was more significant in influencing opinions toward price supports than other factors. Of those

²⁶<u>Economic Handbook</u> (Burlington: Vermont Agricultural Extension Service, Department of Agricultural Economics, University of Vermont).

with more than high school education, 52 percent opposed price supports, while only 28 percent of those with eighth grade education or less opposed them.

One interesting statistic is that 82 percent of all farmers surveyed felt that Vermont should have a compulsory automobile liability insurance law. Only 36 percent recognized that such a law would probably result in increased promiums. Nearly one-third felt that such a law would decrease automobile accidents.

TABLE III

Type of insurance	Carry more	Carry less	No change	Undecided
		Percen	t	
Life	3.23	3.69	89.86	3.22
Fire, liability	12.33	1.37	34.93	1.37
Accident and bealth	5.96	1.38	82.57	10.09

FUTURE EXPECTED INSURANCE PURCHASES

Data concerning expected purchases of insurance in the future are summarized in Table III above. For all types of insurance, well over 80 percent of the farmer's surveyed expected to make no changes in their program.

Effect of income changes. In an attempt to gain some idea of the relation between income changes and insurance purchases, respondents were asked how changes in income would affect insurance consumption. Table IV below reports on these findings.
TABLE IV

	Chan	ca in insuranca	concurrention
Change in income	Buy more	Undecided	Decrease or drop
		Percer	ı t
10% increase	30.5	2.7	
25% increase	60.5	1.8	
10% decrease			11.6
25% de cr ease		0.14	38.0
50% decrease		2.8	59.7

EFFECT OF INCOME CHANGES ON INSURANCE CONSUMPTION

In this respect, it is interesting to note from Table III that over 80 percent of all farmers expected to make no changes in their insurance programs. However, when they were asked what changes they would make if incomes were to increase or decrease by certain specified amounts, many more indicated that they would increase insurance coverage with increases in income, decrease coverage with decreases in income. This would tend to substantiate the marginal aspects of insurance purchases; that is, purchase of insurance is more closely associated with changes in the income flow than with the level of income.

Among the factors of age, education, number in the family, and income level, number in the family seemed to be a more important factor associated with changes in insurance with changes in income.

Kinds purchased or dropped. From those respondents who indicated that they would increase or decrease insurance ownership, an attempt was made to determine what kinds of insurance would be purchased if incomes increased; what kinds drouped with decreases in income. Table V below summarizes this information.

TABLE V

KINDS OF INSURANCE PURCHASED OR DROPPED AS AFFECTED BY CHALLES IN INCOME

and the set of the set	a den alla e sera de la della de la companya e de la deservativa de la companya de la desta de la companya de l	
	Increase in income	Decresse in income
	Percent	Percent
Kind	increasing ownership	decrossing ownership
Life	29.54	31.32
Auto	4.54	5.00
Fire, theft, liability	16.36	16.32
Accident and health	10.91	4.54
No change	38.65	41.32
Total	100.00	100.00

As the table indicates, life insurance is the most variable, both as to increases and decreases in income. This is in line with the general theory which considers the casualty types of insurance as more or less "must" policies in the farm insurance portfolio, while life insurance as the luxury item of the program. As might be expected, young farmers (those under 40) would have purchased more life insurance had income increased. Those farmers over 60 would have spent their increased insurance dollar mainly for increased outomobile and accident and health coverage. If incomes were to decrease, more younger farmers would have dropped or decreased their life insurance, than would older farmers. The older farmers would have tended to decrease fire insurance coverage. Life insurance as savings. In the second survey, only 9 out of 42 farmers questioned listed the savings feature as one of the reasons for buying life insurance. In the original questionnaire however, farmers were asked whether or not, in their opinion, life insurance was as good a method of saving money as a savings account or as government bonds. In answer to this question, 61.5 percent felt life insurance to be as good a method of saving as a savings account and 53.7 percent believed insurance as good as government savings bonds. Nany farmers recognized that life insurance was a method of "forced" savings, in that the policyholder is billed periodically for the premium. This they felt to be an advantage over "voluntary" savings via savings accounts or government bonds.

Importance of agents. The local agent is an important person to the firmers' insurance programs. Then asked that they would do if they desired more insurance coverage, 84 percent of the respondents infidated that they would contact on agent. The importance of the local agent is lue in part to the fact that he is usually a neighbor, often a trusted friend. In many smaller communities the local agent may handle several types of insurance; in fact, some agencies are attempting to carry a full line of insurance to meet the complete insurance needs of their clients. Some of these agents are doing a creditable job in planning the over-all farm insurance program.

Despite the importance of the local agent, almost half of the farmers surveyed felt that most insurance agents knew less about the kinds and amounts of insurance that a farmer needs than the farmer

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himself. Nearly 50 percent of those surveyed had purchased property insurance (fire, theft, liability, automobile) from three or more different agents and nearly 45 percent purchased their life insurance from more than one agent.

Probably the insurance consumption of farmers is influenced by the activities and persuactiveness of the ejents. There is no way to measure quantitatively how important a variable this selesmanship is, but there is little question but that it is an important factor. An attempt was made to make a quantitative measurement by determining the number of times the respondents were contacted by eigents in the previous year. About 54 percent of the farmers but not been contacted by an insurance agent on a selling interviement induces. An other 10 percent had been contacted three or nore times. As would be expected, age of the forcer was an important factor in determining has attractiveness to Answermed Selesmen. About 7 out of 10 of the farmers under 40 had been contacted by an insurance agent, but 5 out of 10 of those over 60 years of the had not been. In fact, age was the only variable of any significance in determining we was contacted.

<u>Summary</u>. In this chapter an attempt has been made to enumerate some of the characteristics of the farmers surveyed which would be expected to influence their value systems and thereby affect their insurance consumption patterns. It should be repeatedly stressed that attitudes toward insurance, motivation, and the decision-making processes in the purchase of insurance are functions of innumerable

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complex subjective factors. Attempts to explain insurance purchases in terms of one or two, or even a limited few of these variables are likely to prove frustrating and fruitless. CHAFTER IV

LIFE INSURANCE CONSUMPTION PATTERNS

CHAPTER IV

LIFE INSURANCE CONSUMPTION PATTERNS

Life insurance is different from other types of insurance in one major respect; the event insured against is sure to come, only the time and cause is uncertain. In buying life insurance the purchaser is gambling that he will die before the expiration of the policy if it is term insurance, or before the accumulated premium payments total the face value if it is permanent insurance. Through life insurance the insured can replace an uncertain future income for the family unit with a certain one. By so doing, he provides for the payment of a certain definite sum of money at death or at the maturity of the policy to replace his economic value if deceased or to provide income if retired. As with other types of insurance plans, the insuring company operates on the principle of the "law of large numbers;" by knowing mortality rates the company can determine actuarially the premiums required to meet the costs of the plan.

Why insure? The original purpose of life insurance was, and still is, to provide protection for survivors. From a family and business standpoint, all lives possess an economic value which may at any time be eliminated by death. The basic purpose of insurance is to protect survivors against the loss of this income.

In addition to protection for survivors, permanent types of life insurance provide a means of saving. With many of these policies, the insurance can be cashed in when it is no longer needed for survivor protection. In this respect, insurance provides security for survivors against dying too soon, and security to the policyholder against living too long.

<u>Ownership of life insurance by farm operators</u>. For purposes of analysis, the sample of 220 farmers was divided into five different size groups, based on the number of animal units per farm.²⁷ The data will be analyzed largely in terms of these five size groups.

Table VI below shows the numbers and percentages of farmers with life insurance by size group. The 75 percent coverage of Vermont farm operators compares quite favorably with figures released by the Institute of Life Insurance²⁸ for the United States. This source reported that 74 percent of the adult male population of the country owned life insurance of some kind in 1955. They further reported that according to their survey only 52 percent of the farmers of the country

²⁷As previously stated, in a highly specialized dairy area such as Vermont, animal units per farm is one of the best measures of size available. The size groups were as follows: Group I, 1 to 11 animal units; Group II, 12 to 19; Group III, 20 to 29; Group IV, 30 to 39; and Group V, 40 units and above. An attempt was made to get 40 randomly selected records in each size group, however, the actual number varied from 35 to 56.

From a statistical inference standpoint, the complete sample of 220 should not be looked upon as representative of all of the farms in the state, since the number of records taken in each size group was not proportional to the total number of farms in each group. The sample farms in each stratum is representative of that stratum, however. Table XLII, Appendix, shows the proportion of farms sampled in each size group.

²⁸¹⁹⁵⁶ Life Insurance Fact Book (New York: Institute of Life Insurance).

were insured. However, aggregate figures as to numbers with insurance tell only a small part of the story. More interesting is the distribution of insurance by size of policy. Table VII gives the distribution by total amount of coverage of farm operators. One should note that in the two smaller size classes, 68 and 78 percent of the operators owned less than \$2,000 of life insurance; in fact, 40 and 52 percent in each of the groups respectively owned only \$1,000 or less in life insurance. Of those farmers owning \$10,000 or more in life insurance, nearly all are in the three larger size groups.

TABLE VI

NUMBERS AND PERCENTAGES OF FARM OPERATORS OWNING SOME LIFE INSURANCE BY SIZE GROUP

Group	Number of farmers	Number with life insurance	Percent with life insurance
I	42	30	71.4
II	37	27	73.0
III	50	34	68.0
IV	35	30	85.7
V	56	44	78.6
All farms	220	165	75.0

The data indicate a fairly high correlation between size of farm and total life insurance owned by the farm operator.²⁹ This would

 $^{^{29}}$ The actual coefficient of determination (r^2) was 0.578 and the simple correlation coefficient (r) between farm size measured in animal units and total face value of life insurance on the operator was 0.76. All correlation coefficients are determined by simple correlation analysis and unless otherwise noted are significant at the 5 percent level.

seem to substantiate the belief that ownership of life insurance is in part a function of income or income-earning ability.

TABLE VII

TOTAL AMOUNT OF LIFE INSURANCE ON OPERATOR CLASSIFIED BY SIZE OF FARM

Amount of		Size	in num	ber of	animal units	
life insurance	1-11	12-19	20-29	30-39	40 and over	All farms
		Percen	t of fa	rmers w	ith insurance	
No insurance*	28.6	27.0	32.0	14.3	21.4	25.0
\$ 500 or less	-	11.1	2.9	6.7	-	3.6
501 - \$ 1, 000	40.0	40.7	17.6	20.0	11.4	24.2
1,001 - 1,500	6.7	7.4	-	10.0	-	4.2
1,501 - 2,000	20.0	18.5	11.8	3.3	4.6	10.9
2,001 - 3,000	10.0		17.6	6.7	20.4	12.1
3,001 - 4,000	6,6	3.7	_	6.7	2.2	3.6
4,001 - 5,000	10.0	7.4	14.8	13.3	27.3	15.8
5,001 - 7,500	-	3.7	20.6	20.0	6.8	10.3
7,501 - 10,000	6.7	3.7	8.9	10.0	15.9	9.7
10,001 - 15,000		3.8	2.9		9.2	3.6
Over \$15,000			2.9	3.3	2.2	1.8
Total	100.0	100.0	100.0	100.0	100.0	100.0

*As a percent of all farms in the group.

Table VIII shows the number of policies and average size of policy owned. The actual number of policies owned varied from 1 to 5, with two farmers each owning the larger number. The average number of policies owned was 1.7. For all farmers owning life insurance, the mean value of insurance on the breadwinner was \$4,196. This series ranged from a relatively large number of farmers with single \$500 policies to one farmer carrying life policies totaling \$28,000.

Because of the popularity of \$1,000 policies and the few farmers with relatively high coverage, the median is in many respects a better measure of the average face value of insurance owned than is the arithmetic mean. However, since most statistical tests are based on the mean, this measure of central tendency will be the statistic most often referred to.

TABLE VIII

NUMBERS	AND	AVEF	lage :	FACE	VALUES	OF	LIFE	INS	SURA	ANCE	POLICIES
(OWNED	BY	FARM	OPEF	RATORS,	CL	ASSIFI	EED	ΒY	SIZE	

Group	Number of farmers	Number with insurance	Total number of policies owned	Average number of policies per insured operator	Face <u>per insur</u> Mean	value ed farmer Median
I II III IV V	42 37 50 35 56	30 27 34 30 44	45 32 64 50 83	1.6 1.2 1.9 1.7 1.9	\$2,470 2,417 4,602 4,665 5,832	\$1,875 1,050 4,000 4,000 5,000
Total	L 220	165	274	1.7	4,196	3,000

Factors affecting the amount of life insurance owned. Income, age, education, family status, and social standing are variables commonly mentioned as affecting life insurance ownership. It has already been shown that size of farming operation (a fairly reliable measure of income) is significant in explaining in part the variation in ownership of life insurance. A somewhat similar, although not as close, relationship exists when age is considered as the independent variable.³⁰

As shown in Table IX, while a much higher percentage of young farmers (20-39 years) than of the other age groups had some life

 $^{^{30}}$ Correlation between age and total face value of insurance on farm operator; $r^2 = 0.175$; r = 0.41.

insurance coverage, the amount of coverage was smaller than for those operators in the 40-59 year group. Some 84 percent of those from 20 to 39 years of age had life insurance coverage of \$5,000 per operator or less. In the 40 to 59 year group, nearly 20 percent had life policies whose face value totaled over \$5,000. Exactly half of those 60 years and over had no life insurance, and those with insurance had \$5,000 or less per operator.

TABLE IX

DISTRIBUTION OF	LIFE	INSURA	ANCE	OWNERSHIP
OF FARM	OPER/	ATORS E	BY AG	Æ

and and the second s		Age	
Total face value	20-39	40-59	60 and over
of insurance owned	(60 farmers)	(108 farmers)	(46 farmers)
		Percent	
None	15.2	20.4	50.0
\$ 500 or under	5•4	4.6	4.3
501 - \$ 1,000	21.4	26.7	60.9
1,001 - 2,000	19.6	12.8	
2,001 - 3,000	12.5	12.8	8.8
3,001 - 5,000	25.0	25.6	26.0
5,001 - 7,500	10.7	4.6	
7,501 - 10,000	5.4	4.6	
10.001 - 15.000		4.6	
15.001 - 20.000		2.4	
Over \$20,000		1.3	
	100.0	100.0	100.0

*As a percentage of all farms.

The relationships between age of operator and total face value of policies is as one would expect. Younger farmers with dependents are conscious of their need for family protection and are utilizing insurance to meet this need. However, because they are not fully established in farming, they are limited in the amount which they can invest in family protection. This limitation is imposed by the necessity of retiring mortgage debt and improving their equity position. Consequently, the average coverage is less than for farmers in the middle and older age groups, even though a higher percentage of farmers in the younger age group are insured.

As has been discussed before, using years of formal education as a measure of educational level is not entirely satisfactory, since it assumes all learning ceases when one leaves school. However, it is the only measure readily available. Table X illustrates the relationship between years of education and life insurance coverage.

TABLE X

		Years of education	
Amount of insurance	None to 8	9-12	13 and over
Number of farmers	96	103	21
		Percent	
None*	43.6	46.8	9.5
\$ 500 or under	9.1	2.2	5.3
501 - \$ 1,000	41.8	27.8	5.3
1,001 - 2,000	10.9	15.6	10.6
2,001 - 3,000	20.0	5.6	21.0
3,001 - 5,000	16.4	32.2	21.0
5,001 - 7,500	1.8	6.7	21.0
7.501 - 10.000		4 . 4	15.8
10.001 - 15.000		4.4	
Over 15.000		1.1	
Total	100.0	100.0	100.0

OWNERSHIP OF LIFE INSURANCE BY FARM OPERATORS AS RELATED TO YEARS OF EDUCATION

*As a percentage of all farms.

It is interesting to note that 82 percent of those with eighth grade educations or less had \$3,000 or less in insurance. On the other hand, over one-third of those farmers with some formal education beyond the high school level (grade 12) had \$5,000 or more in life insurance. It is also noteworthy that all of those farmers with policies totaling over \$10,000, were in the middle bracket (9-12 years of schooling). Education may be a positive factor in life insurance consumption,³¹ but is less important than some other factors.

If the breadwinner is to provide adequately for his dependents in the event of his death, he must carry more insurance as the number of dependents increases. Table XI illustrates the relationships between size of family and amount of life insurance owned. As is indicated by the table, all insured families of one or two persons had \$5,000 worth or less. However, nearly 40 percent had no life insurance. The operators with the larger families tended to have less insurance on the average than did those with 3-5 members. One possible explanation for this is that many farmers feel that the amount available for life insurance should be spread out over all members of the family. If there is a limited amount which may be spent on insurance premiums, this practice of insuring all members of large families means that average coverage on those farm operators with large families will be less than for those operators with fewer dependents. The correlation

³¹Correlation coefficient for education and total life insurance on operator = 0.12.

between size of family and insurance on the operator was very low (0.06), and was not significant.

Social standing or "style of life" has been suggested as a variable affecting life insurance purchases.³² Measuring sociological factors presents problems not faced in measuring or correlating strictly economic variables. Many of the measures must be highly subjective in nature.

TABLE XI

		Number in famil	.y
Amount of insurance	<u>l or 2</u>	3-5	6 or over
Number of families	42	134	44
		Percent	
None*	38.1	20.9	25.0
500 or under	-	4.7	9.1
501 - \$ 1,000	42.3	29.2	21.2
1,001 - 2,000	23.1	13.3	12.1
2,001 - 3,000	30.8	9-4	21,.2
3,001 - 5,000	3.8	24.5	24.2
5,001 - 7,500	-	7.6	6.1
7,501 - 10,000	-	6.6	-
10.001 - 15.000	-	2.8	3.1
Over \$15,000	_	1.9	
Tctal	100.0	100.0	100.0

AMOUNT OF LIFE INSURANCE CARRIED AS AFFECTED BY NUMBER OF DEPENDENTS

*As a percent of all farms in group.

³²Simon Dinitz, <u>Insurance Consumption Patterns</u> (Research Department, Nationwide Insurance Companies, September, 1955), p. 16. "This interpretation stresses that life insurance consumption patterns reflect the value orientations and 'styles of life' of persons and that these value orientations are in turn largely a function of their socioeconomic statuses or positions. This suggests that a person's outlook

One approach used was to select from the sample all factors of foreign ancestry. Of the 220 factors, 43 records were so selected, most of whom were French-Canadian. These forces were compared with the whole sample on certain factors as shown in Table XII. The difference in mean values for life insurance ownership is \$431, which, when tested by means of significant differences,³³ proved to be highly similicant at the 5 percent level. It would spead a safe assumption, in light of these tests, to state that those farmers of foreign macestry tend to carry less insurance on their own lives than do the average of all farmers in the sample.

Dinitz,³⁴ in a preliminary analysis of some of these data, emphasized strongly the importance of socio-economic variables as predictors of life insurance ownership. In order to further test this hypothesis, in the second survey an attempt was made to measure social

and his values determine his insurance behavior and that he holds these values primarily by virtue of his status position in society.

[&]quot;Various studies have indicated that differences in education, occupation, wealth, power, family background and residence lead to the formation of status or prestige groups. These groups consistently display different forms of conduct, have different attitudes, values, tastes, aspirations and consumption patterns, all of which may be subsumed under the term 'styles of life.'"

³³Basic formula for testing two means for significance: $\int d = \sqrt{fx_1 + fx_2}$. If $\frac{\overline{X_1} - \overline{X_2}}{\int d} \ge 1.96$, the difference is significant at the 5 percent level. That is, for only 5 times out of 100, could these differences have occurred by chance alone.

³⁴Simon Dinitz, <u>Insurance Consumption Fatterns</u> (Research Department, Nationwide Insurance Companies, September, 1955).

standing and relate this to insurance consumption.³⁵ The measure used was the Social Participation Scale, 1952 edition, developed and tested by F. Stuart Chapin, University of Minnesota.³⁶ The scale measures the degree of a person's or family's participation in community groups and institutions. It repeatedly gives high degrees of correlation between scores and community leadership activities.

TABLE XII

COMPARISON OF INSURANCE OWNED AND OTHER FACTORS FOR TOTAL SAMPLE AND THOSE WITH FOREIGN NAMES

	Farmers with foreign names	All farms
Number of farms	43	220
Average size (animal units)	29-5	30,9
Age of operator	47.1	45.3
Years of education	8.0	9.8
Size of family	5.0	4.1
Average value life insurance	\$3,531	\$4,361

In Table XIII a summary of relationships is shown. It can be seen that as the social participation score increased, so did the average insurance owned by the operator. However, so also did average income and net worth, both important factors in life insurance ownership. The correlation coefficient between social participation score and insurance owned by the operator was 0.33, indicating that sociological factors play a part in life insurance consumption patterns.

36F. Stuart Chapin, <u>Experimental Designs in Sociological</u> <u>Research</u> (New York: Harper and Brothers, 1955).

^{35&}lt;sub>Appendix C.</sub>

To summarize, it would appear that the life insurance purchases of Vermont farm operators are a function of several socio-economic variables. The more important of these variables, at least of those measured, are income, age, and social status. Having no significant effect are education of the operator and number of dependents.

TABLE XIII

Casta	7					
particip	ation	Average insurance	Average	Average	Average	Average
Range	Mean	on operator	<u>education</u>	age	income	<u>net worth</u>
0 - 15 16 - 30 31+	7.1 25.2 <u>37.7</u>	\$1,825 4,400 4,700	8.5 11.1 9.3	47.7 48.8 51.7	\$1,433 1,865 <u>3,682</u>	\$24,004 25,5 17 32,409
Total	21.6	4,452	9.6	47.9	2,212	27,128

RELATIONSHIP BETWEEN INSURANCE OWNED BY OPERATORS, SOCIAL PARTICIPATION SCORE AND OTHER FACTORS

One factor which has not been measured is the effect of the activities of the insurance agents. It cannot be denied that the salesmanship ability of the agent and the resistance to this salesmanship on the part of the farmer are important factors in life insurance consumption. About half of the respondents were approached by life insurance salesmen in the year preceding the survey. Some 10 percent were approached three or more times. Frequency of contact by insurance agents was more closely associated with income level than with any other factor. Of those farmers with life insurance, nearly half purchased their insurance from more than one agent. Rural people apparently prefer to do business with a local agent. When asked what they would do if they wanted to take out more life insurance, 84 percent indicated that they would call an agent. Despite this reliance on the agent, about half of those surveyed felt that the agent knew less about the kinds and amounts of insurance needed than did the person himself.

Why did Vermont farmers buy insurance? The 42 Vermont farmers contacted in the second survey were asked, "What do you feel are the main reasons for buying life insurance?" They were not prompted as to their reply and replies were enumerated as they gave them. "Protection for the family" was the reason most frequently given; in fact, ll gave this as the only reason and 23 others mentioned this as one of two or more reasons for purchasing. A summary of replies to the question is shown in Table XIV.

TABLE XIV

READONS GIVEN BY 42 VERMONT FARMERS FOR PURCHASING LIFE INSURANCE

Reasons	Number listing
Protection of survivors only Means of saving Pay burial expenses Protection and investment Protection for family and cover debt Protection for family and pay burial costs Protect family and provide retirement income Protect family, protect farm capital, provide retirement	11 2 1 11 5 5 1 3

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It is evident from this table that family protection is looked upon as the major purpose of life insurance.

<u>Kinds of insurance purchased</u>. Since family protection is considered to be the major goal of insurance ownership, the next step is to examine the kinds of insurance owned to see how well farmers are meeting this goal.

Table XV shows the distribution in ownership of various types of policies by size group.

As can be seen some 40 percent of all policies are ordinary life policies and 26 percent are endowments. Over 40 percent are endowment or limited payment policies, both with high premium cost per dollar of protection offered.

TABLE XV

						and the second		
	Ordinary	Endow-	Limited	Paid-	Industri-			
Group	life	ment	payment	up	al"	Term	Other+	Total
				Perc	ent			
						-		
I	43.5	15.2	17.4	4.3	13.0	4.3	2.6	100.0
II	37.5	34.4	18.8	_	3.1	3.1	3.1	100.0
III	40.6	20.3	14.1	4.7	4.7	3.1	12.5	100.0
IV	46.0	26.0	10.0	12.0		4.0	2.0	100.0
V	33.3	34.6	18.5	3.8	1.2	1.2	7.4	100.0
Tota	1 39.6	26.14	15.8	5.1	4.0	2.9	6.2	100.0

TYPE OF POLICY OWNED CLASSIFIED BY SIZE OF FARM

*Any policy paid weekly or monthly and for less than \$2,000 is classified industrial.

+Includes mortgage retirement, family income, and G.I. Insurance.

If one accepts the premise that the former, with a limited amount of money available for investment purposes, desires from life insurance the maximum amount of protection per dollar spent, then it is evident that he is not attaining this goal. The data shown in Table XV are based on number of policies, rather than total face value per type of policy; however, it is doubtful if the distribution would change significantly. What reasons can be given for this apparent conflict between values held and actions in the market? Undoubtedly, a major explanation is found in ignorance of the product being purchased. This imperfect knowledge results in what appears to be irrational action on the part of this group of consumers and casts doubt on the basic assumption of rationality of action.

In the second survey the 42 farmers interviewed were questioned to determine how many recognized and were familiar with the four major types of life insurance policies. Less than 10 percent could name all four major types, and even fewer could give any accurate description of these types of insurance. Nearly half, when questioned, could not list a single type of policy by name, even though they may have owned one or more types of policy. The type most frequently mentioned was the endowment policy, with 20 out of 42 being able to name it. Only 7 out of 42 mentioned the term policy. When the four major types of policies were listed for them, less than 10 percent could differentiate among these policies. Only four recognized term insurance as giving the most protection per premium dollar, and 33 out of 42 had no idea as to which insurance was best in this feature. Eleven out of 42 recognized endowment insurance as having the greatest savings feature.

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When asked which type of insurance would best meet their insurance needs, 33 expressed doubts or didn't know. Nearly half of those questioned would make changes in their insurance programs if they were to start over again.

This appalling ignorance of life insurance can probably be explained by two factors. In the first place the educational agencies have done little or no work on insurance education. The subject has also received little mention in farm magazines and newspapers.

Secondly, many insurance agents in the past, and many today, have been primarily interested in selling policies, rather than insurance programs. They have used the farmers' ignorance of insurance as a means of maximizing their return by selling high commission types of policies.

If, as those farmers in this survey indicated, the major value of life insurance to farm people is family protection, and if, as most farm income surveys suggest, capital can usually be more profitably reinvested in the farm than in outside investments; then there is justification for an educational program aimed at increasing the insurance literacy of Vermont farmers. Greater suphasis on term insurance and ordinary life may be justified, particularly among younger farmers.

Insurance coverage on wife. Table XVI below shows the number of farmers surveyed who were married of the time and the percent of wives insured. While 75 percent of all farm operators are insured only 36.2 percent of those married operators have insurance on their wives. There also appears to be no consistent pattern between size of form owned and percent of wives insured.

TABLE XVI

	Number of	Number of	Percent of
Group	married operators	wives insured	wives insured
I	36	12	33.3
II	30	8	26.7
III	42	14	33.3
VI	29	15	51.7
v	48	lĈ	37.5
Total	1.85	67	36.2

NUMBER AND PERCENT OF FARM NIVES WITH LIFE INSURANCE

Table XVII gives information concerning the amounts of life insurance owned by wives. The mean value of life insurance owned by wives is \$1,048, the median \$1,000. This compares with a mean coverage of insured formers of \$4,196.

Endowments are the most favored type of policy for wives, 32 percent being of this type. Limited payment and industrial policies each account for 17 percent of the policies in force and ordinary life for 13 percent. It would seem that in taking out life insurance on the wife, farm families are buying enough to meet death costs and are trying to incorporate some savings with the protection offered.

Insurance coverage on children. Tables XVIII and XIX show numbers of farm families with insured children and amounts of coverage on these children. As can be seen from Table XVIII, about 43 percent of those families with children had insurance policies on one or more of the children. There were 193 policies or a mean of 2.5 policies per insuring family. The mean face value of all policies per family was \$2,206, the median value \$1,920. The average face value per insured child was \$942. More important, in these Vermont families 18 percent of the total face value of all life insurance owned is on children.

TABLE XVII

LIFE INSURANCE ON WIVES BY FARM SIZE GROUP

Face value	Group	Group	Group	Group	Group	All
all policies	I	II	III	IV	v	farms
			Perc	ent	allen allen dele sonn her filmen der sonnage	and a second
None*	67.7	73.3	67.7	48.3	62.5	63.8
Under \$ 500	8.4	12.5	21.4	26.7	5.6	4.5
\$	58.3	50.0	57.2	53.3	16.7	31.3
1,000 - 1,999	33.3	12.5	14.3	-	61.1	47.7
2,000 - 2,999	-	12.5	7.l	13.3	11.0	7.5
3,000 - 4,999	-	12.5	-		5.6	7.5
5,000 - 7,499		_	-	-	_	-
7,500 - 9,999		-	-	-	_	_
10,000+			-	6.7	-	1.5
Total	100.0	100.0	100.0	100.0	100.0	100.0

*As a percent of all wives.

TABLE XVIII

NUMBER OF FAMILIES WITH CHILDREN AND NUMBER AND PERCENT INSURED

-	Number of families		
Group	with children	Number insured	Percent insured
I	28	12	42.8
II	27	11	40.7
III	43	17	39.5
IV	32	16	50.0
V	47	20	42.6
Total	177	76	42.9

Endowments were by far the more important type of policy on children. Forty of 113 recorded policies were endowment, with 27 ordinary life, 24 limited payment policies, and 21 industrials.

TABLE XIX

DISTRIBUTION OF INSURANCE COVERAGE ON CHILDREN BY SIZE GROUP

Face value all policies	Group I	Group II	Group III	Group IV	Group	All
			Perc	ent		
None*	57.2	59.3	60.5	50.0	57.4	57.1
Under \$ 500	7.7	9.1	11.8	12.5	5.0	9.0
🔅 500 🗕 🔅 999		45.4	11.8	6.2	5.0	11.7
1,000 - 1,999	3੪ੇ.5	36.4	41.1	18.3	30.0	32.5
2,000 - 2,999	23.0	9.1	23.5	31.3	20.0	22.1
3,000 - 4,999	15.4		5.9	12.5	15.0	10.4
5,000 - 7,499	7.7	-	5.9	12.5	15.0	9.1
7,500 - 9,999	-			6.2	-	1.3
10,000 and over	7.7	_		-	10.0	3.9
Total	100.0	100.0	100.0	100.0	100.J	100.0

*As a percent of all children.

Life insurance coverage on the family unit. While the distribution of insurance among the various members of the family is important, the farm operator must, from net farm income, pay premiums on all insurance policies of all members of the family. There is evidence that farm operators may think more in terms of total family coverage when making decisions regarding insurance purchases than in terms of insurance on their own lives. When asked whether they falt life insurance should be primarily on the life of the operator, or distributed over all members of the family, 22 out of 37 indicated that they felt all members of the family should be insured. Even though the money available for insurance premiums was barely sufficient to provide minimum coverage for the operator, these formers still favored distributing life coverage over all insurable members of the family, although they felt that more should be on the life of the operator than on other family members.

Apparently this value was guiding their insurance consumption. Tables XX and XXI show amounts of coverage on different members of the family. Although amounts of insurance on all members of the family increase as size of farm increases, there is no consistent difference in percentages of insurable persons not insured by size groups. The correlation coefficient for income and total life insurance premiums paid was .32 and the average income per insured family was \$4,258. Table XXII shows total and average premiums paid by size group.

When those operators without insurance were queried as to their reasons for not having insurance three answers were most frequent. These were, in order of frequency: "can't afford it," "can't get insurance," and "don't believe in life insurance." However, the taxable incomes of those operators without insurance averaged \$2,854 and ranged from a low for the average of Group II of \$1,806 to a high for Group V of \$4,914. This would seem to indicate that other factors besides income are important in their decision to insure, even though lack of income is the consciously-given reason.

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TABLE XX

PERCENTAGE DISTRIBUTION OF LIFE INSURANCE OWNERSHIP BY FARM SIZE FOR INDIVIDUAL FAMILY MEMBERS AND WHOLE FAMILY

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		luoun	- 1 0			no.r.	11 4			dnoup	777	
				Total				Total				[otal
	Oper-		Chil-	per	Oper-		Chil-	per	Oper-		Chil-	per
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\$ 500 - 999	1	0.07	1	13.5	14.8	50.0	45.4	28.3	2.9	21.4	11.8	9 . 2
1,000- 1,999	50.0	S0•0	41.7	42.3	51.8	12.5	36.4	41.3	20.6	57.1	4 1. 1	3 3. B
2,000- 2,999	20.0	ł	25.0	17.3	14.8	12.5	1.6	13.1	11.8	14.3	23.5	15.4
3,000- 4,999	13.3	1	16.7	11.5	5.7	12.5	I	4 • ິ)	14.8	7.2	5.9	10.8
5,000- 7,499	10 . 0	ł	8•3	7.8	11.2	1	I	6.5	35.3	I	5.9	20.0
7,500- 9,999	6.7	1	ł	Э	ı	ł	1	J	00 00	I	1	4.6
10,000-14,999	1	t	1	ł	3.7	1	ı	2.2	2.9	I	1	г. У
15,000- 19,999	ł	1	ł	ł	I	ł	ı	ł	2.9	I	I	1.5
20,000 and over	1	1	1	t	1	1	ł	1	t	1	F	ı
Total	1 00°0 1 (0.00	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	00.00

*As a percentage of all farms in group, all farm wives, and all farm families with children.

	Ŀ	oup IV			Grout	Λ			LLA	farms	
			Total			[-	otal				Total
	Oper-	Chil-	per	Oper-	0	-lid	per	Oper-		Chil-	for all
	ator Wife	dren	family	ator	life c	ren f	anily	ator	Wife	dren	farms
				ቢ	еrс	ent					
None*	14.3 48.	3 50.0		21.4	62.5	57.4		25.0	63.8	57.1	
Under 🝦 500	1	12.5	3 . 3		5.6	5.0	2.4		4.6	9.2	3.3
\$ 500- 999	6.7 26.	7 6.2	11.6	2.3	16.7	5.0	6.2	4.8	32.3	11.8	12.4
1,000- 1,999	30.0 53.	3 16.8	32.7	9.1	61.1	30.0	25.6	29.7	46.2	32.9	34.1
2,000- 2,999	6.7 -	31.3	11. 6	13 . 6	11.0	20.0	14.6	<u>1</u>	7.7	22.4	14.4
3,000- 4,999	13.3 13.	3 12.5	13.1	13.6	5.6	15.0	12.2	12.2	7.7	10.5	10.8
5,000- 7,499	30.0	12.5	18.0	34.1	ı	15.0	22.0	25.4	I	6 .9	16.0
7,500- 9,999	6.7 -	6.2	4•9	9.1	1	I	4.9	6 . 8	I	1. 3	6. 6
10,000-14,999	، ع ب	I	1. 6	9.1	J	10.0	7.3	4•2	1	2.6	2.9
15,000- 19,999	•0	- 2	1. 6	6.3	ł	ı	3.6	5°-	1•5	I	1.6
20,000 and over	3.3 -	1	1.6	2.3	1	ł	1•2	1 .2	ł	I	0.6
Total	100.0 100.	0 100.0	100.0	100.01	0.00	L 0.00	0.00.	100.0	100.0	100.0	100.0

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TABLE XX (continued)

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TABLE XXI

TOTAL FACE VALUE OF LIFE POLICIES AND PERCENT DISTRIBUTION BY FAMILY MEMBER AND SIZE GROUP

annan an an ann an an an an an an an an	Operat	tor	Wife	0	Child	ren	Tota	1	Average per
		Per-		Per-		Per-		Per-	insured
Group	Dollars	cent	Dollars	cent	Dollars	cent	Dollars	cent	family
I II III IV V All farms	74,100 65,250 156,491 139,947 256,543 692,331	70.3 79.1 78.1 69.4 75.1 74.3	8,083 6,750 16,922 19,056 20,400 71,211	7.7 8.2 8.4 9.4 6.0 7.7	23,165 10,500 26,988 42,683 64,819 168,155	22.0 12.7 13.5 21.2 19.0 18.0	105,348 82,500 200,401 201,686 341,762 931,697	100.0 100.0 100.0 100.0 100.0	3,192 3,173 5,726 6,506 7,272 5,417

TABLE XXII

Group	Total life premiums paid	Average premium per insured family
I II III IV V	\$ 2,760 1,876 6,876 5,762 9,407	\$ 89 69 196 192 192
All farms	\$26,681	\$148

TOTAL LIFE INSURANCE PREMIUMS AND AVERAGE FREMIUMS PER INSURED FAMILY BY SIZE GROUP

An evaluation of the theoretical model. Life insurance serves two basic purposes: the protection of survivors through the assurance of a future income in the event of the death of the insured, and a means of savings or investment. For a high income individual, the latter objective may be as important as the former; however, for the farmer who traditionally has low farm earnings the investment feature is far less important. Numerous studies have shown that most farmers can get a greater return on capital reinvested in the farm than can be earned with life insurance. Therefore, the relevant consideration for farmers in purchasing life insurance should be the protection feature rather than investment.

The normal interpretation of utility theory would seem to require modification before it can be applied to life insurance purchases. There are three basic areas of conflict, all of which are closely interrelated. One of these conflicts is between the individual and the family unit. The idea of an ego-centered utility maximization must be reconsidered from the standpoint of maximizing utility within the family as a group. This does not infer an aggregation of the individual utilities of each member of the family. However, life insurance does not give utility in the normal sense to the individual purchasing it; its utility is measured by the satisfaction received by the insured from knowing that other members of the family unit will have a source of income in the event of his death.

A second closely related problem involves the conflict of interests between the firm and the household. It should be recognized that, barring an increase in income, any increase in the monetary requirements of the household will decrease the income available for productive inputs for the firm. The decision to purchase insurance must be made with full knowledge of this relationship.

Finally there is a combined firm-household decision as to whether to spend for present consumption or to buy insurance to assure a certain future income. This re-allocation of expenditures must result in either lower present standards of living (unlikely) or lower expenditures on income-producing inputs. This in turn may start a spiral of lower gross income from the farm firm. Some farm operators apparently prefer to utilize present income by reinvesting it in the farm firm, probably believing that the future income needs of the family will be more adequately met by this alternative than by purchasing life insurance. The owner of life policies with less than §2,000 total face value would not be assumed to be rationally trying to provide future income for his family. To him a life policy is probably a forced way of saving to provide a "burial fund." At any rate, the concept of utility maximization resulting from the purchase of insurance must assume the simultaneous resolution of these three interrelated areas of conflict.

A second deviation from the theoretical model is that it does not accurately describe how many farmers actually buy insurance. From observation of ownership patterns and from conversations with farmers, the writer believes that many purchases of insurance involve no such rationalization between present and future income possibilities, but rather are "spur of the moment" or "impulse" purchases. Many policies have been purchased as a result of an agent's visit at a time when part of a milk check remained unspent.

While the Friedman-Savage hypothesis, discussed in Chapter II may logically explain how a rational individual can both gamble and insure, it does not, to the writer's satisfaction, explain life insurance consumption. Even if one were to assume that utility can be

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measured cardinally, there is still reason to doubt--under the present state of methodology--that the hypothesis would have predictive ability, primarily because the methods used to date do not satisfactorily resolve the areas of conflict discussed above.

The "style of life" approach suggested by Dinitz and discussed earlier in this chapter may offer a partial explanation. Life insurance was found to be significantly correlated with scores on the social participation scale used in this study. However, the correlation was not high, and the scale was so constructed that there would automatically be a relatively high intercorrelation between scores and income levels. One cannot deny that the various social factors--the desire for social acceptance, the feeling or value that insurance is something all socially acceptable people <u>should</u> have--play an important part in insurance ownership by some people.

Reviewing the whole mass of data on life insurance consumption and related factors, the writer would draw the following observations.

1. A small number of farm operators surveyed, not over 10 percent, apparently have a definite insurance program, have certain goals, and are actively working to achieve these goals. These operators know something about life insurance, though not as much as they should know. They are the ones who "buy" rather than being "sold." They recognize what problems their untimely death would pose to the farm unit and the farm family and are actively trying to minimize these problems. They tend to insure primarily their own lives. However, they too need assistance in maximizing the return from their insurance premium dollar. The theoretical model, and the assumptions on which it is based, seem to apply most to this group. They more nearly meet the requirements of subjective certainty resulting from near-perfect knowledge and rational action. They seem to have a better understanding of the interrelationships of firm and household and the temporal considerations.

2. A second group, which is made up of the majority of farm operators, have some insurance, but usually only enough to pay the expenses of a final illness and burial. This group has no insurance "program," although the individual members may have collections of "policies." They recognize that insurance is probably a tood thing and they feel it important to "be insured," even though the amount of insurance is very small. They are for the most part highly susceptible to a good sales pitch. They try to insure all members of the family, although the face amounts are very small. They have hittle knowledge of the types of insurance or what insurance can do for them. The buying habits of this group fail to substantiate the theories of insurance consumption.

3. The final group is composed of the 25 percent without insurance. Some are low income farmers, although 30 percent had taxable incomes of over \$3,000. Many are too old or in too poor health to get insurance, even though they might desire it. The educational level of this group is slightly lower than the others, but it is questionable if education is a major factor in their failure to have life insurance. One factor in their lack of life insurance may lie in their infrequent

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contacts with insurance agents. Three-fourths of this group indicated they had not received a visit from an insurance agent during the preceding year. However, a large proportion of the group just don't believe in life insurance. Reasons vary from a belief that the company will cheat the beneficiaries to a feeling that insurance is "socialistic." A high risk preference may be a factor, although the writer was unable to detect it. Also there seemed to be no less a feeling of responsibility toward the family among this group.

4. Attempts at predicting life insurance consumption based on any of the studied variables individually or as a group will be less than 10 percent effective.³⁷ Many insurance purchases have been the result of unplanned actions or impulses. Important to this analysis is the general lack of information regarding insurance, and in any attempt at a meeting of the minds between a well-informed agent and an uninformed farmer, the farmer is likely to come out on the short end. Before insurance consumption by the majority of formers can be considered to be a function of the decision making process; i.e., the result of a carefully planned choice of alternatives resulting in the maximization of utility, formers must become for better informed regarding insurance. Until that time, there will be a somewhat less than desirable allocation of income as determined by the theoretical concepts of insurance ownership.

³⁷Multiple correlation coefficient for correlation between face value of insurance on operator and size of farm, age, number in family, and net worth is .30.

CHAPTER V

CASUALTY INSURANCE PROGRAMS

CHAPTER V

CASUALTY INSURANCE PROGRAMS

Casualty insurance, as discussed in this chapter, will include fire, vehicle, public liability and workmen's compensation, and theft policies. These are the insurance policies which insure primarily physical property, although medical payment provisions of vehicle and liability policies also protect the insured against claims for injury to persons.

In analyzing the purchases of casualty insurances, one faces a somewhat different situation from life insurance purchases. It was found that life insurance consumption was partially related to sociological and psychological factors. There is probably a greater amount of subjectivity connected with life insurance consumption than there is with casualty insurance purchases; that is, a feeling that one "should" have some life insurance to protect dependents, even if it is only a token amount. Then too, casualty insurance is in some respects, more closely related to the farm firm than is life insurance. While it is indisputable that the death of the form operator would either terminate the existence of the farm firm or would cause a change in management, there would seem to be a somewhat different attitude toward this eventuality than there is toward the loss of a barn from fire, for example. Many farmers seem to take an almost fabilistic attitude toward their eventual death and the resulting circumstances. They recognize that the event is sure to occur sometime in the future, but
from their attitudes toward life insurance and their consumption patterns, they seem, for the most part, to believe that they won't die prematurely, or if they do, the farm will provide for their dependents. The motivation for casualty insurances would appear to be slightly different.

Vehicle insurance coverage. Several types of coverage are included in vehicle insurance; among them are property damage liability, bodily injury liability, comprehensive (including fire and theft), collision insurance, and medical payment. Property dumage liability protects one against claims for damages to property other than that he owns which is damaged in an accident involving the owner's vehicle. Coverage ranges from \$5,000 up to \$100,000 or more. Bodily injury liability likewise protects the insured against claims for damages for injuries suffered by anyone in an occident involving his vehicle. These two coverages are the basic part of the vehicle insurance contract. They are often quoted as, for example, 10/20/5, which means that the insured is covered to the extent of \$10,000 bodily injury per injured person or \$20,000 maximum for the accident, and \$5,000 property damage.

Most financial responsibility laws refer to this coverage. The Vermont Statute, enacted in 1953, states that "The commissioner shall require proof of financial responsibility to satisfy any claim for damages by reason of personal injury to or the death of any person, of at least \$10,000 for one person and \$20,000 for two or more persons

killed or injured and \$2,000 for damages to property in any one accident.....³⁸

Medical payment liability covers injury to persons riding in the insured's car. This plus the two previous coverages protect the insured from damage which he inflicts with his vehicle.

Comprehensive insurance and collision involve damage to the insured's car which he may or may not cause. Comprehensive protects against almost all catastrophes. Among the many forms of protection included are fire, theft, falling objects, broken glass, malicious mischief, windstorm, and water. Collision insurance protects the insured's car against damage which he causes. It is written with a deductible clause, varying from §25 to \$100.

Only five of 216 farmers responding owned neither car nor truck. These 216 farmers owned a total of 332 vehicles, of which 177 were cars and 155 trucks. Table XXIII below gives distribution of ownership of cars and trucks by size group. Ownership of both car and truck was primarily by the larger farm operators.

Of those farmers with cars, over 75 percent reported that they were the principal driver of the car, while 85 percent of those farmers owning trucks reported that they were the principal driver of the truck. Children, who, if under age 25 require higher insurance rates, were the principal car drivers in only 7 percent of those families with cars.

³⁸Acts and Resolves Passed by the General Assembly of the State of Vermont (1953).

About 45 percent owned one of the three low-priced makes, about a third owning one of the high-priced cars. Half of those reporting ownership of autos had purchased them new. About one-fourth of the cars were one or two years old at the time of the survey. Half of the cars were five years old or older.

TABLE XXIII

,, 	1 or more cars,	l or more	1 or more cars	s No car	
Group	no truck	trucks, no car	and trucks	or truck	Total
		Perc	ent :		
I	50.0	28.5	11.9	9.6	100.0
II	42.9	31.4	25.7	-	100.0
III	30.0	14.0	54.0	2.0	100.0
IV	29.4	8.8	61.8	-	100.0
V	12.7	12.7	74.6	-	100.0
All farms	31.5	18.5	47.7	2.3	100.0

OWNERSHIP OF MOTOR VEHICLES BY SIZE OF FARM

Types of coverage owned by those reporting cars is shown in Table XXIV.

While practically all operators in all size groups have property damage liability and bodily injury liability, there is considerable variation as to other types of coverage. There is a fairly definite association between size of farm and percent of farmers carrying different types of insurance, indicating that for certain types of auto insurance, income is probably a factor in extent of coverage.

Tables XXV and XXVI give the amount of coverage for property damage liability and bodily injury liability.

XIXI	
TABLE	

	Fire			Property	Bodily		
	and			damage	injury	Medical	No auto
Group	theft	Comprehensive	Collision	liability	<u>Jisbility</u>	payment	insurance
			£4	ercent			
1	66.7	66.7	52.4	100.0	95.2	80.9	1
TT	48.0	46.0	52.0	84.0	84.0	72.0	12.0
TTT	82.5	80° U	67.5	c.06	67.5	72.5	7.5
IV	61.2	81.2	65.6	93.8	96.9	78.1	сл г
Λ	85.7	83.7	د. م ع	100.0	100.0	81.6	1
All farms	76.0	74.8	62.3	94.•0	93.4	77.2	4.2

TYPES OF AUTO INSURANCE COVERAGE OWNED, BY SIZE GROUP

TABLE XXV

ANOUNT OF BODILY INJURY LIABILITY COVERACE BY SIZE (ROUP

Timitehodilv init	00/ 第15,000/ 第20,000/ 第50,000/ 第50,000/ 20,000/ 20,000/ 20,000 200/ 20,000 2000 8000 80000 80000 80000 80000 80000 80000 80000 80000 80000 80000 80000 80000 80000 80000 80000 80000 800000 800000 800000 800000 800000 8000000	Percent	4 19.0 4.8 4.8 100.0	0 4.0 4.0 12.0 16.0 100.0	5 5.0 IC.0 IC.0 7.5 IOO.0	.9 6.2 21.9 I3.8 3.1 100.0	2 4.1 12.2 14.3 4.1 2.0 100.0	
זיאוורמי זרויההא	22, 000/ \$25 \$20,000/ \$25	Percent	19.0	E C•7		21.9 1	12.2 1	с С (с Г
1+tm_tT	\$15,000/ \$30,000			4•0	5.0	6.2	4.1	C .7
	\$10,000/ \$20,000		μ	56.0	62.5	46.9	61.2	0 1 1
	\$5 , 000/ \$10,000		7	0°8	5.0	н. М	2.0	20
	Group		н	II	TTT	IV	Ŋ	All farm

As can be seen, 6 percent of those driving cars have no property damage liability or bodily injury coverage on their car. However, this involved only 10 farmers out of 167. By far the majority of farmers surveyed have only the state minimum coverage for bodily injury, but over the minimum for property damage. Amount of coverage does not seem to be associated with size of farm.

TABLE XXVI

	Limi	tsproperty	damage		
	Under	\$5,000-	\$10,000-		
Group	<u></u> 5,000	\$9,999	<i>415</i> ,000	None	Total
		F	'ercen t		
I	4.8	57.1	38.1		100.0
II		60.0	24.0	16.0	100.0
III		75.0	15.0	10.0	100.0
VI	3.2	81.2	9.4	6.2	100.0
V		79.6	20.4		100.0
All farms	1.2	73.0	19.8	6.0	100.0

AMOUNT OF PROPERTY DAMAGE LIABILITY COVERAGE BY SIZE GROUP

Table XXVII, which shows ownership of collision insurance, has some interesting data. Nearly two-thirds of all farm operators carry some form of collision on their autos with \$50 deductible being the most common type of coverage. There is some association between size of farm operated and percent of farms insured.

In the second survey, 29 out of 41 farmers owning automobiles had collision insurance, which is somewhat higher than the percentage insured in the earlier survey. More revealing is the fact that 16 of the 29 had cars which were four years old or older. These farmers were asked, "what should a farmer consider in trying to decide whether or not to carry collision?" Of the 29 farmers with collision, 13 stated that this was no problem in that there was no question but that collision should always be carried. The remaining 28 farmers questioned listed value of the car as the primary factor in deciding whether or not to have collision insurance. Other factors mentioned were number driving the car and whether the operator could afford collision insurance. About a tenth of those contacted could not distinguish the difference between liability and collision insurance.

TABLE XXVII

		<u>.</u>				
	80 percent/	\$25	<u></u> \$50	\$100	No	
Group	20 percent*	deductible	deductible	deductible	collision	Total
			Perce	nt		
I			42.8	9.6	47.6	100.0
ll		-	52.0		48.0	100.0
III	····· •		67.5		32.5	100.0
VI	3.1	j.1	59.4		34.4	100.0
v		4.1	57.1	4.1	34.7	100.0
All farms	C.6	1.8	57.5	2.4	37.7	1.00.0

DIST IBUTION OF COLLISION COVERAGE BY SIZE OF FARM

*With 80/20 coverage, the insurance company pays 80 percent of claim, the insured 20 percent, regardless of size.

On the face of these findings, one might conclude that the economics of insurance do not enter into the decision-making process of these 13 farmers as far as collision insurance is concerned. This may be true; however, an insurance agent who writes a large volume of insurance with farm people offered another explanation. His theory is that many agents persuade farmers to carry collision insurance in order that the insured will feel he is getting something for his money. Thus, if a former has an accident and collects on his collision insurance, he feels he is getting the protection he is paying for. If he has an accident and has no collision, he feels he is being cheeted; that his insurance is not giving him the kind of protection it should. And even though the accumulated premiums from collision for outweigh the collected damage awards from accidents for most form operators (71 percent had never filed damage claims), the one time the operator is able to collect, or his friend or relative collect, is enough to give a higher level of satisfaction from the insured position than from the uninsured position.

This postulate is hard to defend from a theoretical standpoint if one accepts the assumption of rationality of action and perfect knowledge of the ribks and probabilities of loss. However, it may more accurately describe collision insurance coverage than the theory does.

Table XXVIII gives information on kinds of coverage by truck owners. Coverage on trucks is not so extensive as is coverage on autos. While this is to be expected with certain types of coverage, it would seem to be a weakness insofar as liability coverage is concerned. Some 25 percent of all farm trucks being operated on the highways are not covered by liability insurance. When questioned as to this lack of coverage, the most frequent answer was that the truck was used very little on the highway.

TIIAXX	
TABLE	

INSURANCE COVERACE ON TRUCKS BY FARM SIZE GROUP

	ly ry Medical lity payment	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7
	Bodi inju idail	71- 772- 712- 712- 712- 712- 712- 712- 7
coverage	Property damage liability	e n t 76.5 61.9 69.7 75.0 71.3
Type of	Collision	Perc 28.6 36.4 22.6 24.6 24.6
	Comprehensive	41.2 76.2 74.2 39.1 41.1
	Fire and theft	64-7 28-1-7 45-5 45-6 45-6 45-6 45-6 45-6 45-6 45-6
	Group	1 II IV V V All farms

<u>Fire insurance</u>. To a farmer, his fire insurance policy is probably the most important part of his insurance program. Only 1 out of 220 farmers had no fire insurance on his property, an indication of the almost universal recognition of the importance of the fire insurance contract.

There are three conscious reasons why almost all farmers carry some fire insurance. In the first place, with rural property in particular, even the smallest fire often turns into a major catastrophe with a complete loss. Rural buildings are usually notoriously inflammable, rural fire departments not too efficient and often hampered by lack of water. Secondly, credit institutions normally require fire insurance on all mortgaged property, at least to the extent of the mortgage. Finally, the loss of a barn or the cattle usually means interruption of the income flow, sometimes for a relatively long period. Insurance, then, becomes necessary to supplement the reduced or interrupted income flow, and to replace the destroyed facilities.

Fire insurance contracts are of two basic types; the ordinary fire contract, and the so-called "extended coverage" contract. The extended coverage contract is a broad coverage contract covering windstorm damage and certain other perils. In addition special endorsements, "riders," or "floaters" may be added to the basic contract to broaden its coverage. Nearly three-fourths of the insured farmers had extended coverage.

Table XXIX shows fire insurance coverage of the sample farms by size. The percent insured column refers to the percent of valuation

covered by insurance. As can be seen, the larger the farm the higher the percentage of total valuation covered by fire insurance. Buildings are also insured at a higher level than are stock and tools.

For the 193 farms reporting farm valuation, the median value was \$24,400. Of 168 farms reporting information on mortgages, 56 percent reported having no mortgage.

Looked at individually, the percent of total valuation covered by insurance ranged from 8 percent to 236 percent, while average coverage as seen in Table XXIX was 66.1 percent. An attempt was made to discover the reasons for this very wide range in percentage of valuation insured. Theory indicates that casualty insurance coverage is a function of the risk preference of the individual. Individuals react differently to risk and uncertainty, and the utility attached to gains or the disutility attached to losses are factors in their decision to purchase insurance and how much to insure. People who have assets and/or earning power attempt to maintain them in the presence of risk and uncertainty. Insurance is a method of maintaining these assets.

In the second survey those farmers contacted were asked a series of questions³⁹ designed in part to reflect and measure their reaction toward risk and uncertainty. These questions were weighted in an

³⁹See questions 28 to 33, <u>Supplemental Survey</u>, Appendix B.

XIXX	
TABLE	

AVERAGE VALUATION, PERCENT INSURED, AND SIZE OF MORTCAGE BY FARM SIZE GROUP

							M	ortgage*
	Farn v	wit	Buildi	ព័ទ្ធន	Stock and	tools		Percent mort word
	Average	Percent	Average	Percent	Average	Percent	Average	is of
Group	veluetion	insured	valuation	insured	valuation	insured	mortgage	total value
н	\$11,599	58.3	\$ 3°017	62.1	₽ 3 , 582	48.7	\$ 2, 623	17.2
TT	16,383	61.9	10,056	8.19	6.327	57.2	2,373	13.4
TTT	28,588	60 . 1	16,797	66.3	11,792	51 . 4	5,333	20.2
ΔI	31,856	69.8	18,336	75.3	13,550	62.3	10,292	34.3
Λ	42,493	70.6	22,582	છુ . 3	19,911	56.2	9,656	22.6
All farms	\$26,667	66.1	\$15,337	73.6	\$11 , 330	55.8	\$ 6 , 409	21.5

*For those farms mortgaged.

attempt to develop a risk-preference scale.⁴⁰ Risk-preference ratings ranged from a low of 5 to a high of 81 (absolute risk-preference assumed to be 100), and overaged 19.4.

Table XXX shows the forms arranged in three groups according to risk-preference. As can be seen, using the subjective risk-preference scale, percent of total value insured increased for those with the highest risk-preference rating; a finding contropy to what might be expected. However, size of form and net worth also increased as risk preference increased, indicating that although formers on larger forms have a higher subjective risk-preference rating, they are motivated to insure property more beavily in order to protect their socio-economic standing.

Altogether, the attempt at determining risk-preference by a subjective scale was not considered successful, although the technique offers promise. This lack of success may be due in part to the choice of questions asked. It is very difficult to develop a scale of this kind. In the first place, the farmer must try to imagine how he would react to the hypothetical problem situation. The answers which farmers give to this type of question where nothing is risked on the answer may be quite different from how the formers actually will act if they are confronted with the problem.

⁴⁰A group of six questions were asked respondents who were given a choice of alternatives involving risk. Answers were rated as to degree of risk involved. Theoretically, the lower the score, the less is the risk preference enhibited by the individual. For a further explanation of the scoring and the questions asked, see Appendix D.

XX	
TABLE	

RISK-PREFERENCE ANTIND AS RELATED TO SIZE OF FARM, FARM VALUATION, NET WORTH, INSURANCE COVERACE, AND OTHER FACTORS

σ								
eoue.roja.rd					farm	Percent	value	Net
rating	Size	AGE	Education	Income	value	insured	mortgaged	worth
$\tilde{\mathbf{C}}$	Animal units)	(Jeers)	(years)					
1 - 14	30	48	5	\$3 , 054	\$28,958	76.6	16 . 8	\$26 , 708
lj - 20	32	47	6	2,559	26,998	67.1	35.6	27,718
21 and over	35	47	12	2,250	48,636	34.9	1.1	31,856
All farms	32	47	10	\$2,662	32,527	76.2	*	\$26,388

*Not availuble.

Secondly, the use of a scale presumes rating of the questions as to degree of risk. The risk rating given the questions by the investigator is entirely subjective, in that it reflects his views as to degree of risk. This rating may not be consistent with how the farmers would rate the problem situations. Finally, it is especially difficult to develop questions for a scale which are applicable to a highly specialized duiry area such as Vermont.

Correlations run between risk-preference and percent of valuation insured proved non-significant.

It has been shown that life insurance coverage was quite highly correlated with income level. In an attempt to discover if those farmers with higher incomes had a higher percentage of total farm value covered by fire insurance, simple correlations were again calculated. However, again it was found that no significant correlation existed between percent of total voluation insured and income level. Apparently farmers field that fire insurance is a nocessary farm expense, and therefore, the question of whether or not they can afford fire insurance does not waterially affect their insurance consumption. When asked what they used as a guide in determining the amount of fire insurance to carry, nearly one half indicated that they insured at replacement cost or some percent of replacement cost. About 15 percent stated that they insured at original cost, and another 15 percent insured for all that the company would write. The remainder used some measure of "what they felt they could afford" as the guide to coverage. Those farmers who used income as a guide to fire insurance coverage had the lowest percentage coverage. Those using original cost or some percent of replacement cost were most completely protected.

Institutional factors very definitely affect fire insurance purchases. Credit agencies require fire insurance on all mortgaged property, often to the extent of 100 percent of value. The correlation between percent of valuation mortgaged and percent of valuation insured was .26 and proved to be significant. However, the mean percent coverage for all mortgaged farms (78.0 percent) was not significantly different from the mean coverage for unmortgaged farms (70.0 percent).

Table XXXI shows a slightly different analysis of insurance coverage. An interesting point is that total valuation for those farms averaging 30.6 animal units is less than for those farms averaging 19.2 animal units, but percent of valuation insured is greater. While it is hazardous to speculate on reasons for this relationship without further information, from an examination of the data one might tentatively conclude that in the first group are a number of non-farm properties with heavy investments in buildings. These owners are apparently not insuring as heavily as full-time farmers who are dependent upon the buildings in the operation of their farms.

In summary, formers apparently look at fire insurance as a necessary expenditure for their farming operation. While institutional factors are important in affecting fire insurance coverage, they do not significantly increase the extent of coverage. About the only consistent relationship evident is the tendancy for percent of valuation

IXXX	
TABLE	

PERCENTAGE OF VALUATION INSURED RELATED TO SIZE, AGE OF FARMER, EDUCATION, INCORE, TOTAL VALUATION, AND SIZE OF MORTGAGE

Range in percent of valuation insured	Size	ê. G	Education	Income	Total valuation	Average mortsage*	Mortgage ast a percent of valuation
Under 50	2000	51 2	9.00	\$1,922	\$30 , 144	\$1,231	4.1
50.0 - 74.9		14 9	9.00	2,426	22,689	2,952	13.0
75 and over		46 9	9.35	2,545	24,809	2,699	11.8
All farms		47 0	9.35	2,368	24,255	2,494	10.3

*Fer form mortgaged. +As a percent of valuation of all farms.

insured to increase on the larger furms. This would seem to substantiate the belief that when a farmer has become adjusted to a certain socio-economic level, he is willing to insure against losses which would, if they occurred, put him on a lower socio-economic plane. Thus, farmers insure heavily even though on the basis of the subjective risk-preference rating they may indicate a willingness to gamble or assume risks.

Comprehensive personal liability insurance. Mulle fire is undoubtedly considered the major insurable risk which farmers face, the farm operator today runs a protter risk than ever before of becoming involved in a lawsuit because of injury to or death of another person or demage to property. This is due in part to the increased use of machinery and motor vehicles, to the greater reliance on bired labor, and to the greater net worth of farmers. Also a factor is the change in attitude of the population toward hisbility and demage lawsuits. Employees who have proviously worked in industry are familiar with the laws protecting them and expect like protection in agriculture. A court judgment against a farmer could result in the loss of a lifetime of statings; in the complete wiping out of the farmer's equity in his farm.

There are three common types of liability insurance, other than automobile liability, that a farmer may carry. These are exployer's liability, workmen's compensation, and comprehensive or general liability.

Employer's liability protects the furger a ainst suit in case an employee is injured at work through negligence of the employer. Workmen's compensation, required for any employer of seven or nore persons but voluntary for any others, gives the worker protoction from loss of wages as a result of injury, plus payment for injuries received. Comprehensive liability insurance protects the former in cases where accidents or the destruction of property result in lawsuits against the farmer by the general public.

In the earlier survey, only 24 out of 320 farmers or 11 percent had any form of hiability insurance. Over 70 percent of the 24 farmers with insurance were in the two larger farm size groups. Coverage was primabily of the general hiability type with minimum emounts of coverage; the \$10,000 limit being rost fromment and the maximum limit being \$25,000.

In the 1956 survey, 17 out of A2 formers (A0 percent) had liability insurance. Insurance agents are pushing this type of coverage which in part accounts for the big inercase. Despite this activity by agents, of the 25 formers without liability insurance 17 had never had an agent try to sell this type of policy to them, or even had anyone discuss liability insurance with them. Various reasons were given by those formers with insurance as to why they carry liability. Noticeable among the reasons, however, was the indication that they had been "scared" into buying this type of policy either by some near catastrophe occurring to them or to a friend or relative. Even though the promium is relatively small for the amount of risk protection afforded, unless a farmer regularly employs hired help, he generally needs some type of motivation, such as a close call, to purchase the insurance.

Summary of the casualty insurance program. It was seen at the end of Chapter III, that the received theory of insurance by itself failed to adequately explain or predict life insurance consumption. The conclusion was reached that the many areas of conflict between firm-household, and present-future consumption, along with the difficulty of a plying an essentially self-centered type of utility maximization to family values made it necessary to expand the theoretical framework beyond the present concepts.

At first glance, it would seem that the utility maximizing concept might have its broadest application in the area of casualty insurance; i.e., the fire, vehicle, and general liability policies. Here there is no complicating factor of savings or investment being combined with protection. These types of coverage are more nearly "pure" insurance, and the amount of insurance carried might be expected to be a direct function of the subjective risk-proference of the individual.

There is apparently less of a conflict between firm and household with this type of coverage. There is a definite tendency among farmers to include fire, auto, and liability insurances as farm expenses, as contrasted with household expenses. Here again, they are not productive expenditures in the same of being variable inputs which have a direct effect on production. However, in determining customary patterns of expenditure, as discussed in Chapter III, these costs are normally included in the firm's budget. Following this same analysis, however, any increases in consumption of these insurances, barring an increase in gross form income, must come from other productive expenses, from family living standards, or from present savings.

Does this mean that these insurance expenditures can be analyzed completely within the framework of the utility maximizing concept? It would seem to be not that simple.

In the first place, institutional arrangements play a very important part in this type of insurance coverage. All mortgaged property must be insured, so that for mortgaged property the decision making function is completely absent. The only actual decision facing the manager in this situation is the extent of coverage, and many times he is not even allowed this decision since the financing agency may require that the maximum amount of insurance allowable be carried. Thus, the purchaser of a car on credit is forced to carry collision insurance of a certain mount, and very often must also have liability. The mortgagor requires the mortgage to carry fire insurance at least to the extent of the mortgage, often for the replacement value of the buildings.

Financial responsibility laws make it almost mandatory for automobile drivers to have a minimum amount of liability insurance, at least they make it extremely foolhardy not to do so. Here again, a large part of decision making is divorced from consumption.

Finally, it is quite probable that custom plays an important part in some types of casualty insurance coverage. This is especially true of collision insurance, in that such a large proportion of formers surveyed felt that there was no decision to make as to whether or not collision should be carried. These formers made no attempt to analyze the problem; they simply held a belief, perhaps based on social imitation or desire for social acceptance, that this type of insurance is a "must" for them. Their statements are in part substantiated by the fact that collision insurance ownership is not related to income level, not worth, or age or value of the automobile. No doubt the activities and advice of agents is an important factor in this respect.

On the other hand, fire and theft and comprehensive auto insurance are positively correlated with size of form, indicating that for these types, income is an important factor in determining amount of coverage.

Fire insurance is also considered a "must" item by formers due in part to institutional factors and in part to custom. Few farmers would admit ever making a decision as to whether or not to have fire insurance at all; however, nearly all admitted to trying to decide logically the amount to have. Some even dodge this issue by carrying all the company will write.

The attempt at measuring risk preference by a roting scale was not successful in predicting insurance-buying habits. However, it shows promise, and a more careful selection of questions and further

analysis of weighting should give better results. This is an area where further investigation may prove fruitful.

Recognizing the effects of sociological and institutional factors on insurance consumption and modifying the theory accordingly, it would seem safe to assume that farmers in utilizing fire insurance recognize that the risks involved are major ones which, if incurred, would probably lower the socio-economic status of the individual. Since the frequency of occurrence is relatively low premiums are not excessive for the protection afforded, and formers are almost universally willing to insure against loss of future earnings or assets. CHAPTER VI

MEDICAL AND HEALTH CARE AND INSURANCE PROCEAMS

CHAPTER VI

MEDICAL AND HEALTH CARE AND INSURANCE PROGRAMS

Another insurable risk facing farm operators and their families is that of medical expenses and disability. Although agriculture is often considered one of the more healthy occupations, it is also one of the more hazardous. Then too, statistics which show medical expenses of farm families to be lower than those of nonfarm urban people may conceal the true facts. The reason for the lower medical expenses may not be that form people are healthier than their city counsins, but rather that they do not avail themselves of medical, surgical, or dental services; either because of the unavailability of these services or because farm people feel they cannot afford these services.

Indicative of this is the fact that only 28 percent of those furmers surveyed had regular physical examinations by a physician. Income level was not a factor in this case; the only factor apparently associated was educational level. The higher the educational level of the farmers, the greater percentage had annual physical examinations; but even among college graduates less than 40 percent had regular examinations. However, even though less than 3 farmers in 10 had an annual physical examination, nearly 9 out of 10 reported having a regular femily doctor.

Evidence that a riculture is a hazardous occupation can be found in the number of farm operators disabled for some period of time during the year previous to the date of the survey. The farmers surveyed reported that 25 of their number (12 percent) were disabled during the year. Four of the 25 were considered to be permanently disabled at the time of the survey and four others were disabled for three months or more. One-third of the disabled operators reported that their loss of earnings amounted to \$2,000 or more for the year. Fourteen of the 25 had no insurance to reimburse them for their loss of earnings.

Thirty-two of these form operators, or 15 percent, required one or more home visits by a doctor during the year, and physicians visited the homes of 54 farmers one or more times to treat dependents. In addition 78 operators made one or more visits to a physician's office for treatment. The dependents of 113 farm operators made visits to a physician's office. Eight of the operators and two dependents made over 50 visits to a physician's office for treatment. Only a small part of this expense was covered by insurance.

A smaller number of farm operators required hospitalization. In 1953, 11 of the 220 farmers surveyed were advicted to hospitals, and 39 dependents were hospitalized. Most of the dependents were confinement cases.

Six operators and 15 dependents required surgery during the year. Tables XXXII, XXXIII, and XXXIV show a distribution of costs for hospitalization, surgery, and doctors' visits.

Only 65 of 220 formers reported expenditures for drug items totaling \$2,700 in 1953. Undoubtedly more formers than this purchased drugs; however, such consumer expenditures are seldom recorded and easily forgotten. Only 99 of 220 reported expenditures for dental care, for a total cost of \$4,579. This too is a relatively low percentage of the population receiving dental care. Expenditures for eye glasses or eye care were recorded by 48 farm families and totaled \$1,564.

TABLE XXXII

COSTS OF HOSPITALIZATION FOR BREADWIMNERS AND DEPENDENTS

ang galangan Antonyo - Antonyo a ganyakan diri - Sabiyanan (Kara)			Cost				
Amount of expense	Under . 0100	\$100- \$199	\$200- \$299	\$300 - \$399	\$400 and over	Total having expense	Total cost
			Nur	nber			
Breadwinners Dopenients	2. 18	2 8	- 5	3	2 5	11 39	\$2,808 6,452
Āll.	22	10	5	6	7	50	\$9,460

TABLE XXXIII

COST OF SURGERY FOR BR LADVINNERS AND DEFENDENTS

Junount of expense	Und er \$50	ు50 ్లి99	\$100- \$149	#150 - \$199	\$200- \$249	\$250 and over	Total having expense	Total cost
				Numb	er			
Breadwinners Dependents All	1 5 6	<u>4</u> 4	1 1 2	1 2 3	3 1 4	2	6 15 21	\$1,015 <u>1,516</u> \$2,531

As can be seen in Table XXXV, a total of 175 families reported expenditures for medical care of one kind or another, totaling over \$27**,00**0

VIXXX	
TABLE	

COST OF DUCTOR'S CALLS AND OFFICE VISITS FOR BRAADAINNERS AND DEPENDENTS

Total cost	\$3,479 3,592 \$7,071
Total number	76 113 189
3200 and over	859
9150- 5199	-1 01 M
े100- ह149 e r	100
075- 899 МишЫ	- 2 12
م 176- 176-	1 10
025- ₽49	9 19 28
10- 424	20 39 59
Under Çlû	32 34 66
Anount of expense	Breadwinners Dependents All

TABLE XXXV

TOTAL MEDICAL EXPENDITURES, 220 VERMONT FARM FAMILIES, 1953

Range in	Number	Percent	Total	Percent of
expense	reporting	recorting*	expense	total expense
an a		and a second		
None	4.5	20		
Under \$50	53	30	5 1.145	<u> </u>
\$ 50 - \$ 99	48	27	* - ,3,343	12
100 – 149	17	11	2,098	ŝ
150 - 199	11	6	1,928	7
200 – 249	11	6	2,545	9
250 - 299	6	3	1,713	6
300 - 349	7	4	2,269	8
350 - 399	3	2	1,117	4
400 - 1,49	2	1	847	3
450 - 499	5	3	2,355	9
500 - 749	9	5	5,505	20
750 - 1,000	3	2	2,503	10
Total	220	100	\$27,368	100
			_	

*As a percent of those reporting expenditures.

<u>Health insurance coverage</u>. Just half of the farmers contacted had any kind of hospitalization insurance. Table XXXVI gives distribution of hospitalization coverage by size of farm.

TABLE XXXVI

PERSONS COVERED AND TYPE OF COVERAGE, HOSFITALIZATION INSURANCE

antering and the second s	NI	Pomaona	aronad	Trance	
Group	insurance	Operator	Family	Group	Individual
		P €	ercent		
I	54.8	7.1	38 . 1	31.6	68.4
II	51.4	8.1	40.5	31.2	68.8
III	62.0	8.0	30.0	33.3	66.7
VI	34.3	14.3	51.4	50.0	50.0
V	46.4	1.8	51.7	42.3	56.7
All farms	50.4	7.3	42.3	39.0	61.0

*As a percent of those insured.

Age was a factor affecting purchase of hospitalization insurance. While 52 percent of those farmers under 40 had hospitalization, only 40 percent of those over 60 had this coverage. Education of the operator seemed to be an even more significant factor, since only 34 percent of those with eighth grade educations or less owned this insurance, while 61 and 62 percent of high school or college educated persons respectively were covered. Surprisingly enough, there seemed to be no relationship between size of family and extent of coverage, and not a close association between income level and ownership of hospitalization insurance.

The most common room benefit was 36 per day, for a 30 or 31 day maximum period. These room allowances have since been increased; however, they were the modal size at the time. Room allowance ranged from under 35 per day to over \$15. The modal surgical allowance was between \$150-\$200. Nearly three-quarters of the policies made no payment for attendance by physicians, other than the surgical allowance. Finally, nearly three-fourths of the policies were with one of three major companies.

When questioned as to reasons for taking out hospitalization insurance, the most common answer was "it just spended like a good thing." Farmers, like others, recognize that medical costs have increased greatly, and a serious illness or major surgery could easily take a full year's income. Hospitalization insurance is considered by those owning it to be a good investment; the peace of mind resulting from having it being worth the price.

Of those owning hospitalization insurance, 90 percent expect to keep the insurance; however, nearly 15 percent feel that they do not receive adequate protection for the premiums paid.

About half of those with hospitalization insurance have filed claim at one time or another and less than 20 percent of those filing claims felt that they did not receive a fair settlement.

In an attempt to determine the type of policy favored, the respondents were given a choice between two different types of policy. One choice was between a policy which paid all costs over \$100 or all costs under \$100. Then they were asked to state their preference for a policy paying all costs over \$300 or all costs under \$300. Table XXXVII shows these preferences. Unfortunately no indication of relative costs of the p plans was given, so there is no way of drawing any very meaningful conclusions from the results.

Just under 15 percent of the sample had any type of major medical expense policies, all of which were group polio insurance. None of those surveyed had the so-called "catastrophe" medical policy, which pays all expenses for major illnesses up to some high limit. This type of policy, however, was very new at the time of the survey.

Accident and health insurance. Several types of policies are included in this classification, the major ones being the standard accident policy, the AD and D or accidental death and dismemberment policy and the travel accident policy. These policies in general provide for benefit payments in case of injury or death of the insured due to accidents. There are many forms and types of policies, some of

IIMEX	
TABLE	

PREFERENCES FOR DIFFERENT HOSFITALIZATION INSURANCE PLANS

	Prefe	srence choice l		Frefe	rence choice 2	
	Pay all costs	Fay all costs		Fay all costs	Pey all costs	
Group	over \$100	under 0100	Neither	over :}300	und <i>er (</i> 300	Neither
			Fercent 1	voring		
⊧⊸i		54.6			7-69	
TT	77.2	22.8	I	4	57.1	1
TTT	50 20 20 20	すいす	4 . 2	32.5	0 0 0 0 0	4.6
IV	60.0	0.04	ı	21	75. g	ſ
1	63.0	35.2	৩ ন	2.50	60.4	н С
and ill	59.1	33.9	ে ল	34. 8	63.2	2.0

which are very inclusive, others listing specific types of accidents for which benefit payments are made. Most of the policies include a principal sum which is paid the beneficiery in case of accidental death of the insured. In addition there will be a schedule of payments related to loss of limb or sight or both. The latter may be made as a lump sum payment or as a weekly indemnity. Cortain other policies are strictly of the disability type, paying a guaranteed weekly or monthly sum as long as the insured is disabled.

These policies are written and sold by local agents; however, many are included as "gimicks" to lure customers into buying some other product. Under one plan, a former subscribes to a magazine and receives the AD and D policy as a "bonus." They may be included with automobile or machinery sales; sometimes a group policy is written on members of a cooperative. Because the method of purch sing or receiving coverage for this type of insurance is so unorthodow, no attempt will be made to associate ownership with any of the socio-economic variables.

About 20 percent of the fammers surveyed had one or more of those plans, two formers owning six different policies. Individual accident and health and accidental death and dismembersheet policies were by fur the nest common types. Annual prominus ranged from under \$5 to a high of \$87, but the modal class was 510-14 annually. The most frequent weekly disability pyrant unor these policies was from \$10-14 (14 policies) and \$25-29 (13 policies), for a period of 12-24

weeks. Three-fourths of the policies paid from \$500-1,000 principal sum in case of accidental death.

In general, this is not an important part of any farmer's insurance program. For those farmers owning policies of this sort, it does provide token payments in case of injury or doubh from accidents. With agriculture becoming more mechanized, there may well be a place for policies of this type in some farmers' insurance programs.

Summary. Vermont farm families in this survey spent on average of \$124 per family for medical exponses. While this is considerably under the metional average of \$215 per family, this should not be construed to mean that these Vermont farm families are healthier and in less need of medical services than the national average. More likely, it is because of low incomes and lack of near-by medical services.

About helf of these finallies had hospitalization insurance of some kind, the abjority having individual plans covering the entire family. However, many families were covered by a group plan sponsored by one of the farm organizations. While coverage was not compulsory, at least 50 percent of the membership had to be insured for the group policy to remain in force. Therefore, there was a sense of obligation to the group which may have prompted some families to insure. Extent of coverage appears to be associated more closely with educational level and age than with income or size of family. The reasoning behind the decision to buy hospitalization insurance seemed to involve a weighing of incurance costs against the probability of some illness and losses as a result of this illness. Another factor which may be important but which is difficult to measure is revealed in the answer given by one respondent who stated, "When you're sick you don't tant to have to worry about how you're going to pay all the bills." At the time of the survey, the majority of farm families were not yet ready to accept major medical expense policies, even though in the event of a major illness the consequences on the farm income and net worth could be most serious. Either these respondents are in a learning situation regarding major medical expense, or else they feel that the probabilities of a major illness occurring are not great enough to warrant the cost of insuring against this type of risk. CHAPTER VII

RETIREMENT PLANS OF FARMERS AND THE SOCIAL SECURITY PROGRAM

CHAPTER VII

RETIREMENT PLANS OF FARMERS AND THE SOCIAL SECURITY PROGRAM

In the last 25 years a great deal of attention has been given to the problems of the aged in our society. This awareness has been due in part to a marked increase in the number and proportion of older people in the country, as a result of a longer life expectancy. Accompanying this are changes in our economic and social life which have made it increasingly difficult for our older people to find productive and satisfying opportunities. Labor, industry, and government have all recognized the problem, and programs have been developed to alleviate the situation. Industry pension plans, individual retirement insurance, and annuities are used extensively by nonfarm groups, but probably the most significant development has been the Old Age Survivor's Insurance program, developed in 1935 and designed to provide a minimum level of economic security for urban workers and their families.

Historically, the problem of providing for the aged in agriculture has apparently not seemed a serious one. Farmers were largely self-sufficient and were able to provide the basic necessities of life, while at the same time increase their capital assets through the purchase and improvement of their farms and through increasing land values. There was a widely held belief that farming provided a greater degree of job security and independence than other occupations, even though it was not so remunerative. Farmers felt that farm ownership
provided their best approach to security, and as a result they faced old age with more assurance than most other persons.

These beliefs, however, may be no longer valid. Farmers increasingly face the same problems of insecurity in old age as other occupations. The shift from subsistence to commercial agriculture, while enhancing farm living, has also increased insecurity. The much larger investment required for profitable farming today, and the manyfold increases in cash farm expenses, have made it less feasible for farmers to achieve gradual retirement through reducing the size of their operations. Increased mechanization and new technology have reduced the number of job opportunities for the older people in agriculture. And finally, there is less parental responsibility among the younger generation of today.

Several studies have been made in recent years concerning farmers' preparations for old age and retirement.⁴¹ The Wisconsin study (1953) showed that just under half of the farmers interviewed expected their farms to provide their sole source of income in old age. Over a fourth of the farmers were uncertain or had no source of income for old age and only 2 percent had plans other than their farm savings.

⁴¹H. Sewell Williams, Charles Ramsey, and Louis Ducoff, Farmers <u>Conceptions and Plans for Economic Security in Old Age</u> (Wisconsin Agricultural Experiment Station Bulletin 182, 1953). Walter McKain, Jr., Elmer Baldwin, and Louis J. Ducoff, <u>Economic Security in Old Age</u>; <u>Connecticut Farmers</u> (Storrs Agricultural Experiment Station Inf. 43, 1951). Robert Galloway, <u>Farmers' Plans for Economic Security in Old</u> <u>Age</u> (Kentucky Agricultural Experiment Station Bulletin 626, 1955). Paul R. Poffenberger, <u>Maryland Farmers Look at Social Security</u> (Maryland Agricultural Experiment Station Bulletin 446, 1954).

In Connecticut, on the other hand, about one-third of the farmers expected to have income from other sources. It is interesting to note that as the equity of the farmer increased, the more faith he had that his farm would provide for his declining years.

In the past farmers have apparently not looked with favor upon retirement, or have at least given it little thought. Approximately two-thirds of those interviewed in Wisconsin indicated that they had given little or no thought to retirement or cutting down on their farm operations in later years. There was a definite correlation between age and equity of the operator and plans for eventual retirement. There are some reasons for this lack of interest in eventual retirement from the farm. In some cases the farm has not provided sufficient income or equity so that the operator could afford to retire. Then too, in farming it has been possible to tailor the work load to the capabilities of the operator or hire extra labor to do the heavy work, with the farmer continuing the managerial activities. It is also possible that difficulties of liquidation due to taxes have been a factor in continued ownership. Often retirement has come only after ill health or crippling disease. Apparently it is fashionable in agriculture to "die in the saddle" because less than a third of the farmers contacted in Wisconsin ever expected to retire.

This lack of planning for retirement in agriculture has probably led to inefficient use of resources. Productive farms are allowed to deteriorate as the farmer slows down the pace of his operations in advancing age. Land may be withheld from production and many small units maintained so as to provide a small source of income for the operator. Units of this type are very slow to respond to price changes. Studies have shown that older farmers are less willing to take risks, have lower production, invest less in machinery, buildings, and fertilizer, and are less willing to adopt new ideas or follow conservation practices.

Farmers apparently have little idea of how much it will cost them to live off the farm should they retire. Respondents in the Wisconsin study who were asked this question estimated a range from under \$75 to over \$200 with the most common figure between \$75 and \$150 for a family of two. These appear to be unrealistic figures in view of current price levels.

The decision to provide for retirement income from sources outside of the farm capital structure involves the question of future consumption versus present consumption. It implies a willingness to sacrifice present consumption and possibly future earning power in order to be assured a source of future income. The fact that very few farmers have voluntarily provided for external retirement income would indicate they feel that money reinvested in the firm's capital structure affords a greater future return.

<u>Plans of Vermont farmers</u>. Vermont farmers do not move around very much once they become established. A third of those surveyed had been farming for 25 years or more, 30 percent on the same farm. Just under a third had been farming for 10 years or less. In attempting to discover any retirement plans of these farmers without asking directly,

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they were asked, "How long do you expect to continue farming?" Twothirds answered they would continue as long as they were able. Just under 15 percent indicated they would sell out as soon as they could find a buyer. Seven percent were already retired or semi-retired and the remainder specified a definite number of years, ranging from 1 to 20, during which they expected to continue farming. Upon further questioning, it was determined that 15 percent had made some definite plans to retire. All 15 percent of these planned to retire upon reaching age 65, and all mentioned the availability of social security retirement benefits as one of the major factors in their decision to retire.

It is important to note that the 15 percent of the operators who had made definite retirement plans differed significantly in several respects from those operators who had made no definite plans. Table XXXVIII summarizes some of these differences. In general they were older, had more formal education, were more active in community affairs, and owned larger, more profitable farms, than did those farmers who had made no plans for retirement. Age would normally be expected to be an important factor in retirement plans. The sample is no exception with a third of all farmers with definite plans in their sixties. However, age was not the deciding factor, since only 22 percent of those farmers in their sixties had made any definite plans for retirement.

An effort was made to determine plans of these farmers once they retired. Two-thirds of the group indicated that they would sell their farm. The remaining third planned to either cut down on the scale of operation and remain on the farm or rent the farm, using the rent as a source of retirement income.

TABLE XXXVIII

CHARACTERISTICS OF FARMERS WITH AND WITHOUT RETIREMENT PLANS

		A	verage	:		Social
	Age	Education	Farm size	Income	Net worth	participation score
Farmers with retirement plans	57	13.5	39	\$3 , 66 6	\$41 , 333	3 3
retirement plans	44	9.8	29	2,131	27,274	22

The respondents indicated that they planned to keep busy after retirement. Half of them planned to continue doing the thing they liked best; that is, they expected to buy a small country home and carry on a subsistence type of farming operation. A third expected to occupy themselves with odd jobs, the remainder wanted to travel and see some of the country.

An effort was made to determine how much money the farmers felt they would need to live on after retirement. Answers ranged from \$150 to \$400 a month, with the median at around \$200. Current family living expenditures average around \$125 monthly; however, most respondents were very indefinite both as to present and future expenditures. Most recognized that future expenditures would probably be higher due to less farm-produced food and possibly higher medical costs.

The farmers were asked to list their sources of income for retirement. All mentioned as one source of income the capital realized

from the sale of the farm or rent from the farm. About 65 percent listed social security as one source of income. The amount of total needs which social security was expected to provide varied from onequarter to two-thirds. However, none of the farmers had any very definite idea of the actual amount of old-age survivor's benefit which they would draw. Other sources of income listed were pensions, retirement annuities, and income from sale of surplus farm products.

In general, there would seem to be a lack of planning both as to amount of income needed in retirement and possible sources of income. Few farmers have done any figuring to determine how much they would have left after taxes from the sale of the farm. Too few of them have even a vague idea of the amount available from social security.

Prior to making the study, it was believed that the availability of social security payments would be an important factor in farmers' decisions to retire. However, on the basis of answers given to the question, "When did you decide to retire," about half of the farmers indicated they made the decision to retire several years ago. About a third actually stated that they made this decision before they became eligible for social security. However, it may very well be true that while the plans for retirement were made several years ago, it was not until they became eligible for social security benefits that the plans began to crystallize into something more definite than hopes or dreams. Many things apparently determined the original decision to retire. Among the factors most frequently mentioned were "My health isn't too good and I can't do the hard work," "I can't hire help and can't do the work myself," "I'm getting old and slowing down," "My son isn't interested in the farm," and "I figure as long as I'm paying the tax (social security) I may as well get something for it."

These farmers are well aware that today's dairy farms must have efficient management, with high output per man. If the operator is no longer capable of carrying his share of the labor load, it means hiring help, which often isn't available. Therefore, they are willing to turn over the farm unit to a younger man better able to handle both the management and the manual labor necessary.

Farmers with no retirement plans. What of the two-thirds of the farmers who have made no plans for retirement? An attempt was made to determine what they plan to do in the latter years of their lives. About half of these farmers indicated that they planned no change in their farming operations after age 65. About 20 percent indicated they planned to take a son into partnership or would turn their farm over to a son to run. Just under 15 percent would cut back the size of the farm and not work as hard. When asked specifically what they would do if they found themselves physically unable to carry on the farm work, about 40 percent stated they would sell out, and just under one-third would hire help. It is interesting to note that less than 5 percent would consider renting their form under these circumstances.

These farmers were then asked specifically if they thought they might sometime retire from their farms. Again, 50 percent stated that they definitely did not plan to retire, while another 15 percent doubted very much if they would ever retire. The remainder, when specifically queried regarding retirement indicated hopes of someday retiring, but apparently these hopes were not far enough advanced so that they had been formulated into plans.

Factors mentioned most frequently as determining whether or not they would retire were availability of money and health of the operator. About one-third stated that they would never retire because they preferred to keep busy; the idea of "dying in the saddle." Apparently this is an important factor psychologically, because during the interview many farmers, including those with retirement plans, indicated that after a person had worked hard all of his life he shouldn't stop abruptly, but should try and taper off his workload a little at a time. And many mentioned that they wanted a little land, a cow, and some chickens after they retired, so that they could have something to do. Certainly it would be a severe mental and physical strain on many farmers to move directly from the active managerial and laboring position of a farm operator to the idle hours of complete retirement. This is probably one of the more important considerations affecting farmers' decisions not to retire.

Attitudes toward social security. The original survey was taken before social security was extended to farmers; the second survey after its extension. Table XXXIX gives information on attitudes toward social security from the original survey of 220 farmers. While there was a tendency for fewer of the operators of larger-sized farms to approve of social security, there were no significant differences by educational level, age, or reported income. In the second survey after farmers had been covered by social security for two years, similar questions were asked. In this case 78 percent of those responding felt social security was a good thing for them, and 14 percent were opposed to the program. The remainder expressed some doubt as to the value of the program.

TABLE XXXIX

ity	s toward social security	Attitudes	
	Favor but not	Favor and	
Oppose	for farmers	extend to farmers	Size group
	Percent		
7.3	7.3	85.4	I
8.3	11.1	80.6	II
10.4	16.7	72.9	111
11.4	17.1	71.4	IV
5.7	18.7	75.5	V
8.4	14.6	77.0	All farms
•	11.1 16.7 17.1 <u>18.7</u> 14.6	80.6 72.9 71.4 75.5 77.0	II III IV V All farms

ATTITUDES TOWARD SOCIAL SECURITY BY SIZE GROUP

The most frequent answers given for favoring social security were "provides retirement income," "good for the small farmer who can't afford to retire," and "good for older farmers." The most frequent objections were "don't like the compulsion," "another control over farmers," and "it stifles ambition."

Those most strongly favoring social security were formers in their late fifties or sixties. Farmers on small farms also were generally strongly in favor of the program. Those opposing were younger and had larger than average operations.

A surprising fact was that only one man mentioned the survivor's benefits as one of the advantages of the Old Age Survivor's Insurance program. Despite all of the educational work done, it would appear that farmers still think of the program as one designed primarily to provide a minimum level of retirement income for old age.

There is evidence, although no statistical proof, that older farmers have altered their farming programs somewhat so as to maximize their incomes while building up eligibility for social security benefits. Many farmers indicated that they were employing this strategy.

Certain writers, in discussing the implications of the social security program on agriculture, have commented upon its possible effects on land tenure.⁴² The general consensus was that farms would not change hands as rapidly for the first three or four years after the program was initiated. While statistical data are not available for Vermont, general observation tends to confirm this. The normal rate of turnover of farms in the state has been between 4 and 5 percent for the last 10 years up until 1954. While figures are not available for the 1954-57 period, credit and real estate agencies indicate that farms are not being sold at this previous rate. However, farms may be priced above their capitalized earning power due to lower present milk prices and this very likely affects the slow turnover.

In areas with a high percentage of tenancy, some tenants have expressed the fear that social security may cause landlords to take

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^{42&}lt;sub>Gene Wunderlich, "Social Security in Agriculture," Journal of Farm Economics</sub> (February, 1956). Farm Tenure and Family Adjustments to Social Security, Federal Extension Service, United States Department of Agriculture, PA 280 (February, 1956).

over the operation of their farms in order to qualify. In Vermont, with a tenancy rate of under 5 percent, this has not been a problem. In fact, it was the hope of the writer that social security benefits might make more farms available to tenants. Generally, the rental income from a dairy form is not sufficient to pay taxes, fire insurance, depreciation and upkeep and still provide enough interest income for a landlord to live on. However, there should be enough rental income from many dairy farms to supplement the social security benefits and provide a comfortable retirement.

During the survey, an effort was made to determine if more farmers would now consider renting their farms and if not, the reasons why. About one-third indicated that under certain circumstances they would consider renting their farm. However, many of these indicated that they would prefer to sell if they could get their price. Of those who would never consider renting, the majority believed that they couldn't get good tenants. Many correctly recognized that their farm was too small a unit to rent.

It is a reasonable hypothesis that farmers will now be more willing than before social security coverage to give up the management and operation of their farms, either by rental or outright sale. This means that the productive commercial farms can be turned over to younger, more able men before the farms have had a chance to depreciate or decline in productivity. This in itself is desirable, since resources will be more fully utilized.

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Some of the recent literature on the effects of OASI43 has made much of the income redistribution which will result from this program being applied to agriculture. This transfer of income is primerily in two directions: from younger farmers to older-aged farmers as they become eligible for social security payments, and secondly, from higherincome to lower-income farmers. There is also income redistribution between single or childless married farmers and those with children. While no one can deny that income redistribution will be a result, in view of the changing value systems in agriculture and in the nonagricultural economy, it is questionable whether we can brand this redistribution as undesirable. In a state where 37 percent of the farmers are 55 or over, and where 60 percent are on farms which are barely large enough to provide for current living, probably the income redistribution effects from the social security program are no greater than they would be from public welfare or relief.

Uncertainty is a definite problem in agriculture and is a limiting factor in the optimum allocation of resources. The OASI program should prove a positive factor in decreasing one phase of uncertainty--insecurity in old age and for survivors---and this may lead to less desire for liquidity of assets resulting in better allocation of resources.

The OASI program may improve the credit rating of farmers and result in less stringent credit requirements. A program which assures

43_{Ibid}.

the farmer that his family has a minimum of income security through survivor's benefits if needed, should result in his being more willing to obtain more credit where justifiable. This should also be favorable to the banker as well. On the other hand, the tax collection will cut down somewhat on the amount of cash available to repay debts or for family living expenses, and in this respect may prove a limiting factor in loan repayment ability.

A final word might be said on the problem of security versus farmers' freedom. This was one of the main objections of farmers to the extension of a compulsory social insurance program to agriculture--it was an invasion of the farmers' freedom. This is probably an invasion on the farmers' freedom to invest his money as he pleases. On the other hand, the farmer is receiving a greater degree of security and protection than he could provide for himself at the same price, and certainly more than he has ever had before.

It is interesting to note that compulsory social insurance started in Germany during the rule of Otto von Bismarch, the "Iron Chancellor," at a time of unrest in that country. In discussing the program in Germany, Sulzbach⁴⁴ says, "In so far as Bismarch advocated an institution which he believed would make the common man more secure and content, he acted like any politician in a democracy. But in addition, Bismarch conceived of social insurance as a <u>substitute</u> for

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⁴⁴Walter Sulzbach, German Experiment with Social Insurance, Studies in Individual and Collective Security, No. 2 (National Industrial Conference Board).

government by the people. He may have been aware of the fact that the economically underprivileged classes, offered the choice between 'liberty' and 'security' seem to prefer the latter."

It is not necessary to subscribe to Sulzbach's views to rationalize the OASI program for agriculture. History is full of conflicts of this sort where social action is taken which reduces the individual's freedom of action in exchange for the gain of some other value which is deemed to be highly prized. As Hathaway has shown⁴⁵ this is true in price support and production control programs, and can be demonstrated by indifference analysis. No one can or should try to decide for farmers if this program will be good for them. Indications are that a majority of farmers have been willing to give up a small amount of freedom for the security gained. Their actions at the polls and through pressure groups have shown this to be true.

Farmers apparently place a high value on security. In this light, social security is another step toward achieving the goals which farm people hold high, and if the ends are sufficiently important--as they appear to be--the costs can probably be fully justified.

⁴⁵Dale Hathaway, "Agricultural Policy and Farmers' Freedom; A Suggested Framework," Journal of Farm Economics (November, 1953).

CHAPTER VIII

SUMMARY AND CONCLUSIONS

CHAPTER VIII

SUMMARY AND CONCLUSIONS

This study has been concerned with the insurance programs of a representative sample of Vermont farmers. It has examined the received theory and, the writer believes, found it wanting. It has attempted, within the framework of current theory, to explain and predict the behavior of these farmers in the area of insurance purchases.

Uncertainty of the future has a vitally important effect upon the production plans of farmers; because of uncertainty, production plans must be altered and the use of resources is likely to be different than would be the case in a static economic system. Uncertainty imposes costs, either in losses or in forgone income from modifying production plans to decrease uncertainty. Certain types of uncertainty, known as risks, are insurable.

Frobabilities of occurrence are known and it is actuarially possible to determine premium costs for insurance plans to protect against the loss. It is with the area of insurable risks that this study has been concerned.

Formal insurance has definite costs in the form of premiums. A farmer who insures willingly sacrifices a known amount of current income to receive a certain future income or to protect future assets. By so doing, he accepts a lower present income plus the security afforded by the insured future income or assets, in preference to a slightly higher present income but uncertain future income or assets. From a monetary standpoint, these costs of providing security are relatively large. While it is difficult to determine accurately on the basis of the information available, the cost of all insurance premiums approximates 12 percent of net farm income for those surveyed. Table XL gives figures which compare expenditures by size group.

TABLE XL

Group	Average [*] net income	Average insurance premiums	Percent premiums are of net income
т	\$1.944	\$201	10.3
II	1.865	208	11.2
III	2,180	367	16.8
IV	2,643	450	17.0
∇	4,794	476	9.9
All farms	\$2,786	\$345	12.4

AVERAGE INCOME, AVERAGE OF ALL INSURANCE PREMIUMS, AND PERCENT PREMIUMS ARE OF INCOME BY SIZE GROUP, 195 FARMS

*Adjusted for those insurance costs which are normally included in production costs when determining net income.

Since this expenditure is a relatively important part of income, it behaves those working with farmers to improve the farmers' welfare to see that the insurance dollar expenditure maximizes the satisfactions of the farm family.

Basically, insurance expenditures have two objectives: those which protect future income or future income-earning ability, and those which protect investment in assets. Both are closely related, and in some instances, one type of insurance will accomplish both objectives. Thus, a fire insurance policy is designed to protect assets; however, if a barn is destroyed by fire, not only is a capital asset lost, but future earning power may also be temporarily diminished or holted. A life insurance policy protects the survivors of the insured primarily against the loss of future earning power of the insured. A liability policy is one which is designed specifically to protect assets or equity; however, once assets are completely eliminated, the future income of the liable person may also be attached. Medical and hospitalization insurance is in part to provide protection against loss of assets (savings) or future income. From an analytical standpoint, it would seem desirable, however, to keep in mind the separation between personal and casualty insurance.

It has been assumed that individuals differ psychologically in their reactions toward risk. Some individuals by their actions exhibit a strong preference for security; others in their farming operations and personal lives would seem to be more willing to gamble. However, the economic behavior of most all individuals is marked by some varying combination of risk-taking and security seeking. The Friedman-Savage utility hypothesis presents a logical explanation of how rational individuals can both insure and gamble, based on a peculiarly shaped utility function. The hypothesis does not, to the writer, demonstrate why individuals will insure quite adequately in some respects and have little or no insurance in other areas. The answer to this problem must be sought in an analysis of the sociological and institutional factors affecting consumer behavior. The requirement that all mortgaged property be insured against loss by fire is a major factor in fire insurance ownership. Financial responsibility laws affect certain kinds of vehicle insurance purchases. Custom, habit, the desire for social standing or acceptance, are all important in determining insurance ownership.

The purchase of insurance can probably be best analyzed within a modified framework of consumption theory. The product of the insurance dollar input cannot be measured in physical units; rather it is measured in satisfaction or utility--in peace of mind. However, the concept of personal utility maximization must be broadened to allow for the maximization of utility for a family unit which is also a complex of firm-household values. In Chapter II, it was suggested that current utility theory which does not distinguish among the different types of insurance is not realistic. It was hypothesized that farmers look at insurance in at least two broad classifications, personal insurance and casualty-type insurances. It has been shown that farmers do not think in terms of an insurance program, but rather in terms of individual policies. It has also been demonstrated that for certain kinds of insurance, institutional and sociological factors play an important part in explaining consumption patterns, whereas for other types economic factors are largely responsible. While it may simplify the theory to abstract it from reality, it also diminishes its usefulness. The ox cart and the big black Cadillac are both means of transportation, but a theory which tries to explain the transportation system by considering them synonymous will fail to provide much insight into differences in an economic system utilizing either one.

While it is hazardous to make broad general statements, the writer feels that with most types of casualty insurance, institutional factors or custom largely determine whether or not insurance will be carried and to some extent how much shall be corried. Limits of fire insurance and certain types of auto insurance are related to income and net worth, but the decision making involved in these insurance purchases is often overshadowed or greatly diminished by these other factors. And even for the personal types of insurance one should not overlook the desire for social acceptance or standing as important factors affecting consumption.

It was also suggested in Chapter II that there are certain misgivings about the reliability of present attempts to cardinally measure utility and the use of this method in explaining or predicting insurance consumption. These doubts are based on the complex of value conflicts involving the firm and household, the division of income between present consumption and future consumption, and the difficulty in determining individual satisfaction from family welfare goals. It was hypothesized that some concrete indications of a manager's reaction to risk could be given without attempting to mathematically measure the utility of the money involved in the gamble or insurance scheme. The method tried was to develop a risk-preference scale based on the farm operator's answers to certain questions pertaining to his farming operations. Scores were to be compared with certain socio-economic factors pertaining to each farm.

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The results of this part of the study were disappointing. There would appear to be at least two problems involved. In the first place it is very difficult to construct questions regarding problem situations which can be rated in respect to their degree of risk. The rating of such questions is a function of the scientist's values as to degree of risk. Secondly, it is extremely difficult to get farmers to actually imagine themselves in the problem situation and to answer accurately as to how they would act if the situation were actually facing them. However, the same criticisms can be leveled against the mathematical approach to utility measurement.

This study has shown that the farm people interviewed were lacking in information about insurance. They knew very little about life insurance, either as to the types of policies available or the kind of life insurance they themselves had. There was much confusion regarding vehicle insurance. Were better information available, a more economical expenditure of the insurance dollar would be possible, and farm families could get more protection for less cost than they are presently getting.

What conclusions can be drawn specifically concerning the insurance programs of Vermont farmers and insurance theory in general? The different kinds of insurance will be discussed separately.

Life insurance. Although family protection was given as the primary reason for owning life insurance by the farmers questioned, by far the greater proportion of policies were of the high-investment type. Ownership was distributed over all members of the family, rather than being concentrated on the life of the breadwinner. For the most part, the amount of coverage per insured person was low, barely enough to cover burial expenses. The amount of coverage on the breadwinner was significantly correlated with income, age, and social status; however, the measured variables explained only 10 percent of insurance coverage.

The activity of the agent is a very important factor in life insurance ownership. While it was impossible to determine just how important this salesmanship is, coversations with insured farmers left no doubt in the writer's mind as to the importance of the agent. This can be unfortunate from the viewpoint of the farm family's welfare if the agent is most concerned with meeting quotas or selling high commission policies.

It has also been shown that increases in income are probably more important than present income levels in affecting increases in life insurance consumption. One factor which was not investigated, but should have been, was the number of insurance policies owned by adults but taken out by parents when the adult was a child. For those in the 20-40 year age group, this is probably an important factor.

Finally, the ignorance of life insurance principles is widespread, and if one attempts to explain life insurance ownership patterns by first assuming perfect knowledge, he is bound to be frustrated.

<u>Vehicle insurance</u>. Institutional factors are important in determining automobile insurance purchases. Also important is custom or habit, particularly for collision insurance. For many purchasers of collision insurance, habit or custom overrides economic considerations. This must be recognized if the actions of farmers are to be considered economically rational.

Fire, theft, and comprehensive auto coverage appear to be more closely associated with income or farm size than any of the other coverages. This is probably because the purchase of these types of coverage is usually the result of actual decision making, and are not likely to be governed by institutional arrangements.

<u>Property fire insurance</u>. Institutional factors divorce the purchase of fire insurance from the decision making function for many Vermont farmers, both as to the decision of actually owning fire insurance and as to percent of value to be insured. For many other farmers, there would appear to be no actual decision as to whether or not to insure; the only decision involved is the extent of coverage.

Those farmers with the largest farms and greatest net worth tended to be more heavily insured than the smaller farmers. A factor in this higher percent of coverage is probably the fact that in the event of loss, the amount of loss would be sufficient to put them on a much lower socio-economic plane, and so they were willing to insure heavily.

Income level was not too closely associated with fire insurance ownership and changes in income would result in changes in fire coverage for few formers. General liability insurance. This is a relatively new type of coverage for most farmers. To date, ownership is primarily by the larger farmers employing hired help. However, as more farmers learn of the chance of loss and the costs of coverage, the ownership increases. It often takes some near loss for a farmer to be motivated to purchase general liability. The activity of agents is also an important factor in this type of coverage, and an agent can easily advance a farmer from an inaction or learning knowledge situation to a risk-action situation.

<u>Hospitalization insurance</u>. This type of coverage was owned by about half of the farmers surveyed. Ownership does not appear to be associated with form size or income, but may be associated with educational level. It may be that actual decision making is more a factor in health insurance than most other kinks.

Versiont families do not have as high medical expenses as the national average, probably because of relatively low incomes and a lack of nearby medical facilities.

Retirement programs and social security. The agricultural sector of the economy is still behind most other segments in its plans for retirement. This is probably due to many factors; among them low incomes, the belief that it is preferable to "die in the saddle," and the fact that farming has in the past lent itself to a modified type of on-the-job retirement through decreasing the scale of operations with advancing age. There is evidence that the OASI program has started farmers to thinking more about actual retirement from the face. This is particularly true of older farmers. Among those farmers actually making retirement plans, however, there is a decided need for information on living costs and other problems.

It is too early to determine the effects of the social socurity program on land tenure patterns, rental of farms and income distribution. It would appear from preliminary evidence that the availability of social security payments would have some effect on the number of rental units available.

Most farmers have apparently accepted social security as a desirable farm program. Those who have reservations are generally opposed to the compulsion involved. One surprising fact is that hardly a farmer recognized the survivor's benefits as a part of the social security program.

Insurance theory re-examined. It would seem desirable to reexamine present insurance theory in the light of some of the findings included in this study. The concept of the economic man going through the decision making process in insurance consumption, weighing alternatives and choosing that alternative which maximizes either his own or some complex interrelated finally utility must be questioned. Institutional and sociological arrangements, and h bitual behavior may supersede personal utility maximization in explaining much insurance ownership. The activity of agents may be a most important factor in influencing farmers' decisions. And finally, the state of knowledge possessed by farmers concerning insurance is for from perfect. Further research is also needed on the determination of subjective riskpreference; if this information were available in a reliable form it would undoubtedly shed new light on some apparent inconsistencies in insurance behavior. However, present methods of measurement, either by mathematical computation or relative methods, do not seem adequate.

This study, then, has had as one of its basic aims the critical examination of existing theories pertinent to insurance to determine their effectiveness in explaining farmers' behavior. Secondly, the study has attempted to integrate and modify current theory so that it may have application in this field of consumption. Finally, the study has gathered information on the state of knowledge about, and attitudes toward insurance along with information on actual ownership patterns. It has attempted to provide a benchmark for the use of those people counseling with farmers. In this respect the goal has been attained. In respect to insurance theory, the writer believes the study has pointed out some of the shortcomings of existing theories, and shown areas where further development is needed. If this has been done, it has been of some value to the advincement of science. BIBLIOGRAPHY

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APPENDIX

SAMPLE CHARACTERISTICS AND DISTRIBUTION

APPENDIX A

TABLE XLI

FARMS PER COUNTY, BY SIZE GROUP; AND BASIC SAMPLE SELECTION

•

		l-11 group			12-19 grou	a		20-29 grou	di L
	Number	Original		Number	Original		Number	Original	
	of	sample	Number	of	sample	Number	of	sample	Number
County	farms	size	sampled	farms	size	sampled	farms	size	sampled
Addison	393	Ś	9	184	m	~	266	4	10
Bennington	364	Ś	2	81		3	69	Ч	2
Caledonia	014	Ś	Ś	246	4	Ś	219	സ	7
Chittenden	337	2		173	Ś	2	221	ŝ	· က
Essex	157	Ч	Ч	60	Ч	 1	56	-1	
Franklin	356	\$	Ś	301	4	-4	405	9	-4
Grand Isle	69	-1	0	61	ы	2	02	Ч	
Lanoille	304	2	m	122	2	2	136	~	r-4
Orange	632	4	4	266	4	ŝ	205	ო	Ś
Orleans	359	m	2	342	٢Ų	4	422	9	to
Rutland	488	m	3	258	4	Ś	221	m	Ś
Washington	534	4	4	206	m	2	192	m	-1
Windham	514	4	4	104	Ч	Ч	8	-1	0
Windsor	783	5	5	272	4	4	217	m	m
State total	5,700	07	42	2,726	40	37	2,789	40	50

		30-39 grou	ch	40	and over	d no .		Total	
	Numbe r of	Original sample	Number	Number	Orijinal samle	Number	Number of	Original semple	Number
County	farms	size	sampled	farms	size	sampled	farms	size	sampled
Addicon		~	C	750	٦	4	(((((22	ýc
Round vet on	ト) r	¢ -		~ ┏	0 0	3 2 2 2 2 2 2 4	ĴE	
DOI DITTING CON	1	-1	-1	777	-1	>	440)
Caledonia	162	4	4	100	റ്റ	4-	1,137	17	ы Ч
Chittenden	154	4	€ N	207	5	w	1, 092	17	16 1
Issex	25	r-1	гł	18	Ч	, 1	316	r	5
Franklin	272	2	9	276	2	12	1,610	26 26	29
Grand Isle	27	r	0	32	r-4	<u>?</u>	259	2	. 1 .
Lancille	57	Ы	5	59	۲	\$	728	ŵ	P,
Oringe	103	୍ୟ	Ś	60	C)	-,†	1,296	15 15	19
Orleans	188	Ŋ	4	164	4	7	1,475	3	25
Rutland	138	m	۲Ų	132	m	Ś	1,237	16	1 6
Washington	109	2	~	82	2	t-	1,123	ħ	16
Windham	41	Ч	Ч	54	Ч	Ч	803	8	2
Windsor	86	2	2	75	2	2	1,433	16	16
State total	1,637	4,0	35	1,588	40	56	14,440	200	220

(continued)
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TABLE

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TABLE XLII

SAMPLE SIZE COMPARED TO TOTAL NUMBER OF FARMS, BY SIZE GROUP

	and a second		
	Total number	Number of	Percent of
	of farms in	farms	total
Size group	group*	sampled	sampled
Units			
1 - 11	5,700	42	0.74
12 - 19	2,726	37	1.36
20 - 29	2,789	50	1.79
30 - 39	1,637	35	2.10
40 and over	1,588	56	3.53
Total	14,440	220	1.52

*Based on Vermont Town Listers Reports.

TABLE XLIII

COMPARISON OF SELECTED CHARACTERISTICS OF SAMPLE FARMS IN FIRST AND SECOND SURVEYS

	Number of farms surveyed	Averaje number of cows	Averaje age of operator	Average education of operator	Average number in family	Average life insurance on operator	Average farm valuation
First survey Second survey	- 220 - 41	29 29	47.5 47.9	9.8 9.3	4.1	\$4 , 247 4 ,343	\$26,667 27,274

AFFENDIX B

FIRST QUESTIONNAIRE USED FOR 220 FARMS
SURVEY OF POLICYHOLDER NEEDS AND ATTITUDES

Interview Schedule

I - Driving Characteristics and Attitudes

About how many miles a year do you drive your car(s)? truck(s) 1. Who does most of the driving? car: Husband ____ Wife ___ Children _____ truck: Husband ___ Wife ___ Children _____ 2. 3. What is the principal use that you make of your car? a. _____ Driving in connection c. _____ Shopping d. __Other with farming b. Pleasure Who do you think cause most of the accidents? (Kinds of drivers) 4.

- What do you think causes most of the accidents?_____ 5.
- 6. Which age group do you think has the poorest auto accident record? a. ____ 16-25 b. _____ 26-50 c. 50 and over
- (Not used) 7.
- Do you believe that Vermont should have a law requiring every 8. driver to carry insurance to pay for damages he causes? Yes No Undecided
- Suppose, for the sake of argument, that Vermont did require every 9. driver to carry liability insurance.
 - Do you think this requirement would: a.

 - (1) ______ increase the cost of insurance (2) ______ decrease the cost of insurance (3) ______ have it unchanged (4) ______ undecided
 - Would this requirement b.
 - (1) _____ decrease accidents

 - (2) _____ increase them
 (3) _____ have no noticeable effect
 (4) _____ undecided

- 10. Which of the following do you think insurance companies should do? a. _____ insure all drivers, even if this might mean higher rates to you or
 - b. ____ insure only drivers with good driving records.
 - c. ___ Other (merit, demerit plan, etc.)
- 11. Do you think having auto insurance tends to make most people more or less careful as drivers? More careful ____ Less careful _____ No difference _____
- 12. Have you ever served on a jury in the last five years? Yes No
- 13. Have you ever been excused from jury duty in the past five years? Yes____No____
- 14. Do you think that juries generally award auto damages that are too high, too low or fair? Too high Too low Fair Don't know
- 15. In your opinion, is Social Security a good thing? Yes___ No___
- 16. If yes, do you favor its extension to Cormers? Yes___ No___
- 17. Do you think the Government should pay a pension to all people over 65 even if they never paid for Social Security? Yes___ No____
- 19. Do you expect the cost of living to increase in the next year or two? Yes____No___Neither___DK____
- 20. In your opinion are farmers having prosperity now? Yes__ No__ DK__
- 21. Considering the country as a whole, do you think farmers will have good or bad times in the next year or so? Good Bad Neither DK
- 22. Do you expect prices of farm products to increase in the next year or two? Yes__No__Neither__DK__
- 23. Would you say you are better or worse off financially now than you were a year ago? Better Worse Neither DK
- 24. In your own case, do you think you will be better off or worse off next year as compared to this year? Better__ Worse__ Neither__ DK___

- 25. How do you feel about government price supports for agricultural products? Favor____Oppose____
 - a. If you "favor," at what level do you think supports ought to be?
 - a. ___100% of parity b. ___90%
 - b. ____90% c. ____75%
 - d. ____flexible
 - e. other
- 26. If things continue as they are, do you expect to carry more or less of the following kinds of insurance in the future?

	Mc	ore	Less	Neither	_DK_
	a. Life (self or family) b. Auto c. Fire, Theft, General Liability d. Accident and Health				
27.	Would you buy more insurance if:		Yes	No	DK
	 a. Your income were to increase by 10% b. Your income were to increase by 25% 				

- 28. (If "yes" to either) what kind of additional insurance would you buy?
 - a. ____Life
 - b. ____Auto
 - c. ____Fire, Theft, General Liability
 - d. ____Accident and Health
- 29. Would you drop or decrease any of your present insurance if your income were to:

			105		
Э.	Decrease	by 10%	-		
Ъ.	Decrease	by 25%			
C.	Decrease	by 50%		· · · · · · · · · · · · · · · · · · ·	

30. (If yes) what kind of insurance would you drop or decrease?

a. __Lifec. __Fireb. __Autod. __Accident and Health

- 31. What method would you prefer to use in paying your insurance premiums?
 - a. ___Payment by check or money order through the mail
 - b. ____Payment at insurance company office
 - c. ___Payment to agent
- 32. How frequently would you prefer to pay your premiums on auto insurance?
 - a. Annually d. Monthly b. Semi-annually e. Other (Specify) c. Quarterly
- 33. Would you be willing to pay for the convenience of having all your premiums lumped together, regardless of company, and billed to you per month? Yes____No____
- 34. (If yes) would you still feel the same way if only one of your companies would institute such a plan? Yes___ No____
- 35. In your opinion, is life insurance as good a method of saving money as a savings account? Yes No As Government savings bonds? Yes No
- 36. In your opinion, is group insurance more or less expensive than the same insurance on an individual basis? More ___ Less ____ Uncertain ____
- 37. In your opinion, do most insurance agents know more about the kind and amount of insurance that a person needs than the person himself? Yes No___Uncertain____
- 38. If you wanted to take out an insurance policy, which of these things would you do?
 a. Ask friends to advise you and then call an agent
 b. Call the company to send an agent
 c. Call an agent you know
- 39. From how many different insurance agents do you buy your automobile, fire and other types of property insurance?
- 40. How many different agents have sold you life insurance?
- 41. Approximately how many times have you been approached in a selling interview for life insurance in the last year?

II - Background Data

l.	How large is your farm?
	a. No. milking cows b. No. heifers (1-2 yrs.) c. No. calves and yearlings (up to 1 yr.) d. Hens
2.	If you have other farms, what are the cow numbers?
	lst farm 2nd farm other farms
3.	Family composition
	Marital status First and last name Relationship Sex Age M NM C
	а.
	b.
	С.
	d.
	e
	f
	g.
	h
	i.
	j
4.	Education:
	Grade 1 2 3 4 5 6 7 8 High 1 2 3 4 College 1 2 3 4 Post Graduate 1 2 3 4
5.	If not a farmer, what do you do for a living?
6.	Do you do anything else for a living in addition to farming? YesNo
	a. If yes, what do you do?
7.	What was your approximate income for 1953?

Service status: Veteran____ Non-veteran____ 8. If veteran, which war? I____ II___ Korea____ 9. How many cars do you own? ____ Trucks____ 10. How often do you trade in your car(s)? 11. a. Every year_ b. Every 2 or 3 years c. Keep car longer than 3 years 12. If you could afford it, how often would you trade in your car(s)? a. Every year_ b. Every 2 or 3 years_ c. Less often than every 3rd year___ 13. Do you rent or own your own farm? Rent____ Own____ If you now rent, would you like to own your farm? Yes___ No___ 14. If you could afford it, would you enlarge your farm? Yes___ No___ 15.

III - Life Insurance

A. Breadwinner

1. Total number of life policies:

	Free	Type of Folicy	Insurance Company	Net Franiun	Freq. of Payment	Dividend Option	Waiver of Premium	Accidental Death
(1)								
(3)	Cardon and an and an and an and				7			
(3)			tina (a) (* (a) (a) (a) (a) (a) (a)					
(h)	1. 1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.	φαιοριατικος λαιοριατικος το τοριοτορ						
(<u>`</u>								
(:)								
(2)			Bearrain an Ann annsaichte ann an annsaichte ann annsaichte					
(3)								
(\tilde{s})								
(10)								
Total		annan an a						tang ang ang ang ang ang ang ang ang ang
	2. Do ₅ ou	you think yo sra paying?	H Te receiving . Yes No	dequite pro	tection, con	sidering the	i jo junorre :	ຣາກຖານອ
	3. Do	yat think yo planning to	w are likely to b drop, which is yo	eep these (u plan to d	olicies for Irop? (Ident	the next few ify by numbe	r years? Yes r shown unde	r 1.

above

1. Total number of policies:

			The second s					
	Face Amount	Type of Folicy	Insurance Company	Net Premium	Freq. of Payment	Dividend Option	Waiver of Premiun	Accidental Death
(11)		Sandy and the second second						
(12)			And an above the second se			and the second		
(13)								
(171)		وبالمحاولة والمراجع	and a set of the set o					
(1, 1)								
Total			na serie de la		and a state of the			

B. Wife

C. All Children and Dependents

1. Total number of policies:

	Fac Amou	e int	Type	Company	Net Premium	Frequency	Accidental Death
(21)					ر <u>من کر میکان اور دور دور میکان اور دور</u>	er de laerner e la colondaria	
(22)				tan an a		a sanga agan da ari tana tan sa angan tanang	
(23)			and a different sector of a		1774-1776 - 1774 - 1774 - 1776 - 1776 - 1776 - 1776 - 1776 - 1776 - 1776 - 1776 - 1776 - 1776 - 1776 - 1776 - 1	and a state of the	alateration and the state of the state of the state of the
(24)				Na kala sa			
(25)							
(26)		- ad them - addressing		Managan da ang ang ang ang ang ang ang ang ang an			
(27)							
(28)	والمراجع والمحاورات		-	and the state of the			
(29)			per andra d e a sec ara				
(30)			andre agente antieren de arteste Antier ausgesteren de Frank			an an Mallar V. Song di Aliman da Anglanda da Anglanda Manana da Anglanda Sang gang manana sa	an a second
Total	1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-	talan kajatuti		sangargin maarita katalahindin disabiliki t			
	D.	Have If y numb	you ev es, on v ers as	er borrowed on ; which policies above	your insura did you bor	ence? Yes row? (List	No policy
	E.	Tota	l numbe:	r all Life Poli	cies		

- F. Total amount all Life Policies_____
- G. Total premium all Life Policies_____

IV - Pension Programs and Annuities

1.	Have you ever paid in for Social Security? Yes No
2.	Have any other members of your family ever paid in for Social Security? Yes No
3.	Are you now paying for Social Security? Yes No
4.	Is any member of your family now receiving Social Security benefits?
	Yes No Which member
5.	Do you or members of your family have any additional retirement or pension benefit programs? Yes No
6.	Nature of plan:
	a. Expected monthly retirement benefits 4
	b. Your monthly payments 🤤 or percent of gross
7.	Do you own an annuity? Yes No
	a. Face Amount Net Premium Frequency of Payment
	(1)
	(2)

V - <u>Automobile</u> Insurance

		Car or truck No 1 - Limits	Car or truck <u>No 2 - Limits</u>
1. 2. 3. 4. 5. 6. 7. 8. 9. 10.	Fire Theft Comprehensive Collision Property Damage Liability (Limit) Bodily Injury Liability (Limits) Medical Payments (Limits) Emergency Road Service D.O.C. Broad Form D.O.C. Limited		
	a. Premiums paid semi-Annually b. Premium paid Annually		
11. 12. 13. 14. 15. 16.	Type Model Year New or Used Insurance carrier(s) Do you think that you are receiving ing the amount of premiums you are p	adequate protect paying? Yes N	ion, consider-
17.	Have you ever filed a claim under an	y auto policy?	Yes No
18.	Do you think you are likely to keep few years? Yes No If plannin do so?	your auto policy ng to drop, why d	for the next o you plan to

VI - Property Fire Insurance

A. What fire insurance do you hold? (Please give information on each policy)

Type Compa				, considering
Amt. Ins.				tection
No. of Fire Ins. Policies				lequate pro
Present Amt. of Mortgage				sceiving ad
Valua- tion of <u>Property</u>				you are re les No
	Dwelling house Barns & other huildings	Household goods Fersonal property Other	a. Machinery & equipment b. Stock & poultry c. Crops	Do you think that you are paying? Y
	н. К	0.4.V		6.

No Have you ever filed a claim under a fire policy? Yes When What for <u>.</u>-

8. Hydrant Stream Farm pond

ە 🗅	COM	premensive rersonal Liability	Cover	age				
			Limit	<u>s T</u>	'ota	l Premi	.um Fred	uency
	1. 2. 3.	Liability (occurrence) Medical Payments (person) Additional Charges (a) (b) Company						
~	-+•							
C.	Kes	idence and Outside Theft		Limi	ts	Dedc.	Total Premium	Freq.
	1.	Theft from premises or depos All other property Percent of limit	itory					
	2.	Theft away from premises	ntur					
	3.	Specified articles (a) (b) (c) (d) (e)	roy					
	4.	Company						
D.	Hou	seholders' Limited Theft						
				Lim	its		Total Fr	emium
	l.	Theft from Premises						
	2.	 (a) Money (b) Securities & U.S. stamps (c) Jewelry, silver, furs (d) Other (a) (b) 						
	3.	Theft away from premises (a) Money (b) Securities and U.S. stam (c) Jewelry, silver, furs (a) (b)	ps					
	4.	Company			J-8 -			

B. Comprehensive Personal Liability Coverage

E. Personal Property Floaters

	Type of Property	Location All Main Other	Dedc. <u>\$15</u> <u>\$25</u>	<u>\$50</u>	Amount	Premium
1.						
2.	and a second that was and a second and for yet a second with the specific mean					
3.	National and an advantance of a second state of the second state of the second state of the second state of the					
4.		ann an				and gegen equipments of the second

VII - Medical Care

1. Have you or any other earners in your family been disabled because of sickness or injury during the past year? Yes___No___

		Breadwinner	Other curners
	a. Days of Disability b. Total Loss of earnings c. Total amount reimbursed by insurance		
	(1) Kind of insurance		
	an a	a a ana ana ana ana ana ana ana a	understander för förstande angensetter av som at som at som at som
	an a	varan as the standard management and and a 20	
2.	Here any of these injuries or illnesses	work connecte	ed? Yes No
	a. If yes, on the farm Off the fa	1°m	
3.	Are any of these injuries permanent? Ye	sNo	
4.	Have you or any members of your family b doctor during the past year? Yes No Br	been troated g	All Other Family Members
	 a. Number of doctor's calls b. Total amount of bills c. Total amount paid by insurance (1) Kind of insurance 		
	and a star want of an and a star a	المراجع والمسروع والمسو	
	President and real of a difference and a real of the second second and a second and a second and the second s	an an analysis of the second	a nagaya gina ang aga nakanan an anang ana managa

5. Have you or any member of your family been treated by a doctor at <u>his office</u> during the past year? Yes___ No___

	Breadwinner	All Other Family Members
a. Number of office calls b. Total amount of bills c. Amount paid by insurance		
(1) Kind of insurance		
	a	

6. Have you or any member of your family been a patient in any kind of hospital during the past twelve months? Yes No____

	Breadwinner	All Other Family Members
 a. Number of times in hospital b. Total number of days in hospital c. Total amount of bills (exclusive of surgery) d. Total amount paid by insurance 		
(1) Kind of insurance		

7. Have you or any member of your family had any operations during the past year? Yes___ No____

-		Breadwinner	All Other Family Members
a. b.	Number of operations Total cost of operations		<u></u>
c.	(exclusive of hospital expenses) Total amount paid by insurance (1) Kind of insurance		

8. Have you or any members of your family had any:

	Total Cost	Amount Paid by Insurance
a. Home nursing care		
b. Doctor's prescriptions		
c. Dental care		
d. Optometrist (glasses, etc.)		
e. Other expenses		
	The state of the s	

- 9. Do you have a regular "family doctor"? Yes___ No____
- 10. Have you (the breadwinner) had a physical check-up during the past year? Yes___ No____
- 11. Would you rather have a:
 - ____a. Medical expense policy which took care of all bills over \$100 or
 - b. Medical expense policy which took care of all bills under \$100.
- Would you rather have a:
 _____a. Medical expense policy which took care of all doctor and hospital bills over \$300.
 _____b. Medical expense policy which took care of all doctor and hospital bills under \$300.
- 13. In your opinion, do doctors charge a patient more money when they find out he has medical expense insurance? Yes___ No___ How about hospitals? Yes___ No___
- 14. Do you think that a person uses a doctor more or less often if he has insurance to cover doctors' bills? More often____ Less often____
- 15. Do you think that doctors will send a patient to a hospital more or less often if they know that the patient has hospital insurance? More often___ Less often___

Policies	Breadwinner
Insurance	đ
Expense	
Surgical	
and	
Hospital	
16.	

	a. Breadwinne	a. Breadwinner
	Type ofFreq. of Extended to Rm. BerPolicyCompanyPrem.PaymentDependents?PerPaymentDependents?	MaximumDoctors' BillsExtended to Rm. Benefit Max. No. MaximumInDependents?Per Dayof DaysSurgical Hospital Office Home
(1)	(1)	
(2)	(2)	
	b. Wife	b. <u>Wife</u>
(1)	(1)	
(2)	(2)	
17.	17. Do you think that you are receiving adequate protection you are paying? YesNo	ving adequate protection, considering the amount of premiums
18	18. Have you ever filed a claim under these policies? If yes, did it pay as much of the cost as you think	er these policies? Yes No (Identify by number) he cost as you think it should have? Yes No
19.	19. Do you think you are likely to keep these policies (If planning to dropwhich do you plan to drop and	keep these policies for the next few years? Yes No . you plan to drop and why? Identify by number, as above)

20. Accident and Health Insurance: Accidental Death and Dismemberment Insurance: <u>Travel Accident Policies:</u>

a. Breadwinner

	Type of Policy	Group or Individual	Company	Prem.	Freq. of Payment	Amount Weekly Disability Payment	No. of Weeks	Princi- pal Sum
(1)			••••••••••••••••••••••••••••••••••••••					
(2)								
		b.	<u>Wife</u> or	<u>Other</u>	Family M	lembers		
(1)						• • • • • • • • • • • • • • • • • • •		
(2)	 			·····		-		
21.	Do you policio Yes	think that es consider No	you are ing the a	receiv	ving adec of premi	uate protec .ums you are	tion by paying	the se ?
22.	Have ya If yes have?	ou ever file , did it pay Yes No_	ed a cla y as mucl	im un de h of tl	er these ne loss a	policies? 1 s you think	Yes] it sho	No uld
23.	Do you years? drop a	think you a YesNo_ nd why? (Ia	are like 	ly to b planni by numb	keep the ng to dro per as ab	policies fo p, which do pove)	r the no you pla	ext few an to
24.	Major Polio	Medical Expe Policies:	ense:					
	Type of Policy	f Group or Individual	L Comp	any	F Premium F	req. of Max ayment <u>Ben</u>	imum efit <u>De</u>	ductible
(1)								<u></u>
(2)								

APPENDIX C

SUPPLEMENTAL QUESTIONNAIRE USED FOR 41 FARMS

-

SUPPLEMENTAL QUESTIONNAIRE INSURANCE STUDY

PART I: <u>Retirement</u> and <u>Social</u> Security

Number of milk cows_____ Composition of labor force_____ How long have you been farming?_____. 1. How long have you lived on this farm?_____. 2. 3. How long do you expect to continue farming?____. 4. On this farm____. 5. If on another farm, a larger___or smaller one?____. 6. (Determine from question 3 or from further probing, if respondent expects to voluntarily discontinue farming.) Yes____ No____. 7. If answer to 6 is Yes, what do you plan to do when you stop ANSWER FOLLOWING QUESTIONS ONLY IF RESPONDENT HAS MENTIONED RETIREMENT ANSWER FOLLOWING QUESTIONS ONLY IF RESPONDENT HAS MENTIONED RETIREMENT IN QUESTION 7. OTHERWISE, GO TO QUESTION 19. 8. At what age do you plan to retire? What do you plan to do with your farm?_____ 9. 10. Where do you plan to live?_____ Have you made any plans as to what you will do after you retire 11. from your farm?_____ How much money do you think you will need to live on? \$ _____ 12. About how much do you spend now for actual living expenses? 13. (Include food, clothing, medical, entertainment, insurance, etc.) \$____per____

14. If answers for 12 and 13 are different, how do you explain the difference?

- 15. Check sources of income during retirement:
 - Income from sale of farm Retirement insurance Social Security Other (Specify)
- 16. What percent of total income needed for retirement do you expect Social Security to provide?_____
- 17. When did you make this decision to retire?_____
- 18. Do you remember what things you considered in making the decision?

ANSWER FOLLOWING QUESTIONS ONLY IF RETIREMENT NOT MENTIONED IN QUESTION

- 7. OTHERS GO TO QUESTION 24.
- 19. Do you plan to make any changes in your farming operations, say, after reaching age 65? No____, Yes____. If yes, what changes?
- 20. What will you do if you find yourself physically unable to carry on your farm work in the latter years of your life?_____
- 21. Do you think that you may sometime decide to retire from your farm?_____
- 22. If yes, what things would be important in making this decision?

23. If no, why not?

ALL ANSWER

- 24. Do you think that Social Security is a good thing for you? Yes____, No____. Why?_____
- 25. Do you think Social Security is a good thing for the average farmer? Yes____, No____. Why?_____
- 26. Would you consider renting your farm or part of your farm? Yes____, No____. If no, why not?______
- 27. Assuming you were to rent a piece of land, or even your whole farm, which of these rental systems would you prefer?
 A share of the proceeds
 A set cash rent
- 28. Suppose that I were to tell you that I knew of a new feeding method that could increase your milk production by 10 percent, with no increase in costs. Which do you think that you would do?

Try it out yourself to see how it worked. Wait until some of your neighbors had tried it out.

- 29. How let's imagine that I work for an insurance company and that I can write an insurance policy on your cows with one of the following provisions:
 - We will insure you against the loss from <u>any</u> cause of any four cows in your herd for a value of \$100 per cow. The premium will be \$10 per year.
 - 2. We will insure all of the cows in your herd against loss from any cause, for a value of \$50 per cow. The premium is \$1.00 per cow.

If you have 20 cow herd, which would you prefer:

Plan 1____, Plan 2____, Neither____.

Why?_____

30. Suppose that you had a cull cow to sell and a reputable cattle dealer offered you what you thought was a fair price for the cow. Now suppose that he offered to toss a coin with you, and if you won the toss, he would pay \$10 more, but if he won, he would pay \$10 less than the offered price. Would you:

Take the offered price Take the gamble

31. Now imagine that you have 1/4 of your hay crop cut, dry, and ready to bale, your baler is broken, and the weather report says scattered showers for the next two days. Would you:

Take your chances on the weather and try to get your baler repaired. Hire a neighbor to bale your hay at the going custom rate.

32. Did you invest or spend any money in your farming operation in the past year which you felt was a particularly risky expenditure at the time? Yes____, No____. If so, what was it?_____

- 33. As you think about your farming operations would you say that you are:
 - Cautious
 - ____ Conservative
 - ____ An innovator
 - _____ Speculative

PART II: Insurance Motivation

In 1954 when we visited you before, you indicated that you owned the following life insurance policies:

Face Amount	Type	Person Covered	Premium
a			
b			
c			
d.			
8.			
f			
· · ·		er eine eine die Wennehmensen werden wir einer eine die seine einer die seinen soweiten werden werden geweite	
g•			
h			

35. If you have no life insurance, why not?_____

36. Have you taken out any additional life insurance? Yes____, No____

Person covered
Amount of policy
Type of policy

.37. Have you been visited by a life insurance agent in the past year? Yes____, No____.

38. Now I'd like to get your ideas on what a farmer should consider in deciding whether or not to buy a life insurance policy. First, let's consider insurance itself. What do you feel are the main reasons for buying life insurance? Try and list them in their order of importance to you. 2._____ 3._____ 4. Do you think that farmers in general should carry as much life 39. insurance as non-farm workers? Yes , No . Why? What things do you feel should determine the amount of life 40. insurance a farm family should have? 1. 2._____ 3._____ 4. Do you feel that the life insurance should all be on the farm 41. owner's life, or should other members of the family be insured? All on the farm owner Other members of the family insured also Why do you feel this way?_____ Can you tell me the main types of life insurance policies? 42. (Check those listed.) Ordinary life Limited payment Term Endowment

- 43. Could you tell me which of these you feel gives the most survivor protection per dollar of premium paid?_____
- 44. Which of these types do you feel has the best savings feature?
- 45. Which of the four main types do you feel would best meet your insurance needs? ______ Why?______
- 46. If you were to start over again, would you make any changes in your life insurance program? Yes__, No__. If yes, what changes and why?_____
- 47. Now let's consider auto insurance. Do you feel farmers should have liability insurance on their cars and trucks? Why?_____
- 48. Do you have collision insurance on your car? Yes___, No___. If yes, age of car___. Why or why not?_____
- 49. What should a farmer consider in trying to decide whether or not to carry collision?
- 50. Now let's take a look at fire insurance. Do you think most farmers have enough fire insurance on their buildings? Yes___, No___.
- 51. On their personal property? Yes___, No___.
- 52. What do you use as a guide in deciding how much fire insurance to carry?
- 53. Do you have personal liability or workmen's compensation insurance? Yes___, No____.

- 54. If yes, how did you happen to take out this insurance?_____
- 55. If not, has anyone ever discussed liability insurance with you or tried to sell it to you? Yes__, No___.
- 56. Do you have hospitalization or medical insurance? Yes___, No____. What made you decide to carry (not to carry) this type of insurance?_____
- 57. When you think of expenditures for insurance, do you consider all of your insurance premiums as a group, or do you separate out life, fire, auto, hospitalization insurance, etc.?

Consider all insurance premiums as a group Consider various insurance separately

- 58. Have you ever tried to develop a "planned" insurance program for your farm and family? Yes___, No___.
- 59. If yes, did anyone help you with the planning? Yes__, No__. Who_____
- 60. Do you think that such planning is desirable or necessary? Y_N__
- 61. Who do you think could best help you plan such a program? _____Insurance agent _____Banker _____County agent _____Other (Specify)______
- 62. Can you think of any instances when a man could carry his own insurance; that is, bear all of the risk himself, without formally insuring with some company? (Specify)_____
- 63. (See Social Participation Scale.)
- 64. We would like to get some idea of your income and asset position. This information will help us a great deal in analyzing these records, and will be kept strictly confidential. Would you fill in the card.

Card:

63. SOCIAL PARTICIPATION SCALE

	5. Offices Held					
	4. Member of Comnittees					
ld	3. Financial Contribution					
Husban	2. Attendance					
	1. Member					
	Name of Organization	1.	2.	 -7	5.	



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Score

Schedule No.

INCOME AND ASSET POSITION STATEMENT

Net North

Market value of real estate less any mortgages	라. '유 '유
Market value of cattle and machinery less mortgages	À
Cash in bank, checking accounts, stocks, bonds, etc.	\$
Cash value of other assets, household goods, car, etc.	\$
TOTAL NET WORTH POSITION:	<u>ي</u>

Income

Check approximate income reported for income tax, 1955.

	None to \$500		\$3,000 to \$3,999
an a	\$ 501 to \$1,000		\$4,000 to \$4,999
	\$1,001 to \$1,500	taytağı sattara da sattara da sattara da sat	\$5,000 to \$5,999
	\$1,501 to \$2,000		36,000 to \$7,499
	\$2,001 to \$2,999		37,500 and over

Percent of income earned from off-farm work_____

APPENDIX D

RISK-PREFERENCE SCORING SYSTEM

METHOD OF DETERMINING RISK-PREFERENCE SCORE

The risk-preference score, used in Chapter V is based on answers to questions 28, 29, 30, 31, and 32 in the supplemental survey. The answers to these questions were weighted as indicated below and the weights were summed to get the risk-preference score.

- Question 28: First alternative 9 points Second alternative - 1 point
- Question 29: Prefer Plan 1 4 points Prefer Plan 2 - 1 point No preference - 0 points
- Question 30: First alternative 1 point Second alternative - 49 points
- Question 31: First alternative 24 points Second alternative - 1 point
- Question 32: Any answer which indicated an investment in a risky venture 5 points
- Question 33: Answered cautious 1 point Answered conservative - 3 points Answered innovator - 5 points Answered speculative -10 points